Mobile Learning Special Interest Group Symposium: Revisiting Mobile Mixed Reality

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This symposium discussion is based around the 2019 update to the special collection of Research in Learning Technology (RLT) on Mobile Mixed Reality (MMR) Enhanced Learning that the ASCILITE Mobile Learning SIG has coordinated this year - due for publication in November/December 2019 – the authors will use the articles to spark discussion around the critical issues surrounding the design of MMR for higher education, and the current state of the art of these rapidly developing technologies.

Keywords: Mobile Learning, Mixed Reality, Immersive Reality, State of the art

Overview

The Symposium will explore the critical issues around the educational use of Mobile Mixed Reality, based upon the articles accepted for publication in the 2019 update to the RLT journal special issue.The articles cover a range of themes around MMR including:

- Case studies in the design and implementation of MMR in higher education
- The use of Design Based Research as an underpinning methodology
- Key themes in mobile mixed reality use in higher education

Attendees of the symposium will have the opportunity to read the articles accepted for publication in the special issue before the symposium, and ask questions of the authors of the special issue papers – providing discussion around the implementation and design of mobile mixed reality learning environments. The session is aimed at educators wishing to explore the critical issues of integrating MMR in their teaching practice and curriculum design. The session fits the ASCILITE 2019 theme1 “Visions and Explorations in Digital Learning, Pedagogies & Spaces”.

Symposium Participants

Participants will be drawn from members of the ASCILITE Mobile Learning SIG who have submitted accepted papers for the RLT special collection on MMR, and the guest editors. Final accepted papers will be notified by 1 October 2019.

Guest editors and Symposium Presenters

- Dr Thomas Cochrane, Centre for Learning And Teaching, Auckland University of Technology, New Zealand. thomas.cochrane@aut.ac.nz
- Associate Professor James Birt, Faculty of Society and Design, Bond University, Australia. jbirt@bond.edu.au.
- Dr Vickel Narayan, Faculty of Business and Economics, University of Sydney, Australia. vickel.narayan@sydney.edu.au

Additional Symposium Presenters

- Dr Claudio Aguayo, Senior Digital Innovation Advisor, Centre for Learning And Teaching, Auckland University of Technology, New Zealand. Claudio.aguayo@aut.ac.nz
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Focus of the special collection update

Mobile Mixed Reality (MMR) is a rapidly developing technology that is being implemented in many different learning environments. A lot has changed already since the publication of our 2018 Special Collection on MMR, and this update to the 2018 special collection on MMR (Cochrane, Smart, & Narayan, 2018) for 2019 will highlight the latest research in this domain. Mobile device ownership is ubiquitous, leading to many higher and further education institutions exploring a BYOD approach to mobile learning. However, most mobile learning projects are device centric and focus upon repurposing content for delivery to small screens and substitution of pre-existing pedagogical strategies. The potential of mobile learning is to enable new collaborative networked pedagogies and professional practice through enabling authentic learning beyond the classroom. This special issue invites papers that explore the boundaries of current knowledge and approaches to mobile learning, and specifically explore the unique affordances of mobile devices for learner-generated content and experiences via such technologies as collaborative media production and sharing, Virtual Reality (VR), Augmented Reality (AR), Mixed Reality, geolocative and contextual sensors, drones and wearable technologies.

Augmented and virtual reality (mixed reality) is an emerging technology that bridges the gap between computer generated and real world environments. Mobile Mixed Reality enables the design of authentic learning environments that explore the impact of socio-culture influences, and lead to deeper student engagement with the real world via digitally enhanced gamified environments. This is illustrated by the phenomenon of Pokemon Go, and emergent mobile mixed reality projects with the likes of the Microsoft Hololens and Google Cardboard. The use of AR and VR to support teaching and learning has shown to have many advantages which include enhancement of learning achievement in terms of enhanced learning outcomes, motivation and engagement (Bacca, Baldiris, Fabregat, Graf, & Kinshuk, 2014). Interest in the application of VR and AR have increased dramatically over the last few years (Akçayır & Akçayır, 2017). However due to the relatively emerging nature of these technologies the implications of these tools in education are still largely still being explored. The special collection will include research topics such as, but not restricted to:

1. Reviews of the state of the art of mobile augmented reality (AR) and mobile virtual reality (VR) and immersive reality (XR) in higher and further education
2. Reviews of the key themes in recent mobile learning research in higher and further education
3. Heutagogy and mobile AR/VR/XR in higher and further education
4. Case studies in mobile AR/VR/XR in higher and further education
5. Frameworks for mobile AR/VR/XR in higher and further education

The **methodological theme** for this special collection focuses on research approaches that move beyond simple comparative case studies, and explore the application of Design-Based Research as a methodology for designing authentic mobile learning (Bannan, Cook, & Pachler, 2015).

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