

# The Tiaki Project

*'The Tiaki Project', a proof of concept interactive archiving experience for the purpose of preservation and sharing of personal and community narratives based on cultural identity and local histories.'*

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## ABSTRACT

As a child of the 1970s and 80s Britain, growing up with an evocative soundtrack of iconic music, comedy, TV, film, and historic storytelling of wartime suffering and resilience, was certainly common for most children. What that upbringing did do for me personally was to provide me with a sensory appreciation of everything around me, from paintings on the wall, to wallpaper fabric, to the texture of carpet, nostalgic objects, my great aunt's perfume and the sound of doors opening and closing, each contributing to how I navigated through my childhood and subsequently went on to shape my adulthood and my creative process. To my eternal regret, I never recorded the voices and well versed family narratives that came from my grandparents or the wider elder members of the family.

The preservation and archiving of my family histories exist within the playlist in my head, whilst the inner anxiety of maintaining these narratives for future generations weighs heavily on me. *The Tiaki Project*, the focus for this practical research-based study, will attempt to explore and investigate, via proof of concept design outcomes and material experimentation, the potential for an interactive audio-visual experience for sharing/archiving historical cultural and community narratives. The core intention of The Tiaki Project is centred around the documentation of history via the personal narratives and origin stories from the heart of the Pukekohe/Franklin community to the south of Auckland, Aotearoa, New Zealand. Questions which focus on 'What defines a community and what contributes to a community identity?' are those which will be explored and reflected upon as part of both the contextual study, case studies and research, as well as through the realisation of proof-of-concept outcomes and material experimentation.

*The Tiaki Project* has been a culmination of reflections from previous personal historical documentary artworks which have been steeped in archiving community narratives for the purpose of preservation and celebration. The artwork below (Fig 1) is an engraving of the classic Flox Damask Velvet Wallpaper which adorned many walls within my grandparents' house in South London. The mere sight, let alone the tactile response, evokes a myriad of memories, voices, stories and experiences, whilst the piece of timber came from a 115-year-old tree which fell at my house in Onewhero, New Zealand in 2013. These two material artefacts have been grafted together to represent the fusion of significant layers of time. *The Tiaki Project's* heart and motivation will inevitably return to this work to reconnect me, to re-establish the reasons for human connections and generational narrative archiving which has existed consistently within my work.



Figure 1 Layering of time, pine shaving and laser engraving (Jay Pressnell 2022)

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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 (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.”

Jay Pressnell

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## INTRODUCTION

*The Tiaki Project* explores the potential of a site-specific interactive audio-visual archival experience with the intention of documenting history through archiving of community narratives and local business origin stories, which are accessible to the public.

The work undertaken involves a depth of material experimentation, largely to explore the rich possibilities (via some limitations and barriers) of both visualizing these local origin stories as refined ‘proof of concept’ artworks, as well as combining interactive technology to enable the sharing of these rich narratives as audio works. Secondary to this, the research, via case studies, alongside the audio-visual material experimentation, has enabled greater exploration of how the audio-visual technology and the proof of concept artworks could/should combine and complement each other to create a seamless user experience. In essence, the user remains ‘present’ to the artworks, whilst using the ‘audio’ as an enhancement layer to the overall experience. The work undertaken this year and last year, has remained faithful to the potential of user experience, from investigating the ‘tactility’ of engaging with public artworks, to the reflections of how the interactive technology should enhance the overall experience in that moment of engagement, whilst also providing a further layer of personal reflection, i.e. what are the user’s own family/whanau reflections that they could access/archive in similar ways. The Tiaki Project’s long-term intentions have always been to respond to the needs of archiving voices for future generations before it’s too late. The rich possibility for the project to enable users to ‘archive’ their own family/whanau narratives has always been at the heart of what could eventuate beyond the Masters study and proof of concept investigations.

One of the interesting components of the project proof of concept outcomes, and its subsequent and responsive material exploration, is to establish an aesthetic of timelessness within the artworks. That is, what surfaces and materials used would be appropriate and relevant to the idea of archiving local narratives, especially from a community rich within the farming and growing industry. Which materials could convey a sense of ageing, or the association that these works will, and have been, part of the community for a long time and have the intention of lasting for another generation at least. The final ‘proof of concept’ outcomes have the intention of asking and answering those materiality questions and associations, ie do the final artworks provide a rich interactive experience for the user, which enhances their awareness and knowledge of their own community history? and do the ‘proof of concept’ outcomes provide a deeper opportunity for sensory associations and relationships for the user to explore?

The ‘proof of concept’ outcomes at the final Masters exhibition will hopefully support and validate some of these ‘experiential’ uncertainties and unknowns, i.e. How will users navigate the invitations for a tactile response to the artworks and designs, based on previous ‘non touch’ cultural associations with public works? How will users navigate the multi-sensory material available to them when in front of the works?, Will each component provide enhancement to the other, or will the juxtaposition be too fragmented and detached? How will the audio enhance the visual experience?, Will it be a distraction? Will multiple users accessing the archived audio, impact on the experiences/engagement levels of each other? Will the short excerpts from interviews, as part of the proof of concept stage, provide enough clarity and understanding of the longer term intentions of the *Tiaki Project* to be a fully implemented community facility? These questions are important and significant to the validation and potential for success as the project moves beyond a practical Masters research study. Therefore, the Masters exhibition proof of concept experience needs to have sufficient opportunity to solve, answer and respond to these questions, whilst also providing new viewpoints, reflections and potentially provide further problems to solve.

The question of ‘What defines a community and what contributes to a community identity?’ instigates discussion and reflections around the nature of ‘who are the users?’ and ‘why the project will be significant to them?’ ‘who will achieve the greatest benefit from this audio-visual experience?’ and ‘how will this study potentially impact on the community in terms of culture, identity and well-being?’. From a personal standpoint as an educator as well as a community based designer, it has provided the opportunity to establish connections to New Zealand

educational initiatives, more specifically via the new NZ Aotearoa Histories Curriculum which has the intention of focusing learning on localized stories and narratives. The proof-of-concept designs will also be a response to the success of previous personal artworks/archival media established from within the Pukekohe/Franklin community, these previous works have enhanced the 'case studies' component of reflections linked into community responses to significant stories and how users navigate and engage with narratives which are close to them, either geographically or personally. The methodology used in this study has the intention of discovering wider contextual challenges within both an ethical viewpoint and from a material exploration aspect of focusing on specific community narratives imbedded in a community steeped in colonial history and multi-culturalism.

## CONTEXTUAL REVIEW

The key context for *The Tiaki Project* lies within both the technological impact, validity and significance of digital archiving local histories and narratives, whilst also focusing on the issues facing the collection of these narratives within a community dealing with live generational experiences and disparate origins. The review will also look at the issues surrounding the question of ‘What defines a community and what contributes to a community identity? The review will also have the intention of reflecting on the challenges faced in relation to its impact on *The Tiaki Project* and its potential for becoming a significant platform for archiving community narratives and origin stories.

The following key areas of research have been the technological drivers for digital archiving which have been chosen as a direct response to the ongoing critical research, *The Tiaki Project’s* rational, proposal and future strategy to encourage the preservation, archiving and sharing of community generational narratives and histories through the means of interactive technology and experiences. The following texts and subsequent summaries as part of the contextual review attempt to provide a support structure for the validity of *The Tiaki Project* and its ongoing and future potential for integration and implementation into the community of Pukekohe/Franklin.

*‘Storytelling is fundamentally important, and any advancements in media technology that enable people to tell stories in new and potentially more compelling ways can have profound impact. While almost everyone enjoys good stories as a form of entertainment, the importance of storytelling runs much deeper than that’ (Azuma 2015<sup>[4]</sup>).*



Figure 2 Image of Location based augmented reality example

As part of Azuma’s ‘Location-Based Mixed and Augmented Reality Storytelling’ (Azuma 2015), he introduces emerging research held in augmented reality (AR), called haptic AR. AR enables a real space to be transformed to a semi-virtual space by providing a user with the mixed sensations of real and virtual objects, haptic AR does the same for the sense of touch; a user can touch a real object, a virtual object, or a real object augmented with virtual touch. Visual AR is a relatively mature technology and is being applied to diverse practical applications such as surgical training, industrial manufacturing and entertainment. One of the ultimate uses of mixed reality (MR) and augmented reality (AR) will be to enable new forms of storytelling that enable virtual content to be connected in meaningful ways to particular locations, whether those are places, people, or objects. Azuma goes

onto say 'I firmly believe that, in the long run, one of the ultimate uses of MR and AR technologies will be as a new form of location-based media that enables new storytelling experiences' (Azuma 2015<sup>[2]</sup>). The overall key ideas and main topics of what Azuma describes are around the viability of AR (through visual means) and Haptic AR (through interacting with the actual object through touch), to be integrated and experienced at the same time or as separate interactive experiences. Azuma's key focus falls under a social-cultural context as he builds his ideas framework around the user experience and tactile/virtual responsiveness. The key challenge centres around the provision for a mixed reality experience and the analysis of how this can be facilitated by the creator/designer, a key challenge for the validity of *The Tiaki Project* and how it can provide an immersive tactility and multi-sensory experience.

Azuma establishes a proposition based on research undertaken within a context where a wide user experience via augmented reality and haptic augmented reality were established. He responds to research based on the technological possibilities within a rapidly changing world and responds to the 'cultural tourism' which has been building momentum, utilizing the advance of smartphones and raising awareness of heritage via narratives and storytelling. The Tiaki Project, and its subsequent interaction strategy in the proof of concept format, aims to initially use QR codes (again using the wide spread knowledge of usage in response to the Covid pandemic) to support the audio-visual connection. Azuma's focus on AR as an effective immersive tool gives that extra validation and confidence in the future use of community engagement with mixed reality technology via a specific *Tiaki Project* app to help the wayfinding and ability for users to move through a community, echoing the 'cultural tourism' that he speaks of.

The 'co-habitation' of both real-world and digital interaction within the same experience is something that has been significant in my own design development and concepts for the *Tiaki Project*. There is a commitment to establish an authentic place for both, that the technology via smartphones and the physical interaction with audio/visual platforms in the real world, can provide an experience that can be varied, provide numerous opportunities to interact with community narratives over numerous visits, whilst providing a contextual learning experience for habitants within the community.

***'Today's physical spaces are becoming a hybrid (mix) of real and digital entities. Consequently, spaces have become narrative spaces where objects, buildings and streets are linked to websites, blogs and wikis. This new character of space enables everyone with a smartphone to potentially experience their worlds differently with the assistance of Augmented Reality (AR) technology'*** (Mohammed-Amin 2010<sup>[1]</sup>).

As part of Mohammed-Amin's article "Augmented reality: A narrative layer for historic sites." (Mohammed-Amin 2010), he focuses his research around the use of augmented reality via smartphones. In most communities we already navigate through them via real and digital means, i.e. buildings and streets now have the capacity to become a special 'host' for historical narratives. There are numerous ways already that we can access information about a space via websites, blogs, wikis etc. The use of augmented reality provides each user an opportunity to have a 'unique' experience of the space they are moving through and re-experiencing cultural heritage through architecture and urban design. Mohammed-Amin suggests that *'Functions critical to these applications would include location-based learning, adding context, geotagging, information visualization, way-finding, and audio guiding'*. (Mohammed-Amin 2010<sup>[2]</sup>). Mohammed-Amin takes on a historical contextual position which is both unbiased and objective, whilst the in-situ context of a historical location provides the backdrop for the research and project focus. *The Tiaki Project* has the intention of being aware of the make-up of its users from an education viewpoint, as well as from a holistic community viewpoint, with a reflective focus on the idea of how users can respond to the 'new character of space' as Mohammed-Amin mentions, providing the opportunity to contribute as well as design that new design of spatial character and identity. Mohammed-Amin also provides the importance of providing a specific objective to create a user experience which incorporates the opportunity for them to combine, contrast via image layering software to raise awareness of the location and its historical basis.

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<sup>[1]</sup>Azuma, R. (2015). 'Location-Based Mixed and Augmented Reality Storytelling'.

<sup>[2]</sup>Mohammed-Amin, Rozhen Kamal. "Augmented reality: A narrative layer for historic sites." Master's thesis,

Using digital 3D models overlaid onto real time locations is significant to *The Tiaki Project* study as it sought to provide a past, present and future standpoint for the user to place themselves within. The image alignment facility he mentions was also intriguing as well as providing the layers which look at future restoration plans of heritage buildings or spaces. The links to urban development and future planning were also relevant as this gave the user the opportunity to experience and physical engage with the future concepts of their spaces.



Figure 3 An example of a geo-tagging app

With relevance to the validity of *The Tiaki Project*, references to wayfinding and navigational experiences of the user are significant and provided authentic ways in providing long term interactions. Mohammed-Amin also talked about geotagging which uses satellite systems (or GPS) to track and navigate a location and link digital content to that location, enabling the user to view media via smartphones. With *The Tiaki Project*, it would be important for the user experience to be enabled so that they can navigate through a community space to experience a variety of narratives which can link. The user can move through a space and interact with the various 'stations' of the narrative to connect the 'whole' story together. The spaces can be potentially spread out across a community or contained within a smaller space such as street or town square. The user can experience through the use of smartphones a variety of augmented audio/visual media which enrich and enhance the knowledge/understanding of a community space. Longer term, there can be an opportunity for animated murals, which provide cultural narratives to be interacted with, as well as physical artefacts which provide haptic interactions, whilst time-based image alignment adds to the historical contextual awareness. Both Azuma and Mohammed-Amin raise important significance to the viability of the interactive and wayfinding experiences using geotagging and GPS systems. Within their articles, they provide structured validity and authentic in-situ examples of how *The Tiaki Project* can utilize this technology to contribute to the communicate navigation experience within the Pukekohe/Franklin community.

From within the perspective of a more cultural validation standpoint, as opposed to a technological validation which both Mohammed-Amin and Azuma focus on, Andrew Flinn's "Community histories, community archives: Some opportunities and challenges." (*Andrew Flinn 2007*) develops a dialogue around 'What makes a community and how is it defined', and what are the signifying aspects of a community? Flinn pinpoints the validity and questions the assumptions we make about the above questions. The historical archival context and the sense of preservation is at the forefront of the whys/how to consider when documenting community histories and media. Also, the notion of these archives having an 'artificial' and 'contrived' nature, dependent on the way the questions/interviews have been sourced/recorded/documentated is a key consideration not to be dismissed.



Figure 4 Brotherhood Protest poster

Flinn tackles the notions around the audience and participants not making assumptions about the community make up, mood, histories, cultural dynamic. Inclusivity and exclusivity about who contributes, and whose voice is being sought within the archival process. What determines ‘community’ and your membership within it, is it based on shared beliefs, or simply just location which brings people together. Or is it the polarizing and contrasting beliefs which adds definition and identity. Flinn also looks at the nature of what is an archive and how the digital archiving can form significant future proofing and varied responses beyond the paper versions. This links firmly to *The Tiaki Project* in terms of how narratives are archived and how they increase the knowledge and raise awareness of the ‘make up’ of the community. These are quite clear and important considerations and reflections for the project to take forward, especially in relation to the multi-cultural make-up of the Pukekohe/Franklin region where *The Tiaki Project* is focused on. Flinn suggests ‘Some definitions refer to ‘geography, culture, or common interest’ but I prefer to be both broader and more explicit by referring to a community as a group who define themselves on the basis of locality, culture, faith, background, or other shared identity or interest’ (Flinn, 2007<sup>[31]</sup>). *The Tiaki Project*’s future intentions will be to create a database/app/process for users to share their archival histories, narratives with the rest of the ‘community’. Flinn addresses the complexities of what communities are defined by (and this is not solely one definition). He talks about how these archives can contribute positively to a community identity and cohesion. These archives can be extracted from cultural, geographical, generational, historical recollections, these core elements tend to run consistently through a community as common experiences. He specifies, ‘This definition might engender some debate as to whether these ‘created’ or ‘artificial’ collections are archives, but the movement has chosen, correctly I believe, to use the broadest and most inclusive definitions possible. In particular photographs, film, oral material and the personal ephemera of individual lives all contribute to bringing to life individuals and communities that otherwise lie rather lifeless or without colour in the paper record (Flinn, 2007<sup>[42]</sup>). Flinn’s ideas hold resonance to the complexities of how the community within which the Tiaki Project functions, dealing with historical stories, colonial and post-colonial memories and experiences, and how these sometimes painful memories have shaped the community, and shaped the potential for harmony, hence re-defining a collective pathway forward, establishing a new identity, and as Mohammed-Amin suggests, within a new space with new digitally impacted wayfinding potential.

When reflecting on one significant component of *The Tiaki Project*, that is the actual process of sourcing audio archival material from community users, more specifically the origin businesses from within Pukekohe and wider Franklin, it has been an important process to establish an ethical framework centred around ownership of oral histories and how these important archives are stored, accessed and shared. Ormond Parker suggests (as part of his article "Local archives and community collecting in the digital age." (Ormond Parker, L., Sloggett, R), that there is explicit importance of following culturally appropriate protocols when archiving histories and

<sup>33</sup> Andrew Flinn. "Community histories, community archives: Some opportunities and challenges." *Journal of the Society of Archivists* 28, no. 2 (2007): 151-176.

<sup>4</sup> <sup>[2]</sup> Andrew Flinn. *Journal of the Society of Archivists* 28, no. 2 (2007): 151-176.

narratives. The notion of ‘ownership’ and method of distribution/preservation of these stories are at the heart of what takes place within the strategies used by Aboriginal communities in Australia to document and archive histories/stories using new information technologies. The main key ideas and conclusions are centred around the importance of establishing community protocols and processes which also live within a national archival framework (Ormond Parker Et Al, 2012<sup>[51]</sup>). This viewpoint echoes the intentionality behind The Tiaki Project’s desire to create a safe and robust database to host and ‘tiaki’, protect and preserve these local stories in the hope that future generations can access them and learn from them.

Parker undertakes detailed research taken place in Australia, specifically within a variety of Aboriginal communities and focuses on the reliability, protection and most effective archiving system for documenting stories and histories, both immediately and future based. It was reassuring and relevant that he has a concern with issues around ownership of narratives, the generational ‘hand-over’ and ‘stewardship’ of local histories, a sentiment which forms a strategic motivation for the design, both culturally and technologically, of future planned *Tiaki Project* app. Parker’s major concerns are centred around the long-term quality and evolution of software which has been specifically set up for archiving databases, whilst the protection of both physical and digital archives needs long term strategies which lie within robust community protocols linked to a national service infrastructure. Gunnar Liestøl suggests, as part of his “Augmented Reality Storytelling - Narrative Design and Reconstruction of a Historical Event in situ.” that ‘*The development of the digital age has seen communities harness these new technologies as a way of consolidating information in an easy to use and accessible format to be made available for community members. The digitization of archives is seen as a way for communities not only to access materials, but also control the viewing and distribution within communities based on local cultural norms and customs*’ (Liestøl, 2007<sup>[62]</sup>). *The Tiaki Project*’s fundamental strategy is to archive local community narratives and stories as a means to preserve history. These stories need to be archived within a functional database which can be updated, preserved, and provide capacity to be accessed publicly. The research element of the above articles discusses the issues of ‘ownership’, that is, does *The Tiaki Project* own these stories once they have been documented? Does *The Tiaki Project* need to provide assurances to the sharers of stories that their voices will be protected within a platform set up to share, and celebrate? *The Tiaki Project* needs to provide assurances through initial prototypes, proof of concept works and case studies that the authenticity and public sharing of the narratives will be implemented in a way that provides long term opportunities for education, cultural and historical awareness and positively impacting on community identity and cohesion. Parker also reflects on the community empowerment through the ‘ownership’ of relevant stories, images, media etc, thus providing opportunities for new discoveries in history and developing archival knowledge and information technology skills to preserve and protect for future generations.

Maria Engberg (as part of her article "Augmented and mixed reality design for contested and challenging histories."), details the implementation of augmented reality technology within the historical context of post-colonial Denmark, two projects which embark on the historical storytelling amid political and cultural turmoil which touch on sensitive histories in a colonial context. The article deals with the problems which arise when using AR technology within an urban environment, combining site specific archival material, and making it accessible to the user within the confines of a smartphone mobile device. The second element talks about the readiness of the user to explore the possibilities of AR, and lastly provides the standpoint that the user may need extensive contextual knowledge of the past histories before the interactive experience can be fully appreciated.

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<sup>5</sup> [1]Ormond-Parker, Lyndon, and Robyn Sloggett. "Local archives and community collecting in the digital age." *Archival Science* 12, no. 2 (2012): 191-212.

<sup>6</sup> [2]Liestøl, Gunnar. "Augmented Reality Storytelling - Narrative Design and Reconstruction of a Historical Event in situ." *Int. J. Interact. Mob. Technol.* 13 (2019): 196-209.



Figure 5 Image from "Augmented and mixed reality design for contested and challenging histories." Maria Engberg 2017

Engberg continues to allude to the challenges faced around a tight political standpoint centred around a colonial context from a post-colonial viewpoint. Within the projects lie opportunities for the user to engage with a forecast perspective of what a future based post-colonial society could be if the society in question (Copenhagen) were to have continued in the colonial path without a sense of positive cultural and political shift. The two projects depicted in the article engage thinking around a wider community colonial history and one which encapsulates a story around an individual and family arriving as an immigrant in Denmark. Engberg suggests '*At the same time, a defining concept in our archival and design work has been care: to take care and take responsibility for the daunting task of telling someone else's life. This care-taking was in play when researching archives*' (Engberg 2017<sup>[21]</sup>). Without a doubt, archival projects like *The Tiaki Project*, will deal with sensitive histories which have been depicted through wider community context and a tighter individualized narrative. As part of *The Tiaki Project*, there aims to be a means of establishing a connection between people and place. I do not want to profess or explore my own personal and political standpoint as part of *The Tiaki Project*, I feel as though the overall opportunity to see/hear community narratives/stories will have their own power and significance without the extra layer of my own judgements impacting on the authenticity of the experience. Engberg poses some valid questions about the user experience, she asks '*Will the user seek out more information about a past that they may not have known much about before? Will they pay more attention to the buildings and urban environment around them, searching for clues to other histories and stories besides the ones at the very surface?*' (Engberg 2017<sup>[22]</sup>)

On reflection of reading this article, there has been an appreciation of developing a user interface which is fit-for-purpose. The potential AR app or web-based experience needs to be encouraging, user friendly for multi age groups, simple in its multiple applications, i.e. provide audio/visual capability via smartphone, provide the coming together of real and digital worlds via AR and provide opportunities for new learning via interactive play and individual enquiry. Engberg also takes time to consider the ramifications of backing up data, hosting/archiving material suitable for interaction via AR and Virtual Reality, as well as the potential for opportunities for users to share their own material, historical narratives to be archived and interacted with. *The Tiaki Project* also has the potential for users to continually add to the overall archive of narratives, historical stories etc. The choice of AR application, beyond this proof of concept stage for *The Tiaki Project*, will be vital in providing users the access to a multitude of documentary media in a simple way which enhances and enriches the knowledge to provide a new way of seeing, a new way to connect themselves to their place through finding out about the histories. Engberg also confirmed that the power and resonance of the project, lies within its authentic narratives and not orchestrated by a pre-established political standpoint which acts as a guide to

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<sup>7</sup> [21] Maria Engberg. "Augmented and mixed reality design for contested and challenging histories." In *Museums and the Web, Cleveland, Ohio (USA)* (April 19-22, 2017). Museums and the Web, 2017.

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[22] Maria Engberg. "Augmented and mixed reality design for contested and challenging histories." 2017.

navigate the storyteller into retelling their personal history in a specific way according to a cultural standpoint which echoes the author of the project. The great opportunity for a multi-cultural community such as Pukekohe, lies within its diversity of voice, its rich storytelling history which is layered and varied in viewpoint. *The Tiaki Project* has the intention of archiving and protecting this.

All of the various articles mentioned above provide huge opportunities for rich reflection and provide significance and authentic weight to the ongoing challenges of *The Tiaki Project*. It is clear that the use of Augmented Reality and other immersive wayfinding technology, provides enormous opportunity for varied interactions and experiences which encourage new learning and greater community awareness of how we navigate through a community space, offering new ways of 'seeing'. *The Tiaki Project* needs to provide assurances to the sharers of stories that their voices will be protected within a platform set up to authentically share, experience, and celebrate? *The Tiaki Project* needs to provide assurances through initial proof-of-concept outcomes, prototypes and case studies that the authenticity and public sharing of the narratives will be implemented in a way that provides opportunities for education, cultural and historical awareness and positively impacting on community identity and cohesion. As Engberg alludes to, *The Tiaki Project* should not attempt to take on a political standpoint or judgement, but remain assured and committed to the concept of archiving and preserving histories and stories for the betterment of a collective community identity, intent on developing a harmonious future for others to recollect and reflect on past events through exciting interactive experiences. An in-depth ethics review, post proof of concept study, should further reflect on the diverse cultural and ethnic makeup of a community such as Pukekohe, it addresses and fully facilitates an implementation of interview protocol, the archiving systems in place to further 'tiaki', protect and keep safe these generational stories and historical narratives. In referring back to the personal motivation for undergoing this research project, a huge and significant reason (and regret) would be the lack of any archived material of past generations in my family. This cannot be changed for my immediate whanau, but the intentions around *The Tiaki Project* mean that I can place greater significance and facility around archiving generational narratives for future generations, both within my family and those of others in my community. It is this component which maintains the drive and authenticity to continue with the project and implement it as a valid platform for documenting community histories. The contextual review of relevant texts also confirms the importance of archiving storytelling and the implementation and usage of interactive technology to experience, share, and protect, even within communities where generational trauma and suffering have been a major identifier of a community's identity. Therefore, *The Tiaki Project's* commitment to the respectful accessing, recording, documenting, archiving and sharing of material will always have the intention of being robust, transparent in its intentions, protective of the material and provide a multitude of opportunities for learning and creation of a more integrated, harmonious community.

## METHODOLOGY

Beyond the research and contextual component of *The Tiaki Project*, more specifically within the literature and articles studied, there have been key methods established to progress the project throughout its ‘proof of concept’ stage and provide ongoing validation challenges and problems to solve in order to fully enable full implementation within the community. The specific methodology has been focused around:

- Case studies and Research
- Interview Process for Future Implementation
- Material Experimentation
- Prototyping and technology testing
- Final proof of Concept Designs

The order and focus of these methods has been thoroughly interchangeable and been part of a reflective, responsive process with the intention of developing a design that has been regularly tested, prototyped, founded in extensive case study investigation, where stories have been discovered and archived in the most authentic manner possible. *The Tiaki Project* as an interactive, audio/visual material design practice as research project, takes the position that the power of storytelling via the interaction with materiality and audio, has potential to connect users to their community, enhance local cultural and historical identity and increase their *Turangawaewae* (The sense of place). The project aims to investigate through practice, case study investigation, discovery of rich community narratives and material experimentation, an interactive audio/visual platform which may be appropriate to the community narratives and cultural identity.

This research project explores the archiving of local historical and cultural narratives to increase the connectivity and understanding of a place and its people and to support that ‘tiaki’, preservation of handing down of stories within families/communities. A potential imagined ‘proof of concept’ artefact or outcome beyond the final project, could be the design and creation of a digital app or platform that allows people to both share their narratives (both visual and audio) and to experience/interact with those of others within the same community. Subsequent outcomes may be focused on the installation of interactive audio/visual ‘stations’ within community spaces for people to ‘hear, view and participate’ in with these shared narratives. The project also aims to respond to the current changes in New Zealand education with the full implementation of the new Aotearoa’s Histories curriculum and *Te Takanga o Te Waa* due in 2023. This specific move by the Ministry of Education is believed to be one of the most significant changes in New Zealand education, as it lays the foundation for a more connected people, people with a greater sense of place, self-identity and knowledge of local and national histories, leading to more cohesive possibilities of becoming global citizens.<sup>9</sup>

The collective methodology used within this project inevitably will mean a deep connection with the community/people/places within which I live, as well as thorough interviews and review of previous documentary work of others, whose contribution to raising awareness and discovering narratives has been significant. I hope to learn more about how soundscapes, can be imbedded into the materials/spaces of a community through archival technology and learn how to provide people with the digital tools to own and collect those stories. I hope to discover that both the process of archiving local narratives through digital technology, and the process and means of publicizing them will be significant and powerful for all. Also, the discovery and ongoing dialogue with how the materiality/fabrics of our buildings can accentuate, complement, and accommodate these audio narratives. I aim to reveal and study a richness of diverse historical and cultural narratives about people, places, ethnicities to inform a more cohesive identity and collective *Turangawaewae*. A variety of cultural values and ethics around ownership of narratives will be studied and navigated during the interview process and proof of concept design stage. It is the position of the project which will give people greater empowerment to own their own histories, to share, reflect and contribute their own *Turangawaewae*, to give people a sense of pride, knowledge and ability to capture generational narratives for the future, within the

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<sup>9</sup> (“Curriculum and Assessment Changes” 2021)

community they were born in or have arrived into. i.e. ‘why is that building there? what is its significance’? Why is this playground here, who is it named after’?

*‘Museums have proven to be some of the most exciting testing grounds for augmented reality. The cultural sector is taking major leaps towards embracing new technology, which is coming as a great benefit to those of us who enjoy travelling and learning about the cultural world around us’.*<sup>10</sup>

Brendan Cieko - Founder and CEO of Cuseum (a platform that helps museums and cultural organization engage with their visitors through technology and apps).

During the investigation into and the analysis of relevant case studies, existing projects, exhibitions and community initiatives, it has been a major intention of *The Tiaki Project* to focus on the power of storytelling, using the significance of local histories and business origin stories to develop audio/visual experiences for users within a community to discover new knowledge, to preserve and to share new narratives for future generations. The visualization of a story, whether fictional or factual, generally provides high engagement levels for the viewer, to create a story which has emotional, personal or geographical resonance, increases the chances of successful engagement by even more. This aspect was apparent when studying cases and existing or past projects, exhibitions both within New Zealand Aotearoa and beyond.

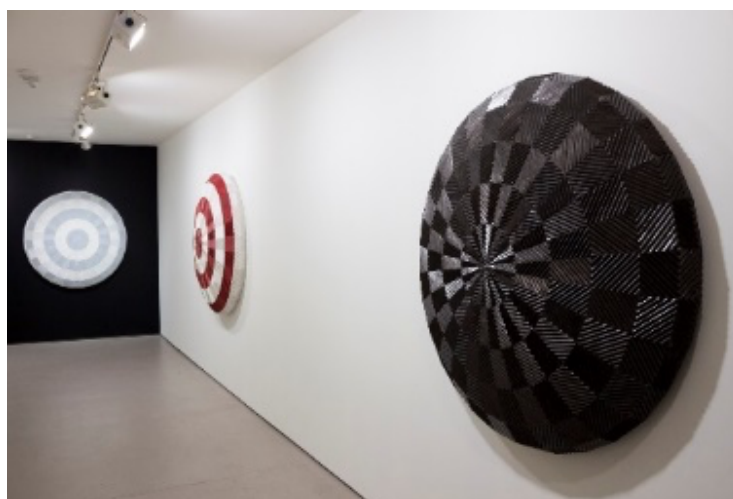
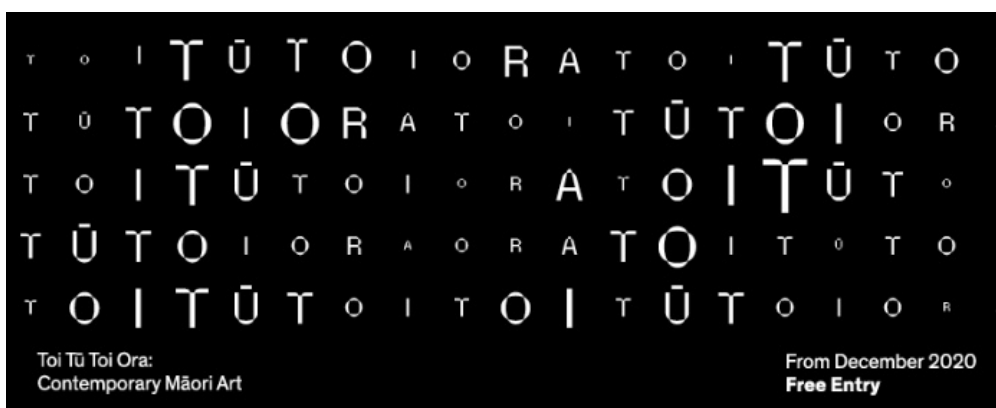


Figure 6 Toi Tu Toi Ora Exhibition, Auckland City gallery<sup>[1]</sup>, and Figure 7 Brett Graham work ‘Resettle’<sup>[2]</sup>

<sup>[1]</sup> (Auckland Art Gallery 2020)

<sup>[2]</sup> (Graham 2015)

<sup>10</sup> (Cieko 2018)



Figure 8 City Rail Link Concept Design for Centre of Aotearoa<sup>11</sup>

Many of the following case studies investigated community projects within Aotearoa, where the broader understanding of cultural narratives underpins the design process leading towards an outcome. Architectural development and community buildings such as the new CityRailLink<sup>12</sup> Project in Auckland, cultural parks and walkways such as The Waimangu Valley Augmented Reality App<sup>13</sup> to discover the Pink and White Terraces. Other case studies such as exhibitions like the Toi Tu Toi Ora Contemporary Art Exhibition<sup>14</sup> in 2020 where its thread of Maatauranga Māori and the Creation Stories weaved throughout its many multi disciplined artworks. Lisa Reihana’s recent interactive artworks as part of the Kura Moana series<sup>15</sup> for the Arts Festival in Wellington, Kupu<sup>16</sup>, the augmented reality app which supports the learning of Te Reo.



Figure 9 ‘In Pursuit of Venus-Infected’ - Lisa Reihana<sup>17</sup>  
 Les Sauvages de la Mer Pacifique – Joseph Dufour & Cie, Jean-Gabriel Charvet<sup>18</sup>

<sup>11</sup> (City Rail Link 2022)

<sup>12</sup> (City Rail Link 2022)

<sup>13</sup> (Waimangu Volcanic Valley, n.d.)

<sup>14</sup> (Auckland Art Gallery 2020)

<sup>15</sup> (Aotearoa New Zealand Festival of the Arts 2022)

<sup>16</sup> (Spark New Zealand Trading Limited 2021)

<sup>17</sup> (Reihana 2015)

<sup>18</sup> (Dufour & Cie and Charvet 1804)

There has also been an opportunity to revisit past exhibitions, interviews and documentaries made within the community where I have personally used interactive technology, personal and historical narratives to give user experiences and increase knowledge of time and place. Previous projects such as the Eternal Vigilance Documentary<sup>19</sup>- An Anzac Day story, Evoke<sup>20</sup> – A multi-sensory, audio-visual experience, and The 100 Voices Project for Pukekohe High School Centenary Celebrations<sup>21</sup>, an interactive archiving of past alumni of the school, all having potential for further reflection. There has also been further investigation into the importance of the new Ministry of Education strategy within primary and secondary education from 2023 which explicitly allows for the provision of all Tamariki in New Zealand to learn about authentic New Zealand Histories and to connect with local stories and to imbed them into curriculum, further providing a future where the people of Aotearoa can connect to the own ancestry.<sup>22</sup> Also, studies of specific sculptors and artists whose work also has the concept of Maatauranga Māori imbedded within their creative process, Brett Graham’s material narratives<sup>23</sup>, Ted Ngataki’s cultural carvings on Pukekohe Hill<sup>24</sup> through to Robert Jahnke’s 3D printed motifs<sup>25</sup>. All the case studies provide rich inspiration and further possibilities for reflections and responsive art and design making, especially with the notion of tactility of material, choices of materials used in the making, user engagement and responses from users within a familiar community space.



Figure 10 new Aotearoa New Zealand’s histories and Te Takanga o Te Waa<sup>26</sup>

In March 2022, the final content for the new Aotearoa New Zealand’s histories and Te Takanga o Te Waa was released to Kura and schools, giving them an opportunity to engage with the materials prior to full implementation in 2023.<sup>27</sup>

Many educators like Dr. Hana O’Regan, Tumū Whakarāe of CORE Education adamantly believe, that in response to the introduction of the proposed new Aotearoa Histories curriculum within schools, that there will be a much stronger sense of identity and belonging as we move forward into the future, on a local, national, then global level. Hana says *“When our knowledge of history is restricted, we restrict ourselves to having*

<sup>19</sup> (Pressnell and Bennett 2012)

<sup>20</sup> (Pressnell 2021)

<sup>21</sup> (Pukekohe High School 2021)

<sup>22</sup> (Ministry of Education 2022)

<sup>23</sup> (Graham n.d.)

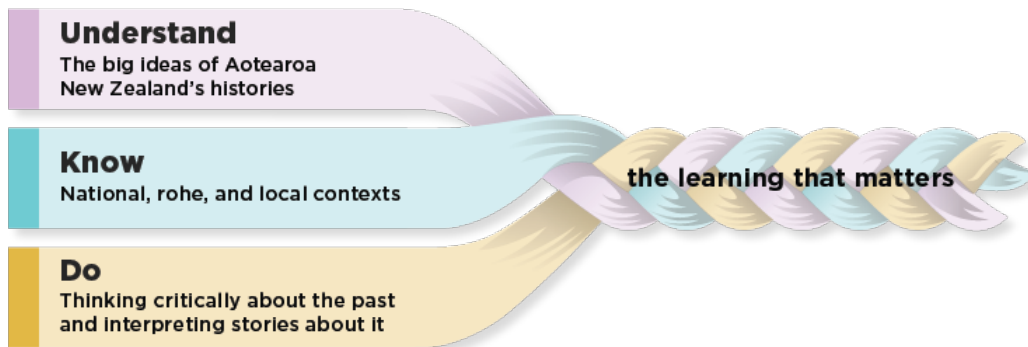
<sup>24</sup> (Pope 2016)

<sup>25</sup> (Jahnke 2007)

<sup>26</sup> (Aotearoa NZ’s Histories 2022)

<sup>27</sup> (Aotearoa NZ’s Histories 2022)

empathy, almost putting boxes around certain conversations because of the anxiety of feeling bad around them. And you don't grow in that environment. You don't grow in terms your understanding of self, you don't know how to learn from the past, so we, in the end, keep on repeating the same mistakes" (O'Regan 2022)<sup>28</sup>



From 2023 onwards, it will be the responsibility of schools to implement the history of local communities with the wider context of Aotearoa New Zealand's histories. *The Tiaki Project* aims to become a significant platform for interacting with and sharing those localised narratives and histories. In order for these local histories and community stories to be accessed and responded to by our Tamariki, *The Tiaki Project* can provide an exciting option that allows that growth in knowledge and learning via an authentic and user-friendly audio-visual experience that exists within their own community. The process of discovering storytelling in a community becomes potentially just as huge as the rich narratives themselves. Initially to locate the people sharing their narratives and then how will they feel comfortable to share and 'give up' their personal stories and histories with the potential outcome being in the public domain. Authentic liaison has been established with origin businesses in Pukekohe/Franklin, whom have had an established presence in the community for decades, some close to 100 years and beyond.



The interview process and protocols for post proof-of-concept outcomes (as previously discussed within the contextual review section), should be set up to provide a clear and transparent communication framework which has ethics protocol imbedded within it to discover/invite local stories and historical narratives from a variety of groups to be shared and publicised. It is also imperative to set up a clear and concise practical system for interviewing people. Within this method, there will be opportunities to learn more about cultural protocol when

<sup>28</sup> (Ministry of Education 2022)

engaging with different cultural groups, i.e., ownership of stories, retelling of values and narratives, traditional systems and histories specific to that cultural body. I'm also excited to learn more about the people and places within the community I live in and work in. I hope to discover a wealth of rich narratives about the community, to discover the variety of cultural processes which exist within cultural groups and discover the variety of ways in which stories are told and presented. I am also hoping to discover the current and traditional ways in which people archive their stories and narratives. I hope to reveal that there are specific questions/connections that need to be established before the archiving process can begin, i.e., what questions can be asked? When can those questions be asked, and to whom can those questions initially be asked to? I believe that this component of research will allow the people of the community to understand the authenticity of the project and understand the generational significance it can have on the community.

Pukekohe Business Association<sup>5</sup>, will all be a huge component of the interview process to determine the ethical pathway and that protocols have been considered and followed. That is, who will own these stories, are the sharers happy for their generational narratives to be shared publicly? What are the cultural/ethical impacts of people sharing family histories and ancestral stories? Is it appropriate for someone to share a story from another member of their whanau/family? Should word of mouth stories stay as 'word of mouth' stories? Why would someone want their family history/recollections about a specific time/place shared publicly? Previous design practice/moving image projects, documentation of archival material and investigation of case studies have led me to the fact that stories are important, ancestral stories are important, that historical documentation is vital for the navigation of future decisions and generational pathways. Each family/community has a multitude of narratives, some generational stories handed down to re-tell in a slightly different way, each generation instilling their own slant on the story/place. The process of archiving the 'actual' firsthand experiences of the place/ the person/the experience/the time, is something which I believe will have enormous benefit to the identity of a community, create answers and clarification for the 'whys' which exist within families/cultures and within buildings and what they represent. I will embark on effective research methods with elements of evocative methods to generate design work in a creative response to problem solving. The design practice is to establish visual/audio links with/for people, whether that is through common stories/experiences like war, or more personal experiences such as a child hearing the voice of their great whanau grandmother/father.



Figures 12 & 13 Interview Stills taken from *Eternal Vigilance* Documentary -Jay Pressnell and Martin Bennett 2012<sup>6</sup>

(Interaction Design Foundation 2010)<sup>29</sup>

If the design practice, via *The Tiaki Project*, can establish a process to instill these 'voices' into a community, within the fabric of the significant buildings, pathways, places of congregation, places of play, places of learning, then people coming into a community for the first time will gain an understanding of where they are. It will also give the established people of that community the opportunity to gain a collective/cohesive identity.

As Dr Hana O'Regan said, "*I believe understanding our Aotearoa New Zealand's histories, understanding who we are in connecting us to our tuurangawaewae, to our place in time, understanding the historical circumstances that have influenced who we are, the interactions, the cultures, the languages, the space, the environment – that creates a much stronger person at an individual level, or stronger community at a local*

<sup>29</sup> (Interaction Design Foundation 2010)

level, and at a national level – that will then help us develop that confidence within a global environment”.<sup>30</sup> One of the initial authentic case studies, which evolved as part of the dialogue with various community groups, was the implementation of an interactive virtual reality experience which took place on six activation days in Pukekohe Town Square as part of the Eke Panuku Development initiative. Beyond the MDes studies, *The Tiaki Project* had already engaged with Eke Panuku (Auckland Council Development) in a practical sense by facilitating these six activation days in Pukekohe Town Square so that young people can explore an interactive 3D model of the square and interact using Virtual Reality painting and drawing technology. The ‘Make Your Mark VR Experience’ occurred on the last Saturday of each month from January to July of 2023. In terms of its significance to the overall intentions and validity of *The Tiaki Project*, it was an important look at the interactions and responses of user experience, where there was use of unfamiliar future based technology (Oculus Quest VR set up), it was integrated with a space familiar to them (Pukekohe Town Square) and also resulted in an experience which was fun and engaging for the user. The success of this first Tiaki Project community test has resulted in future experiences and activation days facilitated by Eke Panuku planned for 2024.



Figures 14, 15, 16 - ‘The Make Your Mark VR Experience’ (As part of the Eke Panuku Activation Days) The Tiaki Project 2023 – Jay Pressnell

<sup>30</sup> (Ministry of Education 2022)

## THE MATERIALITY OF PROCESS



Figures 17, 18 & 19 - Materials Experimental Studio set up, and cultural textures and material investigations Jay Pressnell<sup>31</sup> (The initial set up of the studio space at AUT was integral to the process of material and tactile engagement, enabling the design process to be entrenched in authentic material intended to provide sensory evocation of memories and industry based fabrics and textures).

This study fundamentally has been a practical investigation into the physical properties and possibilities of materials linked to specific cultural narratives and local historical stories. Experimentation has taken the form of developing concept diagrams, digital drawings and layouts, annotations and collages, leading to investigating the significance of native and localised materials, construction materials and appropriate surfaces/textures able to be inserted into a community space. In response to established practice, community stories and relevant material experimentation, (and the ongoing reflective dialogue between them), the experimentation involved casting, engraving, laser printing etc. to enhance the user experience through tactile interaction and the visualisation of the layers of narratives connected to the layers of material placement. The material investigation reflected on the dialogue between industry, cultural pattern, historical narrative, location, gender etc. The user experience and the opportunities to provide multi-sensory interaction are important drivers of this method. The material experimentation, ordering and scale of material, will also aim to depict the metaphorical nature of layering of time, as well as depicting the personal identity/focus of the storyteller. The intention is for the final artefacts to visually explore and discover a narrative through its design, also to have the opportunity for a tactile response from the user through a variety of material touch, through to opportunities to both hear the voices via Augmented Reality and to share/preserve their own stories and responses within an interactive app or archived platform. The following material exploration, from initial prototypes and material play, through to final proof of concept designs, are there to indicate the process of problem solving, the permutations of experimenting with diverse materials, engaging with the dialogue between analogue and digital, with the ultimate goal of creating proof of concept designs which will be engaging and provide the audio-visual interactions, which are key to the essence of *The Tiaki Project*.

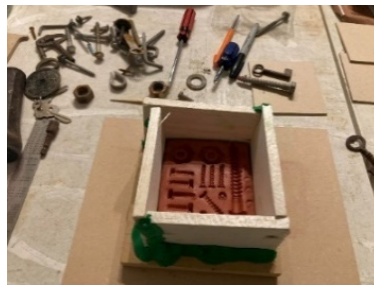


Figures 20, 21, 22 & 23 - Initial prototypes of Layered Collages to represent the 'Layers of Time' which exist within a personal narrative

<sup>31</sup> (Pressnell 2022)



Figures 24, 25 & 26 - Initial concept prototype - ‘Coming together of eras’ – Laser Engraved Flox Damask design onto 115-year-old Macrocarpa. Jay Pressnell 2022.<sup>33</sup> (This specific material experiment had great significance to the eventual proof of concept outcomes, as it firstly brought together two emotive materials, one a slice of timber that came off a 115 year old tree on my land, the other a significant wallpaper design which adorned the walls of my grandparents house in South London. Bringing them together felt like a powerful union of generations, whilst the material fusion felt complementary and cohesive).



Figures 27, 28 & 29 Cast Industry Materials to represent a personal story – Jay Pressnell.<sup>34</sup>

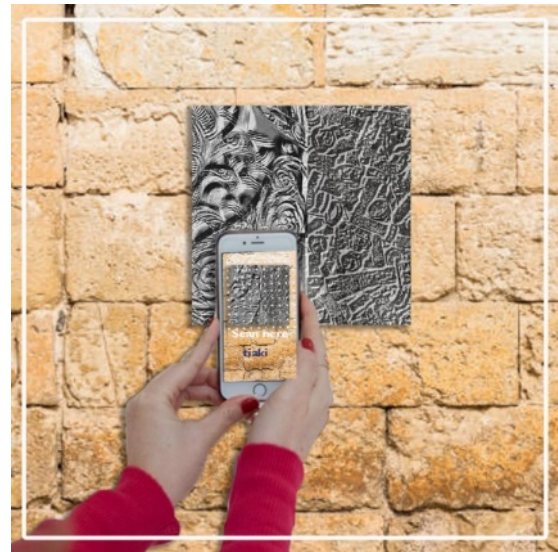
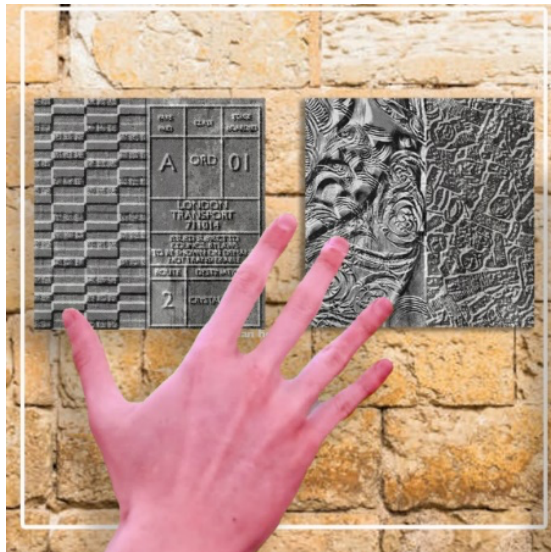
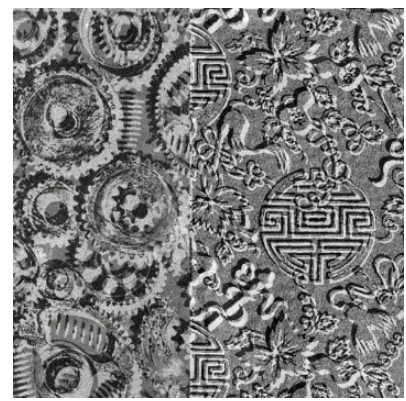
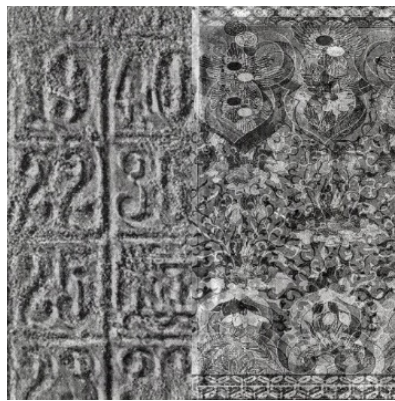


Figures 30, 31 & 32 (This sequence of 3D studies/plaster casts responded to the possibility and potential for more tactile experiences linked to the artworks. The first iterations of tactile engagements were considered as significant components of the final outcomes. These led to the following castings of industry based material linked into Pukekohe/Franklin. Jay Pressnell 27

<sup>32</sup> (Pressnell 2022)

<sup>33</sup> (Pressnell 2022)

<sup>34</sup> (Pressnell 2022)



Figures 33, 34, 35, 36 & 37 Primary Digital Prototyping of Interactive Materials within a community space – Jay Pressnell<sup>35</sup>

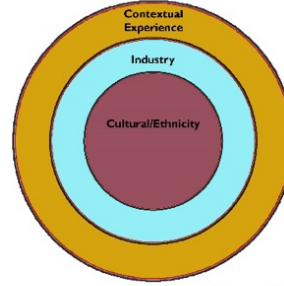
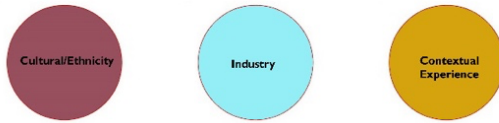
Trialing each aspect of the interactive process has been an ongoing reflective/responsive throughout the prototyping phase of the design development. The prototyping stage has been progressive and rigorous, in constant response to the material investigation method. The audio/visual component and how the user can interact, discover, share and touch, has driven the decision making, alongside the allowance and provision for varied user testing throughout the process. Experimentation of audio-visual materials such as speakers, augmented reality platforms that already exist will be tested, reformed and adjusted to meet the needs and aims of the project. Like the material investigation and the tactility of material interaction, the digital interaction through the use of a mobile device to hear the actual storyteller, will develop further opportunities to resonate with the user. An archiving platform via a specifically designed website or hosting facility will be accessed at the proof of concept stage via the app to allow options for sharing user content and viewing more archived materials such as photos and historic documents. The prototyping process has also offered opportunity to investigate how community spaces can provide a suitable platform for the project, providing exciting navigation opportunities via interactive maps using the imbedded designs to journey through a space, whilst learning local histories and knowledge about specific heritage buildings and significant places.

<sup>35</sup> (Pressnell 2022)

**THE TIAKI PROJECT**  
Prototype Investigations

Circles represent different components of a story:

Cultural/Ethnicity  
Industry through tool/machinery materials.  
Community Ideology and attachments.  
Contextual Experiences (war, whānau upbringing, emmigration, gender, sport, history, education)  
All of the above will be replicated, visually depicted within hard materials for placement in outdoor spaces.  
Common Community Materials (native wood, steel, market gardening, racing).



The above circles can be placed in any order on top of each other, or side by side depending on the focus, personal story or cultural/contextual significance and/or importance. Sometimes it may be that the cultural/ethnicity of the group/person may be at the heart of the designs, but the industry or personal journey or community connection may be more important to that person. Each layer providing an insight into the personal, historical/contextual identity of each narrative.



The examples below give examples of some of the material groupings and sequencing.

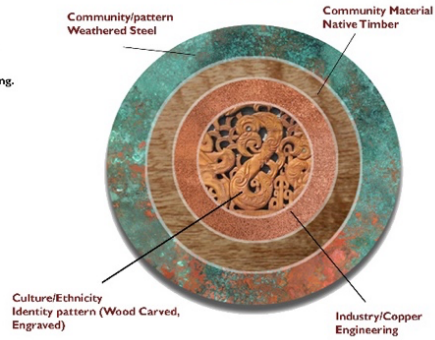


Figure 38 - The Tiaki Project Coding prototype – Digital Print – Jay Pressnell<sup>36</sup>

As the designs moved into the digital space, decisions around the handling of colour, texture, user interaction and clarity of design became more cohesive and the need to develop a prototype which had structure and system, linked to an individual or business, became an important part of the ongoing process.



Figures 39, 40, 41 & 42 – Sectional Textures and Industry collages

Initial Digital prototypes in circular form to represent the 'layers of time/layers of narrative – Jay Pressnell<sup>37</sup>

<sup>36</sup> (Pressnell 2022)

<sup>37</sup> (Pressnell 2022)



Figures 42, 44, 45 & 46 - Laser Engraved prototype, 2022 – Jay Pressnell (AUT) After the digital coding framework was established and the collaged prototypes were created, the decision to include a person, face in the design was made. This decision was made to aid the viewer and help support the clarity of work. The intention of implementing artworks into the community meant that users could engage with them with a clear understanding of what was being asked of them. Therefore, the person, familiar or not, gave the user a recognizable starting point and something more aesthetically successful before the audio interaction and experience began). It was also decided to laser engrave them, a key reflection based on the success of the initial prototype (Figure 25)

## Soundscapes

As previously stated, a significant aspect of the final proof of concept outcome, centres around the audio component of the narrative archive, therefore, the user experience beyond the visual response should be focused on the relationship between the voices within a relevant, narrative enhancing soundscape, and the final in-situ artworks. It has been important to create a 'user experience timeline' concept, which attempts to encompass the initial visual response/engagement, through to the digital interactive pathway set up by the QR code scanning stage, which then moves the user onto the audio/interview archive component which will be housed within a functioning and live website. The live link to the audio will enable users to remain present to the 'real' in-situ artwork, as the link will simply take users to an mp4 file which has a thumbnail of the artwork (this will also work as confirmation to the user that they have the correct link to the specific archive). The audio will also attempt to further engage the user with layered sound linked to the content of the interview i.e. factory noises, sounds from nature, audio from the workplace, audio to represent ethnicity. The sounds will then be layered over the voice recordings of the interviewee, again, to enhance the audio/narrative component linked to the origin stories, subsequently supporting/enhancing the original user experience whilst being present to the original 'live' artworks. The proof-of-concept design will also take into account the future interactive development component beyond the QR code. Once artworks are placed into the community, the opportunity to use GPS or Geolocation would be the next stage, so that users can interact with the actual in-situ artworks rather than the QR code. Augmented reality features can then be added to the source files, enabling the user to experience the artworks as animations/speaking as a digital layer on top of the 'real' in-situ artworks via the use of a mobile device. (See 19 Crimes Wine App, and Snoop Dog Wine labels as reference).

<https://19crimes.com/pages/living-labels>

The prototype above was taken from an interview conducted as part of the 'Eternal Vigilance' documentary in 2012. It was an interview which detailed the experiences of the Land Army during the second world war and focuses on the Land Girls' rich dialogue working in the production line, from field to factory, preparing and producing fruit and vegetables for the war effort in the Pacific region, The audio included soundscapes linked to the farming equipment, factory sounds, conveyer belts, farm animals and bird life. The sounds were inserted alongside the dialogue to affirm the narrative and to build a more layered user experience. This prototype was significant when constructing the soundscapes for the 4 interviews/origin stories for the final artworks.

### [Tiaki Audio | The Tiaki Project](#)

**THE Tiaki PROJECT**

An Interactive Archival Experience for the purpose of preservation and sharing of personal and community narratives, cultural identity and local histories.

Please scan with your mobile device

Please scan the QR Code above to hear the oral history from Dorothy Herbert and Betty Duncan regarding their own recollections of the market gardens during the Second War War in Franklin 1943.

Visit: [www.tiakiproject.com](http://www.tiakiproject.com)

To hear more community stories and share your own archive. Take part in interactive historical experiences around the community.

Figure 47 - Audio prototype test for linking in with final proof of concept artwork – Jay Pressnell

## FINDINGS AND NEXT STEPS

As showed in the iterative material processes above, key challenges and issues that needed to be resolved for the proof-of-concept outcomes were imbedded in the aesthetics of the artworks linked to engagement levels of the user. Throughout the material experimentation and design prototyping stages, various iterations were worked through which tackled the challenge of marrying the functionality to the quality/success of design.

From initial material play with layering, collages, casting, tactile iterative tests, through to more specific coding mechanisms and digital designs, laser engraved designs, moving onto the decision making regarding showing ‘significant’ people in the outcomes, rather than textures, patterns and relevant archived material. This decision was made purely from a clarity point of view, being mindful of these works eventually being placed within the community, wanting people to have an immediate engagement via recognizable people, businesses from their community. This was an important aspect of the user experience, responding to familiarity as a visual initially, then feeling more comfortable to engage with the QR/GPS Interactive initiated audio.

Another important consideration which supported the user experience and the subsequent iterative thinking and practical response, was the creation of a user experience timeline. This process informed the making of the proof-of-concept outcomes, from the circle designs, the materials they were printed on, to the creation of audio excerpts with soundscapes imbedded behind the voices.

This prototyping proof of concept process was significant as it followed an intended ‘user experience’ path which incorporated the engagement levels of the user when they came to each artwork in isolation, or as a group. The proof-of-concept ideas also progressed to future in-situ consideration of wayfinding and navigation, based on previously mentioned case studies using AR/GPS to move through a community space, enhancing the historical awareness via these interactive technologies.

As part of the decision making around the visual impact of the artworks, it was decided that the concepts were to have no colour added after the laser engraving stage. This decision was made to enhance the feeling of timelessness, engraving being an artistic process used for hundreds of years. The proof-of-concept decisions could have potential to age naturally in the natural environment over time. The decision to withhold colour would mean that there would be not as much fading over time (not to dismiss this as an aging process in its self), whilst allowing each design to form a unified aesthetic, without the constraints of varied colour palettes which would have been a part of each work.



Figures 48, 49 - Digital concepts Colour and Black and White – (The Wharfe Bros, Pukekohe) – Jay Pressnell

The printing material or surface, its aesthetic quality based on the timelessness of concept, layering of time via texture, needed to reflect back on the principles and intentions behind the Tiaki Project. The early decision to laser print designs onto old timber recycled cable spool ends was/is something that resonates back to the local farming/industry of Pukekohe and Franklin from where the subjects are from. The spools were naturally weathered, had remnants of heavy industry usage, evidence of rust, moss, lichen, soil. This material and surface consideration has been challenging, not from an appropriateness to intention point of view, but from a technical printing point of view. The Laser Engraving process from a health and safety point of view meant that ‘treated’ or recycled timber could not be printed on within a confined area for health and safety reasons. This meant that a variety of other timber surfaces, from natural NZ native wood such as Rimu and Kauri were considered, through to simple well grained hardwoods and plywood. Whilst being initially disappointed not to be able to print directly onto these timber cable spools, it did create the challenge of how could the age/weathering look to these surfaces be re-created using untreated, newer timber. The notion of how these surfaces could age over time also became relevant and poignant, whilst it revisited the intentionality of what the Tiaki Project was about, establishing and experiencing the layering of time through both audio and visual storytelling. The proof-of-concept outcomes needed an implicit opportunity to evolve into something changeable over time. The current work for proof of concept will attempt to recreate the look of an old cable spool, with features attached which enhance the weathered, industrial feel of their original, more authentic counterparts.



Figures 50, 51, 52, 53 & 54 - Material fabrication for final proof of concept designs (3D fabrication Lab, AUT)  
Jay Pressnell

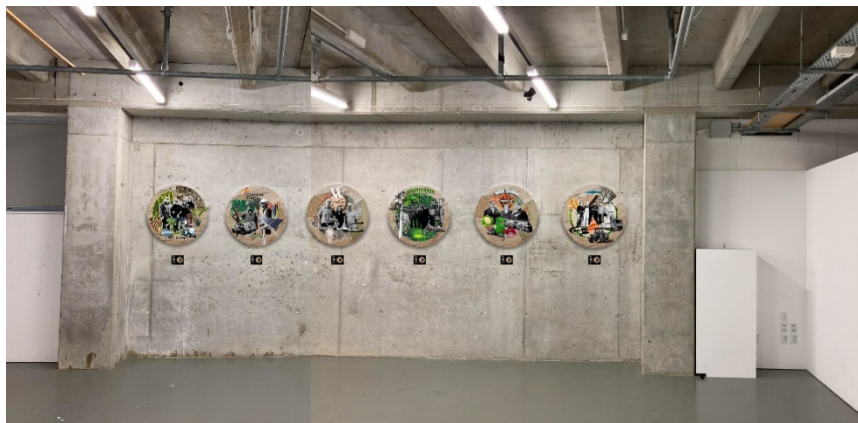
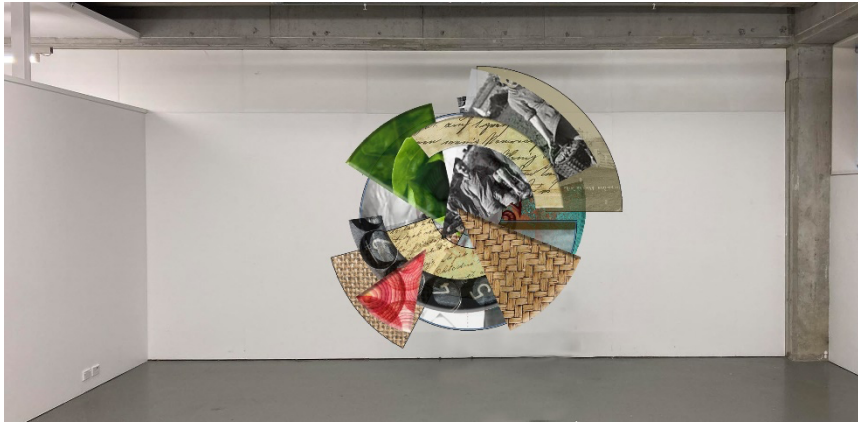
## Final Exhibition

The final exhibition space has been curated and designed to reflect the thinking and material exploration which took place during *The Tiaki Project*'s inception and implementation as a proof of concept study.

From the initial personal materiality and sensory motivations which were referenced in the abstract, to the material experiments, to the more digital and immersive iterations, the space hopefully provides a visual journey of design reflections and tactile investigations. The user experience, both through audio and visual materials, will hopefully be broad and provide scope for further developments and iterations as they move closer to the potential of being implemented in-situ within the community. The exhibition will aim to give the user the opportunity to touch the artworks as well as view them, engage with the sounds linked to the artworks, subsequently providing a further amalgamation of experience. There will be specific examples of when certain materials played an important role in the direction of decision making, driving the study into new and challenging directions. The analogue/digital combination has always been a component that resonates throughout the making project, so opportunities to experience those relationships are imbedded within the space as you navigate through. As you move through the space, users will also engage in more digital interactive experiences through an AR station, where images can be overlaid directly into the gallery space via an I-Pad. There will be some examples of augmented reality tests within the Pukekohe Community playing on a screen, whilst *The Tiaki Project* website, currently a live site hosting the interactive content will be open for users to look through the content of the website, as well as finding out more information about the project and its potential implementation in the community. On one wall, there will also be a large animation of *The Tiaki Project* logo which will be moving across the space, showcasing the layers of materiality and time. The potential for multiple layers of sound playing at the same time is also possible, as users listen to different pieces of audio. This could also provide reflections and the opportunity for revisiting the overall ethos and motivations behind the project....voices.



Figure 55 - Final Digital Prototype for proof of Concept study – Wharfe Brothers – Jay Pressnell



Figures 56, 57, 58 & 60 - WM201C -The Test Space Gallery – Digital layout – Jay Pressnell

## CONCLUSIONS/IMPLICATIONS

In conclusion, this practice based research study has enabled significant opportunities for reflection and future investigation. From specific case studies and contextual literature, the study has been able to develop authentic responses to authentic projects and initiatives which have impacted communities and people, documented important histories, narratives and stories which resonate in a variety of different ways. The study has been able to reflect on the question of ‘What makes a community?’ and how it’s identity and make up, based on the diverse histories and cultural and ethnic backgrounds impacts on how the inhabitants view themselves from within, and how a community is perceived from outside. *The Tiaki Project* has focused on a multi-cultural community in Pukekohe/Franklin, and created interactive proof of concept artworks with the intention of the concept being developed and implemented into the community spaces. The notion of the identity of users is also something that has been a significant driver in the concept stage of *The Tiaki Project* and this has led the study to analyse the relevance of education, historical archiving techniques and the impact of how the character of space can be enhanced through interactive digital technology. There has been an exploration of Augmented reality and GPS (Geotagging) as an interactive platform, as well as being utilized as a wayfinding process for users to navigate through a community. This technology, beyond the QR Coding technology (which will initially drive the audio-visual experience at the proof of concept Masters exhibition), has many attributes for future implementation in the community as a way of increasing the awareness and knowledge of local histories, via people, places and experiences. These future plans have been explored and briefly mentioned in the final sections above.

Through its experimentation of materiality and media, both analogue and digital processes, *The Tiaki Project* has engaged consistently with the project’s direct motivation and inspiration, that is through sensory and tactile responses to texture, sounds and materials. The iterative process has enabled this full exploration of material experimentation, moving in and out of analogue and digital, combining them in rich ways to instigate further ideas and reflections. Fundamentally, the study has intended to create future opportunity for community members to interact with spaces within the place they reside, interact with familiar stories which they identify with, experiencing new perspectives on subjects they know, and most importantly for the intentions of *The Tiaki Project*, opportunities to share their own historical narratives and stories for future generations to hear and learn from.

### Next steps

Looking beyond the Masters proof-of-concept outcomes, exhibition, reflections and the relevant and significance of moving forward, it is clear that the potential for successful implementation and integration into the community of Pukekohe/Franklin remains exciting when placing *The Tiaki Project* into the context of a dynamic multi-cultural environment with much historical resonance. Also, there is much value and cultural significance when viewing the project through an educational lens, responding to the NZ Histories Curriculum with changes and initiatives centred around localized stories and histories. These elements, alongside future thinking and plans for the *Tiaki Project* to evolve in different areas, offer much scope for creating even more opportunities for users and community members to increase their awareness of their local histories. It also creates greater opportunity for larger stakeholders within the community to see the potential for tourism and commercialism beyond the local users, through wayfinding experiences, heritage trails and activation days for young people to discover, learn about and view their own spaces in exciting ways through the use of future focused technologies such as AR and VR. (Please see future pathways and subsequent imagery to support these initiatives).

Plans for communication with both the Franklin Historical and Heritage Society to implement an Augmented Reality Experience into their Heritage trail around Pukekohe. Users can navigate through the community using mobile devices to see old buildings via AR and with the options of accessing audio and interactive information.

Plans for communication with the Pukekohe Business Association, Eke Panuku and the Franklin Local Board to ascertain the best places for installation of any future interactive artworks. The proof-of-concept outcome as part of the Masters study will form the nucleus of reference for future works.



Figures 61, 62 - Augmented reality Prototypes from Pukekohe farming and Old Fire Station Pukekohe – Jay Pressnell



Figure 63 - Digital proof of concept design for future implementation of Audio Visual Interactive Narrative designs – Jay Pressnell

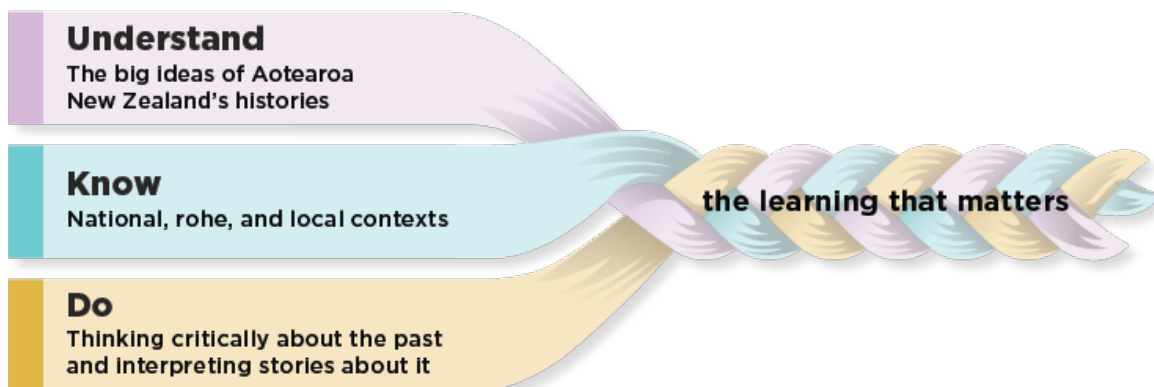
Funding applications for future technological resources to enable the wider ‘sharing/archiving’ of material, i.e. a bespoke *Tiaki Project* App with the capability of recording archival material, interacting with Augmented Reality in the community, accessing GPS location for the origin stories specified in the proof-of-concept Masters study artworks, whilst creating a hosting database for archived material to be shared

and held securely and archived for future generations.



Figure 64 - Initial prototype design and plan for The Tiaki project App – Jay Pressnell

Plans for communication with local iwi (Ngati Tamaoho) and the Ministry of Education to support the delivery of educational resources linked to the NZ Aotearoa Histories Curriculum, with the idea of using the Tiaki Project as one of the platforms to bring about local awareness of historic places, stories and people to our young people, whilst raising the levels of knowledge of Maturanga Maori principles of storytelling within our community schools.



Plans for liaising with local community groups within the Pukekohe/Franklin community to create further multi-cultural interactive artworks (developed via proof-of-concept outcomes, based around origin stories and wayfinding maps).



Figure 64 - Design plan for interactive wayfinding map of Pukekohe using the audio-visual experiences created by *The Tiaki Project* initiatives.

There are plans for more interactive artworks and exhibitions within the community based around audio visual experiences, focused on the people of the community. The ‘Symbiosis’ Tree Projection Experience is an example of an external site specific exhibition which involves video projections of significant community members onto trees. Plans to link in with NZ Aotearoa Heritage and Franklin Heritage Groups to create 3D digital archived models of significant historical buildings within Pukekohe/Franklin, potentially linked into virtual reality experiences and augmented reality experiences.



Figures 65, 66 – Heritage VR Experiences and Symbiosis Tree Exhibition

In terms of future study and progression of research at AUT, there is always potential of further PHD study to enable the support of further research and development of initiatives which offer further authentic pathways for *The Tiaki Project*, as well as developing robust strategies for in-situ implementation, linked in to local iwi engagement and the relevant authorities and groups. The development of a deep and critical ethics application beyond any proof-of-concept outcomes would also be a process and significant step for *The Tiaki Project* to proceed on a wider holistic pathway.

When reflecting on the effectiveness of this study, I have consistently revisited my abstract and my research question for guidance in terms of both the personal creative and cultural inspiration, as well as the potential for

success based on the user experience. Personal artworks, which have been imbedded into community experiences, celebrating history narratives and re-telling of old stories in new ways, have been at the heart of the research question. The use of mixed reality technology to showcase these origin stories have also played a significant role in providing a user friendly experience within a community. *The Tiaki Project*, through proof of concept artworks, aimed to create an audio visual opportunity for origin businesses in Pukekohe/Franklin to share their stories of when they first connected with the community and how they have remained as an integral part. This process of course meant an engagement with the specific businesses, explaining the project in person, explaining the current goal for the purposes of a Masters Research Study and explaining the longer term intention of their stories and origin narratives being installed into the community for the public to engage with. The success of any idea sometimes relies on the engagement and participation from the subject. All of the four subjects were willing and excited by the opportunity to take part in the initial proof of concept and exhibition stage and also were committed to the longer term implementation in the community. Initial prototype designs and information were shared, and an opportunity for them to reflect on their involvement in *The Tiaki Project* was given appropriate time and consideration. It was the depth of research and material experimentation which allowed the room for design iterations and decisions to take place, based on contextual case studies and personal artworks already undertaken in the community. Mixed Reality (AR and VR) experiences within the community through activation days with Eke Panuku, allowed further reflection on the engagement levels of the users, both via their interest in new technologies, and with a digital space they were familiar with. The final proof of concept artworks throughout the study, they evolved in different ways, directions which focused on material and tactile engagement, through to establishing a user timeline which enabled users to be immersed in a multi-sensory experience where the audio and visual components worked as complementary factor for each other. The decision to remove colour, and focus on the aging process and aesthetic of laser engraving onto used timber feels successfully and a purposeful decision. The longevity of these artworks within the community for future generations, again, with reflection on the research question, enabled these decisions to be made with confidence and assurance. The support from technicians and supervisory guidance at AUT, also provided a secondary layer of assurance when contemplating the correct timber for printing the final designs onto and then aligning it with the overall experience of QR code audio scanning for the final exhibition. A significant challenge of the *Tiaki Project*, throughout the period of study, was to be focused on one significant proof of concept outcome. The potential for the project to be implemented into a huge variety of archival platforms and experiences for sharing and participating, was always something that evolved in an oscillating manner, i.e. which was the idea that would sufficiently and successfully provide a visual explanation for The Tiaki Project idea to reach users initially, but provide future opportunities and interest that the project had momentum and integrity to continue beyond the Masters study.

Pukekohe/Franklin is a community rich in multi-culturalism and history, it has the potential for its rich historic narratives to be told on a variety of platforms, and The Tiaki Project has the intention of creating those opportunities for users in the community to contribute to the new 'character of space', a future focused identity where generations to come will engage with preserved and archived material, through sharing and interactions, and lead to a culture where the notion of 'tiaki' feels authentically upheld and implemented. There is also the intention that this research study can be significant enough to not only impact on the immediate community of Pukekohe/Franklin, but wider Aotearoa. The need to archive and document 'voices' from the past is not just a personal need and reflective regret (in reference to my abstract which recalls that I did not record my grandparents voices), but one that can positively impact on communities for the betterment of future generations and community cohesion.

## FIGURES

Figure 1 Layering of time, pine shaving and laser engraving (Jay Pressnell)

Figure 2 Image of Location based augmented reality example

[Location-Based AR: Guide with Examples \(wear-studio.com\)](https://www.wear-studio.com)

Figure 3 An example of a geo-tagging app

<https://www.semanticscholar.org/paper/Mobile-augmented-reality-for-interpretation-of-Mohammed-Amin-Lev>

Figure 4 Brotherhood Protest poster

Figure 5 Image from "Augmented and mixed reality design for contested and challenging histories." Maria Engberg 2017  
[Group of Scandinavian settlers - Manawatū Heritage \(pncc.govt.nz\)](https://www.pncc.govt.nz)

Figure 6 Toi Tu Toi Ora Exhibition, Auckland City gallery<sup>[1]</sup>, and Figure 7 Brett Graham work 'Resettle'<sup>[2]</sup>

Figure 8 City Rail Link Concept Design for Centre of Aotea<sup>38</sup>

Figure 9 'In Pursuit of Venus-Infected' - Lisa Reihana<sup>39</sup> -Les Sauvages de la Mer Pacifique – Joseph Dufour & Cie, Jean-Gabriel Charvet<sup>40</sup>

Figure 10 new Aotearoa New Zealand's histories and Te Takanga o Te Waa<sup>41</sup>

Figures 12 & 13 Interview Stills taken from Eternal Vigilance Documentary -Jay Pressnell and Martin Bennett 2012<sup>6</sup>  
(Interaction Design Foundation 2010)<sup>42</sup>

Figures 14, 15, 16 - 'The Make Your Mark VR Experience' (As part of the Eke Panuku Activation Days) The Tiaki Project 2023 – Jay Pressnell

Figures 17, 18 & 19 - Materials Experimental Studio set up, and cultural textures and material investigations Jay Pressnell<sup>43</sup>  
(The initial set up of the studio space at AUT was integral to the process of material and tactile engagement, enabling the design process to be entrenched in authentic material intended to provide sensory evocation of memories and industry based fabrics and textures).

Figures 20, 21, 22 & 23 - Initial prototypes of Layered Collages to represent the 'Layers of Time' which exist within a personal narrative

Figures 24, 25 & 26 - Initial concept prototype - 'Coming together of eras' – Laser Engraved Flox Damask design onto 115-year-old Macrocarpa. Jay Pressnell 2022.<sup>44</sup> (This specific material experiment had great significance to the eventual proof of concept outcomes, as it firstly brought together two emotive materials, one a slice of timber that came off a 115 year old tree on my land, the other a significant wallpaper design which adorned the walls of my grandparents house in South London. Bringing them together felt like a powerful union of generations, whilst the material fusion felt complementary and cohesive).

Figures 27, 28 & 29 Cast Industry Materials to represent a personal story – Jay Pressnell.<sup>45</sup>

Figures 30, 31 & 32 (This sequence of 3D studies/plaster casts responded to the possibility and potential for more textile experiences linked to the artworks. The first iterations of tactile engagements were considered as significant components of the final outcomes. These led to the following castings of industry based material linked into Pukekohe/Franklin. Jay Pressnell  
27

Figures 33, 34, 35, 36 & 37 Primary Digital Prototyping of Interactive Materials within a community space – Jay Pressnell<sup>46</sup>

Figure 38 - The Tiaki Project Coding prototype – Digital Print – Jay Pressnell<sup>47</sup>

As the designs moved into the digital space, decisions around the handling of colour, texture, user interaction and clarity of design became more cohesive and the need to develop a prototype which had structure and system, linked to an individual or business, became an important part of the ongoing process.

Figures 39, 40, 41 & 42 – Sectional Textures and Industry collages

Figures 42, 44, 45 & 46 - Laser Engraved prototype, 2022 – Jay Pressnell (AUT) After the digital coding framework was established and the collaged prototypes were created, the decision to include a person, face in the design was made. This decision was made to aid the viewer and help support the clarity of work. The intention of implementing artworks into the community meant that users could engage with them with a clear understanding of what was being asked of them. Therefore, the person, familiar or not, gave the user a recognizable starting point and something more aesthetically successful before the audio interaction and experience began). It was also decided to laser engrave them, a key reflection based on the success of the initial prototype (Figure 25)

Figure 47 - Audio prototype test for linking in with final proof of concept artwork – Jay Pressnell

Figures 48, 49 - Digital concepts Colour and Black and White – (The Wharfe Bros, Pukekohe) – Jay Pressnell

Figures 50, 51, 52, 53 & 54 - Material fabrication for final proof of concept designs (3D fabrication Lab, AUT) Jay Pressnell

Figure 55 - Final Digital Prototype for proof of Concept study – Wharfe Brothers – Jay Pressnell

Figures 56, 57, 58 & 60 - WM201C -The Test Space Gallery – Digital layout – Jay Pressnell

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Figure 64 - Design plan for interactive wayfinding map of Pukekohe using the audio-visual experiences created by *The Tiaki Project* initiatives.

Figures 65, 66 – Heritage VR Experiences and Symbiosis Tree Exhibition

Figures 67, 68 - Flox Wallpaper and 'Portrait of My Nan' by JayPressnell 2002

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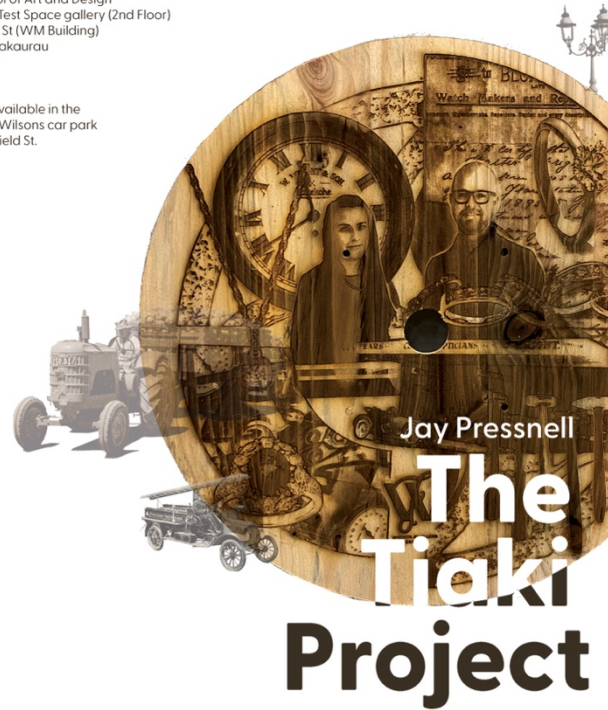
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## APPENDICES

### THE TIAKI PROJECT EXHIBITION – 17<sup>th</sup> January 2024

Auckland University of Technology  
The School of Art and Design  
WM201C Test Space gallery (2nd Floor)  
40 St Paul St (WM Building)  
Tāmaki Makaurau  
Auckland

Parking available in the adjacent Wilsons car park on Wakefield St.



**06.11 -  
10.11**

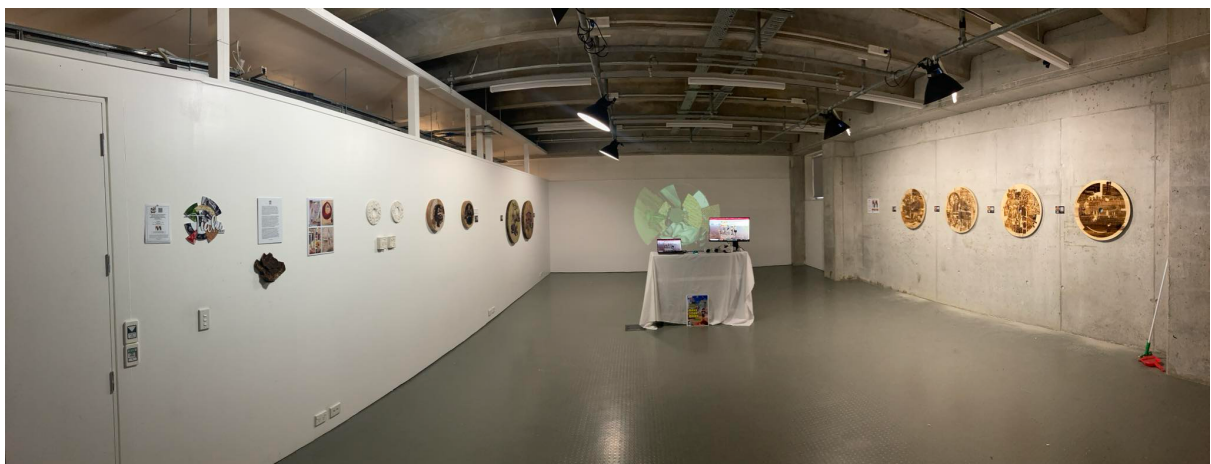
Exhibition  
6th - 10th November 2023

Masters of  
Design  
**2023**

Private Show  
Friday 10th November from 6.30 - 8pm



*'The Tiaki Project' Exhibition Poster*



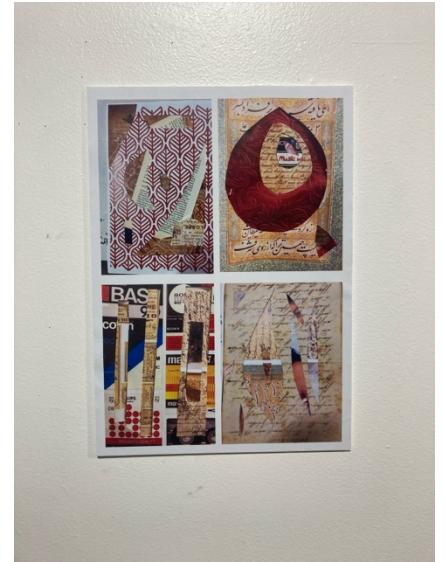
*'The Tiaki Project' Gallery layout  
AUT St Paul's St Building.*



*'The Tiaki Project' Logo*



Opening Exhibition Abstract



Material Experiments - Collage



Portrait Prototype - Laser Engraving and paint



Material Experimentation - Clay Casts



Augmented Reality and 3D Digital Model Stills from Digital Screens



Virtual Reality Test in  
Exhibition Space



'Rural Landscapes'  
Paint on Timber Agricultural  
Cable Spoils



Main Wall and Projection –  
AUT Gallery Space



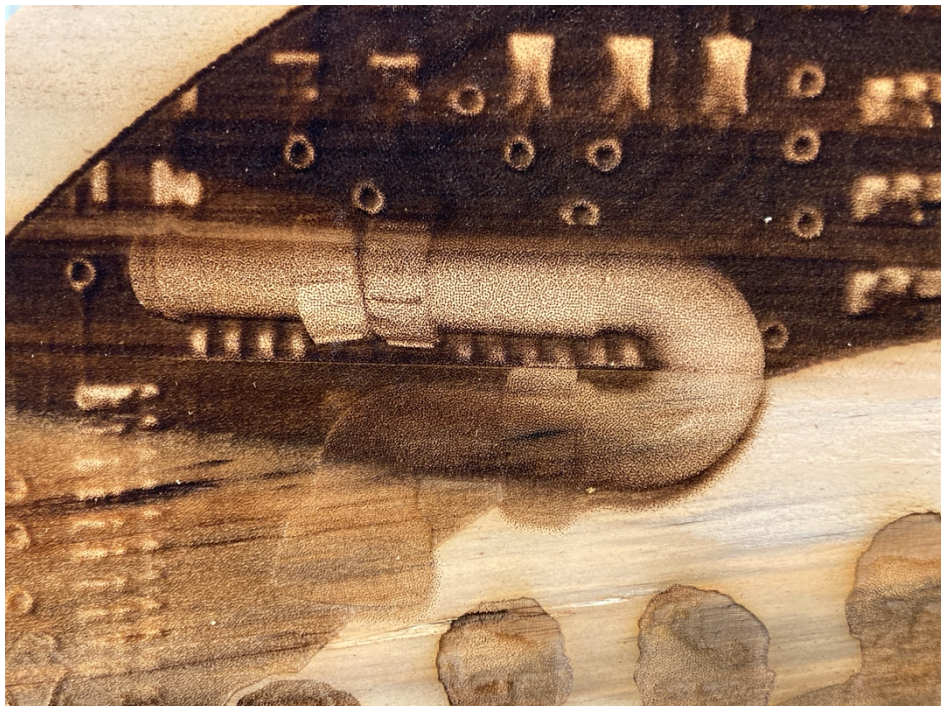
2<sup>nd</sup> Portrait Test with QR Coding for  
Audio/Visual Connections



*'Farrell's Portrait'*  
Laser Engraving on Timber



*'Wharfe Bros Portrait'*  
Laser Engraving on Timber



*'Farrell's Portrait -Detail'*  
Laser Engraving on Timber



*'Counties Power Portrait'*  
Laser Engraving on Timber



*'Counties Power Portrait - Detail'*  
Laser Engraving on Timber



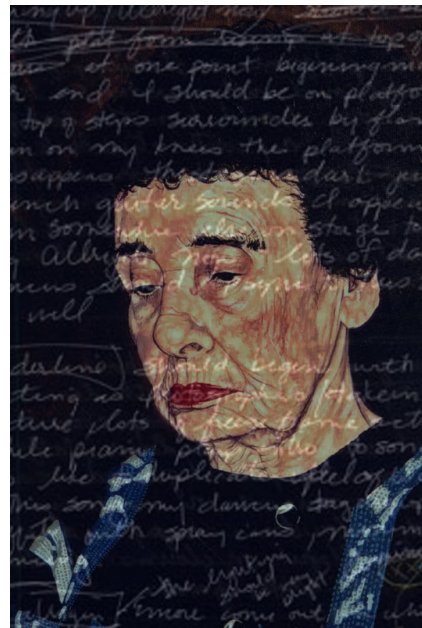
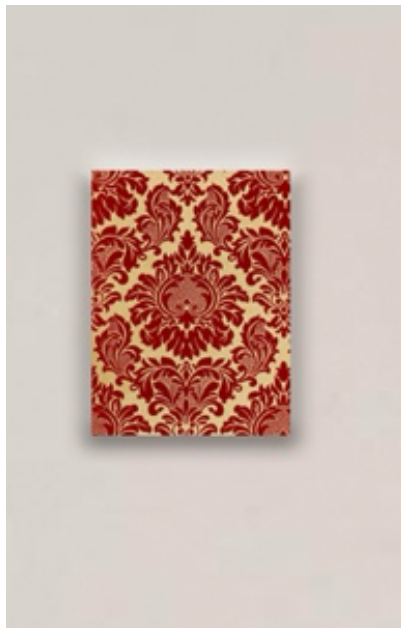
*'Wright's Portrait'*  
Laser Engraving on Timber



*'Augmented Reality Experience'  
Still from Interactive APP.*



*ARTIST -Jay Pressnell with  
visitor Virginia Jones*



Figures 67 , 68 - Flox Wallpaper and 'Portrait of My Nan' by JayPressnell 2002

Dedicated to the past voices of my whanau, whom I'm trying with all of my heart, to 'tiaki' for the rest of my life.  
Jay Pressnell 2023.

