

ASPAC 2012 – ASTEN fellowship paper

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Introduction

In December 2011, I was fortunate to be awarded an ASTEN fellowship to attend the ASPAC 2012 conference themed “Reinvention”, hosted by Science Centre Singapore, 16-21 April.

My role enables me to operate across several disciplines. In addition to operational oversight, my primary function is information systems development and technology integration.

At the core of my fellowship application was a desire to extend my personal and ultimately organisational knowledge of technology integration with respect to enhancing science programme delivery, and advanced mechanisms for evaluation of individual visitors.

Having recently developed a Science Careers exhibit for the Fonterra Science Roadshow, at the heart of which is RFID (Radio Frequency Identification Technology), I was particularly interested in how we might leverage that technology and the investment we have to evaluating individual visitor experiences.

Integrating Evaluation

This workshop explored how a science centre might go about evaluating their exhibitions. It introduced three methods for evaluating exhibitions. One of the key takeaways, was that this ought to be a process right from the concept stage of an exhibition through to the end product in operation. Evaluating an exhibition from concept stage through to installation is essential to providing an opportunity to change or improve the exhibition based on the evaluation outcomes, prior to construction. Post construction evaluation is still useful to allow for the fine tuning of the exhibition. However major changes are likely to be prohibitively expensive.

We also touched on questions you might ask of visitors to reveal their understanding of the science that is communicated to them via the exhibition. Additionally they may have comment about basic components such as, lighting, seating and ease of use. It would appear that evaluating science centre visitors is a universally challenging problem, in most instances requiring observation and surveying of visitors face to face. It begs the question “what if we could evaluate all visitors at each individual exhibit”? An example that goes some way to answering this question was described in a presentation “Introducing Information Technology Museum”, National Science Museum, Thailand. They have introduced an RFID system from the outset that allows them to track visitors throughout the museum. However the vast majority of exhibits in science centres across the globe are not IT based and would require any system to be retrofitted. Any system would ideally be universal, irrespective of the style of exhibit.

Centralised collection of the real-time data would be invaluable to determine the status of an exhibition including which exhibits require review due to potential operational issues, low usage or visitors having difficulty understanding the science.

An extension of this idea was presented by Per-Edvin Persson from Heureka, Finland. Each visitor to the science centre automatically received a personal website, in which they could produce content about their experience. The opportunity exists with centralised data collection to report by email or website to individual visitors. The report may detail the exhibits that were of interest to the individual and provide links to additional information about each exhibit and the science behind it.

Augmented Reality (AR)

I was particularly intrigued with a session entitled “Augmented reality and 3D Content”. These technologies have come a long way in a short time. In particular I can see a place for Augmented Reality in our Science Shows. Currently the shows are supported by specific PowerPoint presentations, projected onto a smart-board. It would appear possible to use an AR camera directed at a show, to paint AR content over the real image and stream that content onto large screens either side of the show. As is the case with PowerPoint the content would be in support of the live show.

I will be exploring the possibility of up scaling the use of this technology to an audience rather than an individual experience. There are also many opportunities to engage a new generation of audiences outlined in a presentation by Aroon Tan, Magma Studios. “3D animated objects, interactive storytelling and mini games, mixed with the real world can be engaging for audiences of all ages”.

Science shows

In observing some science shows at ASPAC, it was clearly apparent that science shows are no longer just a demonstration but truly a “Show” in the full sense of the word. I had the opportunity to observe and participate in Grahams show:

- “Going ballistics” – Graham Walker, Australia National University.
- “Tasty science” – Patrick Helean, Questacon; Yuko Okayama, Miraiakan.
- “Ignite your curiosity” – Renae Sayers & Alison Fowler, Scitech.

My overwhelming impression was that these shows were extremely well presented, highly entertaining with a large dose of humour. It is difficult to measure without surveying the audience as to whether the audience would better understand the science as opposed to a more formal demonstration, however there was no doubt the audience would be thoroughly entertained.

Conclusion

ASPAC 2012 was a fantastic experience in an exciting and vibrant centre. I would like to extend my gratitude to the ASTEN Executive for their support by way of the fellowship. Congratulations to Prof Lim Tit Meng and his team at Science Centre Singapore for hosting such a wonderful event and to all those that hosted workshops and presented sessions. A job well done!

It is clear that there is a lot to digest from this conference. We were certainly spoiled for choice with respect to selecting which parallel sessions to attend.

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