MOSI-ALONG: Social media, the museum and the community

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ABSTRACT
Information stored in non-formal educational institutions such as museums can be perceived as a resource for local communities, who may perceive and interpret the information in ways that differ from classification systems in use by curators. These perceptions may be collected and disseminated by Web 2.0 technologies and social media, a process which has been called 'crowdsourcing'. However, in order to retain quality of content, some form of moderation of crowdsourced content is usually seen as desirable. The MOSI-ALONG project at Manchester is designed to facilitate both sides of this process, creation and moderation, building a digital 'bridge' between museum content and social media through user-centered design. We will then evaluate the impact it has on the learning outcomes available to both communities.

Categories and Subject Descriptors
H3.7 [**Digital Libraries**]: *User issues*

General Terms
Theory, Design, Human Factors.

Keywords
Museums, social media, crowdsourcing, user-centred design, non-formal learning, informal learning.

1.INTRODUCTION
This paper outlines an ongoing project, MOSI-ALONG, a collaboration between the University of Manchester, UK, the Museum of Science and Industry (MOSI) in Manchester, and local community groups, facilitated by the Learning Skills Employment Network (LSEN) and Peoples' Voice Media (PVM). It has been funded by JISC, the UK body charged with facilitating innovative uses of technology in higher education. The project began in March 2011 and will run until late September 2011. At the time of writing, therefore, the project is in its early stages, therefore this is presented as a short paper which describes the motivations behind the project and the evaluation strategy to be applied. We seek to evaluate both process and product - what is produced and how, but also, what impact this has on the learning of both the local and museum communities who are involved in the project.

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2.THEORETICAL BACKGROUND
Information is an environmental resource in the same way as raw materials, energy, labour and technology [9]. All sustain the production and re-production of structures, contexts and the human communities existing within and between them. Information is stored in the environment, and like other resources, is something that is used, transformed, and built for the future. It is on these resources that communities are built, and members of these communities must therefore engage in a continuous process of learning about how to structure and nurture these resources.

This process is usually informal. However, most learning resources are structured and controlled by formal educational institutions such as universities, or non-formal ones such as museums and libraries. Formalised education flows start with an institution which offers accreditation, and then provides resources and groupings which meet that expressed goal, but the desire to learn, a natural desire, is often constructed as informal learning and comes from individuals or groups with interests who may organise and access resources in pursuit of that interest [2].

Luckin [5] also used an "environmental" model as a way of conceptualising learning environments. In no case can a learner, teacher or the particular learning environment include everything from the available "ecology of resources". Resources are *filtered* through the application of structures such as curricula, organisation, administration and design, as well as the subjective needs, motivations, skills and prior knowledge of learners and teachers.

Filters, from this perspective, are solutions to problems of educational design: they are how communities manage their own learning, and have their learning managed for them, both of which are necessary for true learning to occur [8]. In principle, Luckin believes these filters can flow both ways. That is, they can be structured "from the top": for example, by a formal educational organisation such as a university, or a broad-brush policy statement such as a National Curriculum; or a non-formal organisation like a museum, involved in the curation of artefacts that can be, or be part of, learning resources. However, filters can also be constructed by learners and teachers, working individually or collaboratively, in communities of practice [8]. Through this kind of "bottom up" work, learners are not just generating content, but generating *context* [6], learning to actively and continuously modify the technological and social parameters of their environments and hence, filtering the glut of informational and technological resources and focusing on what is most relevant to them as individuals and small communities. Through this process, diversity is retained in the resources which are available.

However, this model is an ideal, and must be applied in a world already structured by organisations, technologies and values

which are largely instrumental, rather than communicative [3]. This has led to a disregard for bottom-up processes, and the increasing imposition of context-independent filters (solutions to educational problems), designed from above but difficult to adapt to different community contexts. The filtering process becomes increasingly detached from communities, and thus increasingly irrelevant to them. The result is a dislocation between the community and the informational environment in which they exist. There is a consequent failure to turn information into knowledge. Whitworth [9] has termed this condition *information obesity*: "a failure to use informational resources in ways that build, within individuals and communities, sustainable foundations for future activity... information is not becoming knowledge and is not, therefore, becoming embedded by individuals and communities into their own environments" (p. 36).

To combat this condition, a wide range of skills are required - not just information retrieval, but the ability to assess the relevance of information in specific contexts, and an awareness that information has social impact [1]. "Digital literacy" means more than just a functional capability with computers, but an awareness of how ICTs and the internet can be used by communities to retrieve and publish information - to filter from, and then return to, the ecology of resources [5].

This is not just of benefit to communities themselves. Writers such as Nina Simon [7] have also recognised that working actively with communities brings benefits to non-formal educational institutions like museums, making them more relevant and dynamic places. This is strategically important in an era where public funding of these resources is under threat, particularly, but not only, in the UK.

3.THE PROJECT

3.1 Summary

MOSI-ALONG is therefore interested in how cultural and informational resources can be used to enhance the digital literacy of individuals and communities - and how, in turn, these resources can be enhanced as a result of their being used and reinterpreted by these communities. It represents a step towards creating an 'Ambient Learning City' in Manchester, an environment in which the many institutions offering formal and non-formal learning - e.g. universities, museums, art galleries, hospitals (for health information), the BBC and other media organisations, and local government - are 'pushing' information out into the environment, information which can then be accessed by individuals and communities to achieve informal learning outcomes. (This connection between formal, non-formal and informal learning outcomes has been called for by an EU directive, the i2015 targets for integrating informal, nonformal and informal learning; the continuation of the Bologna Process [2].)

Web 2.0 technologies, particularly social media sites like Facebook, Flickr, and YouTube, can act as records of how people interpret collections of cultural and historical artefacts held in museums. These interpretations - memories, stories, ideas about how these artefacts can contribute to helping solve problems in the present day - may well differ, sometimes markedly, from how a museum interprets and, hence, labels and classifies their collections.

However, museums are rightly wary of the unmoderated nature of this kind of content. They do not usually wish to give up their expertise in curating and preserving artefacts and information, both in a physical and digital sense. An extremist version of this fear was expressed by Keen [4], who denounced the "cult of the amateur" - the belief that social media has led to a significant deterioration in the quality of online information. At the same time, the presentation of content on a museum web site, organised around that institution's needs, may discourage interaction with the material, from the very audiences they need to reach out to in the present time.

"Crowdsourcing" has been used before to enhance museums' online content [7]. MOSI-ALONG, however, differs as a result of the technical approach adopted, which will now be described.

3.2 Approach

Rather than have community members engage directly with the museum's online content, giving rise to concerns about quality and curation, MOSI-ALONG will build a digital 'bridge' between the MOSI web site and social media content. This requires work on both the social and technical aspects of the interaction: both 'sides' of the bridge can thereby learn about the needs, processes, problems and interpretations of the other through the development of community content, and each enhance their digital literacy as a result, through connecting up formal, non-formal and informal learning outcomes.

The project adopts a user-centred design approach, and the focus is thus on the development of, not just software, but a sociotechnical system which facilitates a sustainable level of participation. Through the expertise of project partners, particularly MOSI and the LSEN, we will bring community participants into the project through community learning champions (CLCs) and the work of Peoples' Voice Media (PVM). This work was begun at a launch event held at MOSI on 11th April 2011, which began the collaborative work through developing a shared understanding of the need for the project and expectations from engaging with it.

Community participants in MOSI-ALONG will be drawn from the local area, particularly (though not only) deprived communities in Manchester who would not normally interact with museums, which are seen as traditionally middle-class locations for leisure activity. Their participation will be facilitated by PVM (http://www.peoplesvoicemedia.co.uk) who will offer training in the skills needed to become 'community reporters'.

Content generated by these users will be uploaded onto existing social media sites such as Facebook, Twitter, Flickr, YouTube and Wordpress. A hashtag (*#mosialong*) and other forms of metadata can be used to pull the content together and then present it simultaneously with existing digital content from the MOSI web site. Hence, the idea of a 'bridge' which brings the benefits of crowdsourcing without requiring direct interaction with the MOSI site.

The technical architecture which permits the bridging of MOSI and social media content will be designed to work across different platforms and be adaptable. It will be developed through the user-centred interface design expertise of Mimas (see http://www.mimas.ac.uk), a nationally-recognised data centre based at the University of Manchester, who will work with both 'sides' of the bridge in similar ways. A launch event (held on April 11th 2011) marked the beginning of this requirements capture process, following which an appropriate bridging tool will be identified or, if required, developed in iterative ways, constantly tested as community participants visit MOSI and engage with the creation of relevant content.

This process will be observed and form the major part of the evaluation of the project, assessing users' (and MOSI's) experiences and any impact these may have on their digital literacy. The sustainability of the new interface will also be assessed, in order that effective guidance can be given to subsequent users. (See 3.3 for details.) However, the project cannot attempt to produce generalisable research results. The evaluation will be of work done within a specific context. Note that we also anticipate that only a relatively small amount of digital content will be produced in the lifespan of the project: hence our interest in finding ways in which similar work could be facilitated and sustained after the project is over.

Critical success factors include, primarily, a healthy level of user participation. In principle, we could design an interface and release it without the desired level of participation from community members, but this would devalue the tool and the project as a whole, and prevent most stakeholders from achieving their aims. Acceptability of the finished interface to both end-user groups (MOSI and community members) is also important. For a productive joint development of a sustainable interface, both sides of the bridge will need to want to use it. Hence the importance of a user-centred design process that involves both groups.

3.3 Evaluation

Success in this project will arise from our developing a bridging tool that is open, accessible and usable after the project has ended. To establish how this will be done we need to be evaluating the whole development process and the use of the tool, as well as the impact of the projects on participants' skills and attitudes.

We are interested in both *product* and *process*. In terms of the product, we will ask:

- What gets produced?
- What is the form of content, e.g. still photographs, videos, text-based content?
- What media are chosen to display/distribute it, e.g. Facebook, blog, YouTube, Flickr?
- What has it been produced about, e.g. what exhibits, artefacts?
- What techniques are used? e.g. are the films/descriptions attempts to educate? To relate the exhibits to problems/issues faced by the creators now? To present memories?
- Issues of quality; quality of content in a technical sense, in a curatorial sense.

Data to help answer these questions can be pulled in through the project hashtag, *#mosialong,* allowing us to undertake a content analysis of tagged materials.

The last question is the trickiest one here. If we pre-define 'standards' we are not really living up to the premises of the project. Moderation on the grounds of quality is something that must develop as the project goes along. The measures of quality therefore need to be established as the project proceeds through the summer.

With respect to the *processes* that take place, we can look at who has been involved, although this cannot be researched in an 'objective' way because our sample is not a random one. We have been actively recruiting participants and thus manipulating the process. However, we might be able to cross-reference the identities of the creators with the type of content being produced.

More interesting is to ask community participants why they became involved, why they produced particular content and around what themes, and why they picked particular social media sites. We will also ask:

- What have they learned or gained from this work?
- How have their understandings of social media evolved?
- Has their usage of it changed (e.g. have they begun engaging with social media beyond just what they have been doing with MOSI-ALONG)?
- Have they changed their understandings of quality vis-a-vis online content?
- Have they changed their views on MOSI (and their 'usage' of the museum, as well)?
- Have they disseminated any of these views to friends, family, colleagues or other associated in any way (whether f-2-f or via social media)?

A survey and interview would be the obvious method of gathering data here, in the latter case probably a group interview, but this method may also seem a little pedestrian and not necessarily congruent with the intention of the project. We therefore intend to exploit social media and video as well in this part of the analysis. MOSI-ALONG virtual spaces - hashtags, the blog, etc. - will help us with this process. We do not want to engage in an instrumental evaluation of a process that is meant to be communicative, user-centred, etc. The evaluation criteria and strategies should therefore develop through contributions from participants. We want to take a holistic view - not trying to 'prove' anything, not claiming that this is a generalisable case, but staying congruent with the aims of the project - telling a story and building a bridge between the formal (the university's aims, JISC's), the non-formal (MOSI) and the informal (participants) elements of the project, trying to show how these three domains need to work together when it comes to researching education, as well as developing content.

4.CONCLUSION

The JISC funding comes to an end on September 30th 2011. Shortly before this we will hold a closing event at which the community creators of the best digital content will be awarded a prize. By this point we will have collected data for the evaluation and constructed a plan for dissemination and the continuation of the project. We therefore hope that at MindTrek itself we can report on the project in more detail than has been possible in this paper due to the timing of paper submission.

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