Engagement in Controller-less Motion Control Gaming

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List of Abbreviations

The following table describes the significance of various abbreviations used throughout the thesis.

Abbreviation	Meaning
RPG	Role Playing Games
PS3	Playstation 3
E3	Electronic Entertainment Expo
ESA	Entertainment Software Association
GEQ	Gaming Engagement Questionnaire
HCI	Human Computer Interaction
ISO	International Organization for Standardization
IPR	Interpersonal Process Recall
PU1	Pilot User 1
PU2	Pilot User 2
G.E.	Gaming Engagement
L.F.	Lazzaro Factor
HDMI	High Definition Multimedia Interface
PC	Personal Computer

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Attestation of Authorship

"I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the qualification of any other degree or diploma of a university or other institution of higher learning."

Yours sincerely,

(Sreeraj Aravindakshan Nair)

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Abstract

This study is an initial investigation into users' experience of engagement when using controller-less gaming consoles. These consoles are motion control devices that respond to the user's body movements. The study primarily used situated co-inquiry to examine the actual experiences of six users who used the Kinect console. These experiences were video recorded and the video recordings were used in follow up interviews with users to assist their recall of the experiences and to further reflect on them.

The study revealed that while engagement occurred for users, these were limited by self-consciousness, tiredness, user interface limitations, response lag and certain game features. The interview data showed that achievements in the game and a competitive social situation were keys to improving engagement. As game developers further develop the ability of these types of consoles to recognise body movements, they will benefit from working on these two aspects. This small research project also shows that usability testing in this area can benefit from including the social situation of game experience.

1 Introduction

1.1 Background

Ever since I can remember, I have been a huge fan of video games. The first video game console I had the privilege to use was the Atari stunt cycle released in 1977. The Atari Stunt cycle gave the player a first person feel of riding a motorcycle. The experience was amazing to me as I have never played on a console before. From then, I have witnessed the evolution in video game consoles. I was amazed at the technology, these consoles had in them. As each generation passed by, the graphics and interface in the consoles changed, making me feel more engaged in the gaming world.

Then Nintendo Wii, a motion control gaming console, codenamed "Revolution" was released in April 27, 2006. It is important to note that Nintendo was not the first to release a motion control gaming console. That position goes to XaviXport released in 2004 which uses peripherals to interact with on screen games. This console contained image recognition and infrared sensors that could detect player movements. Although XaviXport had these features, it never became popular and did not survive the competition. Nintendo Wii however had a huge impact and is still considered one of the most popular video games consoles in the world.

Motion control gaming consoles have now been developed and released by other big players in gaming industry. In 2010, Sony released Playstation Move and Microsoft's project Natal became XBOX Kinect. Kinect became the first motion control gaming console to introduce a controller-less environment. Kinect consists of a console and a camera that detects the movements of the player. This new concept amazed me. Being a gamer for many years, I wondered whether and how I would feel engaged in a console such as this. I questioned myself on how I would feel part of a game without holding a controller or feel the force feedback which you receive from a game with traditional controllers. I became very curious: what type of experience does the user have with a controller-less console. I was particularly interested in whether there would be the same type of engagement or immersion.

1.2 Aim and Approach

The main aim of the research was to perform an initial investigation into the engagement found in the controller-less gaming environment and to answer the following question:

"Does controller-less environment provide engagement in motion control gaming?"

Kinect was chosen because it was the only gaming console which currently provides a controller-less environment. It is anticipated that the results will be useful to console and game developers with indications to them of where and how this technology is providing engagement and also areas where developers might improve aspects to improve engagement.

The major method used in this study is one of situated cooperative inquiry which is described in Carter (2007). The aim is for the researcher to match the user's experience in a way that is congruent with their cognitive and affective consciousness in that moment so that, they do not need to modify their experience to match the researcher's expectations. They are encouraged to continue with their experience and to expand upon it. The aim is to minimise interference and so have user's experience as close as possible to their experience if the researcher was not there.

1.3 Structure of Thesis

Chapter 1 provides a brief introduction and background as to why I did this research. Chapter 2 provides background information into gaming, engagement and usability testing. Chapter 3 explains the methodology used and the reason for its selection. It also covers the way data was captured and analyzed and includes the pilot tests conducted. In chapter 4, data from the five users are presented in a descriptive manner and this is followed by the findings and discussion in chapter 5.

Chapter 6 provides the conclusion and finally chapter 7 describes the limitations and the future of the research.

2 Literature Review

2.1 Gaming

2.1.1 What is Gaming?

Gaming is a term used by gamers when they play p.c. games or console games. This research is focused on games played on consoles. Consoles are systems specifically designed to play games. Some examples of consoles are XBOX, Playstation, and Nintendo which are 7th generation consoles. It is also important to note that these three consoles are also motion control gaming consoles. Motion control gaming consoles are gaming systems that uses body movement of users to play games. Each console has controllers' specific to the systems and each consoles has specific games.

There are different genres of video games including shooter, first person shooter, adventure, platform, role-playing games (RPG's), simulation, strategy, sports, fighting and puzzle (Stahl, 2005). There are three video game genres that appear to benefit most from motion control gaming (Kylak, 2011). They are shooters, strategy and adventure. Another Genre that is common to the three motion control gaming consoles is sport. For example Sports Champions for PS3, Kinect Sports for Xbox 360 and Wii Sports for Nintendo Wii (Hardy, 2010), (Rare, 2010), (Schneider, 2006). Although there are different genres available, not all genres are available in motion control gaming but the transition is slowly happening.

2.1.2 Gamers

The common way to categorize users is as, casual gamer, social gamer and hardcore gamer. However Sinclair (2005) indicates that common labels like hardcore and casual addresses less than half the audience. James (2011) performed a Google search and compiled his list for the types of gamers that can be found in a typical classroom. They are casual/social gamer, geeky gamer, hardcore gamer, the girl gamer and the pocket gamer (James, 2011). Sinclair (2006) however gives

power gamers, social gamers, leisure gamers, dormant gamers, incidental gamers and occasional gamers. There is therefore, no accepted categorization of users.

According to Belman (2011), some people play games to ease the mind, to feel the adrenaline rush and sometimes to feel a sense of fear while fighting zombies etc. There are lots of gamers who prefer to play with other gamers. At a game developers conference in 2005, a paper titled "Why We Play Games together: The People Factor" stated that people play games to support player to player interaction, put on a spectacle and sometimes as a tool to communicate (XEODesign, 2005).

2.1.3 Future of Video Gaming

"Predicting the future is hard. Know what makes it easier? Knowing where things have been and where they are now, so you figure out where they're going." – Reynolds (2011).

The future of gaming is already happening. What one felt impossible is already here. Evolution of the video games and consoles are on-going. Companies are always on the quest to create the greatest game or console. Snider (2010) says that as video games continue to evolve, they will become less of activity associated with couch potatoes and more of an evolution towards a natural experience. The future of gaming can be looked at in the three areas of advances: hardware, types of games being released and the gaming audience. There might be a chance that the three topics will relate to each other in some way.

Swider (2011) posted on the website G4TV of how gaming companies such as Epic games and Naughty Dog are already experimenting on next-generation hardware. President of Epic Games, Mike Capps quoted the following "We're very interested in the Wii U" (Swider, 2011). Nintendo's Wii U release is set for this year as announced during the 2011 E3 (Electronic entertainment expo) (Swider, 2011). It also has been speculated that 2012 E3 event will also announce the successor of the XBOX 360 and release the tech specs of PS4 (Playstation 4) (Swider, 2011). So what can be expected from the three video game giants? Nintendo's Wii U has improved on its tech specs. According to Swider (2011), Nintendo has added

H.D.M.I. port for better video output, has changed its processor to a more powerful one and for better graphics, a custom Radeon HD chip will be onboard from AMD. Microsoft also has undergone a lot of changes to improve its hardware. The successor of XBOX 360 will also have an improved processor, better graphics and the possibility of disc-format being converted into blue-ray (Techradar, 2011). It has been anticipated by Swider (2011) that Playstation 4 will be the most powerful of the three. Evidence of this is due to the fact that Sony makes use of cell processor and has no plans on leaving it (Swider, 2011). Rumours are speculated that PS4 will be having onboard motion sensing capabilities and increase storage capacity (Techradar, 2011).

As gaming hardware progresses with speculated tech specs, games are also evolving to match the needs of an evolving gaming audience. Dolan (2004) in his article "Future of Video Gaming" compares how games progress the same way as television has. It can so happen that millions of people will soon compete in a virtual world for the right to become Donald Trump's Apprentice or maybe an enterprising designer might create an educational game that rivals the social significance of Sesame Street (Dolan, 2004). The future of gaming will not be all that different than the future of any other form of entertainment (Dolan, 2004). Companies are ready to throw any amount of money and workforce into developing games according to the needs of the evolving gaming masses (Dolan, 2004). According to the Entertainment Software association's demographic; the average age of a gamer today is 37 years old (ESA, 2011). As people in their 30s and 40s continue to play video games into their senior years, the genres of games will expand to accommodate those audiences and their discretionary income (Dolan, 2004).

The individuals playing video games comprise an increasingly large and definition-defying group (ESA, 2011). As mentioned before, it is hard to categorize the types of gamers today. Almost every product with a screen – whether it is a mobile phone, a PC, a TV or a handheld system – it plays games (ESA, 2011). This therefore creates new categories of gamers such as mobile gamers, handheld gamers etc. As the population of gamers has expanded, market forces have driven game developers to make games more accessible to this new, diverse audience (ESA, 2011). Although there is no clear statement made by anyone about the future

gamers, it can be assumed that they will depend upon the games and the hardware released for it.

2.2 Engagement

2.2.1 What is Engagement?

According to O'Brien and Toms (2008) , engagement can be defined as the quality of user experiences with technology that is characterized by challenge, aesthetic and sensory appeal, feedback, novelty, interactivity, perceived control and time, awareness, motivation, interest, and affect. Put simply, the degree of involvement or immersion in a technology can also be used to describe engagement. User's engagement with games is changing as a result of new interfaces, hardware and games (Whitson et al, 2008).

2.2.2 Importance of Engagement

One of the important features of digital games in the context of learning is their ability to create engagement for the user. The current trend in the development of motion controllers designed around natural body movements has forever changed the nature of gaming. The use of motion control devices that respond to body movements is said to increase engagement which is considered by many to be an important part of the gaming experience. In previous research conducted on whether body movement engage users more into digital play; results indicated that body movements not only increased the gamers' level of engagement but also modified the way they get engaged (Bianchi-Berthouze et al, 2006). This was due to the controller that played a key role in facilitating this and providing a complete experience (Bianchi-Berthouze et al, 2006). The usability of the game interface will therefore also affect the quality of the user experience. Usability problems are likely to affect user engagement in the game.

2.2.3 Methods to Measure Engagement

Engagement in a game play has been measured in several ways using brief study designed question sets to formally developed questionnaires. The brief question sets typically included face valid items that are responded to on Likert scales. For example, the 9-item Player experience of need satisfaction developed by Ryan et al. (2006) consisted of scales measuring aspects of presence which included the following:

1. Physical – "When moving through the game world I feel as if I am actually there"

2. Emotional - "I experience feelings as deeply in the game as I have in real life"

3. Narrative – "When playing the game I feel as if I am an important participant in the story"

Witmer and Singer (1998) developed the presence questionnaire which is a 19- item measure of system immersion, which focused on the participant perception of the system characteristics. Some of the sample items included "How much did the visual aspects of the environment involve you?" and "How responsive was the environment to actions that you initiated (or performed)?". This approach was criticized on different levels by Slater (1999) who suggested on using behavioural data collected during a virtual reality experience to complement a few study-designed Likert-style questions measuring subjective experience.

The final questionnaire contained 18 items which was called the Immersive tendencies questionnaire and was developed by Witmer and Singer (1998). This questionnaire also included questions like as "Do you ever become so involved in a television program or book that people have problems getting your attention?' and "Do you ever become so involved in a video game that it is as if you are inside the game rather than moving a joystick and watching the screen?"

Flow has been measured through different questionnaires and research methods. Choi and Kim (2004) developed a six-tem questionnaire to measure what these researchers conceptualized as flow while playing online computer games. However, these questions appear to assess only a few aspects of what is traditionally considered flow.

Novak and Hoffman (1997) identified three major approaches to measuring flow after conducting several studies. These included the narrative description followed by survey completion, retroactive survey completion, and experience sampling. Experience sampling method developed by Csikszentmihalyi and Csikszentmihalyi (1988) is the most common method. Day-to-day activities are sampled randomly when the participant is contacted, usually across the course of a week. When contacted, participants completed the experience sampling form to measure aspects of flow including challenges and skills, mood, and motivation, all associated with the current situation. Although surveys can be used to collect data, one disadvantage of surveys is that the data that are produced are likely to lack much by the way of detail or depth of the topic being investigated (Denscombe, 2007). This is where experience sampling method scores. It is a well known fact that human memory imposes limits on what people can validly report retrospectively (Riediger, 2009). In most questionnaires or interviews, respondents have to rely on partial recall and inference strategies when asked to report on their past behaviour or experiences (Riediger, 2009). There is ample empirical evidence that this results in retrospective memory biases and aggregation effects that impair the validity of the information assessed (Riediger, 2009). A promising alternative is provided by experience sampling by obtaining reports of experiences at the moment of, or close to, their occurrence (Riediger, 2009).

Csikszentmihalyi (1975) also developed the flow questionnaire. Participants read statements that describe the flow experience for example: "I am so involved in what I am doing, I don't see myself as separate from what I am doing") and then respond to a series of questions. Respondents first indicate if they have had similar flow experiences, then rate their flow activities on 12 dimensions ("I get involved", "I feel self-conscious").

2.2.3.1 The Gaming Engagement Questionnaire (GEQ)

Items on the questionnaire relate to the effect that the game has on the participants ability to engage with the various aspects of the game, the effects of which are the main focus of the study. Initial steps in developing the gaming engagement items were to analyze existing approaches to measuring relating elements such as flow and presence.

Development of the GEQ consisted of several stages, in which both classical test theory and the Rasch rating scale model (Rasch 1960, 1980) were used in instrument validation. In the first phase, an initial version of the GEQ was constructed after reviewing the measurement literature on immersion, presence, flow. Items were constructed that reflected commonly reported game-playing experiences that were consistent with descriptions of different levels of engagement in game-playing.

A pilot version of the instrument consisted of 10-items rated on a five point scale (from ''no'' to ''sort of'' to ''yes''). Additional items were created to expand coverage of levels of engagement and a 15-item version with three response choices (''no,'' ''sort of,'' ''yes'') was created. A Rasch rating scale analysis suggested that additional items were still needed to more fully cover the engagement level of the respondents; therefore more items were developed to create the final 19-item version (see Fig 1).

Fig 1.jpg –Gaming Engagement Items (Brockmyer et al, 2009)

1	I lose track of time
2	Things seem to happen automatically
3	I feel different
4	I feel scared
5	The game feels real
6	If someone talks to me, I don't hear them
7	I get wound up
8	Time seems to kind of stand still or stop
9	I feel spaced out
10	I don't answer when someone talks to me
11	I can't tell that I'm getting tired
12	Playing seems automatic
13	My thoughts go fast
14	I lose track of where I am
15	I play without thinking about how to play
16	Playing makes me feel calm
17	I play longer than I meant to
18	I really get into the game
19	I feel like I just can't stop playing

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Rasch analysis of GEQ responses and GEQ relationships with other questionnaires and with participant behavioural responses provided indications that the game engagement questionnaire is a reliable and valid measure of engagement in playing video games (Brockmyer et al, 2009).

When GEQ was developed, samples were taken from one particular location with moderate ethnic diversity which means additional work needs to be done to check whether GEQ works well with other samples. Also, during the development of GEQ, in one particular study, males who play video games frequently was taken as the sample, therefore it is important to take a mixed sample as other individuals may respond differently to the questionnaire. Finally, it is important to recognize that there are many other risk and protective factors that can affect engagement in a game-play. Some of them are immersion, flow and physiological absorption.

2.2.3.2 The Lazzaro Factors

The origin of Lazzaro's factors started with one question put forward by Nicole Lazzaro – *What makes a game fun?* Nicole Lazzaro is the founder and president of XEODesign Inc.

XEODesign Inc is a player experience research and design firm with an eleven year history of improving player experiences for games and consumer software companies such as Sony, Leap Frog, Ubisoft, Broderbund, and Mattel. In an interview with Nicole Lazzaro in 2010, Lazzaro explained how the four factors (Hard fun, Easy fun, Altered states and People factor) came about. Lazzaro (2004) researched across all games from Halo to Tetris and also observed the people playing at home, school and work that were of different ages and genders and noticed some similarities.

Lazzaro (2004) also observed some similarities between player's favourite moments in the games. Lazzaro then recorded the moments on a video tape and applied Paul Ekman's facial action coding, modified it for games to measure the emotional responses of the players. Lazzaro stated that there are seven emotions

one can measure in the face and the rest in the body. Lazzaro (2004) took the favourite moments and performed a cluster analysis and the results indicated they fall into four categories of emotions (keys). She then looked at the emotions and started asking other questions such as what were the similarities of the types of decisions players were making? What kind of play mechanics was involved? This is how Lazzaro's factors got originated.

The four keys are hard fun, easy fun, altered states and the people factor. Each of these keys is a reason why people play according to XODesign's research. Next, the research talks about each of these keys what factors can be used to measure engagement.

Hard Fun

Gamers feel the need for a challenge and that is why they play. Gamers using this Key play to test their skills, and feel successful (Lazzaro, 2004). Gamers who enjoy the hard fun say they play because:

"Playing to see how good I really am"
"Playing to beat the game"
"Having multiple objectives"

Easy Fun

Most gamers play because they only focus on the enjoyment of the gaming experience. Easy fun causes immersion to occur within the gamer which raises the curiosity and entices the gamer to consider option and find out more. Games with this key entice the player to linger, not necessarily in a 3D world but to become immersed in the experience (Lazzaro, 2004). Gamers who enjoy the easy fun of immersion say they like:

"Exploring new worlds with intriguing people"
"Excitement and adventure"
"Wanting to figure it out"

"Feeling like me and my character are one"

Altered States

Gamers report that how a game makes them feel inside is one of the major reasons why they play. They describe enjoying changes in their internal state during and after game play. The internal experience key focuses on how aspects of the game external to the player create emotions within the player. Players using this key, play to move from one mental state to another or to think or feel something different. This is again the experience of being engaged in a game (Lazzaro, 2004). Gamers whose engagement focuses on their internal state say they like:

"Clearing my mind by clearing a level"
"Feeling better about myself"
"Avoiding boredom"
"Being better at something that matters"

The People Factor

Gamers using this key see games as mechanisms for social interaction. Many gamers enjoy playing games with others either within the game or outside the game. Multiplayer games are the best at using this Key, although many games support some social interactions through chat and online boards. Games that offer both cooperative and competitive modes offer a wider variety of emotional experiences (Lazzaro, 2004). Gamers whose enjoyment comes from interaction with others say that:

"It's the people that are addictive not the game."
"I don't like playing games, but it's a fun way to spend time with my friends."
"I don't play, but it's fun to watch."

2.2.3.3 Gaming Engagement Questionnaire and Lazarro Factors: The preferred choice?

The Gaming Engagement Questionnaire and Lazzaro's Factors, two well regarded instruments, appeal as ways to inquire into and measure engagement because they have been developed from real data and can be seen to directly relate to users experience. They appear to be well suited to the goals of this research. Both these methods are made up of statements that can be lined directly to user behaviour. It is anticipated that the users in this study will have similar behaviour. It will be interesting to compare the dimensions and criteria with the findings of this research.

2.3 Situated Co-Inquiry and User Experience
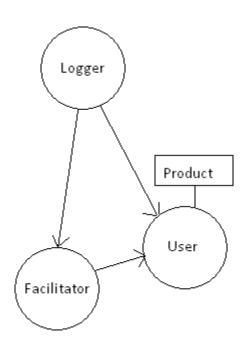
2.3.1 Situated Co-Inquiry

Usability testing aims to get at the user's experience of using a product (software/hardware) by getting the user to use the product (Carter, 2007). The inquiry lies with the product in use, in the context of use, with the person of use or some conditions approaching these. It is hoped that the user's experience in usability testing – the cognition, the affect and the actions – are immediately related to the use of the product (Carter, 2007).

Situated Co-Inquiry is a usability approach that aims to be simple in the following ways; focus remains on the user, it can be used in any system development methodology and the different players in a system development can use it to be involved with and informed by the user (Carter, 2007). Situated Co-inquiry in simple terms means an inquiry that is both with the artefact of study and another person.

Carter (2007) explains that in their work in a usability lab, they focused a lot on the nature of the working relationship between the participants in the testing i.e. the test user, the facilitator and the logger. Often the lab was setup in a way that user

was alone in the room while the facilitator and the logger was outside the testing room. In this setup, the intervention was minimal and there was no opportunity to think aloud. But the issue was that the facilitator and the logger had no clue what was going on with the user. Some of the scenarios highlighted the fact that this setup instead of reducing interferences was actually causing more of it. Additionally, the logger was also facing some difficulties. Due to this setup, the logger was unable to create precise codes and descriptions of the behaviour that were sensible to developers and which would require less time to analyze post-testing period. After applying usability's key question to the process of testing out different setups for the testing area, the triangle setup was decided.

Fig2.jpg – Triangle setup (Carter, 2007)

In the triangle setup (Fig 2), the test user sits in front of the product that is tested on and the facilitator sits slightly behind the user and the logger sits in a way that each person can see each other but the user will still be facing the product. This maybe the idle setup for this research but it can only be confirmed through a pilot test.

It was found that there was active engagement from all participants in this inquiry and as the team refined their practices, a lot of advantages were discovered. The first advantage was in the output of testing: the logging record and report. The

logger did not have to write down descriptions on their own anymore. The team discovered it was much more worthwhile for the logger to take initiative and offer their description of the scenario and ask for confirmation or clarification of it. This process of creating descriptions assisted in the thinking of the usability phenomenon and eliminated the need for post-analysis.

Another advantage was the introduction of the system developers into the testing room which despite many people's beliefs that it was not a good idea worked well for the team. The team also discovered that engaging the users before and during the test and spending time with them and considering them as a participant in the inquiry had its benefits to the research. It is also important to follow the right set of guidelines during the interview as it is critical that if the right language is not used, it will be hard to reflect on an experience and derive useful descriptions. In other words, the experience itself would be diverted or corrupted.

Therefore the team conducted an investigation in which the initial step was to look at the possible effects of different ways the language was used in intervention. The table 2 below provides an example of the thinking the team did and the typical results that were observed.

Table 1 - Typical user responses to different facilitator interventions (Carter, 2007)

Facilitator intervention
Possible user response
What are you thinking?
The user's experience may still be affective/kinaesthetic. Requesting a cognitive process may interfere with this.
What are you experiencing?
Use of the word "experiencing" removes the threat of not being in line with affective or cognitive focus of the test user; however, the question still requires a cognitive process that

may be premature.

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What is it? What's happening?

More informal and more neutral than the previous two statements and so likely to give the user more room to continue to use the system and give feedback when ready.

According to Carter (2007), attitudes and techniques are the ways to understand the approach of Situated Co-inquiry. Attitudes are authenticity and getting along side. Authenticity means the facilitator must value the user's experience as well as theirs while Getting alongside is where the facilitator needs to work on generating a friendly atmosphere and respect for the user.

Techniques used should be:

1. Movement between openness, experience and language.
2. Precision in language.
3. Identifying and following warm up.
4. Identifying learning style.

This type of inquiry which aims to get at the user's direct experience is well suited to highlighting and recording a user's engagement within a gaming experience.

2.3.2 User Experience

Today people live in an experience economy where new kinds of experiences are found out by consumers from the products they use. It is often considered that the focus on the effectiveness and efficiency of the user is an adequate design goal for the success of a product. This is an indication of the designer focus on usability testing when developing a product. Human Computer Interactive researchers have often argued that the design of a product should not only be focused on improving the effectiveness and efficiency of a product but on how users experience the product. It is also said that for the sake of curiosity and for the ability to learn new

things, it is essential to have positive emotions which in turn frequents the use of a product.

User experience has been an area of study in the HCI domain for some time and various models have been proposed by researchers to cover the different aspects of it. Kankainen (2003) says that the user experience of a product is personal and it can be implicated that a user's skill, knowledge, previous experiences with similar products and expectations can affect the user's perception on a new product. User experiences consist of experiences that are elicited when the user interacts with the product and emotions and feelings that result from these interactions (Schifferstein & Hekkert, 2008). According to Forlizzi (2000), the interaction occurs always in some physical and social context and therefore the context has impact on the user experience.

Playing a game is a voluntary activity. It is important for a game to capture interest early and motivate the user to play the game for over an extended period of time. It is crucial to have an effective human computer interface design for engaging users in the immersive experience of computer games (Sellar, 2004). Clantion (1998) divided the HCI of a computer game into three levels; game interface which consists of the controllers and user interface, game mechanics which is in plain words game physics and finally game play which is the goals within the game. It is more satisfying for users when game menu screens and selections options are easy to use and interact with. Lazzaro (2004) stated the importance of usable game interface design in her article which provided an example of how gamers have abandoned games due to interface difficulties. Similarly, game interaction mechanisms which can be anything from a controller to motion sensitive controllers need to be easy to use, intuitive, comfortable and perform effectively if their use is going to judge the overall gaming experience. It was concluded by Pagulayan et al (2002) that as a result of usability testing, the ease of use of a game's controls and interface is closely related to fun ratings for that game.

According to a discussion by Federoff (2002), effectiveness and efficiency are not the prominent criteria for game play evaluation. User satisfaction on the other hand which is included in the ISO 9241-11 definition of usability is critical to the success of

interactive games (Sellar, 2004). For this to happen, a game needs to engage the users. And in order for the game to keep the user engaged, games need to provide rewards and challenges. Lowe (2003) wrote on Gamesbiz how consumer loyalty can decrease by poor user interface or game play. Therefore by seeking to understand the user experience during game play, usability methods can be adapted or extended to gather quality data and improve overall game design.

3 Methodology

This section outlines the methodology that was used in the research and the steps taken before the real test begun. It also describes the process of selecting participants, the choice of games, how the data was collected and the procedure of the session.

3.1 Selection of Methodology

This research is focused on answering one question *"Does controller-less environment provide engagement in motion control gaming?"* and therefore the selected methodology had to truly reflect the user's experiences while using the product. There are different methods that can be used to inquire into experiences such as questionnaires, interviewing, cognitive walkthroughs and usability testing. Out of these options, usability testing stood out as the best for determining users experience at the time of using the product (Carter, 2007). Situated co-inquiry was used as an initial enquiry on whether user felt a sense of engagement when a controller-less motion gaming console.

Post-experience interviewing based on the video recordings facilitated further inquiry into the users perceptions and reflections. The interview was unstructured with open-ended questions.

The research was of qualitative in nature as it was investigating the participant's experiences and perception. It is similar to an ethnographic approach as it was in the participant's place of use but it does not undertake an extensive and detail study into the social context.

3.2 Selection of Participants

The participants chosen for this research were general users. These general users represented men and women of different ages and also represented different

amounts of experience with games. As mentioned before in section 2.1, although there is no accepted categorization of users, the participants that were selected for this research fall into the category of casual-hard-core gamers. For a more detailed description of the participants, please refer to section 4.1 where participant profiles are summarized in a table.

The researcher did not ask the participants in-depth about their gaming habits. It can be assumed that if the participants described about their gaming profile, they would fall into the other categories described in section 2.1.

Although this research is an initial investigation into engagement provided by controller-less motion gaming consoles, the researcher wanted a variety of user profiles so that each user can give their perception about the engagement and how important it is to them. Each user type will give a different view about the experience and how it can be improved to the researcher. This in turn will benefit developers to create engagement in different ways.

Two pilot tests were conducted in order to refine the inquiry approach and methods. An additional 5 participants were involved to give a total of seven participant case studies. This fits in with the constraints of a Masters Thesis and also gives some depth to the findings.

A snowball approach was used for recruitment. In this method, participants with who contact has already been made use their social networks to refer the researcher to other people who could potentially participate in or contribute to the study. Users will be approached in person to ask if they wish to participate in the research and others will come to know about the research through word of mouth.

3.3 Choice of Games

Xbox Kinect had a wide variety of titles to choose from. They ranged from adventure to sports. Although at the time of the research, there was less availability of other titles and therefore the researcher chose two titles which he felt the users will enjoy. They were Kinect Adventures and Motion Sports.

The reason for the two choices was to offer the users a variety. Kinect Adventures takes the gamers to float in outer space or experience the thrill of roaring rapids. Gamers will also get to tackle mountain top obstacle courses or plunge into the deep to explore a leaky underwater observatory. Motion Sports lets the user race down the slopes of a super 'G' slalom, score the mind blowing penalty kick or throw punches at the champ. The game has six types of sports and allows both single and multiplayer game play. Although the two games were representatives of sports and adventures, the actions imitated by the users were similar to the actions the users would imitate when playing other types of games such as shooters, strategy etc. The only difference that would be seen would be the story and the game play.

3.4 Data Collection

Data collection was during the testing stage and later during the interview stage. Both the stages used video recording to collect data. The format of the data collection was similar to the ones used in a usability lab except for the fact that the testing for this research occurred in the user's home and also the researcher played two roles; the facilitator and the logger. One of the reasons why video recording was used for data collection is because of Interpersonal process recall which is explained later on.

Video recording was used because of the following advantages; sensory-rich memory cues, control over viewing, enhanced awareness, convenience, non-evasive and use in analysis. The researcher has explained in brief these advantages in the following paragraphs.

Sensory-rich memory cues

It was seen in a study by Tulving (1983) that the compatibility between the memory of an event (trace) and the information at the time of retrieval (cue) provides the ability to recall a past event. This compatibility can be increased by the use of video by providing cues rich in visual and auditory information (Belkin et al, 1987).

According to Cooke (1994), usage of video reduces memory retrieval errors and assists in re-construction and recall.

Control over viewing

One of the advantages of using video is control over viewing where the control of the video playback is shared between the researcher and the user. This means the researcher is given the ability to both slow the viewing process down through pause and for multiple viewing using rewind (Kagan & Kagan, 1991). The downside to this process is that it is time consuming and difficult to find the exact segment of the video that needs viewing.

Enhanced awareness

It was found out by Kagan and Kagan (1991) that when the participants watched the video playback of their inter-personal activities, they were conscious of things such as other people's emotions that they were not usually aware of. It is believed the reason for this when the participants view the video replay; they are not caught up emotionally as they were during the real event (Kagan & Kagan, 1991).

Convenience

Video recording offers the researcher to view the video replay at convenience. This is usually when the number of participants is large and multiple viewing might be necessary (Belkin et al, 1987).

Non-invasive

According to Brule and Blount (1989) and also Cooke (1994), video can be useful when direct observation may interfere with performance. But at the same time, it is still unknown to what extent the use of video can affect performance as well. Therefore it is important to have an appropriate setup that will reduce the effect of video on their performance.

Useful in analysis

Data collected through video can be valuable at later stages of the research. It can be used in variety of ways such as confirmation and validation of models against data etc (Belkin et al, 1987).

3.4.1 Interpersonal Process Recall

Interpersonal process recall (IPR) is a qualitative interview approach designed to access participant and researcher experiences as close to the moment of interaction as possible (Larsen, 2008). Interpersonal process recall interviews use video-assisted recall to access conscious yet unspoken experiences (Larsen, 2008). The core of the Interpersonal process recall procedure is reviewing a video or audio file in order to recall one's thoughts, feelings, goals etc and describing these processes as explicitly as possible during the video review (Kagan, 1980). IPR serves three interrelated purposes; Enables examination of psychological events as a research tool, serves as a training model for improving the interpersonal abilities of counsellors, teachers etc and contribute to theory and knowledge about human interaction (Kagan, 1980).

3.5 Pilot test

A pilot test was conducted to refine the methods used for the research. In this research, pilot tests were conducted with two participants in their homes and were asked to interact and play with the game console. They were not asked to complete any pre-defined task but rather use it the way they would normally use. A pilot study is also conducted to refine the implementation of the above proposed methods. For example, what questions can be asked to the participant after the experience? The nature of any possible inquiry during the 'during-experience' method was also investigated in the pilot test. It is important to note that the participant's friends were present during these experiences and the researcher did not interact with them. This was done to increase the naturalness of the gaming experience.

Pilot User Profiles

The following table is a profile of the two users who participated in the pilot test. The table 2 consists of their profile as described by them.

Table 2 - Pilot User Profiles

Participant	Pilot User 1	Pilot user 2
Age	21	21
Gender	Male	Male
Occupation	Student	Student
Experience in Gaming	10 years	13 years
Type of gamer	Casual gamer	Casual-Hardcore gamer
Number of friends/family present during interaction	2	3

3.5.1 Pilot Test 1

Pilot user 1 (PU1) has been a gamer most of his life. As he recalls, he started with Sega Genesis and progressed forward and currently games on the Xbox 360. His initial experience with motion control gaming came through Nintendo Wii. His initial thought on Kinect was that it had potential but it's not up to its full potential yet.

Since this was the initial pilot test, the procedure followed was in its initial phase. It started with the user interacting with the Kinect which was video recorded. The user was asked to use the Kinect in the manner he would normally use it. The user played with the Kinect for a period of 3 minutes and 59 seconds. Following the users interactions, the video was transcribed and summarized. The transcribed material is in the section 8.1 of the appendices of the research. Following is the summary of the user's interaction.

3.5.1.1 Summary of the Gaming Interaction

The researcher setup the console and provided the controls over to PU1 and offered him the choice of the level. PU1 was playing Kinect Adventures. PU1 while interacting with the device stated "This is stupid" to which the researcher asked if PU1 has ever played the Kinect before. The response was negative. Since there

were others present in the room, PU1 asked for everybody's choice of the level. Researcher again asked the user to choose anything he prefers. As the user was browsing through various levels, others in the room provided options to the user. PU1 rejected the choices as he claimed it looks like dancing. The researcher informed the user that it was not a game related to dancing. While the options were being browsed, PU1 saw that a replay adventure option was highlighted which indicated a previous player had completed this level. The researcher informed the user that it is best to delete all player profiles so that this option won't appear and asked the user to carry on by choosing that option.

The user chose a game and while it was loading, the user was trying to open and close the fist to see the response of the on-screen avatar. The user claimed that it was not moving the fingers. Instructions for the level was shown before the game started and the user skipped it. The game user chose required the user to hit balls which will in turn smash the blocks on the screen. The researcher shouted "hit" and the user asked others in the room what to do. The researcher advised the user to hit the ball and pointed it out to the user on the screen. The user was also advised by his friends to put his hands down to block the ball which bounced back. The researcher also suggested the user to move about to play the game better. The user and his friends exchanged friendly abuses as the friend seem to be sarcastically advising the user on how to play the game. The user compared the game to soccer and claimed it to be a sissy sport. User's friend kept telling the user that the user might hurt his friend while playing the game.

After the user completed the game, the user performed random actions to see if the Kinect recorded it. The user stated it imitated some of his actions but not all of them. The user then walked out of the gaming area.

Reflections on the Pilot test

Cons

1. Researcher did not give an introduction before the testing started. This may look very unprofessional in the eyes of the user. It is important for the

researcher to welcome the user to the research and provide an basic introduction.

2. Researcher was advising user on how to play the game and not letting the user find it out by himself. This interruption can cause the user to break the engagement and also the researcher will not be able to get the real experience felt by the user.

3. Researcher was also engaging in normal conversations which can affect engagement for the user.

4. Researcher was also engaging in normal conversations which can affect the engagement of the user. It is important for the research not to interrupt the gaming experience. The researcher should only speak to the user when the user interacts with the researcher.

5. The researcher did not setup the gaming environment properly. Evidence of this was seen during the interaction, when the user was about to hit his friend while using the Kinect. Researcher needs to make sure enough space is provided for the user to have a good gaming experience. As this not only affects the users experience, but engagement as well.

6. When the interaction ended, the researcher should thank the user for his participation. As mentioned before, the researcher needs to be professional and grateful to the user for participating in the research.

Pros:

1. Researcher provided user with the choice of game and did not provide any complicated set of instructions. This in a way in achieving an actual experience rather than a controlled one.

2. Researcher responded to the statements and enquires made by the user. In this way, a real experience was achieved and the researcher was able to make observations and notes about the points raised by the user.

3.5.1.2 Summary of Pilot User 1 after Kinect Interaction

After the user interacted with the Kinect, the researcher sat down with the user to get a feedback on the experience from the user. The researcher initially asked some familiar questions to the user. The user was first asked from when he started gaming. His response was "a long time". The user was asked if he had engaged in a motion control gaming console prior to this experience. The user mentioned he had played with Wii. The researcher then asked the user about his initial thoughts on Kinect. The user says it has a lot of possibilities and it is not up to its full potential yet. The user also stated it is "cool". The user was asked how he felt about it. The user was not sure but his thoughts were mostly on how to improve it and the possible projects that can come out of it. The researcher next asked the user what he thought about it. The user said it's out there, it is pretty sweet and he feels it's the beta version of the product. The user was asked if he could think of a few words to describe what he felt about the experience. The user stated it was frustrating, hard to communicate motions and fun. The researcher next asked the user if he knew how much time he spend playing the Kinect. The user claimed it would have been twenty minutes all together. The user was asked if at any point during the experience he felt alone in the room. The user stated he was never engaged completely. He went on to state that the Kinect needs to improve its engagement which will potentially make the experience much better.

What improvements can be made to the Kinect was asked to the User. User mentioned a couple of features such as virtual reality feature, and hand to eye co-ordination, a headset which combines them together such that everything from the video game is transferred into this dimension.

3.5.1.3 Pros and Cons of the Interview stage

Cons:

1. Although user was able to answer the questions, it would be helpful for user to view his interaction so it will help the user recall his experience and answer the questions better. This process is called Interpersonal process recall.

2. Researcher should have made time stamps on certain expressions or comments made by the user. This could help useful in getting info such as what the user felt during that moment. Another advantage if Interpersonal process recall or IPR was used.

Pros:

1. Researcher asked user questions on the observations made by the user.

3.5.1.4 Summary of the Analysis of Pilot User 1

Although the procedure was new, it was clear from the summary of the transcribed video and the interview that the user was not engaged at all. Evidence of this can be seen from the fact that the user was conversing with his friends most of the gaming experience. Also, the user was aware of his surroundings as he was constantly interrupted by it while gaming (for example, he felt something at his foot while playing the game, running into his friend etc). Perhaps, this can be avoided by having a wider gaming space. But the user did confirm the fact that he was not engaged when the researcher asked him if he felt alone at any moment. User suggests that engagement can be improved by incorporating a virtual reality head gear that would transfer everything from the gaming dimension to the user's dimension. The user also suggested if there was better hand to eye co-ordination, it can also improve engagement.

3.5.2 Pilot Test 2

Pilot User 2 or PU2 has been gaming since he was eight years old and has seen how games and consoles have changed since then. PU2's first experience of a motion control gaming was the Playstation eye-toy. Although PU2 is not sure of its release date, he has played it with games like eye-toy party and other related games such hover-board and other boarding games.

The procedure followed during this pilot test was different from the initial one. Although most of the stages were same, the real difference can be seen in the post analysis. Initial stage was the video recording of the user's interaction with Kinect. After this interaction, a table was created with the following columns:

Table 3 - Experience timeline table

Time	Action	Quotes	Flags	Researcher Summary

The first column "Time" is the time stamp of the video. Instead of breaking the video into each minute or second, the time stamp column was set to ten seconds. Everything the researcher says or indicates would be recorded in frames of ten seconds. The second column is "Action". As the title suggests, any expression or movement by the user would be entered into this column. Although the researcher may not be able to exactly describe certain facial expressions, it will be described in the best possible manner and will be clarified by the research in post analysis. The next column is "Quotes". Anything the user says will be entered here. Even if it is not related to the gaming experience, the researcher will enter it here. The column following this is "Flags". This column is divided into two columns: Gaming engagement items and Lazarro's factors. The researcher will enter the items the researcher feels the user has indicated or expressed. And the final column is the "Researchers Summary". Here the researcher will enter a summary of the user interaction using all the other columns to sum the description. The researcher will enter a summary for each time frame and make one final summary consisting of every time frame.

After this stage, the researcher used the summary to make points that were to be verified with the user in the post analysis. In the post analysis, the researcher will ask the user some general questions such as how long the user has been gaming, or what kind of a gamer is the user etc. After asking some general questions to the user, the researcher will give instructions to the user such as that the user and the researcher has the control of the video playback and the user can rewind, fast-forward or pause the video. This process is called Interpersonal video recall. The researcher after providing the instructions to the user will then start the video playback and interact with the user. The user then will provide feedback based on the questions by the researcher and what the user feels or sees. Refer to appendix 8.2 for Pilot User 2 timeline and interview transcript.

3.5.2.1 Summary of Pilot user 2 after the Kinect Interaction

User interacted with the Kinect with less effort. User asked the researcher for what game to play? Researcher informed the user that it his choice of game. User's friends who were present during the experience suggested to choose a certain game based on their experience. After selecting a game, the user prepared himself to play. User gave his friend his cell phone so he can be more comfortable to play the game. While the user was waiting for the game to start, user's friends started to speak to the user about a topic not related to the gaming experience. User also responded to his friends interactions. The game started and the user was surprised and started flapping his hands to imitate the feeling of flying which was required in the game. The user was still interacting with his friends about the previous topic while playing the game. This can indicate that the user was still not immersed into the game and was just multi-tasking.

User then stated the following quote ""What am I doing? Try get them or what?". It seems the user was not clear about the objective of the game and was trying to figure out what needs to be done. User seems to move from left to right and is trying to play the game. User's friends ask whether the user can't move properly. User is not sure how to respond. User's friends inform the user that he can move front and backwards. User is thrilled on hearing this statement and states it provides

depth and feels "buzzy". User now seems to play better than before and is amused by it.

User again stated interacting with his friends and asking if they played a certain game. User's friends responds to the users enquiry and user is still playing the game. User is suddenly surprised by the increase in difficulty in the game and states the objects are moving. User seems to now play the game faster to match the difficulty.

User tells his friends to look at the screen and user is moving his legs to check if the avatar is imitating his actions and user is quite amused by it. User's friends are interacting with user in relation to his actions. User is now moon-walking towards and backwards from the Kinect and is also performing it sideways and asking his friends to watch his avatar. User is amused by his actions.

User is suddenly surprised to find he is back in the game and seems to be upset about it. User's friend asks the user if he restarted the game. User then gestures to his friend to come and play with the Kinect.

3.5.2.2 Improvements

Even though the table provides an insight about the interactions and quotes made by user during the gaming experience, it is hard to flag each time frame and enter a researcher summary. It is for that reason; a researcher summary was made after the table was created. Perhaps it is best to enter flags and describe about it in the researcher summary. In this way, the table also can be shortened.

Also, when the user interacts with the researcher during the gaming experience, it is best the researcher creates a list of enquiries that the researcher can ask the user during the interview. Additionally, the researcher also needs to record on the notepad at what time frames the user interacted with the researcher which can be used during interview and summary of the user's interview.

3.5.2.3 Summary of the interview of Pilot user 2 after video playback

User has been gaming since he was eight years old and has seen how games and consoles have changed since then. User's first experience of a motion control gaming was the Playstation eye-toy. User is not sure of its release date but has played it with games like eye-toy party and related games like hover-board ones and other boarding games. User's initial verdict about Kinect was that it was a re-vamped eye toy.

The researcher asked the user if he had felt any initial excitement about using Kinect since it had no controllers, could the user predict how the experience was going to be. User responded by stating that he had read online about Project natal which was the initial name for Kinect and how it's going to revolutionize gaming. User states that it's going to be good but user feels motion control gaming is a gimmick like 3D T.V.

The researcher then provides the user with an initial introduction about what his research is about and asks whether user know what engagement is? User replies by asking the researcher if it is similar to immersion in a game to which the researcher agrees. The researcher also adds a bit of description about engagement and how an engaged user can lose track of everything when immersed in a game. The researcher then provides user with instructions how the user will provide feedback on his gaming experience through video playback. User is also provided controls to the video playback so the user can exactly respond what he felt at anytime during the playback.

The researcher starts playing the video to the user. The researcher asks whether user was initially excited. User replies it was good because user had only played it once before, at a shop and he felt weird about it due to the fact that other people in the shop was wondering what he was up to. As the video progressed, the user started to describe his experience. User stated that although the interaction using hands was easy, figuring out how to play a game with two players was quite difficult. User felt like the console expects the user to know some of the functions or read a book to understand its features. User then stated that once they got the hang

of it, it was an easy walkthrough and also it didn't re-scan the user probably for the fact that user and his mate were about the same build. The researcher confirmed it by asking again if the Kinect scanned the user because Kinect always does that when it detects a new player. The user said no and knew that Kinect usually scans when it detects a new player.

The researcher then asked the user whether he chose the game where the user has to fly. The user replied yes and added that the game required the user to fly and pop the bubbles. The user also stated that at this stage user was trying to figure out how to play the game properly and did not realize that he could move forward and backward from the Kinect. The researcher pointed out to the user an expression made by the user in the video play back and asked if it meant curiosity? The user replied he did not what he was doing there and claimed it was fun. At a certain part of the video, the user laughed and the researcher asked why the user laughed? The user then replied that the user was amused at how the avatar was imitating his actions and it was like moon-walking. The user stated that with such features, the user felt he was a part of the game.

The researched asked the user if any time did he lost track of where he was? Did the user at any time felt he was playing the game alone? The user then replied that when the user was playing the two player game with his friend, the user lost track of where he was and focused only into the game. The user said it was because of the fact that there was competition between the users. The user has mentioned it previously also that competition can cause engagement. The user then fast forwarded the video to show the researcher the two player game user had with his friend. The user then pointed out how focused he was while playing the game. The researcher then agreed to the user that user was competing and the user added that his friend beat him three times and that's not normal.

After watching the video for some more time, the researcher told the user that he felt the user seemed to be really focused into the game. The user stated that it's amazing how the avatar on screen moves according to how the user moves. If the user moved his hands, its hands move, if the user moved his legs, its legs move and it felt like one to one. There was no delay between the user and the avatar. After a

certain stage, the user said "you forget there is an avatar and that is pretty awesome". The researcher then asked the question similar to what the user was describing about the one to one with avatar. The researcher asked the user if at any time the user felt like he was playing the game and did not see the avatar on the screen. The user said that the avatar felt like him and explained how accurate it was when the user reached to grab stuff.

The researcher asked if the user lost track of time. The user replied with another question which was how long did they play for. The researcher stated that the gaming time was less than five minutes which the user found it hard to believe. The user said the experience felt longer but when the user starts feeling tired that is when you realize how long you have been gaming and starting loosing it. The researcher asked the user whether the experience would have been different with a controller. User replied that controllers would not be effective in such games because its motion based. Controllers are more suited for games that require it. It depends on the games.

Finally the researcher asked the user if there can be any improvements made on Kinect. User stated that the hardware is pretty good and changes only need to be made to the games.

3.5.2.4 Summary of the Analysis of Pilot User 2

Based on the summary of the user's interaction with Kinect, the user was focused on playing the game but the user also interacted with his friends by conversing with them and entertaining them with his actions. There were certain parts of the Kinect interaction where the user was focused on completing the game rather than conversing with his friends. The user also seemed to increase his pace when the level of the game became tougher. But during other parts of the Kinect interaction, the user was in constant conversation with his friends, some based on the experience, while other topics were general.

More of the user's experience was understood from the summary of the user's interview of the gaming interaction. For example, the researcher pointed out to a

certain moment during the interaction when the user had laughed. When enquired, the user stated the following *"I just figured out like the dude moves. What he was doing when I was walking was like moon-walking. It was pretty good...when you are like that, when you see that dude and you move and it moves that makes the game a bit more, makes you feel you are part of the game."* This is similar to one of the items in Lazarro's factor (Feeling like me and my character are one). This is evidence of engagement. Another factor that according to user can improve engagement is social gaming. The user quoted the following *"I think it was good, I think I found, I think I have said this last time, when we are competing with someone else, we get really into it, we lose ourselves into the game".* This again supports two factors of Lazarro's list – Playing to beat the game and It's the people that are addictive not the game. When the user was asked how long he played, the user felt it was for a long time. This supports one of the gaming engagement factors – "I lose track of time". It is clear from these factors that the user was engaged most of the time.

3.5.2.5 Final Changes to the Procedure

After the analysis of the results from the pilot tests, the researcher felt that before the actual testing began, a list of changes needed to be done. First of all, the transcripts of the user's experience and interview will be included in the appendix and it will be referred to in the case studies. The researcher will insert quotes from the transcripts and will also include time frames from the time lines wherever possible. This will help the readers to refer easily and understand the case studies better.

The researcher also created four categories which helped in splitting the findings and in turn made it easier to decide engagement. These four findings were evidence of awareness, factors that affect engagement, evidence of engagement and what can be done to improve engagement. The researcher came up with the four factors by analyzing the pilot tests and its conclusions.

The final change made by the researcher was the usage of the two existing methods namely Gaming Engagement questionnaire and Lazzaro's Factors. The researcher anticipated using the two instruments strongly to analysis the data but found attention to the data during transcribing revealing some clear findings and the

restraint of the master's thesis made it unreasonable to do a full filter of the data using the two instruments. Therefore, these two methods will be used in the final discussion to analyze these findings and determine how useful they are in deciding engagement.

4 Usability tests

In this chapter, the researcher performed the actual tests with the users. The researcher first contacted the user and then arrived at their homes. The researcher provided the user with the participant information sheet and the consent form. Once the consent form was signed, the researcher setup the testing environment as per the triangle setup in Carter (2007). Some of the users had their friends present in the environment and they were not asked to leave. This was done to preserve the naturalness of the environment. Once the setup was complete, the testing began with the user's permission. After the testing, the researcher asked the user if he/she were free to have an interview about the gaming experience. If the user was available, the interview was conducted immediately if not, the user had provided a time for the interview. Once the interview was complete, the user was thanked for their participation in the research.

At the beginning of the chapter, a table with a summarised version of the participants profile is presented. The table contains data provided by the participants during their experience and interview. Each user's experience and interview are transcribed and presented in the section 7. This chapter also contains each user's case study with individual findings.

4.1 User Profiles

Table 4 - User profiles

Participant	User A	User B	User C	User D	User E
Age	19	25	21	21	27
Gender	Male	Male	Male	Female	Male
Occupation	Student	Developer	Student	Student/Nurse	Developer
Experience in Gaming	More than 10 years	More than 10 years	Around 6 years	Two years	More than 10 years

Type of Gamer	Casual/Social	Casual/Hardcore	Hardcore/Social	Casual/Social	Casual
Number of friends/family present during interaction	0	1	0	0	0

4.2 User A

User A is a 19 year old student who has more than 10 years experience in gaming. User A tried both the games provided to him. He started initially with Kinect Adventures and then moved over to Kinect sports. His experience timeline and interview transcript are in appendix section 8.3 and 8.4.

4.2.1 Evidence of awareness

1. User is constantly talking to the researcher. This can be observed throughout the testing. Refer to User A timeline in appendix 7.3 and check the timeframes where the user was seen talking to the researcher.

2. User was **aware of his surroundings.**

3. User was seen laughing while reading instructions for the game space pop. User stated it **felt stupid** since it's not an everyday action.

   R: I think you chose space pop and you were laughing at the screen instructions for space pop…
   U: Oh…oh…oh…okay…yeah…there you go…yeah…
   R: Did you find it stupid or something?
   U: Uhmm…yeah…just…the whole flipping the arms motion…so…
   R: You seem to be laughing a lot… [Laughing]
   U: Yeah…
   U: Coz I know I look like an idiot…so… [Laughing]

4. User **felt silly** while playing the game.

5. User stated he was **worried about others seeing him** play.

   R: Or was it that…you were worried what other people are seeing???
   U: Uhmm…partly that but I mean it just such action you don't do everyday anyway…I mean…so it Kinda you know made me go like what the hell….

6. When user starts **feeling tired, awareness kicks in.**

   R: Tell me something, I wanted to ask this when you play a normal pc game in a particular seated position and playing it, you are playing it for hours…and that also is a concentration there…do you think when Kinect makes you tired…that can throw you off focus and engagement because suddenly you feel you are tired…
   U: Uhh…yeah…definitely after a while…especially if I was playing the boxing one…I could…I couldn't last that long…playing it…so it definitely would affect how long I have been playing it for…so…

4.2.2 Factors that affect engagement

1. **Initial Setup** of Kinect affects users gaming experience with Kinect.

   Refer timeframe 03:30 in appendix 7.3 for evidence of this.

2. **Loading can affect user's engagement** and focus.

   R: Alright…I put the game in…uhhh….did you…did you feel bored while it was loading or…did you feel like this is a standard thing…so its fine?
   U: At start I thought it was a standard thing…but then as time went on…I thought it can get boring so yeah…
   R: Alright…

3. User says the **feature of taking photos can momentarily distract** you while playing the game.

   R: Can that…can that make you lose focus of the game suddenly when the camera pops up…I saw that the camera pops up whenever a certain part of the game is reached…so do you lose focus or are you still focused in the game?
   U: I think uhmm…I lose it for a split second coz now I know that you know certain facial expression has been caught on camera…so…yeah…

4. User skipped instructions which caused confusion for him while playing the game Rally Ball.

5. User felt when he moved forward or backward a bit, the game did not detect his moves properly.

6. User states that **feeling tired can affect the experience.**

   R: Tell me something, I wanted to ask this when you play a normal pc game in a particular seated position and playing it, you are playing it for hours…and that also is a concentration there…do you think when Kinect makes you tired…that can throw you off focus and engagement because suddenly you feel you are tired…
   U: Uhh…yeah…definitely after a while…especially if I was playing the boxing one…I could…I couldn't last that long…playing it…so it definitely would affect how long I have been playing it for…so…

7. User admits other people watching him can affect him.

4.2.3 Evidence of engagement

1. **User did not converse** with researcher while playing the games. Refer timeframes 10:00 - 11:50, 14:30-16:30 in appendix 7.3 for evidence of this.

2. User stated in the interview that the game **"River Rush" kept him going and required focus and concentration.**

   U: Yeah…Uhmm…this game seem like quite…much more focus and concentration than like other one…so…
   R: Seem to be smiling and amused…
   U: Yep that's when I got the points… [Laughing]
   R: So does that all keep you within the game? The points…Uhmm…
   U: Uhmm…Yeah…Definitely…definitely…so…I mean every game you know…there has to be something…you are aiming to get…a point you are suppose to get to…the mission…so…you know…it helps…

3. User **stated he and the avatar felt like one.** This is evidence of Lazzaro's factor.

   R: Did you at any time look at the avatar or did you like you just said that you see yourself doing everything or did you look at the avatar and you know you were making sure…that if you jump, he is jumping or did you forget the avatar and just look at the…you know…
   U: Well…uhmm…I tend…I actually like a lot of third person kinda gaming…so..I think if I saw the avatar, I saw myself through that avatar…though...so I actually control that avatar so that's how I saw it…

4. User was **seen focused while moving his hands with precision** while selecting options.

   R: The way you were looking at us when you were moving your hand, it was like precision…was that…what..can you explain more about that look…you were not smiling…but you were just looking at the screen…and is it because you wanted to be careful when you were selecting or…?
   U: Yeah definitely and just wanting for it to respond…so you know…definitely…

5. User **was seen laughing** and when asked by the researcher, **user stated he was lost in the game.**

   R: What was that "what's up Sri? "For... [Laughing] You thought I was laughing at you? [Laughing]
   U: Oh…no…no…no…no…I think I just…
   R: Did you feel?
   U: I am not…why I laugh actually…I think I was just lost in the game…something like that…

6. User was **very engaged** during the game of boxing. User felt the **response was amazing.**

R: How did you like the response of this game? And was it…like…was it reading your movements correctly?
U: Yeah I started read…pretty much most of my boxes…my punches accurately…it's just when I think I step forward too much a bit or too further back, came less responses…
R: Alright…

7. User was seen **smiling** and when asked, user replied it was **satisfaction even though he was tired.**

R: You look a bit tired….were you tired at that time?
U: Satisfaction…it was satisfaction….a little bit tired [smiling]…a little bit…

4.2.4 What can be done to improve engagement?

1. User when asked if engagement depends on game or technology or both. User replied that although technology is a big factor, at the end of the day, it is **the actual game that engages you.**

Technology is definitely a big factor in the game but I mean at the end of the day, it's the actual game that engages you….you know like if it gets you…doesn't really matter what console it is, what technology as long as it…you know you're having a good time in your…it makes you wanna play more…that's the main point…

2. User states **following instructions help you play game better** and not waste time.

R: Do you believe instructions help you…uhh…get more engaged or focus into the game…does it…is it a factor or…?
U: Yep…Yep…coz it tells you what to do pretty much without you wasting time…trying to figure it out yourself….

3. User when asked if games should take full advantage of the technology, user replied yes. User stated that **enjoyment is the important thing which requires engagement.**

U: It would be good for it to take full advantage of the technology it has been created for…but I mean…as long as you are having fun…I think the engagement…uhmm… and the enjoyment you get out of the game is still the top thing…like the main point of the game…so…yeah…

4. **Competitive social engagement** – User states that while **playing with others,** he will **feel more engaged and competitive.**

U: Uhmm yeah definitely…I found out I was playing that with another person like…I will probably enjoy it more as well and it just will be more competitive so…definitely I agree with you on that point…that it will be social…so…yeah…
R: And would that also improve engagement?
U: Yeah…Yeah…it will engage me much more just because you always want to beat your friends so…like…you know...it's another thing to look for when you playing that game…

5. User feels games need to improve more than the technology itself
6. When asked by the researcher if Kinect is more of a social gaming console than a single player, user replied he would **prefer to play it in the company of others since it engages him** and therefore it's **a social gaming console.** Evidence of this can be seen in the quote listed below competitive social engagement.

It can be seen from above that potential keywords and statements were marked in bold. All these keywords will be now classified into collective findings. These will be extracted and put into general categories. This will be followed for the other users also. Once all categories are made, a final table will be created and in this table, every user will be pitched against all categories collected.

Evidence of Awareness: aware of surroundings, felt stupid, felt silly, worried about others seeing him, feeling tired.

Factors that affect Gaming experience: Initial setup, loading time, photo feature, feeling tired, awareness of the researcher.

Evidence of Engagement: No interaction with researcher during gaming, focus and concentration, focused while moving hands with precision, seen laughing due to immersion in the game, response were amazing, smiling due to satisfaction even though feeling tired, felt like user and avatar as one.

Improve Engagement: Improvement on the game as it is what really engages you, following instructions help you play better, competitive social engagement, enjoyment feeds engagement, prefer to play with others, social gaming console.

With this we create the first list. The list is comprised of summarized findings. This list will be merged with the findings from the second user and the process will be followed till the last user.

Table 5 - User A findings

User A
Awareness of others
Feeling tired
Feeling stupid
Loading time
Initial setup
No interaction during game play
Focus and concentration
Smiling
Feeling one with the avatar
Competitive Social Engagement
Improve games not technology
Games with enjoyment
Social gaming console

4.3 User B

User B is a 25 year old developer who has more than 10 years experience in gaming. User B tried both the games provided to him. He started initially with Kinect Sports and then moved over to Kinect adventures. His experience timeline and interview transcript are in appendix section 8.5 and 8.6.

4.3.1 Evidence of Awareness

1. User speaks with the researcher most of the time during the testing. Evidence of this can be seen through various time frames in the time line.
2. User is asking about the game to the researcher.
3. User makes **funny comments** about his actions to **entertain the present company.**
   Various quotes are present in the time line and interview about this.
4. User tells the researcher he **does not want to look like an idiot**. It is his pre-notion before trying out Kinect.

R: Before you started using Kinect, did you set anything in your mind, did you have pre-notion like….

U: There was one notion, not to look like an idiot in front of my friends [Laughing].

5. Although **user seems lost,** he **was aware at all times**.

6. Awareness kicked in when the **user was knocked down or when user was getting punched.**

7. **Awareness kicked in** when user **felt stupid** after his actions were not registered.

   U: So I think that's Kinda when I felt like I look stupid…Awareness kicked in you know my god…this not fun for me because people sitting outside watching it, it's fun for them…

   R: And that means…there would be no engagement at all…

   U: No engagement at all…

8. Awareness kicks in when user starts **feeling tired.**

9. User **felt stupid while jumping** because user became aware and was wondering what if **people were watching him.**

   U: then I felt like Justin Bieber jumping around the stage…right?
   R: [Laughing]
   U: So I think that's Kinda when I felt like I look stupid…Awareness kicked in you know my god…this not fun for me because people sitting outside watching it, it's fun for them…
   R: And that means…there would be no engagement at all…
   U: No engagement at all…

4.3.2 Factors that affect Gaming experience

1. **Instructions for the game were not well laid out** and therefore the user asked the researcher for help.

   R: did you feel the instructions helped before each game?
   U: Uhhh…Yes…Kinda helped…it wasn't that you know…it wasn't that clear…it was just showed something on the screen…they dint expect you to follow it…maybe I took it wrong…

2. User **felt bored** with the game skiing and quit it halfway.

3. User admits to researcher when researcher asked if he **was tired**.

4. User felt that there was **lag** during the initial round of the boxing game.

5. When user stepped out of the area, the menu popped up for user to get back into selected area.

6. User **started feeling tired and started sweating**. User admits it **affects engagement even in a competitive social engagement.**

7. User says the **U.I of the game was poorly developed.**

   R: And there was again a sub menu that popped up…
   U: Yeah…
   R: Did it…was that irritating or…
   U: Yeah…well…from that games perspective…the U.I. was Kinda poorly designed…you know…that's my field...coz I…we do at work…we do a little bit of lot of U.I interface…guidelines and stuff that we create…from my perspective…personal the game had a poor U.I…

8. User says the **instructions were not laid out properly** and user did not realize that it was ahead of each game. Therefore **user was losing interest in the game.**

9. User **felt bored** after sometime playing the hand gliding game because user **did not like the games objectives.**

10. User states **getting tired is not really good for social engagement.**

   R: Think that was a pretty good workout too…
   U: That was a very good workout...I was sweating literally…coz before I came to your place, I took a shower and came to your place and I was like…wow...Note to self….
   R: Do you feel that's good for a game where you actually work out and you sweat out and then…
   U: if you are doing Kinect in a social engagement, I don't think it's a very good idea to do that coz you will sweat like a pig in the end…it's not good but you know comfort of your home, I think it's pretty much fine…

4.3.3 Evidence of Engagement

1. User is **seen focused and engaged while playing the game**.

2. User is seen reading the instructions.

3. User felt **engaged with the initial hand movements.** It was a unique experience and **there was excitement.**

4. User was not affected by loading time. User **was in deep thought of how the gaming experience** is going to be.

5. **Initially** when the user started playing the game, **it was engaging.**

6. User says the hand gliding game was interesting because **the user was impressed with the mechanics which states user was engaged during the game.**

7. **Achievement is an important factor for engagement.** User says if the game is engaging, achievement is one of the main goals.

8. **User felt he was able to control the avatar like a puppet and helped him to engage better**.

4.3.4 What can be done to improve Engagement?

1. When researcher asked if the user will feel less stupid if the researcher jumped in to play, user said **feeling of competition will start.**

2. User agrees that **engagement will be present when there is a competition and both are working towards completing a task.**

3. User says **a game with a good A.I and good response,** something like the boxing game where something is coming towards you.

4. A game **needs to have achievements to complete** which makes the game more engaging.

5. User says if there was something that he had to move just two steps forward or backwards like a shooting game, it would have been more engaging but that is just the user's perspective.

6. User states that the technology is in a very good place and **the game hasn't matched up to the technology**. The game needs to improve.

7. When the researcher asked about the main thesis question, the user responded, the **technology cannot provide you engagement but provided the right game is used, it can.**

Evidence of awareness: entertaining others around the user, not to look like an idiot, aware at all times, when getting beaten in the game, awareness kicks in, felt stupid, people were watching the user, feel stupid while jumping.

Factors that affect engagement: instructions were not laid out properly, felt bored, tiring, lag, started feeling tired and started sweating, U.I. was poorly designed, losing

interest in the game, felt bored, did not like the objectives of the game, getting tired not good for social engagement.

Evidence of Engagement: seen focused and engaged while playing the game, engaged with initial hand movements, there was excitement, deep thought of how the gaming experience is going to be, initial moments of game play is engaging, impressed with game mechanics, achievement is an important factor for engagement, control of avatar was like a puppet.

Improve engagement: presence of others encourages competition which feeds engagement, working towards completing a task, games with good A.I and good response, achievements to complete, game needs to improve to match technology.

After analyzing the keywords and statements extracted from the above table, it can be seen that most of them fall under the list that was created with the first user. The new additions to the existing list are Entertain others, Instructions were laid out improperly, User interface of the menu, and Achievement feeds engagement.

Table 6 - User B findings

Awareness of others
Feeling tired
Feeling stupid
Loading time
Initial setup
No interaction during game play
Focus and concentration
Smiling
Feeling one with the avatar
Competitive Social Engagement
Improve games not technology
Games with enjoyment
Social gaming console
Entertain others
Instructions were laid out improperly
User interface of the menu
Achievement feeds engagement

4.4 User C

User C is a 21 year old student who has around 6 years experience in gaming. User C tried only Kinect sports. His experience timeline and interview transcript are in appendix section 8.7 and 8.8.

4.4.1 Evidence of Awareness

1. User is aware of researcher as researcher helps user with the setup.
   Evidence of this can be seen in the timeline.
2. User comments on the menu to the researcher.
   From time frame 1:40 to 5:20, user was facing issues with the menu.
3. User makes a **funny running expression to entertain the researcher.**
   Evidence of this can be seen in time frame 05:30 – 05:40
4. User speaks to the researcher about how **hard it is for him to setup**.

   R: Do you think because of that pre-setup, can it throw you off the game? Like ahh....
   U: I realized doing that was a ...dam???
   U: And…can annoy you so much, you don't really want to play…ahh...,
   I can't be really bothered…

5. User tells the researcher that he did not die when he tried to purposely crash the glider.
6. User is seen to show an annoyed and confused expression when his movements are not detected during boxing.
7. Researcher shows user on how to punch.
8. User is happy the game is over.
9. User stated during interview **he aware that the researcher was present and observing him.**

   R: At any time, while this was happening, did you feel that I wasn't there?
   U: I knew you were there…You were talking to me…
   R: But what about those times when I was actually keeping quiet and letting you play…did you feel it at that time?
   U: No…I knew you were observing me for your research…yeah I knew you were there…

4.4.2 Factors that affect Gaming experience

1. User **expresses his irritation at the setup of the game.**

   Evidence of this was seen in time frames 01:40 – 5:20

2. User is **annoyed when the menu prompts him to select an option which was previously selected.**

   This was seen in time frame 5:10-5:20.

3. User **expresses his difficulties in setting up** for the game.

   This was seen in different time frames in the time line. For example 01:40 - 05:20.

4. User comments on the **time taken to load** and states it takes too long.

   U: It does take a while to load...
   R: that is a bad thing?
   U: yeah…
   U: When you start it, you want to play it straightaway…But you're like waiting and waiting and doing a bit registering…
   R: it can throw you off???
   U: Yeah…

5. **User questions the need for instructions of a game he has not chosen.**

   Between 09:10 and 09:20, user was annoyed after reading instruction for a game he did not choose.

6. Movements of user not detected by game.

   User's movements were not detected during the boxing game which was between 16:00 and 18:50.

7. User stated during interview he faced **navigations issues.**

   R: Just wanted to ask…Initially when I setup the Kinect for you…even before the game was chosen…you did have navigation issues right?
   U: yeah…
   R: Why was it? Because it was moving…But…
   U: Yeah…it was setup for people standing up and not sitting down….so had that trouble registering that…so I had to move backwards and forward and wave around a bit…

8. User stated it was **setup for people standing up and not sitting down.**

   This was stated by the user during the interview and is mentioned above.

9. User was **annoyed at the photo feature** within the game.

   R: What was that expression? What was that expression? You were like "why"? it was like a why expression…
   U: Why do they want photos?

R: you seem to be annoyed…you seem to be very annoyed…
U: They didn't need that…

10. User stated the game hand gliding **became boring** after sometime.

11. User claimed **loading time can throw off gaming experience** since user wanted to play the game straightaway.

    Evidence of this is seen in the quote above where user stated about time taken to load.

4.4.3 Evidence of Engagement

1. User is **smiling and focused on the game.**
2. User is **engaged in the game as he does not converse with the researcher.** Evidence of this is the time frames where user played a game and did not converse with the researcher.
3. User stated **that he never looked at the avatar during the game play.**

4.4.4 What can be done to Improve Engagement?

1. User states that the **game should detect facial moments**.
2. User stated having **an option for people who need to sit down will be great**.
3. User liked the **sliding option and recommended to be suitable for selecting.**
4. User says **a game has to be engaging and entertaining.**
5. User says if the **game had objectives like collecting tokens etc,** it would be more engaging.
6. User when asked if Kinect provides engagement, user replied for users **who can fully play the games like running, boxing etc** and for little kids who like to move stuff, Kinect will be engaging.
7. When asked about **external factors** that can improve engagement, user **responded large screen T.V**
8. **Loading time should be minimum,** to maintain a game flow.
9. When asked how games need to be improved**, user stated it needs to have an engaging story** that would interest the user.

10. User stated that **technology is already in a good place, it's the games that need the work**.

Evidence of awareness: awareness of the researcher, funny expression to entertain others, tells researcher of how hard it is to setup.

Factors that affect gaming experience: expresses irritation at setup of the game, annoyed with recurring menu option, expresses difficulties setting up, time taken to load, questions the need for instructions of another game and not the chosen one, navigation issues, setup for people not standing up and not sitting down, annoyed at photo feature, became boring, loading time can throw off gaming experience.

Evidence of Engagement: smiling and focused on the game, does not converse with researcher while gaming, never looked at the avatar during game play.

Improve engagement: Game should detect facial movements, option for people who need to sit down and play, sliding option recommended for selection, game has to be entertaining and engaging, game need to have objectives like collecting tokens, external factors such as a large screen TV, loading time should be minimum, engaging story, game needs improvement, playing with others is more fun, competitive social engagement and Kinect is designed for social gaming.

After analyzing the keywords and statements extracted from the above table, it can be seen that most of them fall under the list that was created with the first and second users. The new addition to the list is external factors to improve engagement.

Table 7 - User C findings

Awareness of others
Feeling tired
Feeling stupid
Loading time
Initial setup
No interaction
Focus and concentration
Smiling
Feeling one with the avatar

Competitive Social Engagement
Improve games not technology
Games with enjoyment
Social gaming console
Entertain others
Instructions were laid out improperly
User interface of the menu
Achievement feeds engagement
External factors to improve engagement

4.5 User D

User D is a 21 year old student who has around 2 years experience in gaming. User D tried only Kinect adventures. Her experience timeline and interview transcript are in appendix section 8.9 and 8.10.

4.5.1 Evidence of Awareness

1. User is aware of researcher's presence as there is interaction between user and researcher.

   Evidence of this can be seen in the time line where the user and researcher were seen to interact in different time frames.

2. User comments on the fact that she is **getting tired.**

   R: Did you like feel tired…really tired…when you were playing the game?
   U: Umm…near like near the end. I think…because it was a funny day, we didn't have any windows open or anything…

3. User states **playing the Kinect alone** may make her **feel like an idiot.**

   R: "Alright ah, have you ever tried playing them alone?"
   U: "Not really."
   R: "Not really why?"
   U: "I just feel like I'd look like an idiot, basically."

4. User felt **bored during loading time**.

   R: "Yea, so, did you feel bored at this time when it was loading?"
   U: "I was like what the fuck am I doing?"
   R: "Does it usually take this much time when you played before any other games?"
   U: "Um, when I played Wii like the first time it took a little bit, but other than that not really."
   R: "But this was a bit too much?"
   U: "I think so. I was like ok it's time to start now."

5. User will **lose motivation** when the loading time is long.

   Evidence of this can be seen in the above quote.

6. User says she will **still feel like a dork if the camera was not there.**

   U : "Yea, I'm like, I'm like I'm sure I look like a dork!!"
   R: "Now if this camera wasn't present over there, would you still feel the same way?"
   U: "Possibly, but I wasn't to be honest, I don't think I was taking that much notice of the camera."

7. User states during the interview that **after seven minutes, she felt she hasn't gamed.**

8. User was **aware of her surroundings** as she was **scared of hitting the curtains or blinds.**

   R: "Did you feel there was not much space when you were moving around?"
   U: "I kinda was scared that I was gonna hit like the blinds and the curtains."
   R: "Were you aware of that all the time?"
   U: "Um, a little bit, like when I stepped back I would like not too far. Um, like not so much in this game either but in the later more physical one I was like if I come back on this, I'm going flat on my face."
   R: "Alright"

9. User **was sad and disappointed** because she **thought motion control would be exciting**.

10. User **was not aware of the points till she heard a buzzer sound.**

    R: Do you think? When you were playing this game, were you looking at the points that you were earning….?
    U: Umm…not until it kinda tallied up….
    R: So…what would you say? Was there achievement when you were trying to play; was it just to get over…just to beat the level or just excitement and fun?
    U: Umm..I bet if I like…when I miss things…as you can hear them go "baah—ahhh" [Indicating buzzer sound] umm…you can hear me react….do you know what I mean?

11. User was **glad the blinds were pulled** down **because others would have seen her.**

    R: Do you feel you look stupid when you do all that right now? [Laughing]
    U: Yes…I am so glad the blinds were pulled…

4.5.2 Factors that affect Gaming experience

1. User had a minor injury which caused slight pain while playing the game.
2. User is **getting tired** and therefore **reduced pace** in the game.
3. User is **annoyed** at the fact that Kinect **did not detect her movement.**

4. User was **annoyed at the loading time.**

5. User felt the **instructions for the game was very weird.**

   R: "What did you feel about the instructions given before the game, like by the game itself."
   U: "I just thought they were slightly weird."
   R: "Why?"
   U: "I dunno know, It's like they um, with it being motion control, I kinda thought they'd be slightly more motion than just words on screen.."
   R: "Alright."

6. User felt the navigation although felt simple was not easy to use.

7. Users when playing the game plug the holes; user did not get into the 3D motion of the game.

8. User stated that **although the photo feature was fun**, it **distracted her** a bit.

9. User stated there was a **lag in the game.**

   R: That comment you made, was it at me? Or just commenting to yourself and the game.
   U: I think what it was, was coz I jumped and then it didn't like…my jumping in this game stinked….
   R: Yeah…the lag...there was a lag….
   U: Yeah…there was a lag….
   U: Like there is a whole series of me missing things even though I am moving…
   R: Alright….

10. **Buzzer sounds made the user aware of points that she was missing.**

4.5.3 Evidence of Engagement

1. User is **engaged during game play**. No interaction with researcher at all.

2. User comments on the fact s**he beat the high score indicating achievement is important a**nd is a **key factor for engagement.**

   R: So…what would you say? Was there achievement when you were trying to play; was it just to get over…just to beat the level or just excitement and fun?
   U: Umm..I bet if I like…when I miss things…as you can hear them go "baah—ahhh" [Indicating buzzer sound] umm…you can hear me react….do you know what I mean?
   R: Alright…
   U: So Possibly….and obviously that shows competition….
   U: Yes that shows competition…I beat
   R: That shows achievement…
   U: Exactly….

3. User stated **although engagement was broken a bit because of lag, she found it fun.**

4. User **enjoyed the ridge game** and stated it **was fun and this is what motion control is suppose to be.**

5. User says **achievement and competition was present,** trying to beat the score.

   R: And when you say that, when you want to beat me, if I am playing with you, would that be a social engagement plus competition like…
   U: Yeah...yeah…
   R: A competitive social engagement….
   U; Yeah…

6. **User did not notice the avatar** but more of the obstacles she faced although user does mention when she pulled the bars, she looked at the avatar.

7. User **played the ridge game four times.**

8. User says she was **not aware that she had played the game for a short amount of time** because she thought she had been playing it for a long period of time.

4.5.4 What can be done to Improve Engagement?

1. **Reduction of loading time and setup** can help the user engage more into the experience.

2. User recommended **if instructions showed more of motion than words**, it will help the user **understand game play better.**

3. User says **if the game has more motion involved and is fun, it can get engaging.**

4. User when asked **if researcher joined her** during game play, would she feel less stupid. User replied then **it would be competitive and she will look less ridiculous** since someone else will also feel the same way. She agrees on the statement **competitive social engagement.**

5. User agrees to researcher's statement of whether **Kinect is designed for social gaming**.

6. User states she **would have been more engaged** if the **loading time was less a**nd if she was playing with others.

7. User also states **games which had better achievement would have made her more engaged**.

Evidence of Awareness: Getting tired, playing Kinect alone makes her feel like an idiot, bored during loading time, loose motivation due to loading time, feel like a dork if camera is not there, did not feel the gaming experience after seven minutes of gaming, aware of surroundings, sad and disappointed with motion control, was not aware of points till buzzer sound, glad blinds were pulled down otherwise she would have been seen.

Factors that affect Gaming experience: getting tired, annoyed at Kinect not detecting her move, annoyed at loading time, instructions for game were weird, photo feature distracted her, lag in the game, buzzer sound made user aware of points.

Evidence of Engagement: engaged during game play, no interaction with researcher, beat high score, although lag caused awareness she found the game fun, did not notice the avatar, played ridge game four times, not aware she played it for short amount of time.

Improve Engagement: reduction of loading time and setup, instructions should show more motion than words, game needs more motion and fun, presence of others to play increases competition and looks less ridiculous, competitive social engagement, Kinect designed for social gaming, games need achievement.

After analyzing the keywords and statements extracted from the above table, it can be seen that most of them fall under the list that was created with the first and second users.
The new additions to the list are Kinect/Game did not detect user, Game features and Game was fun to play.

Table 8 - User D findings

Awareness of others
Feeling tired
Feeling stupid
Loading time
Initial setup

No interaction
Focus and concentration
Smiling
Feeling one with the avatar
Competitive Social Engagement
Improve games not technology
Games with enjoyment
Social gaming console
Entertain others
Instructions were laid out improperly
User interface of the menu
Achievement feeds engagement
External factors to improve engagement
Kinect/Game did not detect user
Game features
Game was fun

4.6 User E

User E is a 27 year old developer who has more than 10 years experience in gaming. User E tried both the games provided to him. He started initially with Kinect Adventures and then moved over to Kinect sports. His experience timeline and interview transcript are in appendix section 8.11 and 8.12.

4.6.1 Evidence of Awareness

1. User is seen interacting with the researcher.
2. User comments on how **feeling tired get the user out of the game.**
   Refer timeframe 10:00 – 10:10 in timeline.
3. User was aware of the red light emitting from the console.
4. User says **waiting between games to load breaks the focus of the game.**

   R: "You got tired of the game huh?"
   U: "Yea, I got tired of the waiting."
   U: "Notice at how slow, I've taken next to no care at what the options are."
   R: "So does that kinda break the focus?"
   U: "Yea, it really breaks the focus of gaming, because ultimately you have so many options and then plus, you're trying to figure out the controlling part like are you correctly pointing it correctly or not? Because by the time you do that you kind of loose you're touch that you are actually gaming but you're actually doing something else."

5. User tells researcher how **feeling tired and having lag** in the game **causes to lose focus i**n the game and **in turn loose interest**.

   R: "Alright, um, and ah, towards the end of the game you felt tired."
   U: "Yea."
   R: "Um, does that usually happen like for example you are gaming and the experience was around twenty minutes, um do you get really tired when you play your normal pc game?"
   U: "AH not really, it's just that, I guess this one was motion control so you tend to use your whole body so you might get tired as well. But I got really more fed up because half the time the controls I didn't know what to do and there was so much lag between the things that I'm doing and the actual game showing me what I did. So that kind of lag kind of looses your concentration, looses your interest also I think."

6. User tells researcher how **even though he felt alone** he knew when he faced **issues, he would ask the researcher.**

4.6.2 Factors that affect Gaming Experience

1. User **comments on the loading time.**
2. User **comments on the tips provided for a game he has not chosen.**
3. User **does not understand the interactive menu post-game.**
4. User's hand movements are not detected in the main game menu.
5. User **comments on the navigation** through the menu of the Kinect game.
6. User **comments on the loading within the game also**.
7. User **complains** about the **user interface in Kinect sports.**
8. User complains about **the lag** in the football game.
9. User complains about how the **instructions did not inform user about using both hands**.

4.6.3 Evidence of Engagement

1. User seems to be engaged while playing the game.
2. User agrees on the **comment that he was engaged while playing rally ball** although it became boring later.
3. User commented on how much he **enjoyed the rafting game because of different activities** within the game.

4. User **felt the avatar blocked his view** and therefore he was **more focused into the game**.

5. User states that **commenting and praising his actions help him feel engaged in the game.**

6. User **likes the in game commentary**.

7. User states how to a **certain extent he felt alone while he was gaming.**

4.6.4 What can be done to Improve Engagement?

1. User says the **game has to be exciting and different.**

2. User says he got **tired of waiting** which means **loading time should decrease.**

3. User states it's fun to learn on your own and some instructions, the user needs to learn by himself.

4. User states that the **technology needs to have sensitivity options and better instructions laid out for the user**. This can help increase focus and engagement.

5. User **states in game instructions would better help the user in playing the game**.

6. User says that **technology and game has to improve.** User mentions again how **sensitive options can improve the technology. This in turn can help gaming companies create games based on such options.**

7. User also adds how **normal gaming consoles success can help improve controller-less consoles.**

8. User states how **having more players in controller-less environment can make it more engaging. It** also encourages **competition which will improve engagement more**.

Evidence of Awareness: feeling tired, waiting between games breaks focus, feeling tired and having lag causes to lose focus, even though user felt alone, user felt presence of the researcher.

Factors that affect Gaming experience: comments on loading time, comments on tips provided for a game not chosen, does not understand post-interactive menu after game, comments on navigation, comments on loading time, user-interface complains, having lag, instructions not clear.

Evidence of Engagement: comments on engagement in rally ball, enjoys rafting game because of different activities, more engaged even though avatar blocked his view, commenting on his own performance helps him feel engaged, likes in game commentary, felt alone when he was gaming.

Improve Engagement: game has to be exciting and different, loading time should decrease, technology needs to have sensitive options, instructions need to be laid out better, Technology and game has to improve, controller-less consoles need to learn from normal game consoles, presence of other players increase engagement and competition.

After analyzing the keywords and statements extracted from the above table, it can be seen that most of them fall under the list that was created with the first and second users. The new additions to the list are Lag issues, In-game commentary helps feel engagement, and Technology needs improvement.

Table 9 - User E findings

Awareness of others
Feeling tired
Feeling stupid
Loading time
Initial setup
No interaction
Focus and concentration
Smiling
Feeling one with the avatar
Competitive Social Engagement
Improve games not technology
Games with enjoyment
Social gaming console
Entertain others
Instructions were laid out improperly

User interface of the menu
Achievement feeds engagement
External factors to improve engagement
Kinect/Game did not detect user
Game features
Game was fun
Lag issues
In-game commentary helps engagement
Technology needs improvement

5 Discussion and Results

In this chapter, the items that were collected from each user's case study were entered into a table. The table has five columns which represents each user. The researcher then put a tick against the items faced by each user. Once this was done, it was seen that there was a common set of items that were common to all users.

Table10 - Checklist of collective findings against users

Findings	Items	User A	User B	User C	User D	User E
Evidence of Awareness	Awareness of others	✓	✓	✓	✓	✓
	Feeling tired	✓	✓		✓	✓
	Feeling stupid	✓	✓		✓	
	Entertain others		✓	✓		
Factors that Affect Gaming Experience	Loading time	✓		✓	✓	✓
	Initial setup	✓		✓	✓	
	Instructions were laid not out improperly		✓	✓	✓	✓
	User interface of the menu		✓	✓		✓
	Kinect/Game did not detect user	✓		✓	✓	✓
	Game features	✓	✓	✓	✓	
	Lag issues		✓		✓	✓
	No interaction during game play	✓		✓	✓	✓

Evidence of Engagement	Focus and concentration	✓	✓	✓	✓	✓
	Smiling	✓		✓		
	Feeling one with the avatar	✓	✓			
	Game was fun		✓		✓	✓
	In-game commentary helps engagement					✓
How to Improve Engagement	Competitive Social Engagement	✓	✓	✓	✓	✓
	Improve games not technology	✓	✓	✓	✓	✓
	Games with enjoyment	✓	✓	✓	✓	✓
	Social gaming console	✓	✓	✓	✓	
	Achievement feeds engagement		✓	✓	✓	✓
	External factors to improve engagement			✓		✓
	Technology needs improvement					✓

The findings collated in the table above were triangulated with observations and comments made by users.

5.1 Finding 1 – No interaction during game play

The researcher found out that the users did not interact with the researcher during a game. During the course of the research, it was seen from different transcriptions that the users were engaged in a conversation with the researcher. But when the user started to play a game, the user did not converse with the researcher

at all. The user was seen to comment on his or her performance or enquire with the researcher on a minute detail but the majority of the duration of the game, there was no conversation but pure focus and concentration from the user. The following two users are examples of this finding.

1. User A

If the time frames from 10:00 to 11:50 and 14:20 to 16:30 are observed in the User A's experience timeline in section 7.3, it can be seen there was no conversation between the user and the researcher. The researcher also has inserted some quotes below made by the user during the interview specific to these time frames.

"R: I believe this was the game "River Rush"…

U: Yep...that was the one…

R: Did you like the game?

U: Yeah...got me moving...so yeah…

R: You seem to be much focused though…

U: Yeah…Uhmm…this game seem like quite…much more focus and concentration than like other one…so…

R: Seem to be smiling and amused…

U: Yep that's when I got the points… [Laughing]"

2. User D

If the time frames from 04:50 to 05:40 and 07:20 to 09:30 are observed in the User D's experience timeline in section 7.9, it can be seen there was no conversation between the user and the researcher. The researcher also has inserted some quotes below made by the user during the interview specific to these time frames.

"R: You seem to be smiling….

U: Yeah…I think I enjoyed this game a lot more coz it was a lot more physical…and kinder of what motion control would be….

U; I noticed like even as I spin around I am still watching this game….do you notice that?

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R: Yeah…but that shows I guess focus and engagement at least to me….

U: Umm…Yeah…definitely…."

The time frames stated in the example indicates the duration of time when the user did not interact with the researcher. Therefore it is clear that although engagement was not present throughout the course of the test, it was present when the user played a game and during the timeframes when there was no conversation at all.

5.2 Finding 2 – Achievement feeds engagement

As the title suggests, the researcher found out that the more the game requires the user to complete goals or achieve their targets, the user gets more engaged. Achievement is a big part of the game. Most games have the users to complete levels or beat the high score. The researcher was informed by the user on how achievement helps engagement. Here are a few quotes from different users who talk about achievement in their own words.

1. User A

"R: Seem to be smiling and amused…

U: Yep that's when I got the points… [Laughing]

R: So does that all keep you within the game? The points…Uhmm…

U: Uhmm…Yeah…Definitely…definitely…so…I mean every game you know…there has to be something…you are aiming to get…a point you are suppose to get to…the mission…so…you know…it helps…"

2. User B

"R: How important is achievement when in relation to engagement in a game?

U: Uhh…if the game is really engaging you then…I would say…you will…achievement is one of the goals you have…it's like in

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Playstation…if I gave an example, in a place when you are trying to complete levels, completing a level is a sort of achievement but getting a trophy from that level is the greatest achievement you can have…alright..So when you say awareness…when you have a lot of awareness obviously you are aiming for the achievement itself... That's my perspective…it could be different…"

Many users also suggested that under improvements that it is the games not technology that needs the improvement. Users suggested the game should be more engaging with lots of achievement opportunities. This will give the user an interest to play the game.

5.3 Finding 3 – Competitive Social Engagement

One of the most important findings made by the researcher was competitive social engagement. It was seen by the researcher that users felt more competitive when playing with other users creating a competitive environment. Users stated that although it is a social situation, the need of competition will arise which will make the users more engaged into the game. The researcher termed this as competitive social engagement. The reason for the competition can be any of the following reasons; beat the high score, maximum number of achievements, complete a level under a set time etc. Users quoted the following about competitive social engagement.

1. User A

"R: Someone once told me that….he feel that he will be engaged when you are in a social gaming environment while you are gaming with others…so what do you think about that? Like do you think when you are competing with me and a few others, you will be more engaged than you will not be worried with what others say?

U: Yeah...definitely…you just get in that…competitive spirit…you know you just wanna beat your friends so I guess…it always helps to have someone around you…

R: Personally…I don't…. this is just me…I was once thinking…personally I was just thinking… Kinect seems to be more of a social gaming sport…I mean not sports…sorry…social gaming console rather than a single player…what do you think?

U: Uhmm yeah definitely…I found out I was playing that with another person like…I will probably enjoy it more as well and it just will be more competitive so…definitely I agree with you on that point…that it will be social…so…yeah…

R: And would that also improve engagement?

U: Yeah…Yeah…it will engage me much more just because you always want to beat your friends so…like…you know...it's another thing to look for when you playing that game…"

2. User B

"R: Alright…and do you think if you were in the presence of your friends and all of you were using Kinect, it would be like a social gaming experience, would you be still engaged…

U: Yeah…because I would be watching them and having my turn and laughing at them and they will be laughing at me sitting there waving…

R: So you can say that it can get more engaging and would it develop into competitive engagement.

U: Yeah that really would. We try better each other…"

3. User D

"R: Would you feel the same way if probably I joined the game?

U: Uhmm not really…..coz I think it would bring out more of a competitive streak in me as well like coz obviously I am competitive from what we have heard before…

R: So if I was playing with you, would you feel less stupid but more competitive?

U: Probably yeah….more like probably like I have a reason to do this…just to beat him…do you know what I mean?

R: I understand…

R: Or like sometimes I tell myself, if someone is playing the same with me, even though it feels stupid, there is someone with me…

U: Well…yeah…yeah…at least someone else looks ridiculous too…

R: Yeah

R: And when you say that, when you want to beat me, if I am playing with you, would that be a social engagement plus competition like…

U: Yeah...yeah…

R: A competitive social engagement….

U: Yeah…"

It is evident from the above quotes that users feel engaged more in a competitive social environment. This can help developers create games that are competitive in nature and can be played better in a social environment rather than a single player environment. Many users also quoted that the Kinect is a social gaming console rather than a single player console.

"U: Uhmm…yeah…definitely if you are playing with people…Uhh…it just catches you on…gets you more engage inside the game as well…so…I find it much more social kind of game and especially in a controller-less type…I like think like Kinect you know…definitely more social…"

Users feel Kinect is more suitable in a social situation where users can watch each other's play, laugh, have fun, compete with each other and be engaged as a whole. One user stated Kinect does not seem like the console where you would get up one day and just want to play on it.

"R: Do you feel that…Kinect is more designed for social gaming rather than single player?

U: Uhmm…yeah...definitely I guess…

R: Because when I first played with Kinect, I could never see myself just getting up one day and saying, let me go play some Kinect now…"

5.4 Finding 4 - Awareness of others

It was seen during every gaming experience that the user was interacting with the researcher. The user did not speak much when the actual game started but in the middle of the game, the user was seen asking the researcher suggestions or commenting about the performance or other aspects of the game. Therefore, although there was some engagement present, it cannot be said about the whole experience. The following quotes are evidence of awareness:

1. User A

    User was seen commenting on his performance around the researcher. Evidence of this can be seen in the timeline of User A in appendix 7.3 between time frames of 10:50 to 11:20 and 17:40 to 18:20.

2. User C

    User was seen interacting with the researcher while trying to play the game. Researcher tried to suggest to the user on how to play the game. Evidence of this can be seen in the timeline of User C in appendix 7.7 between time frames of 16:00 to 16:50.

5.5 Finding 5 - Feeling tired

One thing the researcher found was that a few of the users found themselves tired after playing the motion control games. This is one thing that can limit engagement and to a certain extent cannot be averted. If the user starts feeling tired,

the user will reduce the pace at which he/she is playing the game and this may cause the user's awareness to start increasing. At this point, the user may quit the game if he/she is alone or probably give someone else a turn to play if it is a social situation. Either way, engagement is limited in this scenario. Following quotes are evidences of the user's view on feeling tired:

1. User A

R: You look a bit tired….were you tired at that time?

U: Satisfaction…it was satisfaction….a little bit tired [smiling]…a little bit…

R: Kinect is a workout right?

U: It is a workout...it is a work…

R: Tell me something, I wanted to ask this when you play a normal pc game in a particular seated position and playing it, you are playing it for hours…and that also is a concentration there…do you think when Kinect makes you tired…that can throw you off focus and engagement because suddenly you feel you are tired…

U: Uhh…yeah…definitely after a while…especially if I was playing the boxing one…I could…I couldn't last that long…playing it…so it definitely would affect how long I have been playing it for…so…

2. User C

R: Getting really hard….is it because you were sweating or tired?

U: No…I was just feeling really hot…

R: Oh ok…

R: You seem to be hitting the blinds a lot…

U: I know…I know…

R: This is I think what…the fourth time you are playing the same game…

U: Yeah that's what I mean…compared to that plug the hole, this one was slightly better…

R: Did you…how do you put it….

R: Did you like feel tired…really tired…when you were playing the game?

U: Umm…near like near the end. I think…because it was a funny day, we didn't have any windows open or anything…

R: True…

U: I think…yeah I mean I commented on the fact that I was really getting hot…

R: Yeah…

R: So do you think when you become tired, you slowly start losing engagement?

U: Uhmm…

R: And becoming more aware…

U: More aware of where I am failing?

R: Generally aware like "ah…I think it's time I just you know…."

U: Give up….

R: Yeah…

U: Yeah…

Possibly the only way to avert this is to be in a social situation where everyone is playing the same game and competing with each other. In this way, although the user is taking a break from his/her game, they are engaged socially and competing with each other to beat each other score or points. In other words, competitive social engagement.

These five findings plus the table listed above can help summarize how engagement can be found in a controller-less engagement and what can be done to improve it.

6 Conclusions

It has been explained in section 5, what caused and affected engagement. Therefore, the answer to the research question is that controller-less environments can provide engagement. As mentioned before, games that can provide engagement and has a competitive environment can help users feel engaged and their company socially engaged. Engagement is negatively affected by factors such as feeling of tiredness and awareness of others experienced by users which sometimes cannot be avoided.

6.1 Comparison with Gaming Engagement Items and Lazzaro's Factors

It was anticipated that the two existing methods: Gaming Engagement items and Lazzaro's factors would help analyse the findings and decide engagement. The findings in table 10 were compared with the items of G.E.Q listed in fig1 and Lazzaro's factors. Matching the items found under the findings to the items found under the existing methods by Brockmyer et al and Lazzaro was difficult due to the disparity between the wordings. That is, how to match up the participants' expressions with the phrases and terminology given in the existing models.

Sellar (2004) stated that it is important to have rewards and challenges to keep the users engaged. Achievement feeds engagement as stated by different users in this research proves this point made by Sellar (2004). Lazzaro (2004) also stated in article how gamers abandon their consoles due to interface difficulties. This was also found true when one of the users abandoned a game to due to difficulty he faced interacting with it during the testing.

6.2 Limitations

The researcher had faced a number of limitations during the course of the research.

One of the main limitations was the number of participants that took part in this research. The study was conducted with only five participants. These five

participants did not have a massive age gap and did not represent the entire list of gamers mentioned in section 2.1.2 of the literature review. Therefore data collected from this research cannot entirely be validated till more types of gamers are studied.

Another limitation faced by the researcher was with equipment and setup of the testing and interview area. Researcher used a basic digital camera to record the testing and the interview stage. The researcher did not anticipate how the audio will turn out in the post video play back. The setup the researcher followed was similar to the setup done in the usability labs (Carter, 2007) but it lacked one thing. The researcher performed the roles of both facilitator and data logger himself. By doing this, the researcher was not able to play both the roles properly as at times, the researcher was not able to observe key moments during the testing and at the same time was not able to log it properly.

The researcher also faced issues while transcribing the data. As mentioned before, since the researcher lacked a high quality microphone to record the audio, most of the audio was not transcribed as it was not clear.

Although the use of Inter personal recall was a boon to this research, it faced a few limitations of its own. User was aware of the video camera that was present around the user and therefore this may have affected the performance of the user. Since IPR allows video playback at convenience, it is important that the researcher should create a backup of the video as corruption can cause the researcher to lose data. Also, it is important to note that even though the user might be available to perform the research all over again, the researcher might not entirely participate as it is a long process.

6.3 Future Work

Further research can use the types of gamers listed in section 2.1.2, namely: geeky gamers, leisure gamers and power gamers. The researcher also needs to make when participants are selected, they should be from different age groups. It would be interesting to study participants ranging from ages of 8 to 16 years. This

means that proper steps need to be ensured to prepare ethics forms and child consent forms for different ages to appear in the research. Users from different cultural backgrounds and different learning styles will assist to a more comprehensive view of user experience.

Since the researcher played the role of facilitator and logger himself, in the future, it would be helpful if the researcher can hire extra help in assisting with recording and data collection. Ideally, if the researcher can get one person to play the role of a logger and another person to control the video camera, the researcher can be more fully focused on the co-inquiry.

In the future, it is important that all areas of Interpersonal video recall are followed. One of the limitations mentioned before was not able to be non-invasive. Therefore, the researcher needs to make sure the testing area is setup in a way that is comfortable for the facilitator and the participant.

It was mentioned in the conclusion that social situations will get the users more engaged and increases competition between them which is a factor that increases engagement. Therefore future research will work on this aspect and try to understand how social situations can increase engagement for different types of games and help develop different genre of video games. Perhaps, the future research can include different social groups and also try mixing them up to see if engagement is found to increase. The researcher can introduce additional cameras to record the social situations and perhaps even try using facial monitoring devices to record the expressions made by the user and his/her friends.

When I started this research, I had only one goal in my mind. It was to find out the answer to the research question. But as I progressed through the various chapters, I began to ask myself more questions. Some of them related to user experience, while others related to concepts within game design. The major finding that interested me was competitive social engagement. If I get the opportunity to advance in this research, I would like to learn about how social situations and competition can improve engagement in motion control gaming consoles. This might involve comparing the different consoles. I would like to also learn more about

methodologies that can be used for this type of research and contribute my experience and ideas to progressing the field. There is a lot of potential here and in time, I hope and anticipate I will continue to discover new things that will be a contribution.

8 Appendices

8.1 Appendix 1 Pilot User 1 Experience Timeline

Time line	Action	Quotes	Summary
00:00 00:10	- Participant is interacting with the device and choosing options.	"participant has not spoken anything"	The participant has just started the Kinect and is trying to choose options.
00:10 00:20	- Participant is still choosing options at this stage.	"participant has yet not spoken although towards the end of this time frame was about to initiate a conversation with his friend" R – "Choose anything you like."	The participant is still choosing options and seems to show an excited expression. The researcher orally states to the participant to choose any option he desires.
00:20 00:30	- Participant is still choosing options at this stage and interacting with his friend.	P: "This is stupid." R: "Have you ever played this?" P: "No"	The participant's initial quote was targeted to his friend sitting next to him and then answers the researcher question of whether this was the first time he has interacted with a Kinect. The participant seems to be amused while choosing options.
00:30 00:40	- Participant is still browsing through options and interacting with others in the room	P: "what does everybody want?" R: "Choose anything" P: "No, I don't want to do that. It looks like dancing."	The participant seems to be focused while choosing the options although he also is interacting with others in the room asking what they prefer to seem him play. He finally chooses an option and seems to believe the game play is related to dancing.
00:40 00:50	- Participant is choosing the type of level he wants to play and interacting with others around him.	R: "No, that's not dancing" P: "it's not dancing??"	The participant previously chose an option and believed it's a dancing level but the researcher intervened and informed him its not. Participant is still choosing what to play.
00:50	- Participant is still interacting with the Kinect and finally selected an option. - Participant is seen to open and close his fist to check if it tracks.	R: "yeah, replay adventure because u'uh... That's why we should have deleted the profiles…Just replay the adventure" P: "oh…." P: "it wasn't moving my	The participant sees the option replay adventures indicating a previously played profile and the researchers suggests why profiles needs to be deleted before actual game

01:00		fingers…."	play. The participant is also checking to see how much Kinect can record finger movements.
01:00 01:10	- Participant is waving both his hands and has an amused look on his face. - Participant also was adjusting his clothes in preparation for playing.	"participant has not spoken anything"	The participant is waiting for the level to load and is waving both his hands to check how much Kinect can track body movement. The participant was also adjusting his clothes for better game play.
01:10 01:20	- Minimum action but participant is interacting with others around him.	P: "Oh skip…I don't know how to do it….." P's friend: "You just did it…" P: "This one, oh, alright"	The participant is seen on screen instructions and interacting with others about what he is doing.
01:20 01:30	- Participant is playing the game and conversing with others around him.	R: "hit it" P: "what am I doing?" R:"Hit it, Hit the ball" R: "see the ball, there is a ball there"	The participant is playing the level but does not know how to play and is asking others around him on how to play the level.
01:30 01:40	- Participant is still playing the level and conversing with others around him.	P: "ohhh, alright" P: "alright" P's friend: "put your hands down muffin" P: "alright" P: "alright" R: "you can move" R: "You can move" R: "You can move" R: "you don't have to stand in one place"	The participant is playing the game but asking others for advice. The participant is also actively listening to instructions from the researcher. There appears to be no engagement at all in this stage.
01:40 01:50	- Participant is playing the level with minimum interaction with others around him.	P's friend: "alright" P: "f**k off"	The participant is playing the level hard and cursing when missing turns in the level.
01:50 02:00	- Participant is focusing on the game and interacting accordingly and is aware of comments made by others around him.	P: "oh…." P's friend: "better relax….."	The participant's focus has increased and is playing the game real hard. The participant's facial expression seems to indicate awareness of other's comments.
02:00 02:10	- Participant is still interacting with the game and commenting on his own actions.	P: "see, I f**king got it" P's friend: "better not hit me in the face..." P: "if I had to, I would"	The participant is focusing on the game but also commenting on his actions and interacting with his friend.
02:10 02:20	- Participant is still playing the game and conversing with his friend.	P: "I was never a f**king good goalie" P:"oh well, f**k up, nobody likes you"	Although the participant seems to be playing the game, he is also conversing with his friend indicating less engagement.
02:20	- Participant is performing the same actions as previous timeframe. - Participant picked up an object interfering with his	P: "soccer is a gay sport." P: "what the f**k?" P: "there was a f**king thing there"	The participant is still focusing on the game but there has been no improvement in engagement. Participant is

02:30	game play and places it on the table.		aware of his surroundings and is conversing with his friends.
02:30 02:40	- Participant is still interacting with the game and commenting on his own actions.	P: "oh fuck this…" P's friend: "so slow…"	The participant is playing the game and commenting on his own actions. Engagement seems to be present a bit more than before.
02:40 02:50	-Participant is interacting with the game and has not conversed with anyone in this timeframe.	P: "yeah!!!!"	Participant's engagement has increased from last time frame. Proof of this is from the fact that the participant has not interacted with anyone around him.
02:50 03:00	-Participant is moving about and interacting with the device which in turn is affecting others around making him converse with them.	P's friend: "B***h, getaway from me" P: "I had to press the button" P's friend: "you didn't have to press s**t"	Participant's actions have caused him to interact with his friend and they conversed which signifies no engagement.
03:00 03:10	-Participant is playing the game hard but responding to the comments made by his friend.	P's friend: "oh, you are going to stamp me in the face..." P: "oh your face is in my way" P: "it just happens"	Participant is playing the game but at the same time conversing and responding to comments made by his friend. Minimum engagement.
03:10 03:20	-Participant is interacting with the game and not conversing with anyone.	"participant has not spoken anything"	Participants engagement has increased as he is seen not interacting with anyone else except the game.
03:20 03:30	-Participant is initially focusing on the game but starts laughing due to a comment made by his friend.	P's friend: "all of them went past you, all of them…" P's friend: "oh my god…"	Participant's engagement dropped due to response made to the comments from his friend.
03:30 03:40	-Participant is still amused from the actions in the previous time frame and is commenting on them and playing the game.	P: "I just…I'm still angry at the f**king…" P:" you are useless, I don't like you…."	Participant is commenting on his actions and playing the game showing moderate engagement.
03:40 03:50	-Participant has completed the level and is looking at his score and is amused and trying to see if the avatar on screen is mimicking his actions.	P: "oh..8!!!....f**k off"	Participant has completed the level and is looking at the scores. He seems to be surprised by the score and then tries to move about to see if Kinect can mimic his actions.
03:50 04:00	- Participant is showing others how the actions he made is been mimicked by the avatar but not all actions are registered. He is interacting with everyone.	P: "did you see that…." R: "it registers everything you do…." P: "but I really didn't…oh, I really didn't do this though…." P: "I moved like this…."	Participant is discussing with everyone how Kinect does record all movements and is also listening to what the researcher has to say.

8.2 Appendix 2 Pilot User 2 Experience Timeline

Time line	Action	Quotes	Researchers Summary	Flags G.E	Flags L.F
00:00 00:10	[User is standing in front of the Kinect and interacting]		User is waiting for the Kinect to reset and user is interacting with the Kinect	2,12	7,14
00:10 00:20	[User is standing still waiting for Kinect to response] [User is interacting with his friends on an unrelated topic]		User is waiting for the Kinect to load and respond. In the meantime, user is having a casual conversation with his friends.		
00:20 00:30	[User is deciding on the game to play] [User's friend suggests going for a certain game based on the user's friend's experience]	U: "Which one is good bro?" R: "Go for anything bro..." U: "Uhh..."	User is deciding what game to play and asks the researcher for ideas. The researcher suggests user can choose anything. Users friend suggests the user to try a game based on his experience.		
00:30 00:40	[User picked a choice and is preparing himself. User takes out his phone and throws it to his friend]		User has selected a game and prepares himself. He throws his phone to his friend.		
00:40 00:50	[User's friend is interacting with the user on an unrelated subject] [User is flapping his hands like a bird concentrating at the game]	U: "I don't really care aye. It was just funny." U: "whoa..."	User is casually conversing with his friend on an unrelated topic and then starts flapping his arms and expressions a wow expression looking at the Kinect respond.		
00:50 01:00	[User's friends are talking about a subject not related to the gaming experience]	U: "What...then...then he did what??"	User is talking to his friend still while interacting with the Kinect.		
01:00 01:10	[User is moving from left to right focusing on the game and trying to achieve]	U: "What am I doing? Try get them or what?" User's friend: "Pop them…" U: "Pop them?"	User is playing the game and moving from side to side and does not know what to do. User is asking what needs to be done and his friends advice on how to play.		
01:10 01:20	[User is interacting with his friends and playing the Kinect] [User is trying to play the game but not able to move properly] [User starts moving	User's friend: "Can't move..." U: "Uhh...I am not..." User's friend: "You can move backwards and stuff as well" U: "Oh shit...it's like	User is playing the game and talking to his friends. User is stuck in the game and is unable to move. User's friend informs the user that he can		

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	forward and backward on the advice given by the user]	depth...Its buzzy..."	move backwards and forwards which surprises the user. User is amazed at how Kinect is able to detect those movements.	
01:20 01:30	[User is now moving front and back and playing the game better than before and is amused by it]		With the newly found info, user is able to play the game better.	
01:30 01:40	[User is asking his friends about a certain game. Note: unable to retrieve the name of the game mentioned by the user due to audio clarity] [User's friends are responding to user's enquiry]	U: "Bro, have you played Bandicoot 1?"	User is playing the Kinect and still conversing to his friends about another game. User's friend responds to the user about the game he is asking about.	
01:40 01:50	[User is still concentrating and moving about for the game]	U: "Nah...Nah...It's like a movie bro..."	User is talking about the game and states how it is like a movie...	
01:50 02:00	[User is concentrating on the game and not speaking much and moving about and interacting with the Kinect]		User concentrates on the game and does not converse with anyone here. User is focused on the game.	
02:00 02:10	[User is still playing the game. User's friends start another topic not related to current experience]		User is still playing the game while user's friend starts another random topic.	
02:10 02:20	[User is talking to his friend and playing the game] [User is surprised the game has become faster]		User starts conversing with his friends again and is surprised when the game increases its speed.	
02:20 02:30	[User is playing the game faster as the game level has increased]	U: "Whoa....Moving now" U: "Look now..."	User is now focusing on the game as the difficulty level has increased.	
02:30 02:40	[User is now moving both his legs and amusing himself looking at the game.] [User's friends are interacting with the user about his actions]	U: "Look at this..." R: "Watch this..."	User is now testing the Kinect's response by moving his hands and legs and checking if Kinect is able to detect it. User's friends comments on the actions made by the user.	
02:40 02:50	[User is moon-walking towards the Kinect and away from it and flapping his hands and laughing. User is amused at the avatar imitating him] [User is moon-walking sideways and still looking	U: "Watch him...Hold on..."	User continues his personal test with the Kinect by moon-walking to and from the Kinect. User also starts moon-walking sideways and flaps his hands to check if the avatar within the	

			game is imitating him. User is amused by his actions.
02:50 03:00	[User is amused by his actions and again slowly gets into the game] [User is playing it with a confused/upset face]	U: "How long does it go...?"	User gets back into the game amused but then after the game proceeds, user is confused and seems to be upset questioning the length of the level.
03:00 03:10	[User is back into the game and has surprised look/ upset look on his face]	User's friend: "Did you just restart?"	User is back in the game and is surprised by it. User's friend asks the user whether he restarted the game.
03:10 03:20	[User is standing still and looking onto the screen] [User gestured to his friend to come and playing leaving the game area]		User seems to be looking at the screen and then gestures to his friend to come and play.

8.3 Appendix 3 User A Experience Timeline

Time line	Action	Quotes	Researchers Summary
00:00 00:10	[User is preparing himself]	R: Thank you Chris for participating. You have read the information on the Participant information and so you know what the research is all about. U: It's all good…it's all good. U: Yes…yeah.	The researcher begins with thanking the user for his participation and the user is seen preparing himself.
00:10 00:20	[User is listening to instructions]	R: So you can just play, ask questions to me, if you want you can have a casual conversation….what we have over here is…first of all we have two choices of games over here: Kinect adventures and Kinect sports. You can choose any game you want and in the middle of a game if you feel you want to try out the other one, you can try it out….which one do you want to start with?	The researcher provides instructions to the researcher and asks the user, which game he would like to start with.
00:20	[User is looking at the choices of the games given to him]		The user looks at the two games given to him.

00:30			
00:30	[User selects Kinect Adventures]	U: I will start with the Kinect adventures. R: Alright…so you have tried X-Box before?	The user selects Kinect adventures and the researcher then asks if the user has played Kinect before.
00:40			
00:40	[User is conversing with the researcher while the researcher loads the game]	U: Yes…I have…. R: Did you enjoy the experience? U: Yeah…Yeah…It was…it was a little bit of different ae….so. It gets people out of these things…it's quite fun…when you just kind of sick of playing like a really long campaign or multiplayer….so you just wanna get up and do something real quick…so…	The user replies to the researcher that he has and then he replies that it was a very different experience in response to the researcher's question of whether the user enjoyed the experience. The user also added it is fun when one is tired of playing long campaigns or multiplayer games, one can jump onto Kinect and play a quick one.
00:50			
00:50	[User is conversing with the researcher]		The user is continuing his conversation.
01:00			
01:00	[User is conversing with the researcher]	R: how long have you been gaming? U: Uhmm…I dunno…a while…a while…that's for sure… R: a hardcore gamer or a casual gamer? U: I am not a hardcore gamer, I am more of a casual gamer; I am more of a PC kind of gamer.	The researcher asks the user how long he has been to which the user replies that it's been sometime. The user then replies that he is more of a casual gamer than a hardcore gamer and is into pc games when asked by the researcher what type of gamer he is.
01:10			
01:10	[User is conversing with the researcher]	R: You can follow the instructions, whenever you want to ask me something, just feel free to ask me and enjoy!!!!	The researcher suggests the user to follow onscreen instructions and enjoy the gaming interaction.
01:20			
01:20	[User is waiting for the game to load]	U: yes [Laughing] [Kinect Adventures started]	The user is waiting for the game to load. The Kinect adventures have begun.
01:30			
01:30	[The game has started and the User		Kinect adventures have started and the user is

	is waiting]		following onscreen prompts.
01:40			
01:40 01:50	[User is looking at the pre-instructions on the screen]		User seems to be reading the pre-instructions on the screen.
01:50 02:00	[User looks around and continues to read prompts on the screen]		User looks around a bit and then gets back to reading the instructions.
02:00 02:10	[User moving the couch back for space]		User reads the instruction about the space and then pushes the couch back.
02:10 02:20	[User checks if pushing the couch and has given him more space]		User looks back onto the screen and checks if there is enough space to play Kinect
02:20 02:30	[User is looking at the screen and waiting]		
02:30 02:40	[User is looking at the screen and waiting]	U: Sweet [In response to actions on the screen]	User is happy after the Kinect initially detects him.
02:40 02:50	[user is moving his hands and selecting options on the screen]		
02:50 03:00	[user is moving his hands and selecting options on the screen]		
03:00 03:10	[User is trying out the pause option by raising his hands in an angle position]		
03:10 03:20	[User is still in the same position and conversing with the researcher]	U: You know there is one problem, I have when I am playing with Kinect is like trying to get into the right position…like either there is lighting or something is wrong…so…	User tells the researcher that one of the issues he faces with Kinect is when it comes to getting the Kinect to detect user. He adds that it could be a lighting issue or other factors that can interrupt Kinect from detecting the user.
03:20 03:30	[User is still in the same position]		

03:30 03:40	[User has reduced the angle and still trying to interact]	R: So initial setup??? U: yeah…this initial thing is bit you know…takes a while to just get kinda…	The researcher asks if the initial setup sums up the issue user previously talked about to which the user responds yes. The user adds it takes a while to set it up.
03:40 03:50	[User moves backwards as suggested by user and tries the previous action]	R: Do you want to stand a little but back and try it?	The researcher suggests the user to move back a bit and see if Kinect can detect the user.
03:50 04:00	[User is performing the same action]	R: I guess that can throw you off huh? U: Yeah…Yeah…It definitely does… U: But all good once it is setup…	User is still performing the previous actions. The researcher asks whether this can interfere with user engagement.
04:00 04:10	[user is waiting for the next action]		
04:10 04:20	[User is waving his hands across]	U: I guess I should be using the controller for this…. R: Oh no…no…actually… R: The Kinect should actually detect it…	The user asks the researcher if he needs to use a controller as waving hands doesn't seem to achieve anything. The researcher tells the user that the Kinect should detect it.
04:20 04:30	[User is moving his hands and trying to get Kinect to detect]	04:20 U: Okay… 04:26 R: Try waving you hands…	The user continues to move his hands after the researcher says the Kinect should detect him.
04:30 04:40	[User moved forward and trying the same actions]	U: I guess… R: I guess it's because you selected before good space… U: Yeah…Yeah…Yeah…Yeah…. R: Try now waving at it….	User moves forward and check if it detects him. The researcher suggests the user that the cause of this could be that in the beginning user selected good space instead of best space.
04:40 04:50	[User is trying to wave hands to get the Kinect to detect]	U: {unable to understand user} R: a bit more…a bit more… R: If you want, I can reset it. Switch it off / Switch it back on and we can start all over again….	The researcher asks the user if he wants the researcher to restart Kinect.
04:50 05:00	[User is trying the previous actions]	U: That should be okay…	The user says its okay and continues to wave hands to see if Kinect will detect him.

05:00 05:10	[User moves forward again as suggested by the researcher and tries the same actions]	R: Do you want to try moving forward a bit? U: I remember this…I remember the perfect space now but it's just you know….	The researcher suggests the user to move forward a bit and try waving his hands again. The user remembers about the good space and best space and tells the user it's no use now.
05:10 05:20	[User is still doing the same actions]	R: Your avatar is standing sideways…	The researcher points out to the user that his onscreen avatar is standing sideways.
05:20 05:30	[User stands sideways to check if avatar is imitating the movements]	U: Apparently I'm standing forward now. [User is standing sideways] U: Reach forward and hold to select.	The user tries to stand sideways to see if the onscreen avatar is facing the user. The user says the avatar seems to be standing straight and reaches forward to select.
05:30 05:40	[User comes back to normal position and tries to imitate grabbing gesture to select option]		The user then comes back to his normal position and tries to select options by using a grabbing gesture.
05:40 05:50	[User moves a bit backward and waves both his hands to see if Kinect detects it and asks for a restart]	U: Maybe a restart will be good for {???}	The user asks the researcher to restart the Kinect after trying to wave his hands more.
05:50 06:00	[User waits while the researcher is restarting the Kinect]		
06:00 06:10	[User is now conversing with the researcher while the Kinect is rebooting]	R: It is interesting that each time right, the experiences are different. U: Yeah R: Sometimes it just sets it up… U: Exactly…	The researcher speaks to the user about how the Kinect behaves each time while the Kinect is rebooted.
06:10 06:20	[User is now conversing with the researcher while the Kinect is rebooting]	R: I guess it can really throw you off…I mean honestly I will be like… U: Yeah…Yeah	The researcher claims this can throw the researcher off his mood to which the user agrees.
06:20 06:30	[User is now conversing with the researcher while the Kinect is rebooting]	R: I think this time its best that you stand back so it can detect you from far.	The researcher suggests the user to stand back so Kinect can detect user easily.
06:30 06:40	[User is now conversing with the researcher while the Kinect is rebooting]	U: Yeah R: Okay…It's starting up…	
06:40	[User stands a bit backwards while	R: Alright… R: Now you can try waving at	The user is following

06:50	Kinect is on the main menu] [User waves at the Kinect as suggested by the researcher and it detects him]	it… R: There you go…	instructions by the researcher.
06:50 07:00	[User is moving both his hands and checking if cursor is detecting it]		
07:00 07:10	[User waiting for prompts on the screen]		
07:10 07:20	[User waiting for prompts on the screen]		
07:20 07:30	[User waiting for prompts on the screen] [Game started]		
07:30 07:40	[User conversing with the researcher while waiting for the game to load to game menu]	U: How is your day today, Sri? R: Not bad actually… R: I thought it was going to rain, funny summer… U: Oh man, crap day today…	
07:40 07:50	[User still conversing with the user while the game is loading]	U: Good day for Kinect… U: I was not going to do anything…. U: {???} U: Yes, Kinect is good. So you can experience everything that you can do outside inside…	
07:50 08:00	[User is still conversing with the researcher and at the same time prepares himself]	07:51 U: Exactly… 07:52 U: Exactly… 07:54 U: Kinda like an elevator outside… 07:55 R: Yeah… U: I will probably try best this time just coz….	
08:00 08:10	[User is still conversing with the researcher and at the same time prepares himself]	R: Yeah…	
08:10 08:20	[User is still conversing with the researcher and at the same time prepares himself]	R: I think Kinect is good for an apartment which is empty…	
08:20 08:30	[User is still conversing with the researcher and at the same time prepares himself]	U: Exactly…Exactly… R: You should not have… {???} U: An eddie-free apartment… R: An eddie-free apartment…	
08:30 08:40	[user is trying out the pause gesture]	U: Aww..Yo…Its way quicker this… U: Coz…I'm standing back…sweet….	The user feels the interaction is faster than last time.

08:40 08:50	[user is selecting options in the game]		
08:50 09:00	[User is selecting options]	R: Yeah you can… U: Yep U: Yeah	
09:00 09:10	[User is selecting options]	U: Best it is…	User selects best space this time.
09:10 09:20	[User is still selecting options]		
09:20 09:30	[User is waiting for the level to load]		
09:30 09:40	[User is waiting for the level to load]		
09:40 09:50	[User is waiting for the level to load]	U: Come on Sri…join in	
09:50 10:00	[user is prompting the researcher to join the game]	R: I wish… U: {???}	
10:00 10:10	[user is playing the game by moving sideways and jumping]		
10:10 10:20	[user is playing the game by moving sideways and jumping]		
10:20 10:30	[user is playing the game by moving sideways and jumping]		
10:30 10:40	[user is playing the game by moving sideways and jumping]		
10:40 10:50	[user is playing the game by moving sideways and jumping]		
10:50 11:00	[user is playing the game by moving sideways and jumping]		
11:00 11:10	[user is playing the game by moving sideways and jumping]	U: [Laughing] That was terrible…	User comments on his own performance.
11:10 11:20	[user is playing the game by moving sideways and jumping]		
11:20 11:30	[user is playing the game by moving sideways and jumping]		
11:30 11:40	[user is playing the game by moving sideways and jumping]		

11:40 11:50	[user is playing the game by moving sideways and jumping]		
11:50 12:00	[User has completed the game and seeing the scores]	U: Not bad…Not bad…	User comments on the scores he received from the game.
12:00 12:10	[User is looking at the screen]	U: You gonna update that on facebook…? R: Nah…	
12:10 12:20	[user is selecting options to proceed]		
12:20 12:30	[User is still selecting options] [user is waiting for the game to load]		
12:30 12:40	[User is selecting options and the game started]	U: How do you go back to menu? R: If you want to go back…I think you need to use pause gesture…	User seems to have forgotten the pause gesture which helps players leave the activity.
12:40 12:50	[User uses the pause gesture to leave the current game]	U: Ahh…Yes…Here we go…	
12:50 13:00	[User chooses the leave option and exits the game]	R: Now you can leave the… U: Yep	Researching guiding the user on what options to select.
13:00 13:10	[user is selecting options]		
13:10 13:20	[User is selecting options and is waiting for the game to load]		
13:20 13:30	[user is conversing with the researcher]	U: {???}	
13:30 13:40	[User is still conversing with the researcher about hand movements]	R: You mean hands crossing each other… U: Yeah…Yeah…Yeah…Yeah… U: {???} R: I guess it tracks both the hands… U: Yeah… U: It's really good at taking both hands {???}	User comments on how Kinect detects both the hands while choosing options.
13:40 13:50	[User is conversing with the researcher and moving his hands]		
13:50 14:00	[User is looking at the screen and selecting options]		

14:00 14:10	[User is smiling at the option selected]	U: I think I wanna go back…[Laughing]	
14:10 14:20	[User is looking at the screen and smiling]		
14:20 14:30	[user is smiling and then starts the game]		
14:30 14:40	[User is flapping his arms and moving sideways and back and fro]		
14:40 14:50	[User is flapping his arms and moving sideways and back and fro]		
14:50 15:00	[User is flapping his arms and moving sideways and back and fro]	U: Sup Sri… R: I'm not saying anything… U: I think you are laughing man… U: Nah…Nah…It's a distraction…	User seems to be distracted with the researching smiling at the user's movements.
15:00 15:10	[User is flapping his arms and moving sideways and back and fro]	U: I am just joking…	
15:10 15:20	[User is flapping his arms and moving sideways and back and fro]		
15:20 15:30	[User is flapping his arms and moving sideways and back and fro]		
15:30 15:40	[User paused a moment and then resumed his previous actions]		
15:40 15:50	[User is flapping his arms and moving sideways and back and fro]		
15:50 16:00	[User is flapping his arms and moving sideways and back and fro]		
16:00 16:10	[User is flapping his arms and moving sideways and back and fro]		
16:10 16:20	[User stopped moving around and is looking at his score] [user then resumes playing the game]		
16:20 16:30	[User is flapping his arms and moving sideways and back and fro]	U: Heyyy….Pop star!!! U: I think I need to go to gym after this aye…	
16:30 16:40	[User is getting ready and moving forward and		

	backward]		
16:40 16:50	[user is waiting for the game to finish scoring]		
16:50 17:00	[User is still waiting and looking at the game. User is also conversing with the researcher]	R: You said you have played Kinect before…did you try Kinect adventures or…? U: I have never played Kinect adventures before…	
17:00 17:10	[User is selecting some options and conversing with the researcher]	R: Which game did you try? U: I tried sports…it was like athletic sports… {???} Like long jump… R: Oh…okay…	
17:10 17:20	[User is reading something on the screen and selecting options]		
17:20 17:30	[User selected some options and is waiting for the game to load]		
17:30 17:40	[User is reading on screen prompts and starts playing the game]		
17:40 17:50	[User is playing a game which requires him to hit the balls on the screen]		
17:50 18:00	[User is amused while hitting the ball]		
18:00 18:10	[Not much movement from the user as the game requires only movements of hands and legs]	U: I don't even know what I am doing….	The user is not sure of how to play the game.
18:10 18:20	[User is playing the game]		
18:20 18:30	[User is playing the game]		
18:30 18:40	[user is playing the game with little bit more movement]		
18:40 18:50	[user is moving about and playing the game]		
18:50 19:00	[User is playing the game]		
19:00 19:10	[user stopped playing and is waiting for the game to tally scores]		
19:10 19:20	[User is waiting for the game and is conversing with the researcher]	U: See I don't really read instructions for there…but just kinda pick them up…	User states that his current game wasn't well because he skipped the instructions and thought it was pretty

			obvious.
19:20 19:30	[User resumes playing the game and imitates previous actions]	R: But would you read instructions? U: yeah I know…most of them yeah…	The researcher asks the user whether he reads instructions to which the user replies most of the time.
19:30 19:40	[User is playing the game]	U: I usually read instructions… R: Even if you… {???} U: Oh yeah…. {???}	
19:40 19:50	[User is waiting for the game to tally scores]		
19:50 20:00	[User is still looking at the screen]	U: Come at me bro….	
20:00 20:10	[User is looking at the screen and back to menu]		
20:10 20:20	[User is conversing with the researcher and wants to change the game]	U: {???} U: I think I wanna jam on some sports aye… R: Oh yeah…sure…no problem…	The user wants to try Kinect sports.
20:20 20:30	[user chooses option to leave activity]	R: So you can just leave activity… U: Alright…cool…	
20:30 20:40	[User is waiting for the game to be changed]		
20:40 20:50	[The researcher is changing the game]	U: jam on some sports real quick….	
20:50 21:00	[Game change In progress]		
21:00 21:10	[User waiting for the game to load]		
21:10 21:20	[User waiting for the game to load]		
21:20 21:30	User waiting for the game to load]		
21:30 21:40	User waiting for the game to load]		
21:40 21:50	[User waiting for the game to load] [Game started]		
21:50 22:00	[User is waiting for the game to load and a prompt appears]	U: Obstruction!!!!	
22:00 22:10	[User is waiting for the game to setup]	R: You can choose guest 1… U: oh yeah…sure…	
22:10 22:20	[User is choosing options]		
22:20	[User is waiting for the game to load]		

22:30			
22:30 22:40	[User is moving his hands as instructed by the in game voice prompt for setup]		
22:40 22:50	[User is performing sliding function]	U: I like this guy….	The user comments on how the in-game narrator seems to be very helpful and guiding.
22:50 23:00	[user is following prompts on the screen]		
23:00 23:10	[User is posing for the pictures]		
23:10 23:20	[user is performing slide function to take a photo]		
23:20 23:30	[User is posing for the photos]	U: Sri…	
23:30 23:40	[User is posing for the photos]		
23:40 23:50	[User is preparing for the game]	U: get into it…	
23:50 24:00	[User is waiting for the game]		
24:00 24:10	[user is choosing boxing]	U: definitely going to try boxing…. {???}	
24:10 24:20	[User is selecting a sub option]	U: what's it doing?	
24:20 24:30	[User is conversing with the researcher and moving his hands about]	U: I find these options….the options on these is really easy to get along…easy to pick stuff…coz its divided really well….where as all other ones had options here and there…like you try going there but you pick up an option while you are in there so…I think this one in terms of getting around is easier….	The user comments on the interactive menu within this game and states it easier to navigate and choose here rather than the first game.
24:30 24:40	[User is conversing with the researcher]		
24:40 24:50	[User is conversing with the researcher and waiting for game to load]		
24:50 25:00	[User is choosing an option]	U: it's really responsive… R: Guest 1…	The user states the menus are more responsive.
25:00 25:10	[User is preparing to fight]		
25:10 25:20	[User is playing the game]		

25:20 25:30	[User is playing the game]		
25:30 25:40	[User is playing the game]		
25:40 25:50	[User is playing the game]	U: That's right…that's right…	
25:50 26:00	[User knocked out and is waiting and then resumes again]		
26:00 26:10	[User is back in the game]		
26:10 26:20	[User is playing the game]		
26:20 26:30	[User is waiting for the next round]		
26:30 26:40	[The round commences and user is playing the game]		
26:40 26:50	[User is playing the game]	U: That's right	
26:50 27:00	[User knocks the player out and is waiting for the opponent to respond]	U: Give me a challenge…	
27:00 27:10	[User is playing the game]		
27:10 27:20	[User is playing the game]		
27:20 27:30	[User knocks the opponent out]	U: Got thrashed… U: {???}	
27:30 27:40	[User wins the game]		
27:40 27:50	[User is looking at the results]		
27:50 28:00	[User is amused at looking at the scores]		
28:00 28:10	[User is in the main menu and finds out familiar pictures in the menu]	U: hey U: His name… R: Rubin… U: Rubin…Yeah Rubin…	
28:10 28:20	[User is conversing with the researcher on an unrelated topic]	U: How was your night then when I saw you at Wendys anyways? R: Nah…we went to watch Puss in da Boots… U: Oh...Real…How was it man?	
28:20	[User is still conversing and	R: It was funny. Actually…it was real funny…	

28:30	waiting for the next game]		
28:30 28:40	[User is choosing options]	U: What about try hand gliding?	
28:40 28:50	[User is waiting for the game to load]	R: Its more responsive…isn't it?	
28:50 29:00	[User is conversing with the researcher]	U: Yeah…I find it more responsive… U: {???}	
29:00 29:10	[User is conversing with the researcher and interacting with Kinect]	: This is easier to get around…so I rather this…it will be easier to get around…	
29:10 29:20	[User is choosing options and waiting for the game to load]		
29:20 29:30	[User is playing the game]		
29:30 29:40	[User is playing the game]		
29:40 29:50	[User is playing the game]		
29:50 30:00	[User is playing the game]		
30:00 30:10	[User is playing the game]		
30:10 30:20	[User is playing the game]		
30:20 30:30	[User is playing the game]		
30:30 30:40	[User is trying to land by squatting]		
30:40 30:50	[User is trying to land by squatting]		
30:50 31:00	[user crashed in the game]	U: Given up… U: {???}	
31:00 31:10	[User is looking at the scores and sliding through menus]	U: Oh...Sri...Taken the points... R: Simply… [Laughing]	
31:10 31:20	[User is conversing with the researcher]	R: testing the game out… 31:15 R: People must be looking at you from the other apartments. Like… [Suspicious look]	
31:20 31:30	[User is browsing through menu]		
31:30 31:40	[User is back on the main menu and thinking what to		

	choose]		
31:40 31:50	[User is back on the main menu and thinking what to choose]		
31:50 32:00	[user is choosing options]		
32:00 32:10	[User has to leave and informs it to the researcher]	: I think I got to go man…so… 32:04 R: Oh..Alright… 32:07 R: Thank you so much for coming though…	The user has other engagements and needs to leave. The researcher thanks the user for his time.
32:10 32:20			

8.4 Appendix 4 User A Interview Transcript

R: Thank you Chris for attending the gaming interaction and uhhh…Thank you so much for giving time for the interview….
U: No worries bro…

R: And uhhh…Before I start…playing the video, I just thought I will give you a few instructions…umm…like right now what we are doing is….I am going to show you the playback of your gaming interaction. This is going to help you recall your experience because if I don't use this, it might be really difficult for you to explain you know what you felt because there might be something that you felt, but you wouldn't remember it. But in this way…you will see yourself…and what's gonna happen is, I am going to give you control and at the same time, I will also have control…At any time, if you feel like stopping and explaining, please feel free to do so… if you want you can skip or rewind, at the same time, I will also do the same just to ask you what you felt at that time…Alright…anyway…before I start the video, I just want to a know bit about you and your gaming side…how long have you been gaming?

U: Uhhh….for quite a while…so…you can say since the ps2 came out…I guess…I have been a constant gamer from there and so…But from just recently turned into a PC gamer just because it was a little bit more practical and just…I found the games a bit more appealing…so…definitely I have been gaming for a while…
R: Alright…alright…Uhmm…and uhhh….Chris…like a, what kind of gamer are you? Like…there is no fixed type of gamer but they say there is casual, hardcore and those type of gamers where…you are more like a casual? Hardcore gamer? Like..?
U: Uhhh…I probably used to be a hardcore gamer but I definitely turned more to the casual side now…so…
R: Alright…and do you play a whole range of consoles like PC, Playstation, Xbox or do you prefer one…something over the other….
U: I have had experience with all of them but Uhmm…just….I just been playing PC games mainly…yeah…so…
R: Alright…
R: And uhhh…anyway…uhhh….when I asked you about Kinect, have you had prior experience with the Kinect?

U: Uhmm… Yes I did actually…Uhmm…I played it a few times at my mates before and yeah…

R: And was Kinect your first ever motion control gaming or did you try something else?

U: Uhmm…tried the eye-toy…so…yeah…

R: The Playstation eye toy…

U: And uhhh…. Yeah…I have tried the Playstation move as well…

R: Alright…

R: And Uhmm…when it came to Kinect, was it really appealing like having no controllers and did you expect anything out of…did you like have any pre-defined thing that its going to be like this or did it surprise you?

U: to be honest, I thought it was just an eye toy for the Xbox…

R: [Laughing]

U: So…that's what literally came to my mind the first time I tried it so…but yeah…that's what I thought about it, an eye toy for the Xbox…

R: Alright…I put the game in…uhhh….did you…did you feel bored while it was loading or…did you feel like this is a standard thing…so its fine?

U: At start I thought it was a standard thing…but then as time went on…I thought it can get boring so yeah…

R: Alright…

U: Just especially at the start just the whole setting up of it, it takes much longer on the Kinect for such a normal game…

R: Alright…

U: Yeah…

R: It does require a lot of space…

U: Yeah…Yeah…definitely…

U: especially if you wanna…because you can use the best space or the good space…so…yeah…

R: What was that sweet and…?

U: Oh…it's just…

R: the pre-loading…?

U: Yeah just at the loading I guess…

R: I believe this is the pause gesture…

U: Yeah…

U: So we ended up doing the restart here...Uhmm

R: So you were saying that the lighting and the pre-setup is a very…

U: yes…yes…

U: And all that just kind of affects how the camera detects your movements…well that was what I had in my past experience…anyways…so yeah…

R: You do…if you don't mind me saying…you do look a bit irritated or…or what was that facial expression like?

U: uhhh…just you know…just want to get into the game…and it just wasn't letting me you know…

R: Yeah…

R: This is the part I believe its not detecting you…

U: [User agrees]

R; Do you want me to forward it to the particular…?

U: Yeah that will be good…

[Forwarding to the restart…]

R: This is where we restarted it…

R: Did you feel like…we…did you feel like thrown off or did you feel like " oh my god…"?
U: Uhhh….Not too much...I mean...I'm pretty sure we would have fixed the problem eventually…but you know…I guess…if you want to quickly get into the game…it can get annoying…but… {???} So…
R: Do you have any pre-set about like how much time should loading take…like since you have been gaming some time…does quick load between games help in your focus in your game. Or does it throw you off saying… "Oh…you know…"
U: Uhmm…well there's a lot of factors definitely in PC gaming…which affect loading times like peoples internet speeds…ping…all that kind but especially with consoles…like offline mode…you know…you will expect quite fast loading speed…so…yeah…
R: Oh…

R: yes…interesting conversations we are having… [Laughing]
U: Stay on the topic…stay on the topic Chris… [Laughing]
R: This is where you where going to select best space…when good space…right?
U: yeah…yeah…
R: After the restart, did you feel Kinect was detecting your every move?
U: Yeah…much better…much better…
R: I believe this was the game "River Rush"…
U: Yep...that was the one…
R: Did you like the game?
U: Yeah...got me moving...so yeah…
R: You seem to be much focused though…
U: Yeah…Uhmm…this game seem like quite…much more focus and concentration than like other one…so…
R: Seem to be smiling and amused…
U: Yep that's when I got the points… [Laughing]
R: So does that all keep you within the game? The points…Uhmm…
U: Uhmm…Yeah…Definitely…definitely…so…I mean every game you know…there has to be something…you are aiming to get…a point you are suppose to get to…the mission…so…you know…it helps…
R: What else in this game kept you on focus? At any time, did you feel that you were alone?
U: Pardon…Uhmm...what was that?
R: I am sorry…sorry…sorry…I have not been clear…Uhmm…like…what else in this game helped you to be focused or engaged…like you know made sure that you were not looking anywhere else?
U: Uhmm…I think just…coz…you could…see like you were in the actual game as such…so you know…kinda…kept me looking at the screen the whole time…so yeah…
R: Yeah…And you knew there was an avatar in the game?
U: Yeah…
R: Did you at any time look at the avatar or did you like you just said that you see yourself doing everything or did you look at the avatar and you know you were making sure…that if you jump, he is jumping or did you forget the avatar and just look at the…you know…

U: Well…uhmm…I tend…I actually like a lot of third person kinda gaming…so..i think if I saw the avatar, I saw myself through that avatar…though...so I actually control that avatar so that's how I saw it…
R: Seem to be laughing over here…
U: Yeah...Must have been the photo session…
R: Oh...Ok [Laughing] did you like that feature?
U: Uhmm…it was..It was ok. But I don't think that was necessary… [Laughing]
R: Can that…can that make you lose focus of the game suddenly when the camera pops up…I saw that the camera pops up whenever a certain part of the game is reached…so do you lose focus or are you still focused in the game?
U: I think uhmm…I lose it for a split second coz now I know that you know certain facial expression has been caught on camera…so…yeah…
R: I think you wanted to quit from the game…
U: Uhhh…yeah…

R: The way you were looking at us when you were moving your hand, it was like precision…was that…what..can you explain more about that look…you were not smiling…but you were just looking at the screen…and is it because you wanted to be careful when you were selecting or…?
U: Yeah definitely and just wanting for it to respond…so you know…definitely…
R: Did you at any point of time, did you think that some parts of this game would require a controller for selecting or…Is it all good to have completely controller-less?
U: I think it would be easier for some parts to have a controller but I mean it still works without a controller…it would be a bit easier though...so…
R: Smiling…
U: Uhmm…yeah…
R: What was that?
U: I think…I just go back on that part…
R: I will rewind it for you…
R: You lose in… {???}
U: I think I might have selected something wrong…
R: Ah…ok…
R: I think you chose space pop and you were laughing at the screen instructions for space pop…
U: Oh…oh…oh…okay…yeah…there you go…yeah…
R: Did you find it stupid or something?
U: Uhmm…yeah…just…the whole flipping the arms motion…so…
R: You seem to be laughing a lot… [Laughing]
U: Yeah…
U: Coz I know I look like an idiot…so… [Laughing]
R: What was that "what's up Sri? "For... [Laughing] You thought I was laughing at you? [Laughing]
U: Oh…no…no…no…no…I think I just…
R: Did you feel?
U: I am not…why I laugh actually…I think I was just lost in the game…something like that…
R: Did you….did you feel silly while playing this game? Or…?
U: Definitely…definitely….especially this game….
R: is it because of the whole flying notion and…
U: yeah...yeah…

R: Or was it that…you were worried what other people are seeing???

U: Uhmm…partly that but I mean it just such action you don't do everyday anyway…I mean…so it Kinda you know made me go like what the hell….

R: Alright…

R: Smiles gone off…you seem to be more concentrated…

U: Yeah…Just lost in the game…

R: When you say you are lost in the game, would you say that's been totally engaged in the game?

U: Uhmm…yeah…definitely…concentrating…coz now I know what's it about…like...you know how to operate it…fully…so…yeah…totally into the game…

R: So you tried Kinect sports but never went for adventures before….

U: Mmm….yeah…yeah…never done adventures…

R: Do you believe technology and game will go hand in hand or does engagement will completely depend upon the game more than the technology?

U: Uhmm…technology is definitely a big factor in the game but I mean at the end of the day, it's the actual game that engages you….you know like if it gets you…doesn't really matter what console it is, what technology as long as it…you know you're having a good time in your…it makes you wanna play more…that's the main point…

R: I believe you are playing this game called where you have to hit the ball and uh… it was one game where you skipped the instructions and you had mentioned that…" it was pretty obvious"…

U: it was…it was pretty obvious…

R: Yeah…so… I just want to know like…does that happ…do you usually do that because you expect the game to be like that but then later on realize that its not…

U: Uhmm…I think I just…I just really want to get into the game this time…I normally wouldn't…I normally would read the instructions but you know…the first two games seem straight forward as well…so… I just you know…just…uhh…skipped it…

R: Do you believe instructions help you…uhh…get more engaged or focus into the game…does it…is it a factor or…?

U: Yep…Yep…coz it tells you what to do pretty much without you wasting time…trying to figure it out yourself….

R: Another question I wanted to ask was like…do you think a game should make full use of the technology? …like for example now this is Kinect…this is a controller-less environment…but if the game isn't good that means it isn't making full use of the technology…do you think the game should go hand in hand with technology? And you know…?

U: It would be good for it to take full advantage of the technology it has been created for…but I mean…as long as you are having fun…I think the engagement…uhmm… and the enjoyment you get out of the game is still the top thing…like the main point of the game…so…yeah…

R: Come at me bro!!! Is it because you scored a good set of points?

U: Pretty much…pretty much…feeling like top of my game there…

U: I think is where I push into sports so…yeah...Should we?

R: Should we skip that?

U: Yeah…skit it…rite into it…

[Skipped forward]

R: You love this guy…

U: love this guy…

R: How come? [Laughing]

U: Uhh…

R: Was it because the way he was saying…giving you every simple instruction?

U: Simple…I don't know…he seems like your typical kind of American voice you know… [Laughing]

R: Photos again!!!!

U: Gotta love it [Sarcastic smile]

R: tell me something, did you find that calibrating like the setup easier in this one…?

U: Much easier…much easier…the setup was way simpler…easier to get around…so you know…

R: Right…

R: [laughing] pointing at me…

U: [smiling]

R: Shall I forward this a bit?

U: Yeah…sure…

R: Boxing huh?

U: Yeah…

U: [Laughing]

R: You like the interaction because of the boxes?

U: Uhh…no just coz…it was the boxes…it was laid out so simply you know…you know where you could stuff it up like getting around with it…

R: oh…

R: You seem to be going out hard on boxing…

U: Yeah…Yeah…deep down I want to be a fighter inside as well…so you know…

R: [Laughing]

R: How did you like the response of this game? And was it…like…was it reading your movements correctly?

U: Yeah I started read…pretty much most of my boxes…my punches accurately…it's just when I think I step forward too much a bit or too further back, came less responses…

R: Alright…

R: I think he got up again…and started punching…

U: Yeah…

R: At any part while you were gaming in sports or adventures, did you feel I was not present over there or did you know I was there all the time?

U: I knew you were there but it didn't really affect me in any way kind of…

R: Do you think engagement or total focus will still be present if people are around you affects you like…just you do feel a little bit of self conscious I guess…you know..get laughs at you…you know…

R: [smiles]

R: You look a bit tired….were you tired at that time?

U: Satisfaction…it was satisfaction….a little bit tired [smiling]…a little bit…

R: Kinect is a workout right?

U: It is a workout...it is a work…

R: Tell me something, I wanted to ask this when you play a normal pc game in a particular seated position and playing it, you are playing it for hours…and that also is a concentration there…do you think when Kinect makes you tired…that can throw you off focus and engagement because suddenly you feel you are tired…

U: Uhh…yeah…definitely after a while…especially if I was playing the boxing one…I could…I couldn't last that long…playing it…so it definitely would affect how long I have been playing it for…so…

R: I think the next one was hand gliding….yeah…
U: Oh...yes…here we go…
R: Its very responsive, is that what you are saying?
U: Yep…
R: one moment please…
U: no worries…
R: so do you like this game or was it annoying?
U: It was very amusing… [Smiling]
R: What…that looks like a squat? [Laughing]
U: I don't know what I was doing here mate… [Laughing] …that was my attempted landing…
U: I am sorry [Laughing]
R: Oh I was…I think my record was there….
R: You mentioned about people looking from other apartments…so…do you think that can also affect you like while you are playing this game?
U: yeah…yeah…definitely…

R: Someone once told me that….he feel that he will be engaged when you are in a social gaming environment while you are gaming with others…so what do you think about that? Like do you think when you are competing with me and a few others, you will be more engaged than you will not be worried with what others say?
U: Yeah...definitely…you just get in that…competitive spirit…you know you just wanna beat your friends so I guess…it always helps to have someone around you…
R: Personally…I don't…. this is just me…I was once thinking…personally I was just thinking… Kinect seems to be more of a social gaming sport…I mean not sports…sorry…social gaming console rather than a single player…what do you think?
U: Uhmm yeah definitely…I found out I was playing that with another person like…I will probably enjoy it more as well and it just will be more competitive so…definitely I agree with you on that point…that it will be social…so…yeah…
R: And would that also improve engagement?
U: Yeah…Yeah…it will engage me much more just because you always want to beat your friends so…like…you know...it's another thing to look for when you playing that game…
R: In your opinion, do you think Kinect needs some improvement or is it the game that currently used on Kinect needs improvements?
U: Uhmm…probably just the games itself…I mean Kinect is already a pretty good piece of equipment I have to say…it's just that they need to work on the games itself…
R: Alright…
R: Coming back to what you read in the participant information sheet, what my research is about, does Kinect…does controller-less environment provide engagement in motion control gaming…would you say…now since that is a broad question…what do you think…like…do you think…it comes down to the fact…that if you are playing alone or with people…do you think the answer will be different?
U: Uhmm…yeah…definitely if you are playing with people…Uhh…it just catches you on…gets you more engage inside the game as well…so…I find it much more social kind of game and especially in a controller-less type…I like think like Kinect you know…definitely more social…

R: Anyway…thank you so much Chris for giving me your time and I will talk to you later and I will stop this recording over here…
U: No worries man….

8.5 Appendix 5 User B Experience Timeline

Time line	Action	Quotes
00:00 00:10	[Researcher is thanking the user for participating and providing instructions]	R: Thank you for Jerry participating in this research. You must have read the Participant Information sheet and you know what the research is about.
00:10 00:20	[Researcher is still conversing with the user]	R: Uhh…what we are going to do is we are going to have a small gaming interaction with the Kinect. What we have are two choices of games. Sorry, we don't have more choices. What we have are;
00:20 00:30	[Researcher is still conversing with the user]	R: the Kinect adventures and Kinect sports. You can choose either one of them and while you are gaming one of them, you can actually in the middle change your mind and you can put another game just to see how it is. So…which one do you want to start with?
00:30 00:40	[Researcher is still conversing with the user and then asks what game user wants to play first]	R: in the middle change your mind and you can put another game just to see how it is. So…which one do you want to start with? U: I want to start with Motion Sports… R: Motion sports alright. One moment please.
00:40 00:50	[Researcher is inserting the game into the console]	
00:50 01:00	[Researcher has inserted the game and the user is waiting for the game to load]	
01:00	[User is waiting for the game to begin]	

01:10		
01:10 01:20	[User is waiting for the game to begin]	
01:20 01:30	[User is waiting for the game to begin]	
01:30 01:40	[User is waiting for the game to begin] [Game logo appears]	
01:40 01:50	[User is waiting for the game to begin]	
01:50 02:00	[User looks at the screen when the onscreen prompt appears]	
02:00 02:10	[User is looking at the screen and then chooses the option]	R: You can choose yes…
02:10 02:20	[User is using one hand to choose the option. User is moving fingers, keeping his hand steady while choosing option]	R: You can choose if you want nemesis signed in….
02:20 02:30	[User is performing different gestures with one hand and then removes the other hand from the pocket and moves it in different way]	
02:30 02:40	[User is waiting for the game to load and then uses one finger]	
02:40 02:50	[User is using one finger to select options]	
02:50 03:00	[user is still using one finger to select options]	
03:00 03:10	[user is waiting for the game to load]	
03:10 03:20	[Researcher converses with the user and the user responds with a joke]	R: And feel free to ask any questions…converse… U: ahh…yes….

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		U: That one looks like predator right?
03:20 03:30	[Researcher converses with user while user waits for the game to load and then slowly puts his fist up]	R: Yeah actually it does. You are the first one to say it… R: Have you played Kinect before?
03:30 03:40	[User puts up his fist in a boxing posture and then waits for the game to load]	U: No, its first time… R: Sweet.
03:40 03:50	[User is waiting for the game to load and then slides to proceed] [game begins]	
03:50 04:00	[user gets into boxing posture and starts playing]	
04:00 04:10	[User is playing the game]	
04:10 04:20	[User is playing the game]	
04:20 04:30	[User is playing the game]	
04:30 04:40	[User is playing the game]	
04:40 04:50	[User is playing the game]	
04:50 05:00	[User pauses and then waits] [User is conversing with the researcher]	U: Is that the right way of playing it? R: Umm…Yeah… seems to be right…standard boxing…
05:00 05:10	[user resumes the game]	R: You might have chosen a harder level….
05:10 05:20	[User replies to what the researcher says and is still playing the game]	U: Might be… R: Because he is playing real hard. He is dodging more…
05:20 05:30	[User is playing and then pauses since the game is gone into break]	R: Not bad…Next round…. R: You maybe right? He is a tougher opponent.
05:30 05:40	[User is conversing and joking with the 3rd person and the researcher]	U: {???}
05:40 05:50	[User is interrupted by a menu. User chooses an option and resumes]	
05:50 06:00	[User is playing the game]	
06:00 06:10	[User is playing the game]	
06:10 06:20	[User is playing the game and then pauses and then resumes]	R: yeah….
06:20	[User is playing the game]	

06:30		
06:30 06:40	[User is playing the game]	
06:40 06:50	[User is playing the game]	
06:50 07:00	[User is playing the game]	
07:00 07:10	[User is playing the game and then pauses]	
07:10 07:20	[User is playing the game]	
07:20 07:30	[User is playing the game and then pauses]	R: Wow…you are going into the next round….
07:30 07:40	[User is waiting for the game. Researcher is conversing with the user]	U: {???} R: How do you feel? Nice? R: Anyway, gym has closed….so it's a good workout…
07:40 07:50	[User resumes playing]	
07:50 08:00	[User is playing the game]	
08:00 08:10	[User is playing the game and pauses] [User is panting]	
08:10 08:20	[User is panting] [User pauses and then resumes]	
08:20 08:30	[User is playing the game]	
08:30 08:40	[User is playing the game] [user has paused again and seems to be tired]	U: {???}
08:40 08:50	[User stopped playing. User is panting] [[Researcher is conversing with the user]	U: Looks like he is knocked out… U: {???} R: Wow…that was alright actually…you were on the third round…I think the level was really difficult. You must have taken a…..
08:50 09:00	[User and researcher are conversing. User is panting]	U: a tough one… R: You might wanna go for some…{???} U: Hey that's Rubin right?
09:00 09:10	[user is waiting for the game to load]	R: yeah…
09:10 09:20	[User is waiting for the game to load] [user slides to next menu]	U: [laughing] That's funny….
09:20 09:30	[User is choosing options]	U: see Rubin and Raj….
09:30	[User is waiting for the game]	

09:40		
09:40 09:50	[User is asking for options to the researcher]	U: {???}….Any good ones over here? R: Well…. U: what's this? R: Skiing… U: How do you know which is hard?
09:50 09:00	[user and researcher are conversing] [User is browsing options]	R: I think you choose from the first box and it goes. I don't think it shows which is hard. But you can start with the first one…
10:00 10:10	[user chose an option and is waiting for the game to loadp	U: {???} U: Man, this is the reason we should…. {???}
10:10 10:20	[user and researcher are conversing]	R: You know PS3 also can get tiring because it is also motion sensor… U: {???}
10:20 10:30	[User is waiting for the game to load]	
10:30 10:40	[User is waiting for the game to load]	R: You should be able to do this, you have skied before… U: [laughing]… U: bend your knees. [Reading instructions]
10:40 10:50	[User is waiting for the game to load] [user is reading instructions] [User is sliding and choosing options]	
10:50 11:00	[User is waiting for the game to load and then chooses an option]	
11:00 11:10	[user is choosing an option]	
11:10 11:20	[User is waiting for the game to load]	
11:20 11:30	[Game begins] [User gets into skiing posture]	
11:30 11:40	[user is playing the game]	U: Yaay…I am in last place…cool… U: {???}
11:40 11:50	[user is playing the game]	U: [screaming….] U: {???}
11:50 12:00	[user is playing the game]	U: Woah…. R: Turbo boost…. U: Turn left…. U: Oh…whole body has to turn….
12:00 12:10	[user is playing the game]	
12:10	[user is playing the game]	U: {???}

12:20		
12:20 12:30	[user stops playing and asks the researcher on how to quit the game] [Researcher is providing instructions]	U: {???}… How do you get out from here? R: You can, if you stand straight and move your left hand towards a certain angle; it brings up a pause menu….
12:30 12:40	[User is listening to the researcher and then performing pause gesture]	R: There you go… U: It's more like chicken dance stuff…
12:40 12:50	[User is choosing options]	U: {???}
12:50 13:00	[User is waiting for the game to load. Researcher is conversing with the user]	R: Well, if you get bored with these games, you can always choose Kinect adventures… U: How good is that? U: Really?
13:00 13:10	[user is waiting for the game to load and is asking for options]	U: Alright, we will do one more thing and then we try… U: Has anyone tried hand gliding? R: Uhhh…yeah…people have tried hand gliding….
13:10 13:20	[user is selecting hand gliding]	U: {???}
13:20 13:30	[User is waiting for the game to load]	
13:30 13:40	[user is waiting for the game to load]	R: You won't be swelling… {???} R: That's what he said???
13:40 13:50	[user is imitating actions shown on the screen] [user slides the menu]	3rd person: Doesn't want to be…. R: Doesn't want to be…
13:50 14:00	[user is choosing options] [Game begins]	
14:00 14:10	[user is playing the game]	U: [Screaming…]
14:10 14:20	[user is playing the game]	U: [Whistling….]
14:20 14:30	[user is playing the game]	
14:30 14:40	[user is playing the game]	
14:40 14:50	[user is playing the game and then crashes]	U: Ouch…okay…
14:50 15:00	[user is looking at the screen and then quits the game]	U: Alright… {???}
15:00 15:10	[user is trying to slide]	U: Come on slide…
15:10 15:20	[user is waiting for the menu to load]	

15:20 15:30	[user is looking at the menu]	U: Rubin everywhere… R: yeah, it stores the pictures….
15:30 15:40	[User is choosing options. Researcher is conversing with the user]	R: it is quite strange because it didn't take pictures of you….oh wait!!! Nah…it didn't, that's interesting… U: They are trying to be racist….remember? {???}
15:40 15:50	[User is waiting and then choosing options]	U: How long does this go?...{???}
15:50 16:00	[user is browsing and choosing options]	R: Ahh…. U: {???} R: Its American Football….
16:00 16:10	[User is choosing options]	U: {???} U: {???}
16:10 16:20	[user is waiting for the game to load]	U: Man if Killzone was there for this testing…. R: Wow… U: That will be fun… R: That will be fun…
16:20 16:30	[User s waiting for the game to load] [user reading instructions]	
16:30 16:40	[User is reading instructions and then slides and chooses an option]	U: {???}
16:40 16:50	[Game begins]	
16:50 17:00	[user is playing the game]	
17:00 17:10	[user is playing the game]	
17:10 17:20	[user is playing the game]	
17:20 17:30	[user is playing the game and talking to the researcher]	U: {???} U: I just go through a gap…{???}
17:30 17:40	[user is playing the game]	
17:40 17:50	[user is playing the game and then pauses]	
17:50 18:00	[user resumes the playing]	
18:00 18:10	[user is playing the game and then wins and does a victory scream]	U: [Victory scream]
18:10 18:20	[user resumes playing] [user pauses playing]	
18:20 18:30	[user resumes playing]	
18:30	[user is playing the game]	

18:40		
18:40 18:50	[User is looking at the scores]	
18:50 19:00	[User tells the researcher he wants a change of game]	U: Why don't we try that adventure thing? R: Alright… R: Uhhh…you wanna try adventure??? U: Yeah…. R: Alright, lets just quit this thing then….
19:00 19:10	[Researcher is changing the game]	U: I will just…{???}
19:10 19:20	[Game change in progress]	R: Alright…sweet.
19:20 19:30	[Game change in progress]	
19:30 19:40	[User is waiting for the game. Researcher conversing with the user]	R: So was that tiring? U: yeah it was…No doubt.
19:40 19:50	[User is waiting for the game loading]	
19:50 20:00	[User surprised at the creator of the game]	U: {???} U: Woah…really?
20:00 20:10	[user is waiting for the game to load and conversing with the researcher]	R: Long time huh? U: Unreal Technologies…. R: Yeah, I know…. U: Lat we say was…I think way back in the 2000's
20:10 20:20	[User is waiting for the game to load]	
20:20 20:30	[user is looking at the careen and waiting] [user chooses an option]	
20:30 20:40	[user is waiting for more options]	
20:40 20:50	[User is waiting and again chooses an option]	
20:50 21:00	[User is following onscreen prompts]	
21:00 21:10	[user performs a pause gesture]	
21:10 21:20	[user is choosing options]	R: You can choose if you want…oh...That's no…. R: You can choose…uhhh. Uhhh…a preplay….
21:20 21:30	[user is choosing options]	U: wha…. [Shouting]
21:30	[user is still selecting options]	R: If you want you can select and

		go back to everything....
21:40 21:40 21:50	[user is waiting for the game to load]	
21:50 22:00	[user is again choosing an option]	U: {???}
22:00 22:10	[User is waiting for the game to start] [Game starts]	U: {???}
22:10 22:20	[User is playing the game]	
22:20 22:30	[User is playing the game]	
22:30 22:40	[User is playing the game]	
22:40 22:50	[user is standing still and then jumps]	
22:50 23:00	[User is playing the game]	
23:00 23:10	[User is playing the game]	
23:10 23:20	[User is amused and playing the game]	
23:20 23:30	[User is playing the game]	
23:30 23:40	[user continuously jumps and then quits the game]	U: Alright…that's it…I'm out… R: Thank you so much for participating in this research and I will just end it here…

8.6 Appendix 6 User B Interview Transcript

R: Thank you Jerry for giving us sometime for your interview and the testing that you had the other day. Just before I go about giving more instructions you would have read the participant information sheet and you know what this research is about. And what I just wanted to know was before we go and show your video, can you tell us a little about your self like related to the gaming side, how long have you been gaming?

U: I have been gaming around from 2009. Actually from ps2 to ps3 perspective I have gaming from 2009. Before that it was computer games as such that's kinda about 11 years. And way before that going up to childhood, you used to have the cartridge games. So I had the cartridge games before and then I had some handhelds. Then on a space of 6 years no games whatsoever till the 2000, I believe or maybe 1999 something like that. That's when PC games got introduced to me till I came to New Zealand and bought myself a PS2 and then got myself a PS3.

R: Sweet, that's a good description of gaming. Specific when it comes to gaming, what about motion control gaming? What was your first?

U: My first motion control gaming would be actually this one, what we did for research, the thesis thing. That's the first time I spend more than 10 minutes on a motion control game. I haven't done it before…
U: Yeah it was a pretty unique experience. It was quite entertaining as well as tiresome.

R: alright
R: So when you said this was your first, I am sure you would have heard of Nintendo Wii, PS3 move, and before that, I believe it was the p2 eye toy. Did you not have any hands one experience?
U: No, none whatsoever.

R: Okay…alright…ok…ok
R: Before you started using Kinect, did you set any thing in your mind, did you have pre-notion like….
U: There was one notion, not to look like an idiot in front of my friends [Laughing].

U: Uhhh…other than that…. you know I did no know what was coming. Just followed the instructions on the screen but as I said before it was a unique experience for me.
R: Alright…perfect…
R: Now , we just want to know…what we are going to do right now is you know I am going to show you a video of your gaming interaction and why we do this is for a recall. Sometimes you know a user might not be able to entirely describe what he felt, he will probably remember some moments. But by watching your video, you will be like "yes this happened here", "that happened there", "this is what I felt…"
R: So, the control of this video is in your hands as well as my hands.
U: Okay…
R: You can pause, rewind, forward as well as I can pause, rewind, and forward if I see anything I want to ask about….
U: Right…
R: And yeah…so…lets take it from there…please give me one moment…
R: Aah…Yes…you can wear one of them while I wear the other….here you go…
R: Were you excited?
U: Notion not to look stupid was there [laughing] but yeah excitement was there…
R: when you said that you don't want to look stupid, that is awareness right?
U: Yeah that's right, awareness was there…
R: Do you face that when you play PC games or other games on Playstation?
U: No I don't think so. I think Kinect being my first game that's why I had the notion not to look stupid…
R: Alright…
U: But I think the other ones are pretty easy because you are used to the controller so on so forth…
R: Alright
R: How did you feel the initial hand movements?
U: Uhhh…Minority report…
[Laughing]
U: I had the thought in my head but uhhh…see that was Star trek…

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[Laughing]

U: It was a quite unique experience you know…it was a very unique experience to do Kinect for the very first time…coz…something you tell yourself, this is not gonna work…you mean you put out your hands on somewhere…over somewhere, its not a physical device you should put it something out there…the motion is going to capture. It's quite unique…

R: You seem to be pointing you finer uhhh…

U: I think it was the game selection thing…

R: Alright…

U: Yeah I think that was it…

R: Did I track you using your fingers?

U: It tracked…it tracked…

R: You seem to be emotionless like…standing…

[Laughing]

R: like a machine…

[Laughing]

R: What did you think about the loading? Did the loading take a longer time that you expected or was it like 'oh this is faster"?

U: well…I can't. I wasn't actually waiting for the loading…I was thinking more about the game itself. You know its something you like you haven't done before…its like you have never learned to drive and when someone tells you to drive for the very first time, so you don't wait for, you don't think about how the car is gonna start, you just want to drive…I think that was going on in my head….

R: And at all this time, you are still aware right?

U: Yeah

R: What did you think about the response?

U: Uhmm…the response for the first round was…I thought it was very laggy but then I kinda realized I wasn't doing it right because first time I was doing it. Then I think you pointed out that it was a hard level I was trying out. Each time you threw a punch or you tried blocking….Uhhh….it quite didn't…it quite didn't respond the way you wanted it to respond. So I wasn't sure whether I was doing it wrong or whether the game itself was not responsive or was it more to do with there was a lag you know or high level…I think this is the one whether I got knocked down…

R: Alright…

U: Yeah…

R: And you moved backwards…

U: Yeah…Move back

R: Then what did you feel, didn't it start to…

U: I think it actually started to you know…it actually started….the thing started to change…a little bit of improvement started happening…

R: Oh…

U: So I was like confined to one square block where I was standing the first time thinking that this where I need to stand…

R; Oh…Alright…

U: Then you slowly kinda start to move around and stuff…like that…

R: Alright…

R: At that few moments, when you were punching, were you focused or engaged a bit?

U: Yeah I was. When the punching started I was engaged a bit but towards when you get knocked down or you start to get hamming back, I think that's when you

think like why the game isn't responding to you properly and stuff like that you can say the awareness kicks in me…

R: Alright…

R: This is where you chose the next…

U: Yeah…I think this was…

R: Oh…No…this I think you were continuing the same game…

U: Must have paused it for some reason…

R: Did you feel that irritating like when you stepped out again, it came back to the menu to choose the guest and to stand in the box…did you feel a bit…

U: Yeah that was quite awkward but you know a new control for you…so it's the first time so maybe it was okay for me….

R: You seem to be really giving it to him?

[Laughing]

U: The game took a quite a lot from me…

R: I feel like when I see you doing that, I see that you really engage but at the same time, I feel that inside you, you are also aware at the same time…

U: Yeah…yeah…You are aware…because I wasn't…I was throwing in jabs, hooks and what not…right but the response was not coming back…so awareness comes in that I am looking stupid again…

R: Alright…

U: Because if people are watching it…they are not actually putting some moves into it…

R: Yeah…

R: But if at the same time, let's say I was present there, fighting with you…would the feeling of being stupid reduce…?

U: I think the feeling of competition will start.

R; Alright…

U: You won't feel stupid anymore. You will be like he's hitting me or we are trying to complete the task together, whose gonna finish it first, maybe that kicks in…

R: Alright…

R: For me personally what I felt was if I am with someone and I am doing it, I feel less stupid because I know that there is someone…

U: Someone doing …

R; some one doing it with me

U: yeah

R: but then like you said, the competition increases, I feel an engagement.

U: yeah

R: because both of you are like are in front

U: yep

R: you become really tried also right…

U: Yeah…that was an exhausting thing…

U: coz I dint expect the game to do it…coz you know when you play ps3 or Xbox, you just play with your controller.

R: alright…How long can you go playing a game on Playstation with a controller?

U: uhhh…depends on what sort of game you are playing…as you are aware that I have motion sickness, if I play a game like Killzone or modern warfare, I can go for maybe one stretch….

R: Alright…

U: But if I play games like GTA, need for speed, I think I can for two-three hours…

U: Continuously…

R: What do you think of Kinect? How long do you think you can go?
U: Uhhh…I think nah…my cardio fitness is really poor…so I think I can just last maybe 10 minutes if I get lucky…because this was…I think this all together took 9 minutes and I was already exhausted…I started sweating…
R: Alright…
U: It was like…
R: Something that you don't…
U: You don't…
R: face..
U; nah…
R: In a normal game…
U: Yeah…See I was really exhausted by this time…
R: Do you think tiresome indicates or tiresome can be also be a factor that can destroy engagement?
U: Oh definitely…tiresome I think…coz I am giving up on the games…if I am playing with you…right…and if I get tired ahead of you…then you will loose engagement with me…you know…you will say "okay fine. He gave up, so might as well not play this game forward…"
U: Thankfully it was not UFC.
[Laughing]
U: Where you had to raise your legs…
[Laughing]
U: So it took exactly like 8 minutes and 30 seconds whatsoever for that fighting to finish…I was already exhausted by that time…
R: Yeah..
U: I think the next round was the hand gliding thing…I think…
R: I think so yeah…
R: Was it really hard to understand which was hard and difficult?
U: I couldn't find out what's at easy level or harder level? There was nothing written on the screen. They had just had words like pumping or iron or whatever… so I think that…those keywords can say which is harder and which is not…
R: Uhhh…what was that again…what was that reason...?
U; I think I said this is the reason…I think we might have to back track a wee bit…I think I said something about PS3?
[Rewinding]
U: This is the reason people should buy ps3 for….Ha Ha Ha…laughter followed...
[User imitating his laughter]
R: [Laughing]
R: When you said that, did you mean because PS3 had controllers…
U: Yeah
R: or the Playstation move…
U: Just for the controllers….
R: Alright [smiling].
R: yes, the next one actually was skiing…
U: [Agreeing]
R: did you feel the instructions helped before each game?
U: Uhhh…Yes…Kinda helped…it wasn't that you know…it wasn't that clear…it was just showed something on the screen…they dint expect you to follow it…maybe I took it wrong…
R: Alright…

R: Maybe…

R: And there was again a sub menu that popped up…

U: Yeah…

R: Did it…was that irritating or…

U: Yeah…well…from that games perspective…the U.I. was Kinda poorly designed…you know…that's my field...coz i…we do at work…we do a little bit of lot of U.I interface…guidelines and stuff that we create…from my perspective…personal the game had a poor U.I…

R: Alright…

U: To figure out what exactly you are doing…

R: can that throw you off?

U: It did throw me off…so when I started boxing …it quite dint tell me this is the tutorial you had to follow…

R: Yeah...

U: It's just showed something in the loading menu…And you were like Am I suppose to read it or am I suppose to ignore it?

R: what did you [laughing] what did you think about this? Honestly I got to…

U: [Laughing]

R: Honestly got tell you it was a bit annoying…when you…

U: [laughing]…now I can see why… [Laughing]

R: [Laughing]

U: [laughing]

R: how was the…did you feel it was getting detected properly, your movements?

U: Yeah…it felt…it felt…the thing was good.

R: Did you feel you had to try lot more…

U: yeah…

R: to get it …you know...

U: yeah…way lot more…

U: So I was actually losing interest over here in the game…

R: Okay

U: see that's why I said "how do you get out from here…?"

R: This instruction actually shown in the beginning…did you miss it?

U: Nah...i missed it…that's what I said I didn't bother…because no one looks at the loading screen unless unit its some picture…

R: Yeah…

U: So the loaders gave some instruction, I thought it was not serious to read it…so I didn't know about that…"put your hand up"…coz when you said that the first time…I was like "really"…

R: [laughing]

U: Are you making fun of me?

R: [laughing]

U: {unable to understand…}

R: You didn't like the skiing because…

U: it wasn't that interesting…in a way…it wasn't like boxing…

R: what do you look for in a game ? When it comes to like move…

U: Some sort of a…

R: moving games?

U: maybe some game with a very good A.I…like sort of response you get back….initial response well when you do skiing or stuff like that…like you going down a slope or maybe a circuit…like that's pretty much it...but when you do boxing

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or you do like a shooting game, something is coming towards you always, you are moving towards something…

R: Aahh…true…

R: I believe the next one is actually hand gliding…

U: Hand gliding…

U: then I think I got off the game thing…

U: that's the one…

U: see when I did that…. that was the time I read the instructions for the very first time...it actually took me two levels to understand the loading screen has instructions…

R: Oh…alright…

UU: What an idiot!!!

R: [Laughing]

U: [Laughing]

U: that's funny to watch…[Giggling]

R: What did you think about the game?

U: It's quite interesting…it's like an aero planes throttle, pitch you have, so that's how I Kinda figured the gliding thing out…so when you look, pitch downwards, the glider goes down, so I was like…fine…

R: Is it right for me to say that every time when a game begins, you have total focus and maximum engagement…

U: Uhh…

R: Somewhere along the time it reduces a bit…

U: well it depends on what sort of…what you environment is if you staring all by yourself in the room, you might have maximum focus right…but if you have friends around you or you have some sort of gaming fest going on, people walking in and out, you may not have 100% focus or 99 % focus…

R: Think you crashed here…

U: Yeah I crashed in this…so I was quitting...

R: Was it a purposeful crash or…

U: Yeah...Coz when I started gliding…it was fun but then I came to know I had to go through... You know check points then I was like this is not going to be interesting for me anyway…

R: Alright…

R: I believe after this you chose American soccer..

U: Oh alright…yeah…that's right…

R: You seem bored over there…

U: Aahh…yeah…the game didn't have much to offer as such…maybe this one?

R: [Laughing]

R: actually that was right…the thing is, it took pictures for other players…

U: Yeah…

R: For some reason, it wasn't taking..

U: Racist!!! [Laughing]

U: Maybe I was too big for the camera to capture altogether…

R: Probably…

U: This is the one where you go from left to right…right?

R: Yeah…

R: Think that was a pretty good workout too…

U: That was a very good workout...I was sweating literally…coz before I came to your place, I took a shower and came to your place and I was like…wow...Note to self….

R: Do you feel that's good for a game where you actually work out and you sweat out and then…

U: if you are doing Kinect in a social engagement, I don't think it's a very good idea to do that coz you will sweat like a pig in the end…it's not good but you know comfort of your home, I think it's pretty much fine…

R: You seem to be amused…

U: yeah…coz...Not every day you get to jump around…in front of the controller right?

R: [Smiling]

U: So right now what I was thinking was why am I doing N'sync? The N'sync pop band…they used to do that…

R: [laughing]

U: then I felt like Justin Bieber jumping around the stage…right?

R: [Laughing]

U: So I think that's Kinda when I felt like I look stupid…Awareness kicked in you know my god…this not fun for me because people sitting outside watching it, it's fun for them…

R: And that means…there would be no engagement at all…

U: No engagement at all…

R: it will be just awareness that you are displaying that you are displaying for the sake of…

U: Maybe…maybe it's because this time there was a video being captured…right? Maybe that was the awareness I had…maybe that's why….

R: Alright…

U: Coz all you know this video could be on YouTube…

R: [laughing]…no…

R: Even though you seem to be aware you are still trying, you are still moving about…so is that achie….is that you still want to achieve something?

U: yeah…Just give something to the game at least…

R: Yeah…

R: How important is achievement when in relation to engagement in a game?

U: Uhh…if the game is really engaging you then…I would say…you will…achievement is one of the goals you have…it's like in Playstation…if I gave an example, in a place when you are trying to complete levels, completing a level is a sort of achievement but getting a trophy from that level is the greatest achievement you can have…alright..So when you say awareness…when you have a lot of awareness obviously you are aiming for the achievement itself... That's my perspective…it could be different…

R: You seem to be really tired?

U: I was really exhausted..

R: So Um back to what you were saying…that you know in a social environment, would you say in a social environment if you and there was one more person playing with you, would you be socially engaged in the game?

U: yeah…

R: And the feeling of being stupid or being aware would reduce at that time?

U: Uhh…stupidity might reduce but awareness will be there…awareness will be there because your playing with your friend and you are engaging yourself both because engaging in the game itself and we are taking it as a competition the game

or it might be a group game where you have to compete a task so you are completely focused in the game…

R: Alright…

U: But the whole thing is stupidified until you realize your friend is making a fool out of you…

R: What did you think about the U.I of the Kinect Adventures?

U: uhmm…it was interesting…

R: Uhmm….when you were playing these games, how often do you look at the avatar?

U: Uhmm...Not too many times…

R: Do you see yourself jumping and moving or do you see that you are looking at the avatar and you are trying to move….

U: well, I Kinda think I am looking at the avatar and jump. I see the stuff coming from the distance but you can't time the guy from far rather me timing the object and stuff…

R: Because I believe in Kinect Adventures, there was more of the avatar rather than in sports it was just you doing...

U: It was just you doing…

R: So which was better? Just you having a look or you seeing an avatar being there for yourself..

U: I think having an avatar being there looks like a puppetry thing so you know it's fun to control someone..maybe that's why…it's how all the Playstation games I played so far do that…coz you are controlling someone one always…so it's like Home..I am controlling somebody; I know what to do now…

R: so you think that's better…

U: For me...

R: Alright…does that engage you better?

U: Yeah

R: Do you skip instructions if there were there in front of the game?

U: umm…yeah...if I find the game you know pretty obvious…

R: Pretty Obvious…

U: pretty obvious….you have the notion that when you start the game, while playing the game you have instructions rather than reading instructions in advance…

R: This was the reflex ridge game…

U: Hmm?

R: Reflex ridge game where you have to dodge…

U: Jump and squat…

R: You seem to be hitting a lot of blocks…

[Laughing]

U: Coz what I expected this game to be is less motion…

[Laughing]

R: Ironic isn't it…

U: That's the reason why I put my hands on my hip…because I was tiring out already….

R: Oh Alright…

R: I didn't think that sit good right…

U: Nah...It wasn't good for me…

U: I think it would have been easier if there was something where you just move like two step forwards, backwards and you know like a shooting game as such where

you just point your gun at something and shoot...That would have been really easy for me…

R: Would that be more engaging?

U: For me that would be more engaging then…

R: I guess so it means in a way…would it be right to say that it's not the technology exactly or more of that is…

U: Yeah…if you put it that way yeah…it is also based on the person who is playing it actually should be engaged, you cannot expect everybody to jump and like it…

R: Oh…yeah…true…

U: Yeah…

U: Coz that's what I think this kind of motion does not have much shooting games as such or sword fighting and stuff, they got u know family games or these kind of adventures where the whole family can contribute…

R: What was that…all that jumping?

U: Yeah, actually I quit...

R: I will just stop this yeah…

R: So basically it was like at the end you were jumping a lot because did you give it up early or?

U: Yeah…I gave up in the end…I just wouldn't...i was just tired, so I said nah it's alright…

R: alright and so what do you think basically about Kinect? Is it uhmm…what I feel from a lot of people I asked…is it the technology or the game that has to improve for the engagement?

U: I think the technology is in a very good place as of now. It's quite amazing to see a technology recognizing every movement you are making and calculating and doing through the game. But the games haven't quite matched up to the technology and they would release one or two titles that I would take and then there was this big gap where they were trying to make all the games into Kinect not actually developed for Kinect, they were just converting games for Kinect which was a lot of lagging and such…so maybe..The games which we played could have been made for Kinect as such...right? So the first time I think what they would done in the business perspective is , you created a technology right, they wanted it to release to the world but at the same time they wanted to capture everyone's idea, so they cannot release a fighting action game, they have to release a family entertainment game. That's why would have dialed down the graphics and animated it very user friendly and stuff like that. So from 75 percent of the people would agree to that that was very captivating and you know remaining 25 would say that was kinda average. So in my perspective, technology is fine, maybe you have little bit of corks here and there…you know…but the game shave to improve definitely the games have to improve….

R: Alright…so when it comes back to my main research there is controller-less environment providing engagement in motion control, I guess the addition is it depends….

U: right…

R: on the game…

U: right…

R: that is being used….

U: yeah…

R: Because…it cannot by itself achieve engagement because it is just a technology but it can give engagement provided the right game is used…I believe…

U: right…

U: I think it is…I rather I put it in a simpler sentence, it's like you are driving a Mercedes Benz and you feel for no reason. And you are driving a Nissan Sunny and you don't feel good for no reason. Both the cars have the same thing of getting you from point A to point B. They do the job properly but the end result is why are you feeling so happy when you are driving a Mercedes Benz right…rather why don't you feel the same satisfaction on Nissan. Mercedes has something to offer you that is engine or luxury inside…So it's the same thing, we can take for the Kinect as such where I play, the technology was wonderful…right…but the game wasn't that lucrative for me…so I couldn't give 100 percent on my awareness to the game, I wasn't focused…so towards the end, I think when we crossed the 10 minutes or 12 minutes, I just wanted to finish the game off….so I was like this is gonna happen for me…

R: Alright…Anyway thank you so much Jerry for giving me your time…

U: All the bet for you thesis…

R: [laughing] And I will stop right over here….

8.7 Appendix 7 User C Experience Timeline

Time line	Action	Quotes	Researcher Summary
00:00 00:10	[user gives a thumbs up and is listening to the researcher]	R: Thank you (no name) for participating in this research. As you have read the form, it is about engagement in motion control gaming. R: Uuhm…what we have is two choices of games.	User is thanked for participation in the research and provided instructions to which the user gives thumbs up and listens.
00:10 00:20	[user is listening to the instructions from the researcher]	R: So sorry we don't have a lot more choices… R: I will give you those two choices of games and you can choose either one of them. R: There is a uhhh Kinect adventures and then there is Kinect sports.	User is provided two choices of games and apologized for less variety. User is currently listening to what the researcher has to say.
00:20 00:30	[User is tapping on Kinect Sports indicating his choice] [User is nodding his head to agreement]	R: Do you want to go for Kinect Sports? R: At any time if you feel bored with the game, you can actually just tell me to change the game and I will change it for you and so…let's put in motion sports.	User selects Kinect sports by tapping on the cover of the game and the researcher proceeds to put the game into the console. The user also nods his head in agreement for the instructions received from the researcher.
00:30 00:40	[user is waiting for the researcher to put the game in]		User is waiting for the game to be loaded and is not saying or performing any action.
00:40 00:50	[user is still waiting]		The user continues not to say anything other than look at what the researcher is doing.
00:50	[User is waiting for the game to	R: You can follow the onscreen	The researcher informs the

01:00	load and nods his head in agreement to what researcher says]	instructions, it's very easy.	user to follow onscreen instructions to initiate a natural game flow. The user nods his head in agreement and continues for the game to load.
01:00 01:10	[user is still waiting]	R: And enjoy the game… R: And at any time if you want to talk to me, ask me any questions, I am more than happy to answer it for you….alright.	The researcher continues conversing with the user informing that he can converse with the researcher anytime. The user still waits for the game to load.
01:10 01:20	[user is waiting for the game to load]	R: Enjoy!!!	The user still waits for the game to load. The researcher tells the user to enjoy the experience.
01:20 01:30	[user is waiting and then greets a third person by smiling and waving his hands]	R: Hi Phil!!! [User giggling….]	The user greets a third person by looking at the camera.
01:30 01:40	[game beginning sounds] [user is looking at the screen]		The user is now focusing on the screen as the game has started and titles are shown on the screen.
01:40 01:50	[User is looking at the screen and there are prompts happening and user moves towards the screen and tries to be in the selected zone to play the Kinect]	R: Try going back.	The user moves towards the screen to get a better look at the prompts and options. The user is also trying to be in the zone which the Kinect can detect. The researcher advices user to move back wards to get detected properly.
01:50 02:00	[User is finally in the correct place for the Kinect to detect]	U: Aahh. R: You can choose Guest1.	The user moves back and gets detected by the Kinect.
02:00 02:10	[User moves his left hand to choose and then sits up and tries to move his hands to choose the option]		The user chooses the user profile and has to lean forward to see clearly.
02:10 02:20	[User is still trying to move his hand to choose the option]	R: Yes, you have to move your hands to choose the option. R: Try going back a bit more.	The user is still trying to choose the options by waving his hands around. The user moves back on the suggestion of the researcher.
02:20 02:30	[User moves back a bit and continue trying to wave his hands] [User is trying to move his hands into the boxes and not able to select it]	R: Move you hand to those boxes. [Options are indicated in boxes which needs to be chosen]	User is still trying to choose options which are in boxes. User tries to move back and waves his hands to check if the boxes get selected.
02:30 02:40	[User mumbled something]	R: Move to Guest1 R: You chose yes…	User is advised by the researcher to choose guest1 profile but user chooses yes.
02:40 02:50	[user looks at the change in options]	U: Now it's different… R: Uhmm….Choose nemesis signed in.	User says its different as the screen changed due to the option selected. The researcher advised the user to choose the profile shown

			on the screen.
02:50 03:00	[User is still trying to choose options and trying to navigate]	U: Uhmm… R: Yeah…	User is still choosing options here and trying to navigate and user is still in conversation with the researcher.
03:00 03:10	[User is still moving his hands and trying to choose]		User is still moving his hands to highlight options.
03:10 03:20	[User moved back a bit and is still trying to navigate and choose options]	U: I am not moving… R: Try going back a bit…	User moves back a bit to choose the options and user feels the cursor on-screen is not moving.
03:20 03:30	[User is still waving hands and looking at screen. User slowly moves his hands]	R: Move your hands slowly…down	User is still trying to move his hands and see if Kinect is able to detect it. User moves his hands slowly on the suggestion of the researcher. This is to see if Kinect can still detect it.
03:30 03:40	[User moved his hands slowly down to choose the boxes] [User is holding his hands steady at the same place as told by the researcher and waiting for the Kinect to detect]	R: Okay… R: Keep it there….	User is moving his hands slowly so that he can choose the boxes. The researcher suggests the user to keep his steady so he can select the boxes.
03:40 03:50	[User is still holding his hands steady and moving it slowly to where it can detect him]	R: I believe it detects the slightest movements of the hand…	Although the user is moving his hands slowly and steadily, the researcher cautions him that Kinect will not detect until his hands are completely steady.
03:50 04:00	[User nodded his head in disagreement]	R: Would you like me to choose the option for you?	Researcher asks the user whether he needs help in choosing to which the user nods in disagreement.
04:00 04:10	[User uses one of his hands to hold the other hand to choose]		User tries to use one of his hands to hold his other hand steady and see if it helps.
04:10 04:20	[User is still trying to choose]	U: Well, this isn't great… R: It's alright.	User is still trying to choose by moving his hands slowly.
04:20 04:30	[User moves backwards to see if the Kinect will detect him] [User moves forward again to see if it helps in getting detected] [User tries waving his hands. And then he moves forward a bit and waves with other hand]	U: Nope that's….{unable to understand the word} R: Wave for few minutes…	User moves backwards and checks if Kinect detects him and then he moves forward and tries waving his hands again. He again moves forward a bit and tries to wave to see if Kinect will detect him.
04:30 04:40	[User was waving his hands in circle when he realized at a certain position, the box highlighted. User then slowly started hovering in that area trying to select the box]		User starts waving his hands in a circular motion when at moment he realizes the box highlighted. User then slowly starts hovering it in the same area to get the box to highlight again.
04:40	[User moves his hands up and down slowly]	U: Finally… [User was able to select the box]	User moves his hands up and down slowly till he

04:50		R: Make sure….Hehe... [Researcher circles…]	highlights the box. He then is able to choose the option to which his reply is "Finally".
04:50 05:00	[User moves his hands further down slowly and chooses an option]	R: No… [Researcher advised user to choose No…] R: Ah…you got your zone. [Indicating user has finally chosen a place where the device can detect him] R: Move to Nemesis…	User is now able to choose options properly as how the researcher states that the user has found the zone where the Kinect is able to detect him.
05:00 05:10	[User is still navigating through menus using his hands slowly]	R: Beautiful. R: Nemesis signed in…	User is able to navigate through the options easily now.
05:10 05:20	[User uses both hands to express an annoyed gesture]	U: Already selected this…. [User is annoyed at the fact that he has to choose an option which he had selected before] R: You choose guest 1 R: Guest 1. Place your hand.	User is annoyed that he has to choose an option which he chose before.
05:20 05:30	[User has gone through the initial menu and reached the another menu]		User is navigating through the menus.
05:30 05:40	[User is waiting for the game to load]	U: I was planning to run… [User is indicating a funny running expression…]	
05:40 05:50	[User is instructed to following on-screen prompts for calibration]		
05:50 06:00	[User is seen laughing while trying to calibrate. User has trouble reaching the boxes. User moves forward to the device to choose the option.]		
06:00 06:10	[user moves forward and is trying to choose an option]		
06:10 06:20	[User is raising his left hand and trying to choose the option]		
06:20 06:30	[User is successful at choosing the first box]		
06:30 06:40	[User is successful in choosing the second box. This was faster than the initial box.]		
06:40 06:50	[User is raising his right hand to choose an option]		
06:50 07:00	[User is still trying to choose the option using right hand]		
07:00 07:10	[user is using right hand to choose the same option and he lowers it a bit and then raises it again to choose]	U: My arms need to be more forward than my arms. [User is having trouble reaching the other box which is on the user's right hand side. User is indicating the device is confused between the arms and the hands.]	User comments that he needs to push his hands forward otherwise the Kinect gets confused detect his hand from the rest of the arm.

07:10 07:20	[User is successful in choosing the last box and completes the calibration.]		
07:20 07:30			
07:30 07:40	[User is prompted to take photos using a function called slide. User seems to express a "why" action.]		User shows an why expression when the Kinect wants to take photos of the user.
07:40 07:50			
07:50 08:00	[User is posing for the photo]	R: Not bothered really aye? Hehe… [Researcher notes that the user doesn't seem to care about the photo option and makes a comment.]	
08:00 08:10	[User raises both his hands for a crazy photo when the Kinect prompted him.]		
08:10 08:20	[User is indicating a no to the researcher for that comment.]	R: That should be your profile picture on Facebook. U: I thought I heard them say let's play some bullshit sports.	
08:20 08:30	[Researcher is laughing at the joke made by the user]		
08:30 08:40	[User is looking at the screen]	R: Yeah right. That will be fun.	
08:40 08:50	[user is trying to choose an option]	U: Hand gliding. [User chooses hand gliding and states a comment which was hard to transcribe.]	
08:50 09:00	[user raises his hands to choose an option]	[User is trying to choose an option with hand gliding to start the game.]	
09:00 09:10	[User chose the option and the game is going into loading.]	U: Takes a while to load doesn't it? [User is waiting for the game to load.]	User comments on the game loading.
09:10 09:20	[User is waiting for the game to load]	R: I believe it does… U: But I am not skiing. [User saw instructions for how to ski and shouted out that he is not skiing. User indicated an annoyed expression.]	User comments on the pre-instructions before the game. User says he is not skiing to which the researcher responds that Kinect is showing random instructions for the different games in the disc.
09:20 09:30	[User points out to the research about the previous comment]	R: Oh...I think it's just notes that they show…it's not related to the game that you are playing.	
09:30	[User is imitating gliding		

09:40	gestures looking at the onscreen instructions]		
09:40 09:50	[User is reading instructions]	U: Does it detect your facial? {Unable to understand what user is trying to say} R: I believe not… [Researcher is imitating the gliding moves]	User enquires if the Kinect has facial recognition.
09:50 09:00	[User is still reading instructions and then trying to slide]	U: Maybe they should.	
10:00 10:10	[User uses both hand to slide and then chooses an option]	U: {unable to understand what user said} U: {User said something that could not be understood}	
10:10 10:20	[The game is loading….] [User is moving backwards so he can be in the correct zone to play the game. User is prompted again to choose the profile.]		
10:20 10:30	[Choice has been selected.]		
10:30 10:40	[Game has begun…]		
10:40 10:50	[User is smiling and showing focus on the game.]		
10:50 11:00	[User is gliding downwards on listening to a comment made by the in-game commentator.]		
11:00 11:10	[User is playing the game]		
11:10 11:20	[User is playing the game]		
11:20 11:30	[User is playing the game]		
11:30 11:40	[User is playing the game]		
11:40 11:50	[User is playing the game]		
11:50 12:00	[User is playing the game]		
12:00 12:10	[User is playing the game]		
12:10 12:20	[User is playing the game]		
12:20 12:30	[User is playing the game]	U: {Unable to understand what user said.}	
12:30	[User is playing the game]		

12:40			
12:40 12:50	[User is playing the game]	U: {Unable to understand what user said.}	
12:50 13:00	[User is playing the game]		
13:00 13:10	[User is playing the game]		
11:11 13:20	[User is playing the game]		
13:20 13:30	[User raises both thumbs up…]	U: I didn't die…	
13:30 13:40	[User is playing the game]	R: You went and crashed… U: {Unable to understand what user said…} U: Die!!!!	User crashed the avatar and screamed die. User is laughing at this. Seems as if the user wanted to quit the game.
13:40 13:50	[User laughing after user went and purposely crashed the glider….] [Researcher acknowledges the crash….]	U: {unable to understand what user says….} {Unable to understand what researcher said…}	
13:50 14:00	[user is sliding and conversing with the researcher]	U: These aren't the droids you are looking for… [User imitating an gesture from Star Wars…]	
14:00 14:10	[User repeats the gesture again….]	R: Huh… [Researcher did not hear what the user said…]	
14:10 14:20	[User is shown statistics of the game he finished playing…]	R: These aren't the droids you are looking for…. [Researcher repeated what the user said…]	
14:20 14:30	[User leans forward and is looking at the screen and then slides]		
14:30 14:40	[User is sliding and then looking at the screen]		
14:40 14:50	[User then chooses an option and then waits]		
14:50 15:00	[User is back on the main menu….]		
15:00 15:10	[User chose boxing…]	U: {Unable to understand what user said….}	
15:10 15:20	[User chose the first level in boxing..]	R: Oooh… Boxing…	
15:20 15:30	[User is asking the researcher about the game]	U: You need to step for this one... [User is asking user if it's necessary to move about in this game….] R: Nah...Not really…. R: I think…uh…[Researcher imitates throwing punches gesture…]	User asks the researcher if it is necessary for the user to move about I the game. The researcher informs the user he doesn't need to.

15:30 15:40	[User is imitating a boxing position…]		
15:40 15:50	[User is reading instructions and then conversing with the researcher]	U: They want you to clothesline…[User is looking at the on-screen instructions for another game and thinks it's for this one…] R: I guess that must be for football they are showing…	
15:50 16:00	[User then slides and is waiting and then proceeds to game]		
16:00 16:10	[Boxing game started…]	U: {user said something cannot be heard due to the noise from the game…}	
16:10 16:20	[user is throwing punches at the screen….]		
16:20 16:30	[Researcher is showing the user on how to hold a defense pose and throw a punch…]		
16:30 16:40	[User tries punching and then shows a whatever expression and gets back to boxing posture]	U: Why is it…[User is throwing punches shown by the researcher….] U: {user says something that cannot be heard…} [User imitates the actions made by the researcher but to no affect. The researcher seems to show a "confused and annoyed expression" of why his motion is not detected…] U: {User again says something in a low tone that cannot be heard….} R: Try raising it and then…. [Researcher suggests the user to raise his hands little higher and throw the punch….]	User has an annoyed expression stating why the Kinect is not detecting the punches thrown by the user. The research is also seen to show a confused expression about this dilemma. The researcher advises user to raise his hands up a bit and try.
16:40 16:50	[User raises his hands and tries the actions again….]	R: Straight….. 16:44 – U: {User says something again in a low tone that cannot be heard…} 16:45 – R: Your blocking seems to be working…. [Researcher imitating a blocking action…] 16:49 – U: I wanna restart this again….	The researcher comments that although the punches aren't registered, the blocking seems to work. The user wants to restart boxing again.
16:50 17:00	[user gives up and waits for the game to finish….]	U: what!!! [User gives up and closes his hands and waits] U: {user mumbles something…}	
17:00 17:10	[User is waiting for the game to get over]	U: {User says something quietly but cannot be heard….}	
17:10 17:20	[User is looking at the screen annoyed and moves back on advice from the researcher]	R: Try moving back a little… [Researcher advices the user to move back a little…User moves back a little….] R: {Unable to hear what	The user is asked by the researcher to move back a little and try again. The user is annoyed at this and moves back.

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		researcher says due to the game volume...} [Researcher instructs the user to raise his hands up and try again….]	
17:20 17:30	[Game goes into second round…] [Researchers tells the user that he cleared the first round of the game…]		The game goes into the second round and the researcher informs the user he has cleared it.
17:30 17:40	[Researcher is advising user about the game and then user gets back into boxing posture]	Try blocking and see if you can…. [Researcher shows the user the same actions and advices the user to try it….] R: Because it seems to be taking the blocking…	The researcher provides some instructions on how to play the game to the user.
17:40 17:50	[Second round starts….] [user tries to punch again…] [User moves ahead and tries to punch again….]		
17:50 18:00	[user shows a "why" expression as Kinect is not detecting it and still continues to throw punches…]		The user again is confused and annoyed and shows a why expression because the Kinect is not detecting his moves.
18:00 18:10	[User shows again a "why" expression…]		
18:10 18:20	[User waits for the game and then converses with the researcher in annoyed expression]	U: {unable to hear what user says…sounds like he is annoyed and wants the game over…}	User waits for the game to get over and informs the same to the researcher.
18:20 18:30	[User continues to punch and again shows "why" expression…]		
18:30 18:40	[User waits for the game to get over]		
18:40 18:50	[User is happy the game is over]	U: Yeah… [The game is over….user is happy….] U: Maybe they should…. {unable to hear the rest of the sentence as his tone went low….}	The user is very happy the game is over and says it needs to improve. Unable to understand clearly what the user said.
18:50 19:00	[User looks at the screen and then slides out of the game]		
19:00 19:10	[User converses about quitting the interaction]	U: Maybe it is time to call quits….. R: Time to call it quits??? Are you done?	The user wants to quit the experience.
19:10 19:20	[Researcher thanks the user for participation]	U: Yeah…. R: Alright. Thank you so much {User} for participating in this…. U: Alright… R: Thank you…	

8.8 Appendix 8 User C Interview Transcript

R: Thank you for the gaming experience we had the other day. Thank you so much for participating. What we are going to do next is, I have in front of you is the video of you playing it. Why we are using this technique is like it's a recall because if I just ask you questions about the gaming experience, you might answer to a certain extent but if you see your own self playing, you will be like "oh you know…" at this part you felt this, what could be improved etc.

R: so uhh...First I will basically start with some basic questions. Like uhh…Since when did you start gaming Stevo?

U: I have been gaming on the PC since I was like 15.

R: Since 15?

U: Yeah…so I was like…probably before that actually but…seven years…

R: Seven years…

U: Yeah I got a Wii

R: You have a Wii?

U: Yeah and uhhh…I have had that like for 3 or 4 years…

R: Uhhh…Alright…so when you said gaming, was PC the most platform that you have gamed on?

U: Yeah…

R: Alright, How often did you play Wii?

U: I used to get into it a lot…

R: You used to get into it a lot???

U: Yeah but at home, I had a larger TV.

R: Alright…

U: And yeah so it's better…

R: So you are like saying…playing on a large TV is much better than on a small screen…

U: On a 19" is really hard…

R: Alright…how important is that?

R: Like I know you said that it is hard to play on a 19"…is that because you can see things better or you feel you are into it???

U: I can see more details…

R: You can see more details?

U: Yeah and you can stand or…sit further back… and..

R: Alright…fair enough…

R: Alright…that's good...

R: Just wanted to ask…Initially when I setup the Kinect for you…even before the game was chosen…you did have navigation issues right?

U: yeah…

R: Why was it? Because it was moving…But…

U: Yeah…it was setup for people standing up and not sitting down….so had that trouble registering that…so I had to move backwards and forward and wave around a bit…

R: But then afterwards also…but it started registering your movement right? It was easily registering it right?

U: Yeah, I still had to move around a bit but I found this sweet spot…

R: Alright…

U: Where it will register me as sitting down and standing up…

R: Alright….so there was like this comfort zone where…okay, this is the where you can get it….

R: Alright…

R: Do you think because of that pre-setup, can it throw you off the game? Like ahh…

U: I realized doing that was a {dam???}

U: And…can annoy you so much, you don't really want to play…ahh...,I can't be really bothered…

R: yeah…so you saying…it could be really nice to have a feature that can you profile?

U: Yeah…

R: like you know…like you can just say "Select Stevo…" and then you know….its there. It understands you are there…

U: It would be nice to have a setting…more like…unable to stand so…sitting down…all the movements are lower…

R: Now we are going to start playing the video but before I start playing the video, I just want to tell you something. You have control over the video and if you want, at any time, you can pause the video or rewind it and say what you felt you know of certain expressions or anything at that time you felt and at the same time, I might stop the video and ask "hey what did you think about this or what did you say " so…you can start playing the video and you can tell what's you know…happening…

[Video starts at 5:33]

R: Have you ever tried Kinect before Stevo?

U: No

R: So this is your first time?

U: Yes

R: Were you excited?

U: Trying a new thing is always exciting

R: So you seem to be much focused, looking at it…?

U: Yeah

U: Hi Phil!!!

R: Did you have any like pre-notions about the experience? Did you expect anything?

U: Maybe I thought it would be bit harder like being new to it, not many people tried it.

R: Exactly…

R: It is known that when a player changes, the Kinect actually resets it, I was surprised it did not do it for you and that's why I was hoping it would start doing it…

R: I think this is when you finally got the hand, finally got it…

U: I realized when I put my hand up, my elbow was in front of my hand and so it was pointing out rather than my hand…

R: And that is why the cursor was kept on getting stuck because it was reading two signals at the same time.

U: I just moved my elbow back.

R: How did you feel at this time when you were trying to work?

U: A bit annoying but with any new technology, you got a Looney period.

R: Did you read about the Kinect before? Did you know how it was going to be?

U: I have like heard about it but I have never seen one used…

R: I this is when you actually got it…

U: [Agrees] Hmmm…

U: This is when I actually found…you know…

R: The comfort zone???

U: [Agrees] Yeah…

R: Were you annoyed also from the fact that…I noticed that every time you got a pop up to choose who you were, were you annoyed that it could have saved it….

U: [Agrees]

U: Mind you, normally you just sign into and you save it… {Need to understand better}

[Video paused]

U: It was…it was way harder than to reach that way like [Shows hand reaching…] Yeah they could have made it a lot lower…

R: It finally took it right?

U: [Agrees]

U: And there is…I had to stretch…to reach the top…

R: What was it again?

U: My arms had to be more forward than my elbows…

R: You liked that didn't you? The sliding?

U: Yeah, it was a lot easier than… [User waving his hands around]

R: What was that expression? What was that expression? You were like "why"? it was like a why expression…

U: Why do they want photos?

R: you seem to be annoyed…you seem to be very annoyed…

U: They didn't need that… {Need to understand better}

R: Do you remember what you said?

R: let's play some bullshit sports… [Researcher laughing]

U: Well…I didn't hear it properly….

R: That was funny x 3

R: It shows how much you are engaged?

U: It seemed easy and relaxing and then…trying to actually select that…

R: At any time, while this was happening, did you feel that I wasn't there?

U: I knew you were there…You were talking to me…

R: But what about those times when I was actually keeping quiet and letting you play…did you feel it at that time?

U: No…I knew you were observing me for your research…yeah I knew you were there…

R: So is that awareness or is that you do understand what engagement is right? Like you are totally into the game…Do you think you would be engaged if I was not present?

U: Yeah…

U: Like…the game wasn't engaging but like hand gliding after a while…it was so boring…

R: Can that throw you off the game?

U: I need to be entertained in a game …in the end, I just killed myself.

R: how do you think they can improve it? What would you look for?

U: I don't know… {Need to understand} like collecting tokens….

U: Annoying how they have to register you every time you went to it…you think they will save it….

R: Here you change your expression from happiness and then it goes to confusion and then back to happiness, was that because it really felt like it?

U: It was really {???} try to like register my movement.

R: And when you were like playing this game, did you see yourself flying or did you look at the avatar the whole time in the game?
U: I just looked at the general hand gliding thing. I didn't see the avatar.
R: But that's actually a good thing right? Because that means you are into it to a certain extent because you are moving about?
U: yeah.
R: That was a bit of engagement, would you say right?
U: Yeah.
R: But generally do you think Kinect can provide engagement?
U: for people that can fully do it… (???) Like the running, boxing, it would…
U: Like kids enjoy that sort of stuff… Like moving (???)
R: See for example like a game such as hand gliding and you have a controller, do you think you would be engaged?
U: No a controller wouldn't really… wouldn't really feels like are doing. Like pressing buttons isn't same as moving up and ….
R: So what you are trying to say is it depends on the game?
U: Yeah…
R: There are some places where a controller can…
U: Like for action games and like shooting games, I don't see the Kinect being very good…But for like sports sort of thing, moving your body around…Yeah that would be lot better…
R: You seem very happy when you crashed the…
U: Yeah happy that it was over…
R: How do you think it could have been improved? Like you suggested before collecting tokens…?
U: Like scoring rather than timing, how long you are…
R: After this, you went to chose boating right?
U: Yeah
U: Trying to get it to register myself…
R: I think you pretty much got used to navigating after sometime right?
U: After the tutorials, I got used to it…
R: Do you think there are any external factors that can help engagement? Like at first you mentioned, you need to play it on big TV. Does a big TV help engagement?
U: A big TV makes it easier so you can stand {???}…
U: And you can still see clearly…
R: And uhh…but does it necessarily help engagement at the same time?
U: Yeah it's like...If you see with your peripheral vision as well, that helps a lot…
U: It does take a while to load...
R: that is a bad thing?
U: yeah…
U: When you start it, you want to play it straightaway…But you're like waiting and waiting and doing a bit registering…
R: it can throw you off???
U: Yeah…
U: Yeah, it wasn't really registering…
R: The punches? But it registered the block…yeah?
U: Yeah…
U: I didn't saw {???} I must have not extended it well…
R: But then at the same time, it registered the block…
U: It must have seen the like an object closer than my body…

R: Alright, that's why it must have registered the block but not the punches…
R: I think you got very angry with that…
U: Yeah, because I was only going a little bit forward but not extending very much…
U: And in the end, I just stopped my hands and waited for the….after moving around a bit, tried to register the punches, I just gave up…
R: Did you find it weird that the first game you played, it was registering fast and the second game, it didn't register fast, does it depend on the game?
U: Well, when in the first game, it was not really going forward, it was more of up and down but in boxing, it was obviously, you had to put a lot of forward and I didn't do that…
R: You were Kinda annoyed towards the end right?
U: well, the boxing was not working for me…
R: can you suggest any way you think Kinect can help…?
U: Yeah…Add like setting for people in {???} like so they can a lower down and so…
R: In your gaming experience, you have been gaming since 15, 7 years…you have on pc, Wii n all…Ummm, Yeah before I proceed to that question, when you played, was Wii experience better than this?
U: Wii was easier but their controller had the thing in them…You know it would pick it up…
R: And alright…fair enough…
U: Wii had better {???} I can see Kinect being better for others…
R: SO you said, since you had been gaming for 7 years, what can make gaming technology more engaging in your experience?
U: an engaging story, a back story, maybe a typical but not extremely.Something that would interest me…
R: So that's the gaming side…technology wise? A better way to ask is…is it the game that decides or technology?
U: It's the game really coz…it's more like technology and how they use it…
U: like…keyboard and mouse is out-dating…something like movement is becoming like all the right…I can see that developing as they get finer like finer precision on your movement and that would really make so much better….
R: so that means in your words, what you are trying to say is that technology and gaming should go side by side. That means, the game should make full use of the technology and at the same time, technology should accept all the gaming features…
R: And…for example and also previously….you had mentioned that you knew I was there, would it have made a difference if I just left you with it? Would it have been more engaging or would you have still felt annoyed that…
U: I would have been annoyed because I asked you questions and you had the experience and I would have learned but it would have taken more time…
R: Alright…and do you think if you were in the presence of your friends and all of you were using Kinect, it would be like a social gaming experience, would you be still engaged…
U: Yeah…because I would be watching them and having my turn and laughing at them and they will be laughing at me sitting there waving…
R: So you can say that it can get more engaging and would it develop into competitive engagement.
U: Yeah that really would. We try better each other…
R: One more question before I stop. When you say like you just mentioned social gaming, would you say Kinect is better designed for social gaming…?

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U: It is really designed…
R: Social gaming…?
U: for like...Yeah…being in a big group and watching each other..
R: Alright. Thank you so much Stevo for answering these questions…

8.9 Appendix 9 User D Experience Timeline

Time line	Action	Quotes	Researcher Summary
00:00 00:10	[User is looking at the researcher and listening to instructions]	00:02 – R: Thank you for participating in my research. And as you have read the participant information sheet and signed the consent form, we are here to test if controller-less environment provide engagement in motion control gaming. We have two choices of games for you which are the Kinect sports and Kinect adventures. I am so sorry we don't have any other games. We took these two because of good reviews. Which one do you like to play?	
00:10 00:20	[User is looking at the researcher and listening to instructions]		
00:20 00:30	[User is looking at the researcher and listening to instructions]		
00:30 00:40	[User is looking at the researcher and listening to instructions and chooses Kinect adventures]	U: Kinect adventures. 00:37 – R: Kinect adventures…thank you…	
00:40 00:50	[User is waiting]		
00:50	[User is waiting]	R: I just inserted the game in and it should be loading now…	

01:00		144	
01:00 01:10	[User is waiting]	R: And if you want, you can ask as many questions as you want and whenever you are done gaming, you can let me know so I can stop the game.	
01:10 01:20	[User is waiting]		
01:20 01:30	[User is waiting] [Kinect has started]		
01:30 01:40	[User is waiting]		
01:40 01:50	[User gets ready and is looking at the screen]		
01:50 02:00	[User is looking at the screen]		
02:00 02:10	[User is looking at the screen]		
02:10 02:20	[User is looking at the screen]		
02:20 02:30	[User is looking at the screen]		
02:30 02:40	[User is looking at the screen]		
02:40 02:50	[User is trying the pause gesture out]		
02:50	[user is navigating through the menu]		

03:00			
03:00 03:10	[User is navigating through the menu]	U: Can I select any player? R: Anything actually…	
03:10 03:20	[user is navigating through the menu]	U: {???} R: I am sorry I {???}	
03:20 03:30	[User chooses an option]	U: That one….	
03:30 03:40	[User is waiting for the game to load]		
03:40 03:50	[User is waiting for the game to load]		
03:50 04:00	[User is waiting for the game to load]		
04:00 04:10	[User is waiting for the game to load]		
04:10 04:20	[User is waiting for the game to load]		
04:20 04:30	[user chooses an option]		
04:30 04:40	[User is waiting for the game to load] [user chooses an option]		
04:40 04:50	[User is waiting for the game to load]		
04:50 05:00	[user starts playing the game]		
05:00 05:10	[User is playing the game]	U: [Mmmm….]	
05:10 05:20	[User is playing the game]		
05:20 05:30	[User is playing the game]	U: {???}	
05:30 05:40	[User is playing the game]		
05:40 05:50	[User is playing the game]		
05:50 06:00	[User does the pause gesture]		
06:00 06:10	[User is choosing options]		
06:10 06:20	[User is navigating and choosing options]		
06:20 06:30	[User is waiting]		
06:30	[user is trying to navigate]		

06:40			
06:40 06:50	[user is trying to navigate]		
06:50 07:00	[User chooses an option]		
07:00 07:10	[User is waiting for the game to load]		
07:10 07:20	[User chooses an option]		
07:20 07:30	[Game has started]		
07:30 07:40	[User is playing the game]		
07:40 07:50	[User is playing the game]		
07:50 08:00	[User is playing the game]		
08:00 08:10	[User is playing the game]		
08:10 08:20	[User is playing the game]		
08:20 08:30	[User is playing the game]		
08:30 08:40	[Game is tallying scores]		
08:40 08:50	[user resumed playing the game]		
08:50 09:00	[User is playing the game]		
09:00 09:10	[User is playing the game]		
09:10 09:20	[User is playing the game]		
09:20 09:30	[Game is tallying scores]		
09:30 09:40	[Game is over]		
09:40 09:50	[User is waiting for game to respond]		
09:50 09:00	[User is navigating through options]		
10:00 10:10	[User is waiting for the game to start]		
10:10	[Game has started]		

10:20			
10:20 10:30	[user is playing the game]		
10:30 10:40	[user is playing the game]	U: {???}…Boring… R: If it is boring, you can leave the activity or change the entire game completely…	
10:40 10:50	[user is playing the game]	U: {???}	
10:50 11:00	[user is playing the game]		
11:00 11:10	[user is playing the game]		
11:10 11:20	[user is playing the game]	R: If you want, you can try the boat game… U: Hmmm??	
11:20 11:30	[user is playing the game]	R: The boat game…rafting? U: hmmm R: You know how to pause and get out of the game right?	
11:30 11:40	[user is playing the game]	U: I changed it before, didn't I?	
11:40 11:50	[user is playing the game]		
11:50 12:00	[user is playing the game]	U: [Laughing….]	
12:00 12:10	[user is playing the game]	U: [Sound…]	
12:10 12:20	[User is waiting for game to respond]		
12:20 12:30	[User is doing the pause gesture]		
12:30 12:40	[User is navigating through options]	R: you can just go to the back…	
12:40 12:50	[User is waiting for the game to respond]		
12:50 13:00	[User is navigating through options]		
13:00 13:10	[User is waiting for the game to respond]		
13:10 13:20	[User is navigating through options]		
13:20 13:30	[User is waiting for the game to respond]		
13:30	[User is waiting for the game to respond]		

13:40	[user chooses an option]		
13:40 13:50	[Game has started]		
13:50 14:00	[user is playing the game]		
14:00 14:10	[user is playing the game]		
14:10 14:20	[user is playing the game]		
14:20 14:30	[user is playing the game]	U: [Laughing…] U: it's too slow…	
14:30 14:40	[user is playing the game]		
14:40 14:50	[user is playing the game]		
14:50 15:00	[user is playing the game]		
15:00 15:10	[Game is tallying scores]		
15:10 15:20	[user is waiting for the game to respond]	U: My toe hurts…. R: I guess it has to do with the jumping… U: Hmmm R: Did you land on your broken toe? U: [User nodding yes….]	
15:20 15:30	[user is waiting for the game to respond]	R: Try jumping more so that speed increases….	
15:30 15:40	user is waiting for the game to respond]		
15:40 15:50	[Game has started]		
15:50 16:00	[user is playing the game]		
16:00 16:10	[user is playing the game]		
16:10 16:20	[user is playing the game]		
16:20 16:30	[user is playing the game]		
16:30 16:40	[user is playing the game]		
16:40 16:50	[user is playing the game]		
16:50 17:00	[user is playing the game]		

17:00 17:10	[user is playing the game]		
17:10 17:20	[user is playing the game]		
17:20 17:30	[user is playing the game]		
17:30 17:40	[game is tallying scores]	U: I beat who ever got silver…. 17:39 – R: What happened?	
17:40 17:50	[User is speaking to the researcher]	U: I beat…whosever score it was…. 17:43 – R: Really? Oh….ok 17:45 – R: Was there a highscore? 17:46 – U: Yes there was…	
17:50 18:00	[Researcher speaking to the user]	R: Do you like this? 17:57 – U: Better than your fix the leaks….	
18:00 18:10	[User has chosen an option]		
18:10 18:20	[Game has started]		
18:20 18:30	[user is playing the game]	U: {???}	
18:30 18:40	[user is playing the game]		
18:40 18:50	[user is playing the game]	U: {???}	
18:50 19:00	[user is playing the game]		
19:00 19:10	[user is playing the game]		
19:10 19:20	[user is playing the game]		
19:20 19:30	[user is playing the game]		
19:30 19:40	[user is playing the game]		
19:40 19:50	[user is playing the game]		
19:50 20:00	[user is playing the game]		
20:00 20:10	[user is playing the game]		
20:10 20:20	[Game is tallying scores]		
20:20	[user is waiting for game to respond]		

20:30			
20:30 20:40	[User is waiting for game to respond]		
20:40 20:50	[user is talking to the researcher]	U: I am getting really hot…	
20:50 21:00	[user is talking to the researcher]	R: Huh?? 20:51 – U: I am getting really hot…. 20:56 – R: is it really hot weather or something else?	
21:00 21:10	[Game has started]	U: Or… {???} R: I think that you are stuck with that…	
21:10 21:20	[user is talking to the researcher]	U: Yeah….	
21:20 21:30	[user is talking to the researcher]		
21:30 21:40	[user is talking to the researcher]		
21:40 21:50	[user is talking to the researcher]	U: No…	
21:50 22:00	[user is talking to the researcher]		
22:00 22:10	[user is talking to the researcher]	U: {???}	
22:10 22:20	[user is talking to the researcher]		
22:20 22:30	[user is talking to the researcher]	U: Ahh….it doesn't work……Hey I jumped.	
22:30 22:40	[user is talking to the researcher]		
22:40 22:50	[user is talking to the researcher]	U: I jumped again….	
22:50 23:00	[user is talking to the researcher]		
23:00 23:10	[Game is over and tallying scores] [User is done with the game]	– U: Alright…I give up… 23:05 – R: Are you done with the gaming? 23:06 – U: Yes 23:07 – R: So I will just stop the interaction…	

8.10 Appendix 10 User D Interview Transcript

00.03 R: "Hi, argh, thank you for giving me your time for the ah, interview, and ah, yea I know its a bit late bit, ah thanks for that. And thank you for participating in the ah, gaming interaction and ah, ah, ah you you read the participation information sheet, so you know what the research is about and so, anyway lets have a small intro about this. Don't worry about the camera, just ignore it."

00.32 R: "Um, how long have you been gaming?"

00.34 U: "In what sense?"

00.35 R: "Like ah, PC games, Playstation, Xbox, Nitendo Wii."

00.40 U: "I haven't necessarily been gaming very long, um, I used to like play when i was in high school play PC all the time."

00.49 R: "Sweet"

00.50 U: "Um, and then like as I went through my little entertainment shop stages, I'd always like game at midnight on like shop displays and stuff and then I kinda gave up. Thats yea."

01.05 R: "So, um, were I guess you know there are different times of gamers; would ah, would you say you're a casual gamer?"

01.14 U: "Um, like part-time."

01.19 R: "Part-time, alright that's good.um, recently ah I've seen that you sometimes game with some of your friends, MW3 and all, so ah would you say you're a social gamer?"

01.31 U: "Probably."

01.32 R: "Alright, sweet. Um, do you have any idea when you started playing motion control games, like Kinect, Playstation Move, Nitendo Wii."

01.41 U: "Um, I used to like play Wii, um, like a few years ago."

01.50 R: "Were you addicted to it? Or just because everyone was playing it?"

01.54 U: "I just found it fun really. And then like whenever I'm up at like the geriatric wards we play it up there too. They have them for rehab."

02.00 R: "SO I take it that you play it with a lot of people?"

02.03 U: "Not necessarily a lot.. "

02.04 R: "Two to three others?"

02.05 U: "But I do prefer someone else yea."

02.06 R: "Alright ah, have you ever tried playing them alone?"

02.10 U: "Not really."

02.11 R: "Not really why?"

02.13 U: "I just feel like I'd look like an idiot, basically."

02.18 R: "Fair enough um, anyway, ah, lets ah, moving on um, like you know what my research is about, did you ah was this ah, what happened?"

02.31 U: "I just got distracted by your thumbs."

02.32 R: "Ah, sorry, was this ah your first time playing Kinect?"

02.39 U: "Yea, I think so. Yip."

02.40 R: "You haven't tried it before?"

02.42 U: "Nah."

02.43 R: "Alright and any pre notion that like how its going to be or anything like that?"

02.49 U: "Um I just wasn't too sure like with the Wii and with the Move you kind a have controls so that it can be picked up, so I wasn't too sure how it would be with nothing. Um and I just wondered what it would be like alone."

03.08 R: "Alright, yea I know it could be really bad, especially with a camera looking at you. And ah, yea, so that was your pre notion about ah Kinect, so since you haven't played it

before and you didn't know how it was gonna be without controls. Alright so anyway, since you have not been much into gaming, so I won't push so many questions over that What I'm gonna do is, I'm gonna start playing the video right now. Now the thing about this video is, why were doing it is while were viewing it you can recall when you played probably you'll have something to say about it. AH you have control over the video, you can pause, play, rewind, you can rewind if you want to, and you know if you didn't hear properly what you said. You can forward if you feel that it was like you know you didn't do much over here, and you recollected some more. At the same time I have control so i can like pause and say like what happened over here. Um so do you want to put on some head phones and well start listening? Perfect, so let me just..."

04.31 U: "I was wondering that."

04.32 R: "I know."

04.38 U: "Ok, I remember what happens... until."

04.42 R: "There's a lot of idle time you're standing huh?"

04.46 U: "While you introduce your research and while the game loads oh my god it took ages!! Look at me I'm still.. ok."

04.58 R: "Ah, actually thats a very good point you just said, like there was so much time you were standing there."

05.00 U: "I'm standing there and the videos at four minutes."

05.04 R: "Yea, so, did you feel bored at this time when it was loading?"

05.06 U: "I was like what the fuck am I doing?"

05.12 R: "Does it usually take this much time when you played before any other games?"

05.15 U: "Um, when I played Wii like the first time it took a little bit, but other than that not really."

05.25 R: "But this was a bit too much?"

05.27 U: "I think so. I was like ok it's time to start now."

05.31 R: "Do you think you would lose that interest even before the game starts? "

05.37 U: "I wouldn't necessary lose interest, but like probably motivation to play"

05.47 R: "What did you feel about the instructions given before the game, like by the game itself."

05.55 U: "I just thought they were slightly weird."

05.58 R: "Why?"

06.03 U: "I dunno know, It's like they um, with it being motion control, I kinda thought they'd be slightly more motion than just words on screen.."

06.12 R: "Alright."

06.12 U: Do you know what I mean?"

06.16 R: "Sure."

06.20 R: "What was that? What did you say?"

06.22 U: "Oh shit. I think."

06.48 R: "I dunno, I feel like you're like, why am I supposed to move like this?"

06.54 U : "Yea, I'm like, I'm like I'm sure I look like a dork!!"

06.58 R: "Now if this camera wasn't present over there, would you still feel the same way?"

07.05 U: "Possibly, but I wasn't to be honest, I don't think I was taking that much notice of the camera."

07.12 R: "So this was that supposed feeling of what am I doing here, what the hell?"

07.15 U: "Yea."

07.23 R: "I think you're choosing some option. How did you feel the navigation, was it really hard or was it easy?"

07.27 U: "I just I actually felt like you can probably see, I didn't do it too much there, too bad, but you can probably see like I'm flicking through, yea see look and it's so hard to just

get it on the one, do you know what I mean? Like you'll swing it across and it will swing far too far. "

07.47 R: "Alright, So it was like an uncontrollable mouse?"

07.49 U: "Mmm, yea, your mouse didn't even move but yea."

07.58 R: "Sorry, ah you look very bored and haha"

08.03 U: "I think that's more unsurity."

08.08 R: "Oh right Deciding deciding.."

08.13 U: "No waiting"

08.14 R: "Oh really, I'm sorry"

08.16 U: "And there's the pause motion"

08.16 R: "Yea"

08.24: "But what I feel is that even though you're having all these feelings, your eyes are set on the tv."

08.33 U: "I know, I know."

08.33 R: "too much focus over there. I think with what I said I talked too soon."

08.38 U: "huh?"

08.40 R: "I think I talked too soon, you started looking around."

08.49 U: "Look it's like seven minutes and I have hardly gamed."

08.51 R: "Is that because of the loading and all that?"

08.55 U: "Hmm I don't remember"

09.01 U: "Alright I think this is where my gaming actually starts."

09.06 R: "I believe this is the game where you have to.."

09.08 U: "Block the holes?"

09.10 R: "Yea plug the holes. How was the response from the game, like was it like when you did your..."

09.19 U: "It's a photo!! Um, it was alright, it was just a bit hard like you'll see in some of them, like yea, the 3D motion I didn't really get that."

09.35 R: "What did you think about the photo feature?"

09.38 U: "Um, I thought that was quite funny mid game to be honest. Like later on like you get more of an in action kind a photo and thats cool but this kinda game your not very active so yea."

09.51 R: "But did it distract you from the actual game itself?"

09.55 U: "Um, yea, like you can see there, I'm struggling to do the whole 3D thing. But um, distraction from the game, maybe a little bit. Like you can see I stopped to pose, stopped playing then posed, just before but idk"

10.17 R: "Would you say that's a little bit of interruption in the engagement?"

10.20 U: "Probably."

10.21 R: "yea. But I guess that's just a split second right. Take the photo then you get back."

10.25U: "Yea."

10.39 R: "Did you feel there was not much space when you were moving around?"

10.43 U: "I kinda was scared that I was gonna hit like the blinds and the curtains."

10.50 R: "Were you aware of that all the time?"

10.51 U: "Um, a little bit, like when i stepped back I would like not too far. Um, like not so much in this game either but in the later more physical one I was like if I come back on this, im going flat on my face."

11.07 R: "Alright"

11.11 U: "Sigh of disappointment and boredom."

11.13 R: "Really? That's what exactly you felt?"

11.16U: "Probably like my expression, like.."

11.21 R: "SO I guess that is because of the game I believe?"

11.26 U: "IDK, I just kinda thought like motion control would be a little bit more exciting than that."

11.34 R: "Fair enough"

11.40 R: "Me personally, I don't like loading so much. Maybe Its because Im used to fast loading"

11.46 U: "Yea like I don't think, I don't remember the Wii to take this much with loading."

11.50 R: "Alright"

12.03 R: "I believe this was the rally ball game. Where the balls come at you and you hit them?"

12.10 U: "No its not."

12.18 U: "Maybe it is"

12.19R: "Yea it was, because it can't be the boat game, because you'll be moving and jumping, it can't be the bridge because you'll be doing the jumping and you just finished the fish game so and it's not space pop."

12.55 R: "Oh wait i think it must be the fish game still"

12.58 U: "Yea because I remember it like that whatever that hit the ball game is called."

13.07R: "Yea, I think it's the fish game still."

13.08 U: "Yea."

13.15 U: "I changed it before member...Kinda shows how idk, disappointed I was."

13.22 R: "But here you look really, your face is sorry to say but emotionless."

13.26U: "Concentrating? Yea."

13.28R: "Concentrating but emotionless at the same time?"

13.30R: "would you say you were engaged?"

13.35 U: "Um,"

13.38R: "Or were you playing just for the sake of it?"

13.39U: "Probably that to be honest. Like you'll tell, youll tel
l later on when im engaged."

13.58R: "Omg that looks like ah.."

13.59U: "Theres a big sigh?"

14.00 R: "Yea. It looked like OMG thank god it's over."

14.04U: "Yea exactly I don't remember if it was the actual, maybe i started with the wrong game? Like "

14.11R: "I guess so, but I guess, if you're saying so probably, I guess that impression, first impression counts?"

14.16 U: "exactly"

14.26U: I think I went to the wrong menu then.

14.27R: ah ok.

14.50U: I think there's a big decision coming right up.

15.15R: The bridge game.

15.18U: The bridge game yea.

15.38U: I wasn't moving far enough across.

15.44R: You seem to be playing it with ease.

15.50 U I still felt slightly bored if i remember?

15.52 R: Really?

15.55 U: but you'll see like as it progresses it gets fun,.

15.59 R: yes. Finally.

16.08 U: see

16.09R: That comment you made, was it at me? Or just commenting to yourself and the game.

16.12 U: I think what it was, was coz i jumped and then it didn't like…my jumping in this game stinked….

R: Yeah…the lag...there was a lag….

U: Yeah…there was a lag….

U: Like there is a whole series of me missing things even though I am moving…

R: Alright….

R: Can that break your engagement from the game when you feel like "oh what the hell…"

U: Umm…a little bit but I still found it found it fun obviously.

U: What did I say?

R: I am trying to remember that actually…

R: Ah…you jumped on your toe….

U: Oh…

R: And you were like…shaking your head….

R: And I cannot believe I actually said try jumping more….

U: I know….

R: I was like when I heard this video I was like Oh my god…did I actually say that?

R: You played it again…

U: I played it several times….

U: But can you see it like hitting there…

U: Yeah….

R: You seemed to be playing it with more vigour like…

U: I think coz the level increased….

R: Alright…

U: I am jumping as you suggested…

R: I think you hit it and that's why you screamed out…

U: Yeah…

R: You seem to be smiling….

U: Yeah…I think I enjoyed this game a lot more coz it was a lot more physical…and kinder of what motion control would be….

U; I noticed like even as I spin around I am still watching this game….do you notice that?

R: Yeah…but that shows I guess focus and engagement at least to me….

U: Umm…Yeah…definitely….

R: Do you think? When you were playing this game, were you looking at the points that you were earning….?

U: Umm…not until it kinda tallied up….

R: So…what would you say? Was there achievement when you were trying to play; was it just to get over…just to beat the level or just excitement and fun?

U: Umm..i bet if I like…when I miss things…as you can hear them go "baah—ahhh" [Indicating buzzer sound] umm…you can hear me react….do you know what I mean?

R: Alright…

U: So Possibly….and obviously that shows competition….

U: Yes that shows competition…I beat

R: That shows achievement…

U: Exactly….

R: When you were playing this game, umm…did you see yourself jumping or were you looking at the avatar and making sure that he jumped…he or she jumped when you jumped or did you just see yourself with the obstacles coming, you were just moving and jumping…?

U: I think it was just more the obstacles….

R: So you didn't know notice the avatar much on the screen?

U: Not really coz…I think I had it in my mind…that like right that is the obstacle, I need to duck or jump over….do you know what I mean?

R: Alright

U: And I think that's possibly where I mugged up with the lag area….

R: Okay…

R: So that means you were…it would have been better if you had actually at those times looked at the avatar so that make sure that when you jumped, he would have jumped….

U: Exactly….

U: But then I must have…I must have been looking at the avatar to be able to do the pull…the pull bars…

R: Oh ok…

U: Do you know what I mean….

R: Alright, So it depends upon on the game…

U: I think maybe depended on what obstacle was coming up….

R: Alright true…alright…fair enough…

R: Do you feel you look stupid when you do all that right now? [Laughing]

U: Yes…I am so glad the blinds were pulled…

R: Would you feel the same way if probably I joined the game?

U: Uhmm not really…..coz I think it would bring out more of a competitive streak in me as well like coz obviously I am competitive from what we have heard before…

R: So if I was playing with you, would you feel less stupid but more competitive?

U: Probably yeah….more like probably like I have a reason to do this…just to beat him…do you know what I mean?

R: I understand…

R: Or like sometimes I tell myself, if someone is playing the same with me, even though it feels stupid, there is someone with me…

U: Well…yeah…yeah…at least someone else looks ridiculous too…

R: Yeah

R: And when you say that, when you want to beat me, if I am playing with you, would that be a social engagement plus competition like…

U: Yeah...yeah…

R: A competitive social engagement….

U; Yeah…

R: Do you feel that…Kinect is more designed for social gaming rather than single player?

U: Uhmm…yeah...definitely I guess…

R: Because when I first played with Kinect, I could never see myself just getting up one day and saying, let me go play some Kinect now…

U: Yeah…that's what I was just thinking….

R: Getting really hard….is it because you were sweating or tired?

U: No…I was just feeling really hot…

R: Oh ok…

R: You seem to be hitting the blinds a lot…

U: I know…I know…

R: This is I think what…the fourth time you are playing the same game…

U: Yeah that's what I mean…compared to that plug the hole, this one was slightly better…

R: Did you…how do you put it….

R: Did you like feel tired…really tired…when you were playing the game?

U: Umm…near like near the end. I think…because it was a funny day, we didn't have any windows open or anything…

R: True…

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U: I think…yeah I mean I commented on the fact that I was really getting hot…
R: Yeah…
R: So do you think when you become tired, you slowly start loosing engagement?
U: Uhmm…
R: And becoming more aware…
U: More aware of where I am failing?
R: Generally aware like "ah…I think its time I just you know…."
U: Give up….
R: Yeah…
U: Yeah…
U: I guess after a little bit more of time but…not ready to give up just yet…am I ? [Laughing]
R: It's good to see you're enjoying actually…
U: I think by this time I am ready to give up actually…look. Even though I am doing all the motions, like when I go to duck sideways, I don't actually duck, like I am trying to…
U: Yeah…that's when it did not record your…
R: When I thought it did it…
U: I think by the end of this like because I so was enthused in the game, I didn't…I didn't really have like track of time…
R: oh alright…
U: Do you know what I mean like…coz conscious time was going on…but I thought I played for a lot longer than what I did play for…
R: Oh ok…alright…I will just stop that over here…
R: So you said that you lost track of time?
R: I mean in the beginning you knew it but towards the end you lost track of time?
U: Yes..
R: Alright…sweet…ok…and uh…so in the end my final question is….like back to the main research topic…do you…like...but I will just modify the question a bit…even though the question was, engagement in a controller-less environment for motion control gaming…
U: Hmm?
R: Is that the question or does it depends on certain factors? To be more precise, does it depend on the game or the console or possibly anything else?
U: Uhmm…yeah like I would say I would become a lot more engaged a lot more quicker if it didn't take so much loading time…
R: Alright
U: And if there were others with me…like as you say social environment…then didn't we kinda of engage that?
R: Alright…
 U: from the start with me saying I am a social gamer…
R: alright…
U: But then I think it will also depend upon the person…like the gaming style they have…with the fact that. I don't know how say this or word this….
R: Say it in anyway you can
U: it will sound weird….i think I find myself more engaged in something when i actually have to try my best…do you know what I mean…like be physically and mentally aware…
U: But with kinda like the plug the whole thing….I was like "what!!!!"
R: So that means in away you are saying it also depends upon the game that you are playing…
U: Yeah but that would be for me. Do you know what I mean…that wouldn't be for everybody…

R: True…true…fair enough…anyways thank you so much for your time Kirsta-lee…and I will stop the video right here…

8.11 Appendix 11 User E Experience Timeline

Time line	Action	Quotes	Users response
00:00 00:10	User is listening to the instructions	R: "Thank you for ah, participating in this research, you have read and signed the consent form, um, we're going to have a gaming experience as you've read it.	User is listening to instructions provided by the researcher
00:10 00:20	User is waving hands at the Kinect	R: Ah, we have two games for you, ah, Kinect Adventures and Kinect Motion Sports, ah, you can choose either one of the games and during your experience if you feel like you wanna try another game, you just have to tell me. Um, I won't be asking you anything during the interaction but please feel free to converse with me if you have any queries or if you just want to have a casual chat or anything. So which game would you like to play?"	Researcher continues to provide instructions and details to the user who is waving his hands at the Kinect.
00:20 00:30	User is listening to the instructions		User is still listening to the instructions and sometimes looks at the screen
00:30 00:40	User is pointing to Kinect adventures	U: "Ah, I would like to ah, Adventures first." R: "Um, Adventures first, perfect, um, I will just put that for you." [Researcher places game into console for participant.]	User chooses to play Kinect adventures and researcher proceeds to insert the game.
00:40 00:50	User is waiting for game to load		User waits for the game to start up.

00:50 01:00	User is waiting for game to load	R: "Please wait for while the game loads."	User stands still in front of the Kinect and researcher informs user to wait for the game to start up
01:00 01:10	User is waiting for game to load		User is still seen standing in front of the Kinect waiting for game to start.
01:10 01:20	User is trying to move cursor on the screen	U: "K, it's telling me to do something." R: "I believe there are on screen instructions. Just follow them." U: "O ok." U: Make sure the room has plenty of space, o okay.	User starts responding to the Kinect and asks the researcher what he needs to do. Researcher advises user to follow on-screen instructions.
01:20 01:30	User is waiting for game to load	U: It's good that it configures itself. Initially" R: "That is good, right."	User admires the Kinect ability to set itself up.
01:30 01:40	User is waiting for game to load	U: "So is the red light harmful for the eyes or just..."	User asks the researcher whether the red light emitting from the Kinect is harmful.
01:40 01:50	User is waiting for game to load. User moves cursor to select option	R: "Nah, I think it's just to show its power." U: "Oh, ok." R: "There you go, you have instructions."	Researher assures the user that it is an indication of the power and also shows the user the onscreen instructions.
01:50 02:00	User is looking at screen and reading instructions	U: "Six to ten feet away from the unit....Oh dam, I think I need to go back."	User reads out the instructions and follows them.
02:00 02:10	User is waiting for game to load		User waits for the game to start
02:10 02:20	User is choosing options	U: "Start..."	User is seen navigating through the options
02:20	User is choosing options		User is still choosing the options

02:30			
02:30 02:40	User is navigating through the menu		User browses through the menu
02:40 02:50	User is choosing an option	U: Start...	User selects an option
02:50 03:00	User is looking at screen and choosing an option		User chooses an option and focuses on the screen
03:00 03:10	User chooses an option		User selects an option
03:10 03:20	The game has started	U: "Oh shit there was three hah."	User starts playing the game and is surprised at what happens.
03:20 03:30	User is playing the game and moving around	U: "Oh man, now it has F***ing finished.	User completes a mini roud in the game.
03:30 03:40	User is waiting for scores to tally	U: You have to be really good. One ball and hit five, hah."	User comments on the game he played
03:40 03:50	User is conversing with researcher and playing the game	U: "So you have to hit the target, or?" R: "Yeah" U: "And, more points for that or nope?"	User asks the researcher about the game while he plays it
03:50 04:00	User is playing the game	R: "Yes." U: "Oh shit. U: "Ah crap, ha-ha." U: "Oooh, oh I missed that ball. I just get confused a little bit when you have more than one ball.	User is still seen conversing with the researcher while playing the game indicating awareness and bit of engagement.
04:00 04:10	User is conversing with researcher and playing the game	U: Oh it works with the head also.	User realizes that he can use his head in the game.
04:10 04:20	User pauses while scores tally	U: They said body, they didn't say head."	User comments on his discovery
04:20 04:30	User is playing the game	U: "dam."	User is still seen playing the game
04:30 04:40	User is moving about and playing the game	U: [Making sounds] U:" "Oh dam, it's difficult to control these bloody balls."	User comments on his actions in the game.
04:40	User is moving about and	U: "Oops."	

04:50	playing the game		
04:50 05:00	User is waiting for the scores to tally	R: "Wow, Not bad." U: "Yeah..., how do you get to the next game? Oh it's already happening, ha-ha."	User converse with the researcher while the score tallies up. User wishes to change the game and realizes it's already going to the next one.
05:00 05:10	User is waiting for the game to finish	R: "I think you chose adventure, so you'll have to go through the same thing again... U: Same thing again... R: "So if you want, you can leave the activity and choose another.....	Researcher informs the user that since he chose a certain category of games, it will repeat the same game. Researcher informs user that he can leave the activity if he wants.
05:10 05:20	User is waiting for the game to finish		
05:20 05:30	User is looking at the screen	U: "Ok, so now how do you leave the activity? Oh leave adventures"	User asks the researcher on how to leave the game. User sees the leave adventure option.
05:30 05:40	User is navigating and choosing an option		
05:40 05:50	User is choosing another game	U: "How about playing another game?"	User wants to choose another game.
05:50 06:00	User is navigating through options	U: "I'll try River rush...	User chooses the game river rush.
06:00 06:10	User chooses an option and waits for the game		User chooses a sub option within the game and waits for it to load.
06:10 06:20	User is reading on screen instructions and starts the game		User reads the onscreen instructions while waiting for the game to load. User then starts playing the game.
06:20 06:30	User is playing the game		User is moving about and playing the game.
06:30 06:40	User is playing the game	U: "Oh, took a lot of time. U: Ah, dam. Go to the right dam it,	User comments on his actions while playing the game.
06:40 06:50	User is playing the game	U: ah missed it, dam it.	User comments on his actions while playing the game.
06:50 07:00	User is playing the game	U: Oooh...	User comments on his actions while playing the game.
07:00 07:10	User is playing the game		User is seen engaged in the game.
07:10	User is playing the game	U: Oooh....Missed it.	User comments on his

07:20			actions while playing the game.
07:20 07:30	User is playing the game	U: Oh come on, U: Aahh dam.	User comments on his actions while playing the game.
07:30 07:40	User is playing the game		User continues playing the game.
07:40 07:50	User is playing the game	U: Argh! U: Oh dam U: O missed another one	User comments on his actions while playing the game.
07:50 08:00	User is playing the game	U: Whoa!!!! U: Oooh shit-shit-shit...	User comments on his actions while playing the game.
08:00 08:10	User is playing the game and finishes the game	U: I didn't know you were supposed to be clever and jump... U: Alright i am done I guess." R: "Nice."	User finishes playing the game and comments on his performance. Researcher does the same.
08:10 08:20	User is waiting for scores and decides another game	U: "Alright, now to leave this game." R: "You're done with this game huh?" U: Yes U: "I think I'll play the other one, let's play some football."	User wishes to try another game. Researchers ask the user whether he is done with the current game to which user responds yes. User wishes to play football.
08:20 08:30	User is waiting for the game to finish tallying scores	R: "Do you wanna choose Motion Sports? Just leave the Adventures?"	Researcher asks the user whether he wants to play Kinect sports.
08:30 08:40	User is navigating through options		User is preparing to quit the game.
08:40 08:50	User is choosing another option	R: "Alright let me just ah, R: I can just keep that there. [Places notes to side]. Just give me a second."	User quits the game and researcher proceeds to insert Kinect sports.
08:50 09:00	Researcher helps user change the game	U: "Thank you." R: "Um, R: you can pause the game by using your hand. [Imitating pause action] U: Oh ok...	User thanks the researcher for his assistance and researcher informs user to use the pause gesture to quit the game. Researcher imitates and shows the action to the user.
09:00 09:10	User is using pause gesture as advised by researcher		User performs the pause gesture.
09:10 09:20	Researcher is changing the game		Researcher is changing the game.
09:20 09:30	Researcher is changing the game	U: "Does it give you an x ray vision or something? In the corner of the screen...	User notices a small screen which shows an x-ray version of the user and asks about it to the researcher.

09:30 09:40	User is looking at the xray screen on Kinect and conversing with researcher	R: "X-ray vision?" U: "Yea." R: "I guess so...it's how it probably detects.... R: Looks pretty cool huh?" U: "Yea. Ha-ha. Wondering if it's harmful....Getting X-rays [Imitating screaming sound]	Researcher at first does not realize what user has asked. Afterwards researcher says yes and user asks again whether its harmful.
09:40 09:50	User is waiting for Kinect sports to load	U: "Sports..."	User is waiting for Kinect sports to load.
09:50 10:00	User is waiting for Kinect sports to load	U: Not bad I guess. Gives you health warnings....	User sees there are warnings displayed before the game starts which user is happy about.
10:00 10:10	User is waiting for Kinect sports to load	U: Problem is, you get into a game, and you won't feel like stopping... U: Unless you really become tired...	User talks about engagement in games.
10:10 10:20	User is waiting for Kinect sports to load		User is still waiting for Kinect sports to start up.
10:20 10:30	User is waving hands at the screen	U: "Which should I choose?" R: "You can choose ah, ah, yes."	User is seen waving his hands and asks the researcher what option to choose.
10:30 10:40	User is choosing options as advised by researcher	U: "Oh Ok."	User is going through the options.
10:40 10:50	User is asking what user profile to choose	U: "Ah, should I choose the hard disk or Nemesis?" R: "You can choose Nemesis."	User is prompted to choose profile and researcher advises user to choose nemesis.
10:50 11:00	User is waiting for the game to load		User waits for the main menu to come up.
11:00 11:10	User is waiting for the game to load	U: "Man, takes a long time to load...	User comments on the loading time.
11:10 11:20	User is navigating through options	U: "Oh, shit... wrong one... Football or soccer? what's the difference between soccer and football?" R: "American Football" U: "Oh, American Football".	User chooses a game and thinks he made a mistake. User asks the researcher for an opinion and a difference between two games.
11:20 11:30	User is trying to choose an option	R: "I'm sorry?" U: "It turns sideways…"	User is trying to choose an option and realizes the menu is turning sideways.
11:30 11:40	User is navigating through options	R: "yeah…" U: "You know the game turns sideways because…{ user mumbles something to himself}	User is having a bit of trouble while navigating through the menu.

11:40 11:50	User chooses an option and waits for game to load		User chooses an option and waits for the game to start.
11:50 12:00	User is waiting for game to load	U: "I didn't select hand gliding…"	User sees instructions for hand gliding while the game loads and comments on it.
12:00 12:10	User is looking at the screen and reading instructions	R: "I think its just giving tips you can use…" U: "Step Back…" U: "Slide…"	Researcher informs the user that its game feature and it provides tips to the user.
12:10 12:20	User is performing slide function		User is seen performing a slide function and the game starts.
12:20 12:30	User is conversing with researcher about game	U: "So these are number of players playing or number of players on the field…" R: "Oh…No…its like if you want someone to play with you or more players, you can choose multiplayer…. U: "Oh…"	User asks the researcher when user is prompted to choose number of players. User gets confused and asks the researcher what it is indicating. The researcher states that its asking how many players want to play the game.
12:30 12:40	Game started		User starts playing the game.
12:40 12:50	User is playing the game	U: "Place the ball…" U: {user mumbling to himself again…} U: Slow and steady…	User comments on his actions while playing the game.
12:50 13:00	User is trying to play the game and kicks twice	U: {user mumbling to himself again…} U: "what…."	User tries to kick the ball and its not detected.
13:00 13:10	User is playing the game	U: "I think I need to go back…" R: "probably…try going back…" U: [user kicks and scores a goal…] R: "Ah...nice…"	User states he needs to go back and try again to which researcher agrees. User scores a goal.
13:10 13:20	User pushes the couch back for space as advised by user	R: "If you want, you can push the sofa behind."	Researcher advises user on pushing the sofa back for space.
13:20 13:30	User is playing the game		User is engaged in the game.
13:30 13:40	User waits for the game to reset		User waits for his turn.
13:40 13:50	User is playing the game	R: {speaks something to the user. Cannot hear due to increase in volume from the game}	User is playing the game and researcher talks to the user but cannot be heard due to game noise.

13:50 14:00	User is conversing with researcher and playing the game		User is seen conversing with the researcher while playing the game.
14:00 14:10	User is playing the game and then waiting	U: "oh…" U: "ouch…" R: {unable to hear what researcher says although it is about the delay in the game}	User is still playing the game and converse with the researcher.
14:10 14:20	User is conversing with the researcher and proceeds to play	U: "Yeah because you know when you know…when after you kick…whether you have to kick again….because you are already after that place…" U: "see…then after that the ball goes here and there and you know whether going…this or that side…is"	User comments on the lag and his performance and gives a review about the game.
14:20 14:30	User plays and then converses with researcher again		User is till playing the game and converses with the researcher.
14:30 14:40	User is playing the game	R: {Unable to hear what researcher says…} U: {Unable to hear what user says…}	Unable to retrieve the conversation between researcher and user due to game noise.
14:40 14:50	User is waiting for the game to reset	R: "Nice…"	User is seen waiting for his turn.
14:50 15:00	User is waiting for the game to reset	U: {Unable to hear what user says…}	
15:00 15:10	User is playing the game		User starts playing the game again.
15:10 15:20	User is waiting and then proceeds to play		
15:20 15:30	User plays and then waits for the game to reset	U: "Ohhh…"	
15:30 15:40	User is waiting and then performs a slide a option		User finishes the game and performs a slide function to go back to main menu.
15:40 15:50	User is waiting for the game to go back to menu		User waits for the main menu.
15:50 16:00	User is looking at the screen	U: {Unable to hear what researcher says…} R: {Unable to hear what researcher says…} U: "I didn't know what I was suppose to do….showed me these two things…. [Indicating a table with two rows containing scores….]	User is looking at the game stats and informs the researcher he does not know what to do.
16:00	User is looking at the screen	U: "New York's fame shot in	User then comments on

16:10	and conversing with researcher	New York or whatever…" R: "huh???" U: "Fame shot in New York…"	a scenery and says it looks like New York city.
16:10 16:20	User poses for a photo	U: "That's a nice shot…. [After the in game camera takes a picture of the user posing] R: "keep it…" [Laughing] U: "Okay…that's not detecting…"	User poses for a photo.
16:20 16:30	User is navigating and using both hands	R: "I think you need to….Ah… there you go…try the other hand…. U: is it the left hand or…oh dear…stay… R: "Choose hand closest to…"	User is again navigating through the menu and does not know which hand to use for browsing the menu.
16:30 16:40	User chooses an option and converses with researcher	U: "It gets confusing when you use both hands…"	User states its confusing when Kinect detects both hands.
16:40 16:50	User chooses an option and waits	U: {user is mumbling to himself}	
16:50 17:00	User is reading options on the screen	U: "Horse riding, Hand gliding, boxing, soccer….skiing…"	User reads out the games on the menu.
17:00 17:10	User chooses an option	U: {user mumbles to himself again} [Horse riding game chosen] U: "New course…yes…"	User chooses horse riding and chooses the level new course.
17:10 17:20	User is waiting for the game to load	U: {user mumbles again} U: "This will give me some experience each time I get on a horse…"	User comments on the game chosen and states it might be helpful in real life.
17:20 17:30	User is waiting for the game to load	U: "At least the game is cool like that in case you are not able to get on a horse…so people will know what to do…."	User comments on the game and its realism.
17:30 17:40	User is waiting for the game		User waits for the game to starts.
17:40 17:50	User performs a slide function and then looks at screen	U: {user mumbles again…] U: {unable to understand what researcher said…}	User performs a slide function and tells the researcher something that cannot be transcribed.
17:50 18:00	The game starts and user is playing		
18:00	User is playing the game	U: "Wow!!!"	User comments on the response of the game.

18:10			
18:10	User is playing the game	U: "Oh come on!!!!" U: "Oh shit…" U: "Oh it doesn't detect….	User is having trouble playing the game.
18:20			
18:20	User is trying to play the game	U: "Wow…that was a nice comment…"	User comments on the in game commentary.
18:30			
18:30	User is following instructions from researcher.	U: "Okay… {Unable to understand what user said….} R: "Try titling left…try running and titling left…." U: "running…"	Researcher provides some instructions to the user.
18:40			
18:40	User is trying to play the game	R: "nah…I mean…do this and like….and try….I think that how it is… U: {Unable to hear what user says…} R: "There you go…" U: "now I have to go back all the way…"	User tries to play the game with the instruction provided. User seems a bit successful.
18:50			
18:50	User is trying to play the game	R: "I think you jumped that one…." U: "Yeah but you need to go back…" R: "nah...i doubt it…" U: "I don't have to ….. {Unable to hear what user said...}	User is still trying to finish the game.
19:00			
19:00	User is trying to play the game	U: "Wow…" U: "That's very…. {Unable to hear what user said…}	
19:10			
19:10	User is trying to play the game	U: "Ah...doesn't detect me…. U: "In sight…."	User complains about Kinect not detecting his movements.
19:20			
19:20	User is looking at the screen and moves less		User is seen reducing his pace.
19:30			
19:30	User is looking at the screen and reduces pace	U: "this is a tough game…." U: "Okay…" U: "one last jump…and I will be done for it…"	User states the game is tough and says he will quit after he tries one more jump.
19:40			
19:40	User is trying to play the game	R: "oh…okay…."	
19:50			
19:50	User is trying to get control of the character in the game	U: "Ah…come one…." U: "Aargh…"	User is trying to control the avatar In the game.
20:00			
20:00	User is trying to play the game	U: "oops…" U: "It's difficult to control…its only controlling the left hand not the right at all….	User states its difficult to control the game.
20:10			

| 20:10 | User is done playing Kinect | U: Okay….I am done…
R: "alright that you for
participating…." | User quits the game after
he got tired of playing it. |
| 20:20 | | | |

8.12 Appendix 12 User E Interview Transcript

00.01 R: "Ah, thank you for that gaming experience. Um, now what were going to do is I'm gonna play the video of your gaming experience back to you and ah we can talk about your experience and I'll ask you some questions or you can give your feedback about what's happening."
00.17 U: "Yup."
00.18 R: "And um, what's gonna happen, is this ah, this video, ah this video you and I have control over it, if any time if you want to pause it or rewind it or fast forward it you can and explain why um, about your actions and expressions. At the same time ill also do it, ill pause it and rewind it and ask you some questions. So before we start the video I thought ill just get some general info, ah about like um, ah since how long have you been gaming?"
00.46 U: "I would say quite long time back, but more on pc games rather than ah, this kind of motion control ah distance gaming."
00.57 R: "Ah what about like um have you played console games, like Nintendo, Xbox, Playstation?"
01.03 U: "Ah yea, I played Atari back in the day, when I was a kid, yea in the good old days, but not um; this advance, I played once I think PS2, I think, I played it whilst at my cousins place, or something like that, but at that time it had Gforce shock thingy, so I kinda dropped it every time, the console. So then I was like ok I might break it."
01.25 R: "How did you feel when you played from Atari to G force that actually vibrates ah you know with that feeling of...?"
01.31 U: "Yah, yea, yah you kind of found like something brand new, but also you're not used to it, so you kind of like, opps did you break it? Or did I? What am I feeling, that kind of, it's more like an electricity getting through as in a livewire."
01.47 R: "And um, so what was your first um experience of motion control, which console did you play?"
01.53 U: "Ah, I would say this as my first one."
01.55 R: "Kinect is your first one?"
01.56 U: "Yea, this is my first one yea."
0.158 R: "And did you pre ah have any preset mind like how it's going to be? Or were you, what was your feeling, like ah?"
02.06 U: "Basically when I thought of the motion control, I thought maybe, there might be something where you had to hold at least, for that say, I didn't know I had full free, like I can do whatever I want and it would be able to register, but it kind of, when I saw your console, I was like ok, there was, I dunno, I thought it may not be that accurate and things like that."
02.28 R: "Alright, um, did you know about ah Kinect much before its release? Like"
02.32 U: "Ah no I didn't bother to check out the games stats or things like that."
02.37 R: "Ok, so now I'm gonna start playing the video, and then we can talk about your gaming experience. So yea."

02.42 U: "Yup, yup, yup."
03.30U: "I think you can forward past this one, until I play the game I think."
03.34 R: "Alright, forward it until you start playing the game?"
03.36 U: "Yup, yea, that's no problem."
03.58 R: "Were you scared, ah, really about the red light?"
04.01 U: "Yea I was scared of the red light because lasers normally, you don't play with them, or lights, generally you don't touch them. I thought maybe lasers, so could be harmful for your eyes."
04.20 R: "Were you ah, were you annoyed at the waiting for the game to load?"
04.25 U: "Oh yea lots, it took quite a long time to load. And then you had a loading icon, hah. So you know what to do."
04.45 R: "You don't seem to be really expressing, the next level, is that look kinda serious or focus or ah.."
04.48 U: "Yea."
04.53 U: "Basically trying figure out more on how to make the controller, like where am I pointing at the controller, like on screen where I am selecting, trying to figure what the options are, and because when you come to a new game you're not used to, like with a keyboard you know automatically know where i am going next or this is the options, you have a limited way, but here you're in like whole 3d space, everywhere to try and find your options. Am I pointing to it correctly, am i not pointing to it correctly."
05.30 R: "This is the Rally Ball."
05.31 U: "Yea."
05.54 U: "The time it takes for the next game to load after you loose is quite a long time."
06.00 R: "Within the game?"
06.03 U: "Within the game itself, yea."
06.13 U: "The longest games you have like restart options, something like that. Restart the game, instead of just going directly onto the next one. As if there is a counter maybe.
06.24 R: "Would you say you were really, ah, into the game when you were playing the rally ball?"
06.28 U: "Ah, to a certain extent, then yea, maybe the game will be a little boring after some time. As in the fact that it was going to be hard to control. You know, it was like wow ok, I'm doing 3D stuff, am I correctly following correctly so like I don't miss the balls?"
06.46 R: "That's, that's good. But, ah, you said it gets boring?"
06.48 U: "Yup, yea, it does get boring a little bit."
06.54 R: "So the game has to be exciting?"
06.55 U: "Yea it basically has to be. Like um, it's like playing, you can't keep playing Mario all the time, like for the rest of your life; although it's a fun game, you can't keep playing it. Because if you look at that and how much I am waiting, itself will tell you like, ah ok, when is this going to load?"
07.24 R: "You got tired of the game huh?"
07.26 U: "Yea, I got tired of the waiting."
07.40 U: "Notice at how slow, I've taken next to no care at what the options are."
07.44 R: "So does that kinda break the focus?"
07.47 U: "Yea, it really breaks the focus of gaming, because ultimately you have so many options and then plus, you're trying to figure out the controlling part like are you correctly pointing it correctly or not? Because by the time you do that you kind of

loose you're touch that you are actually gaming but you're actually doing something else."

08.08 U: "It's good to have options, but, but the options should be easily accessible rather than like over in the corner there's a leave adventure, then you have to move to view the other options, so select it was a little difficult with the controller."

08.33 R: "What did you think about like, when you were, sometimes you read the instructions then skip the rest? Is it because it's ah..."

08.39 U: "Yea you need only do that for the first games, you already learn it all already while you're playing randomly or rather than read through a whole paragraph of information that really doesn't make, lose your touch of the game, play rather than just do it. Coz on a PC game or a computer game you normally select it to try and figure out the control whiling your playing the game play. Only if you really get stuck you go and check ok there is a night star option where here, if you go into the instructions there is a list or terms and conditions; No one's going to read the terms and conditions, things like that."

09.13 R: "So it's fun to learn on your own?"

09.14 U: "Yea, only on your own, that the beauty of it, of any game because you learn stuff more rather than, ok, if everything's told to you, you lose the fun of the game, it's like a walk through itself."

09.36 R: "And then..."

09.36 U: "This game I enjoyed much better."

09.38 R: "You enjoyed that?"

09.39 U: "Yea, I enjoyed that."

09.45 R: "What was your feeling about the game?"

09.47 U: "I guess the scenery and the more activities than the other one, coz your supposed to get something and just not just move one place you stand and move one place, your standing moving all around."

09 59 R: "Would you ah, would it be correct to say you were engaged in this game, more than the other?"

10.02 U: "Yea yea compared to the other one."

10.07 U: "You had a lot more things to do rather than…."

10.17 R: "You looked very happy when you jumped. "

10.18 U: "Yea."

10.23 R: "You seem happier also."

10.25 U: "Yea, I do yea. This game was much more interesting coz you do a lot more than just, yea we do something completely different."

11.00 U: "Yea with that I didn't know what I was doing. Trying to figure it."

11.14 U: "Yea I wouldn't have known that."

11.15 R: "What?"

11.16 U: "The action for stopping or leaving the game as such, the flipper thingy."

11.22 R: "I think we changed the game to Motion Sports."

11.23 U: "Yea."

11.26 R: "When you were playing the Adventures, ah, did at anytime you felt ah you were looking at the character or the game? By character I mean the avatar."

11.36 U: "Um, not really I was looking more at the game. But the avatar was there but you kind of get, the avatar kind of blocks the action view of the game."

11.46 R: "Yea?"

11.47 U: "Like normally when you go for a shooting game like first person shooting game, you can get the full view, but when you have an avatar there you really can't see ok, I need to do that. You kind of reduce your points, or in that case or points or

whatever you're supposed to get at the end of the game, you kind of loose it, the goals for any game. The avatar literally blocks the screen, almost like 30 per cent so like the remaining you have only 70 per cent to see."

12.12 R: "Shall I forward until the game starts?"

12.13 U: "Yea, yea forward."

12.26 U: "I think I had an issue over here, when I couldn't select it."

12.30 R: "The boxes?"

12.32 U: "Yea the boxes. The boxes are facing this way on a 3D plan, and I thought I had to select it when I was selecting It was also turning."

12.37 R: "So you were not very impressed with the navigation?"

12.40 U: "No the navigation was incomplete, because you already in 3D space, and on top of that you have 3D like an options also."

12.48 R: "Yea"

12.48 U: "Like difficult as it is, difficult to control yet you're selecting it with control and having one more set of will just make the dimensions too much…."

12.57 R: "Coming back to that question of avatar, so at no time do you feel that you and that avatar were one?"

13.03 U: "Ah, I didn't feel that at all. I know you're supposed to feel it, but I guess the way it was designed or as in the way the avatar was put on the screen, didn't really seem that way."

13.24 U: "Coz you keep looking at your avatar and realise you're looking at that, end up concentrating on two things. It's like basically like you're driving a car, like concentrate on the steering wheel as well as your concentrating on the road so you kind of lose touch of one or the other."

13.50 U: "Surprising i used my left hand even though the option was on my right. Right or left?"

14.07 U: "Argh this is the part."

14.08 R: "What happened with this game?"

14.10 U: "Yea, this just, the way it was, by the time it detects that I kicked the ball, rather than I was like the actual action on the game taken by my action was way too long to realise. So I had to kick it again and again endlessly."

14.27 R: "See that's bad honestly."

14.28 U: "Yea"

14.29 R: "Ah did that make you lose the engagement?"

14.33 U: "Yea I kind of really totally lost it, because I didn't know what I was doing. Did I kick it? I was always concentrating, did I kick it or did I not kick it? The control didn't register the fact that I was... I didn't kick it. And then later it those too, it looked like it was loading or something like that. Bastard."

14.54 R: "You comment a lot, like you speak a lot, is it, was it some, ah maybe some of those comments were directed to me, over all do you do that always when your gaming, even when you're alone?"

15.05 U: "Yea, oh yea always, um like basically you try and interact with the game, try to figure out, think. You think out loud like basically you think aloud. No some people curse when they play a shooting game and oo take a shot, you don't sit and quietly play it's like how you interact with the game right?"

15.35 R: "Would you say that, that is part of being immersed in a game?"

15.40 U: "Yea it's very much a part of immersion, because if you are in the game you tend to act with the game, your reactions also would be towards the game itself, and your actions tend to act along with it, you can do more actions with it so basically that

was what I was expecting in a controller kind of environment. Say whatever action I would do up close inside a game I didn't have to wait, to that extent."

16.07 R: "What do you think about this game?"

16.10 U: "Um, well, Just that it's too slow for football compared I think. Just stood there half the time, so like, more concentrating on actually making the action correct rather than concentrating on the game and that for kind of lost the game. Putting my action, making sure it would register it."

16.41 U: "I think once or twice I think I managed to get it correctly so that many more I dunno know."

16.52 R: "What are you doing, you laugh at the commentary?"

16.54 U: "Yep, I was laughing at the commentary because it was ..."

16.58 R: "Did you think that was nice?"

16.59 U: "Yea, yea it was yea suited the game that I was doing so, I liked it."

17.10 U: "Yea here's..."

17.11 R: "Do you think commentary helps be a part of the game?"

17.12 U: "Oh yes very much part of the game, especially when you're playing a sports game you need to have the commentary. It's the same as if you go to a stadium and watch the game, you hear the commentary and you know what's happening."

17.23 R: "Does it make you feel like you're within the game?"

17.26 U: "Yea within the game that's basically like a stadium also. You tend to pick it up."

17.38 U: "Nowhere does it say to use both hands I think. Yea, I'm confused over there."

17.56 R: "I guess all these little things annoy you?"

17.58 U: "Oh yea a lot."

17.59 R: "And I'm sorry if I said 'little'; is it a big thing?"

18.01 U: "Yea kind of, it is a big thing, because if you're not really in control of the game, of what you're doing, and things are not happening, you tend to lose your focus on the game, then you think oh why, what's the point in this technology or what's the advantages of me using a console that at least then I get my actions right, and I'm doing the game correctly rather than waiting for this to load and then register my actions and yea it's a good workout in terms of its this thing, but still, it has a lot to go."

18.41 U: "Its motion has to be detected more I think. More sensitivity I think."

18.48 U: "It's like cursers on a key board. You can increase your curser's sensitivity for phenomenal amounts, but this it didn't have any options like that so. Just to be attached as an option, probably that can be a future research thing or future enhancement for higher quality, for like having a sensitivity or how much sensor option for before you start the game. That would be a good option to have."

19.12 R: "Horse Riding."

19.14 U: "Yea."

19.15 U: "Ok this is a boring game. Just couldn't, didn't know how to. I skipped the instructions, but normally most people would do that. But here the avatar and this thing was totally way out. When I was trying to go right, it would go left. I think I went out of the control, arena. I think that's why they realised I didn't know what I was doing."

19.40 R: "The wow sound very much like an achievement."

19.41 U: "Yea. Hahaha."

19.47 R: "And the comments also."

19.47 R: "Yea."

20.00 U: "Yea, if you hadn't told me that I would not have known what to do."

20.05 R: "I'm not supposed to interact, but I just thought I would help you out over there."

20.11 U: "Otherwise I would have sat and tried to figure it out and probably lose my concern and say I quit."

20.17 R: "I get this is where instructions can be helpful."

20.18 U: "Probably. But you kind of have most instructions, like that tell you inside the game itself. Like what to do. That was totally absent. Most games have that, they tell you the keys while you're playing also they tell you the keys that free fire alert. All those games tell you what key to press, 'press X' on the console. But here they don't tell you anything. While you're playing the game they didn't tell do this or anything. Or show me an icon somewhere in the corner of the game or something. "

20.44 R: "If they had that?"

20.44 U: "Yea if they had that people wouldn't need that ah option of actually telling in the beginning plus again. People tend to learn how games are with a small icon that tells. Its like a look at this thing while you learn."

21.06 R: "You seem to have got the jumps right."

21.08 U: "Yea I missed. Yea but once it turned and stuff like that."

21.35 R: "And ah, so, ok I'll turn that off. So um, I like what you said about like that ah have many options within the screen. Um, if I may ask, if that is shown, ah, within the game, would that break your concentration on the game?"

21.51 U: "AH, not really, because you're in the game and you kind of have peripheral vision basically so you can see something that's moving over here or ok that's what I need to do. Because if you tell about thing and you get a whole list of instructions and then you see the games over here whenever you use what, which option you ought to use when and where? And which action do I use for which area during the game. But whereas when you have it on the game on the console they tell you ok press X for this. It's like oh ok, I need to press this and then automatically that's a self learning this thing that you need to press x and then you can fire or something like that."

22.23 R: "Alright so, it's best to have instructions with, I'm sorry to interfere. It's best to have instructions within the game rather than showing it in advance?"

22.31 U: "In advance yea, yea. Advance is ok, may if you have an icon option thing and then people select it and then go through all the options and stuff, that would be better but during the game you need to know when to use what action during the game. You do not tell the person and expect him to remember what he read in the first part and then go to the game and oppps i need to do this action. Like what's the key for that, or what the, this thing. He'll definitely not remember, no user will ever remember that much."

22.55 R: "Alright, um, and ah, towards the end of the game you felt tired."

23.00 U: "Yea."

23.01 R: "Um, does that usually happen like for example you are gaming and the experience was around twenty minutes, um do you get really tired when you play your normal pc game?"

23.10 U: "AH not really, it's just that, I guess this one was motion control so you tend to use your whole body so you might get tired as well. But I got really more fed up because half the time the controls I didn't know what to do and there was so much lag between the things that I'm doing and the actual game showing me what I did. So that kind of lag kind of looses your concentration, looses your interest also I think."

23.37 R: "Alright, um, and also like ah, um, ah, I'm sorry, yea um, would you say that ah those are factors that can break your immersion from the game? Like what you just said right now? Like? One was argh, getting the lag, and the annoyance, and the other one was getting tired and so um, would you and this might um, I'm not sure if I'm putting this question right, would you say that technology is good, but the game has to, it's the game that has to improve? Or the technology?"

24.11 U: "I would say both needs to improve, like the technology is there, as in, yea you got to this thing, but like I said, there would be an option if you had sensitivity as an option, like even now today mouses have sensitivity where you can change the sensitivity if it's too fast, or not powerful enough. Controller less were you don't interact directly so that would be helpful to have higher sensitivity ok for some people it takes longer for them to move your arms, where its fast you'll be going really fast. You could give it to a small kid; they'll be able to do this much faster than maybe an adult or something like that. So things like that matter a lot based on differences so that part they need to maybe refine the technology in that way but as far as the game goes yea they need to use that as an input and build their games on that."

24.59 R: "Alright"

25.00 U: "Looking at the normal people are still used to the console. Take the lessons learnt from the consoles and bring it to the controller less environment then see probably whether it works or not."

25.10 R: "Alright um, would you, do you know any other factors that can break immersion ah during your experience in motion control gaming? Like for example I wanted to ask this question actually from the beginning but I think it's best to ask it at the end, um, at any point during this interaction did you felt you were actually alone and that I wasn't there?"

25.29 U: "Ah yup, to an extent. Sometimes I did feel a little alone, and I was wondering what's what, what do I do, what do I do, what do I do? Well you were there, so I was like OK, let me ask him. And suddenly there was no instructions in a sense like ok, I need to do this to jump and yea, I just kept taking the instructions as I mean I expected to have places as normal games when you play this intensity they give you some sort of indication. So yea."

25.55 R: "Um some people will say that um, like um, when you have social gaming play, you have two or three players playing together or are encouraging you to play, and then they take chance after you; they are more focused and immersed than if a single player plays."

26.11 U: "Yup yup that can be true."

26.11 R: "Like in which...."

26.12 U: "Yea that happens in a normal game also. Like when you play online and with other people it's much, it makes a whole lot of difference."

26.19 R: "Do you, alright ah."

26.20 U: "SO there is, if there's little more interaction, yea, playing alone is one way of looking at a gaming alone and I want to finish the whole game and then go to the next level or playing with others and seeing how good I am when compared to others but in a controller less environment yea you have more players like playing football for say, you need more players and it'll be much more fun. And yea you kind of do much more."

26.43 R: "Alright so do you think Kinect is ah one place where social gaming would be a better thing than...."

26.50 U: "Yea, it could be to a certain extent, but also it limits on the amount of space you have for that many people to actually move about, doing their hands and

stuff like that. In home environments you wouldn't have that much space to move about."

27.02 R: "True."

27.03 U: "So add maybe five people, Maximum of two or three thats it. .. yeah…"

27.07 R: "And um while social gaming does, do you think competition is a very important factor, like does it help engagement?"

27.14 U: "Yea, it helps engagement also to a certain extent people tend to get more engrossed in the game and will use their more interactivity and use their brains ok this is what I need to do, I need to beat this person. This is the competition level, to do it alone you just want to beat the computer or beat the system that's all."

27.32 R: "Alright, perfect anyway ah, thank you so much ah for this ah interview and ah thank you a lot and I will stop recording yea."

9 References

Banos, R. M., Botella, C., Alcaniz, M., Liano, V., Guerrero, B., & Rey, B. (2004). Immersion and emotion: Their impact of sense of presence. *CyberPsychology and Behavior, 7*(6), 734–741. doi:10.1089/cpb.2004.7.734

Belkin, H., Brooks, H. & Daniels, P. J. (1987). Knowledge elicitation using discourse analysis. *International Journal of Man-Machine Studies, 27*(2), 127-144. doi:10.1016/S0020-7373(87)80047-0

Belman, G. (2011). *Why do people play video games?* Retrieved February 14, 2012, from http://www.gamasutra.com/blogs/GeraldBelman/20111123/8957/Why_do_people_play _video_games.php.

Bianchi-Berthouze, N., Kim, W.W., Patel, D. (2007). Does body movement engage you more in digital game play? and why?. *Proceedings of the 2nd international conference on Affective Computing and Intelligent Interaction* (ACII '07), A. C. Paiva, R. Prada, and R. W. Picard (Eds.). Springer-Verlag, Berlin, Heidelberg, 102-113. doi:10.1007/978-3-540-74889-2_10

Brockmyer, J., Fox, C., Curtiss, K., McBroom, E., Burkhart, K. & Pidruzny, J. (2009). The development of the game engagement questionnaire: A measure of engagement in video gaming. *Journal of Experimental Social Psychology*, *45*(4). 624-634. doi:10.1016/j.jesp.2009.02.016

Brules, J.F. & Blount, A. (1989). *Knowledge Acquisition.* New York : McGraw- Hill.

Carter, P. (2007). Liberating usability testing. *Interactions*, *14*(2), 18-22. doi:10.1145/1229863.1229864

Choi, D., & Kim, J. (2004). Why people continue to play online games: In search of critical design factors to increase customer loyalty to online contests. Cyber *Psychology and Behaviour*, *7*(1), 11–24. doi:10.1089/109493104322820066

Clanton, C.(1998).An interpreted demonstration of computer game design, CHI '98 Conference Summary on Human Factors in Computing Systems.

Cooke, N. J. (1994). Varieties of knowledge elicitation techniques. *International Journal of Human and Computer Studies, 41*(6), 801-849. doi:10.1006/ijhc.1994.1083

Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety.* San Francisco: Jossey-Bass.

Csikszentmihalyi, M., & Csikszentmihalyi, I. S. (1988). *Optimal experience. Psychological studies of flow in consciousness.* Cambridge, UK: Cambridge University Press.

Denscombe, M. (2007). *The Good Research Guide for small-scale social research projects.* England: McGraw-Hill.

Desmet, P & Hekket, P. (2007). Framework of product experience. *International Journal of Design, 1*(1), 57-66.

Dolan, M. (2004). *The Future of Video Gaming.* Retrieved February 14, 2012, from http://www.pbs.org/kcts/videogamerevolution/impact/future.html

Dowrick, P. (1991). *Practical guide to using video in the behavioral sciences.* NY: John Wiley.

Entertainment Software Association. (2011). *Essential facts about the computer and video game industry.* Retrieved from http://www.theesa.com/facts/pdfs/ESA_EF_2011.pdf

Federoff, M. (2002). *Heuristics and Usability Guidelines for the Creation and Evaluation of Fun in Video Games,* Unpublished Masters Dissertation, Department of Telecommunications, Indiana University.

Forlizzi, J. & Ford, S. (2000). The building blocks of experience: An early framework for interaction designers. *Proceedings of the 3rd conference on Designing Interactive Systems: processes, practices, methods, and techniques (DIS '00)*. New York: ACM 2000, 419-423.

Hardy, M. (2010). *Introducing PlayStation move.* Retrieved November 10, 2011, from http://blog.eu.playstation.com/2010/03/10/introducing-playstation-move/.

James, G. (2011). *The 5 Types of Gamers in Your Classroom*. Retrieved February 14, 2012, from http://edreach.us/2011/05/08/the-5-types-of-gamers-in-your-classroom/.

Kagan, N. (1980). Influencing human interaction: Eighteen years with IPR. In A. K. Hess (Ed.), *Psychotherapy supervision: Theory, research, and practice* (pp. 262-283). Toronto, ON: John Wiley.

Kagan, N. I., & Kagan, H. (1991). Interpersonal Process Recall. In P. W. Dowrick (Ed.), *Practical guide to using video in the behavioral sciences*, . New York: John Wiley & Sons.

Kankainen, A. (2003): UCPCD: user-centered product concept design. In: *Proceedings of DUX03: Designing for User Experiences 2003*. pp. 1-13.

Kylak. (2011). *Three Video Game genres that benefit from motion controls.* Retrieved February 14, 2012, from http://www.allgeeksrejoice.com/2011/07/vg-talk-3-three-video-game-genres-that.html

Larsen, J. M. (2008).Evaluating user experience – How game reviewers do it. In: Evaluating User Experiences in Games, Workshop at the 2008 Conference on Human Factors in Computing Systems (Florence, Italy, 5–10 April 2008). CHI '08.

Lazzaro, N.(2004). *Why we play games: Four keys to more emotion without story. Technical Report*, XEO Design Inc.

Lowe, C. (2003). Key barriers to fully engaging majority-market gamers. Retrieved October 27, 2011, from http://www.gamesbiz.net/keynotes.asp

Novak, T. P., & Hoffman, D. L. (1997). *Measuring the flow experience among web users*. Paper presented at Interval Research Corporation, Palo Alto, CA (July).

O'Brien, H., & Toms, E. G. (2008). What is user engagement? A conceptual framework for defining user engagement with technology. *Journal of the American Society for Information Science and Technology*, *59*(6), 938. doi:10.1002/asi.20801

Pagulayan, R. J., Keeker, K., Wixon, D., Romero, R. L., & Fuller, T. (2002). User-centred design in games. In J. Jacko and A. Sears (Eds.), *Handbook for Human-Computer Interaction in Interactive Systems.* Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Patton, M (1990) *Qualitative evaluation and research methods,* California: Sage Publications, Newbury Park

Patton, M. Q. (2002). *Qualitative evaluation and research methods* .California: Sage Publications, Inc.

Preece, J., Rogers, Y. & Sharp, H. (2002). Interaction *design: beyond human – computer interaction.* USA : John Wiley & Sons, Inc.

Rare. (2010). *Kinect Sports.* Retrieved February 14, 2012, from http://www.rare.co.uk/games/kinect-sports.

Rasch, G. (1960*). Probabilistic models for some intelligence and attainment tests. Copenhagen*: Danmarks Paedagogiske Institute.

Rasch, G. (1980).Probabilistic models for some intelligence and attainment tests (expanded ed). Chicago: University of Chicago

Reynolds, H. (2011). *A look at the future of gaming.* Retrieved February 14, 2012, from http://articles.businessinsider.com/2011-11-22/tech/30427958_1_mobile-gaming-pcs-and-consoles-games-industry

Riediger, M. (2009). *Experience sampling* (Working Paper Series of the German Council for Social and Economic Data No. 62). Berlin: German Council for Social and Economic Data (RatSWD).

Ryan, R. M., Rigby, C. S., & Przybylski, A. (2006). The motivational pull of video games: A self-determination theory approach. *Motivation and Emotion, 30*(4), 347–363. doi:10.1007/s11031-006-9051-8

Schifferstein, H. & Hekkert, P. (2008). *Product Design*. USA: Elsevier.

Schneider, P. (2006). *New Wii Titles Announced.* Retrieved February 14, 2012 from http://au.wii.ign.com/articles/732/732678p1.html.

Sellar, T. (2004). *User Experience in Interactive Computer Game Development (PhD).* Auckland University of Technology, New Zealand.

Sinclair, B. (2006). *Game industry diversifying.* Retrieved February 14, 2012, from http://www.gamespot.com/news/report-game-industry-diversifying-6156757.

Slater, M. (1999). Measuring presence: A response to the Witmer and Singer questionnaire. *Presence: Teleoperators and Virtual Environments 8*, 560–565. doi:10.1162/105474699566477

Snider, M. (2010). A look at the future of video games. *USA Today.* Retrieved February 14, 2012 from http://content.usatoday.com/communities/gamehunters/post/2010/01/a-look-at-the-future-of-video-games/1#.T1N6f_E_98E.

Stahl, T. (2005). *www.thocp.net.* Retrieved February 14, 2012 from http://www.thocp.net/software/games/reference/genres.htm

Swider, M. (2011). Guide To the Next Generation of Video Game Consoles: Xbox 720, Playstation 4, Wii U and Beyond !! Retrieved February 14, 2012 from http://www.g4tv.com/thefeed/blog/post/717083/guide-to-the-next-generation-of-video-game-consoles-xbox-720-playstation-4-wii-u-and-beyond/

Techradar. (2011). *Xbox 720: Every rumor about the new Xbox.* Retrieved February 14, 2012 from http://www.techradar.com/news/gaming/consoles/xbox-720-every-rumour-about-the-new-xbox-937167

Tulving, E. (1983). *Elements of Episodic Memory.* New York: Oxford University Press.

Whitson, J., Eaket, C., Greenspan, B., Tran, M., & King, N. (2008). Neo-immersion: Awareness and engagement in gameplay. *Proceedings of the 2008 Conference on Future Play: Research, Play, Share* (Future Play '08). NY, USA, 220-223. DOI=10.1145/1496984.1497028 http://doi.acm.org/10.1145/1496984.1497028

Witmer, B. G., & Singer, M. J. (1998). Measuring presence in virtual environments: A presence questionnaire. *Presence: Teleoperators Virtual Environments, 7*(3), 225–240. doi:10.1162/105474698565686

XEODesign. (2005, March). *Why we play games together: The people factor*. Game developers conference. Retrieved from http://xeodesign.com/xeodesign_whyweplaygamestogether100n031005.pdf