| High Resolution Mobile PepperGram for Education Technology  
| Chi How Fong and Zi Siang See (#21)  

Author keywords: Creative Arts & Design, Multimedia, Image processing, Mobile  

This study explores high resolution mobile peppergram for education technology. A case study investigation is conducted in this study to gauge the suitability of integrative method of having peppergram as a multimedia tool in Education. Our method works with a 3D prototype visual and were tested on 5-inch screen mobile device during the study. The outcome of these tests are being shown during the presentation. In addition of the test, a study has been conducted to have a survey of 30 students to evaluate on the user experience.

| Evaluating Digital Resources in Cultural Heritage: Lessons from the ScotDigiCH network  
| Maria Economou (#46)  

Author keywords: evaluation, digital heritage, digital cultural resources, analytics, qualitative evaluation, quantitative evaluation, metrics, impact, assessment  

Introduction and Context  
The use of digital technologies is affecting all aspects of our lives and is reshaping the way we communicate, learn, and approach the world around us. In the case of cultural institutions, digital applications are used in all key areas of operation, from documenting the collections, interpreting and exhibiting them to communicating with diverse audience groups. The communication of collections information in digital form, whether it is an online catalogue, mobile application, or social media exchange, increasingly affects our cultural encounters and shapes our perception of cultural organisations.  

Cultural and higher education institutions in Scotland, in common with those in the rest of the world, are investing vast resources on digitisation and making their collections available online but we still know very little about who uses these and how they interact with the data.  

Research Network Aims  
In order to address this gap the Scottish Network on Digital Cultural Resources Evaluation, ScotDigiCH was initiated in January 2015 with funding from the Royal Society of Edinburgh. The ScotDigiCH network brings together academics from different disciplines and professionals from Scotland’s key cultural organisations in order to investigate how cultural digital resources are used by diverse user groups, how to record their impact on learning, research, and community engagement, and how to maximize their potential. It integrates different methodologies and perspectives (from digital humanities, computing science, museology, social sciences) and uses as a case study the Kelvin Hall Project in Glasgow. The Kelvin Hall project is bringing together not only the collections of the three participating institutions, The University of Glasgow’s Hunterian Museum, Glasgow Museums and the National Library of Scotland’s Moving Image Archive, but also the digital records and resources related to those. Using digital technologies to bring together diverse and extensive
collections, support in-depth research and scholarship but also make them more accessible and easy to use for a wide range of users brings up its own challenges and questions.

In order to address some of these, we set up the interdisciplinary ScotDigiCH network which is investigating:

• Who uses the digital materials that museums, libraries and archives spend so many resources to produce?
• How do they use them and why?
• How are these resources re-used, re-interpreted, re-integrated in the users’ own projects and digital networks?
• How can cultural organisations record and assess more effectively current digital use so they can plan their future digital strategies?
• How can we work more closely with different audiences to create digital collections and resources that are relevant to them and support them as individuals and members of diverse communities?

The Network has organised a series of workshops: The first workshop organised in May 2015 on ‘Exploring Models for Digital Access’ looked at relevant projects in Scotland and what we can learn from them, the second in December 2015 was on Crowdsourcing, Co-curation, Co-curation in the Cultural Sector, while the third which took place on 31st March 2016 on Evaluating Use and Impact examined evaluation methodologies and how we record how digital cultural resources are being used and the impact they have. Workshop 4 on 15th June is titled ‘Moving from Impact to Value’ and is examining issues related with impact and value of digital cultural resources. It also organised a knowledge exchange event with cultural heritage professionals about the lessons learned from the network. Furthermore, it will organise an international symposium on digital cultural resources evaluation to bring together the main questions and issues raised from its previous activities and aimed at both researchers and digital heritage professionals. This will be combined with a public lecture and an open public event to explore the Kelvin Hall digital collections portal.

All these activities have certainly given all partners a lot of food for thought and are informing, for example, The Hunterian museum’s Digital Strategy and how it takes digital curation, collections documentation, exhibition interpretation and visitor engagement forward, particularly in relation to Kelvin Hall.

The paper will discuss the methodology and lessons learned from the ScotDigiCH research network and the wider implication for other researchers and organisations working in digital cultural heritage.

Re-imagining folklore stories in illustrated animatic
Delas Santano and Fauzan Mustaffa (#90)

Author keywords: digital culture and heritage, intangible heritage, audiovisual production, animation, animatics, folklore stories

Folklore stories are always passed on from one generations to the next through the word of mouth. Grandmothers telling the stories to the grand children or mothers and fathers giving the bedtime stories to their kids. These stories often have a meaningful message for the audience. Sometimes a message to remind people of mannerism, social values and or even stories of a certain history or tradition in a specific culture.

In the case of the Mah Meri indigenous people, their folklore stories are embedded in the traditional craft of wood masks that are carved by hand. These masks carving are a unique heritage of the Mah Meri culture. Stories ranges from natures, animals and ancestors, and the stories are portrayed in the masks by the carvers.
While for the Iban tribe of Sarawak in East Malaysia, their folklore stories are embedded in the traditional weaving of Pua Kumbu. Pua Kumbu is a textile craft of the Iban women which are traditionally made in the longhouses deep in the Sarawak rainforests. This textile products ranges in sizes from as small as an A4 size and as big as a blanket, as their name Pua is translated as blanket. In this textile that the weaver tells the stories through symbols that depict the characters in their story for that one Pua. And thus the Pua name, in Iban, is also reflecting the story in that particular Pua.

The challenge to this intangible heritage, the stories, is fading to the brink of disappearance. These unique “mediums” that the they are using to tell and preserve the stories is a great tool that also represents their culture. But the stories itself may die, as the storyteller may passed on. If the generations that continues the work doesn’t embrace the stories as part of the craft, then the soul of the craft itself may disappear. The product will remain only out of sheer replication.

Not only that, the interest level of the young generations to these folklore stories are diminishing as with the worlds’ technological advancement, children nowadays are “visual” thirsty generations. This makes the preservation of the folklore stories a challenge. The research aims to preserve these folklore stories in a digital medium for the future of the culture. Selecting some of the unique stories from each culture, we then have an artist to illustrate the stories through his visual interpretation.

The Mah Meri stories are the first group of stories that the research embarked on, whereby the artist uses a traditional black and white drawing with charcoals. The panel drawings of each story are then digitized through scanning and then colored and textured digitally by the artists. Meanwhile for the Pua Kumbu stories, the artists illustrated them directly in digital format. The digital are then animated to create animatics of roughly 1-minute long to 2-minutes. In this paper we discuss more on the process of producing a total of 12 animatics, starting on digitization of the illustrations, trimming the story to its essence and animating them digitally whilst also having a sound design that supports the delivery of these folklore stories through animatics.

The objective is to create a visualized stories of the said folklore stories, that appeals to the public audience. Original audio recordings in their own native language are used as the main narration/voice over for the animatics. An interview with the visitors of the exhibition that viewed the animatics was collected as part of the measurement on the methods effectiveness in delivering the folklore stories.

INTERACTIVE AESTHETIC MEDIA AND ARCHIVING IN DIGITAL SPACE
Yan Peng Lim and Kong Cheng Tan (#64)

Author keywords Interactive, New Media Art, Archiving, Digital Space

Beginning in 2000, there was an intense focus expressed by the Malaysian Government calling for libraries in the country to rally on collaborative efforts with universities and public and private archives to develop a repository for the nation’s local resources. Like libraries, museums are also using digitised collection management systems for documentation and maintenance of their artworks. These systems have been developed for traditional art (paintings, sculptures, graphic works). However, complex new media artworks such as interactive installations, are presently not considered, while the need for an adequate documentation of these works is extremely urgent for future preservation and representation. For digital documents, Margaret Hedstrom explains that it is pertinent to preserve the object’s content, context and structure, yet maintain the capability to display, link and manipulate the
digital objects. The second aspect probably represents the greatest difficulty since it entails preserving accessibility to a multitude of software and operating systems. Hedstrom also emphasize that complex and expensive transformations of digital objects often are necessary to preserve digital materials so that they remain authentic representations of the original versions and useful sources for analysis and research. Furthermore, she suggests that documentation of new media art should not be a mere illustration, but rather an interpretation, an attitude. To reflect this attitude, the documentation must adopt a structure similar to its subject's. The challenge of documenting a network-structured work made up of hyperlinks, non-linear in nature, lies in developing a map or interface for exploring the work rather than in trying to capture the work or contain it.

This study proposes a digital archiving process that is unlike anywhere in the world since the digital objects to be archived will not consist of a general database of any kind information available elsewhere, but rather a repository of cultural objects that are specific and has sustainable impact to Malaysia’s cultural development since the new media artworks to be archived will be sourced from local artists. The digital archiving process proposed will be useful as a model to be adopted or adapted by universities, museums, and other institutions in terms of archiving practices.

In space environment, interactive experience reflects the interactive art representation. This experience provides a great understanding of the dynamics of human perception to its surrounding and environments. Aesthetic content representation for new media art can be a form of content simulated in the digital space. Thus, the dynamics of human perception and expression in an interactive behavior can contribute to the intelligent adaptation towards the content creation. Visitors to the digital space can create, interact, and experience the new media art and therefore, archiving of the content can take place for documentation and future preservation. The final output of this project will be for Archiving Solutions, Interactive content and display, Digital Space for exhibition. Aesthetic content representation for new media art can be a form of content simulated in the digital space. The achievement of this research is creator a generic framework and content creation for digital space.