

Research Adventures in Web 2.0:

Encouraging Collaborative Local Content Creation through the *edgeX* Project

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Abstract

The intersection of current arguments about the role of creative industries in economic development, online user-generated content, and the uptake of broadband in economically disadvantaged communities provides the content for this article.

From 2006 to 2008 the authors carried out a research project in Ipswich, Queensland involving local creative practitioners and community groups in their development of *edgeX*, a Web-based platform for content uploads and social networking. The project aimed to explore issues of local identity and community building through online networking, as well as the possibilities for creating pathways from amateur to professional practice in the creative industries through the auspices of the Website. Set against the backdrop of a rapidly changing technological environment that has problematic implications for research projects aiming to build new online platforms, we present several case studies from the project to illustrate the challenges to participation experienced by people with limited access to, and literacy with, the Internet.

Introduction

While the impact of information technology on everyday personal and professional cultural practices can no longer be disputed, evidence of how it may be harnessed to increase and enhance widespread community participation in core areas of the emergent creative industries remains sketchy and contradictory. This paper

discusses *edgeX*,¹ an ARC Linkage-funded project (2006-8) which was designed to enable a regional community to share creative content of relevance to local users in a variety of formats (text, photos, audio, video), using tools to engender a very specific hyperlocal form of content creation and sharing. Planned and executed during the overall turn towards Web 2.0 technologies during the mid-2000s, the project highlighted opportunities as well as the pitfalls inherent in attempts to introduce new practices and technologies to the regional creative 'grassroots' by means of a research initiative. The project also sought to further our understanding of the ways in which online participatory sites can work with the existing communication ecologies of groups to strengthen or expand social ties and sense of local community.

On the basis of the experience that this paper outlines below², we will argue that there is a clear need to support the efforts of individual, localised projects such as ours through much more comprehensive and widespread initiatives to develop computer and Internet literacies and drive broadband uptake. Glimpses of successful community engagement as they occurred during the lifetime of the *edgeX* project, and observations of remaining systemic, technological, practical, and attitudinal barriers which we encountered in the process, provide important reminders of what is at stake and what obstacles remain to be overcome.

Communities and the role of Communication Tools in Participation

¹ The *edgeX* Project was jointly funded through the Australian Research Council (ARC), Queensland University of Technology (QUT), the University of Queensland (UQ), and the Ipswich City Council (ICC).

² Axel Bruns was a Chief Investigator, Sal Humphreys was the Postdoctoral Research Fellow on the *edgeX* Linkage project. Other members of the research team included the Chief Investigators Liz Ferrier and Dave Rooney (UQ), Jo Tacchi and Phil Graham (QUT), and Research Assistant Daniel Lalor.

Researchers have debated the widespread concerns about declines in community and participation (Putnam, 1996, 2000) and argue that such assessments are misguided. Wellman et al (2002: 292) highlight that they are 'measuring old forms of community and participation, while new forms of communication and organization underneath ... [the] radar are connecting people'.

Particularly overlooked in the more critical assessments of the current state of community participation are online forms such as email, chat, blogs, wikis, online games, and the other participatory environments which are now combined under the umbrella term 'social media' (Kraut, Patterson, Lundmark, Kiesler, Mukopadhyay & Scherlis, 1998; Bruns, 2005, 2008, 2009; Bruns & Bahnisch, 2009; Nguyen, 2003; Humphreys, 2005; Jenkins, 2006). Results from studies of Internet engagement indicate that

the observed decline (in traditional forms of community participation) has not led to social isolation, but to community becoming embedded in social networks rather than groups, and a movement of community relationships from easily observed public spaces to less accessible private homes. (Wellman *et al.*, 2002: 292)

Further, Wellman *et al.* (2002: 291) have argued that "as the Internet is incorporated into the routine practices of everyday life, social capital is becoming augmented and more geographically dispersed". Community engagement can be enhanced as the Internet provides "opportunities for people to bond, create joint accomplishments, and collectively articulate their demands" (2002: 293). While the Internet has proved beyond doubt its capacity to connect and grow communities of interest, debates continue about whether the creation and sharing of local content in an online

environment by local amateur practitioners can enhance a location-based sense of identity and community. Recent research highlights that online participation in locally based groups can indeed lead to a stronger sense of local identity. In a longitudinal study Mesch and Talmud found that the combination of connectivity and participation in local online community boards has “a statistically significant effect on community involvement and place attachment” (2010: 1107). Connectivity alone is not enough to generate this effect and the membership in the online participatory venue was a driver of this enhanced sense of involvement and attachment to place. Haythornwaite and Kendall (2010: 1090) conclude that

Online interaction has positive outcomes for place-based communities – from maintenance of interpersonal ties to civic participation to community support during emergencies and dislodgements. ... online interaction and offline interaction form two parts of a whole support mechanism for community, whether the former occurs as a steady background complement to local life or whether it fills in when local life is disrupted. ... [Recent literature] demonstrates a continuous change in how we maintain local community, while emphasizing the importance and significance of our attachments to local places and spaces.

Recent years have seen a rapid rise in the use of inherently collaborative online spaces. In early 2010, Nielsen reported that on average, Australian Internet users now spend nearly 7 hours per month using social media such as *Facebook*, *Flickr*, *YouTube*, *Twitter*, and other highly successful spaces for the co-creation, co-curation, and sharing of creative works and factual information, and national as well as global uptake of such sites is continuing (NielsenWire, 2010). Such collaborative content

creation points to a wider, fundamental shift in patterns of production and consumption. Rather than constituting merely passive content audiences online, a growing percentage of Internet users are now actively involved in the collaborative production of content and are becoming 'producers' (Bruns, 2008).

The Missing Grassroots - Linking Community and DIY Creativity to Creative Industries

The generation of content by users in their role as producers is an act of value creation, even if few avenues for the direct commercial exploitation of such value exist at present (as the content which is created in the process is often shared freely under creative commons and similar licences). Indeed, the content which emerges from these collaborative produsage processes often comes to compete with conventional industry products; the work of citizen journalists competes with that of mainstream news organisations, for example, and the existence of *Wikipedia* has been a major factor in the demise of Microsoft's *Encarta* and the discontinuation of *Encyclopædia Britannica's* printed edition. In addition to the value of the content generated, however, such produsage also contributes substantially to developing its participants' skills and capacities, which may be utilised at a later stage in paid employment in media and related creative industries fields. The online spaces and platforms used by producers are also of increasing economic importance, as the US\$1.65 billion purchase of *YouTube* by Google, and studies including Castronova's (2005) examination of the in-world economies of *Second Life*, *EverQuest*, and other multi-user worlds, clearly indicate.

The creative industries sector has been identified as an important driver of economic development in post-industrial societies, usually growing faster than the rest of the economy and assuming an increasingly central role in the post-industrial economic mix (Hartley, 2005); Howkins describes a gradual transition towards what he describes as a creative economy (2002). In many developed nations, this has led to persistent calls for increased government attention on the creative industries, and for the development of policies which aim to support this industry sector through appropriate policy initiatives (Cunningham, 2006). Crucial in this is the development of a fully-fledged creative ecology extending from amateur participation at the grassroots to the creative industries proper (Howkins, 2010) – but Leadbeater and Oakley (1999) note that there has tended to be a ‘missing middle’ in content creation policy, and point to the significance of the independent commercial production sector in the creative industries.

This missing middle is one area where further support for creative industries development has been required, then. In addition, the *edgeX* project extended that premise to highlight the ‘missing grassroots’, an even less visible layer within the under-researched independent creative industries sector. There is an increasingly vibrant community of DIY or ‘grassroots’ practitioners in the creative industries who make important and innovative contributions to cultural practice through their participation in online environments (Benkler, 2006). Indeed, many of the most creative spaces on the Internet generate innovative content and enterprises that engage in ‘grassroots’ content production, evaluation and exchange, and grassroots practitioners constitute the fastest growing, yet informal, sector of the creative industries (Meikle, 2002; Postigo, 2008; Herz, 2002; Humphreys, 2005; Banks &

Humphreys, 2008; Bruns, 2005, 2008; Jenkins, 2006). While they typically operate as non-commercial content producers, the practitioners engaged in such activities are embedded in highly evolved local, social, and informational networks. If appropriate pathways can be identified, and with appropriate support through training institutions, government policy, and other mechanisms, there is significant potential to help such non-commercial practitioners move into professional and commercial industry participation. Leadbeater and Miller (2004) have introduced the term 'Pro-Am' to describe this point of crossover – the challenge thus becomes the following: how can grassroots, amateur creative practitioners be supported in developing their skills and capacities (especially also in terms of their online practices), to the point of reaching the 'Pro-Am' threshold, and how can their transition into professional participation be facilitated?

Such support for creative industries practice at the local grassroots may also have direct economic benefits. Florida (2002) has pointed to the importance of a local 'creative class' for both the local economy and the wider perception of cities as desirable cultural and commercial destinations; building on such observations, Cunningham *et al.* examined the state of Brisbane's creative industries in 2003, for example and similar studies have also been undertaken elsewhere in Australia and the world. At the same time, conceptions of 'local' and 'community' must also be re-examined: Bromley (2010) canvasses a number of policy approaches to "regional cultural development" in Britain which have had a flavour of top-down production of 'arts' projects that fit into predetermined understandings of what is culturally worthy. He problematises the construction of both 'regions' and 'community' within these discourses – pointing out that defining 'local' and accounting for the diversity

of communities within particular geographic areas is not easy. Often the projects produced in the name of cultural development rely on “presumptions about homogeneity and belonging” (Bromley, 2010: 10) that exclude potential participants. He suggests that community is something that is made through participation, not something that is necessarily a pre-given constituency to be discovered. The potential of participatory online sites to be inclusive, driven by the users, and adaptable to user needs seems to offer a way out of the policy failures in these areas.

The Emergent Digital Grassroots eXpo

Against this background, our project aimed to explore whether amateur creative practitioners’ sense of local, geographic community could be strengthened and enhanced through the use of Internet technologies focussed on local participation, and whether such community-based approaches could be utilised to lead amateur practitioners from the creative grassroots towards more Pro-Am and professional activity. *edgeX*, the Emergent Digital Grassroots eXpo – and its Website at edgeX.org.au – was an ARC Linkage-funded research and application project centred on supporting and mapping grassroots and amateur content creation, encouraging community engagement with new media tools and technologies, and strengthening local identity amongst creative practitioners in the regional city of Ipswich in south-east Queensland.

Research goals associated with *edgeX* arise from the broader project of mapping the creative industries and their role in the knowledge economy, which has been pursued by the Creative Industries Research and Applications Centre (CIRAC) and

the ARC Centre of Excellence in Creative Industries and Innovation (CCI), both at Queensland University of Technology, and a growing understanding of the significant part that user-led content creation plays in these processes, especially the role of amateur creatives (see Bruns & Humphreys, 2007, for a full description of the intentions which have influenced the development of the *edgeX* project and its Website). A map of amateur creative industries activities would enable efforts to foster the establishment of pathways into industry engagement. *edgeX* contributed to these aims by providing grassroots creative practitioners with a central online space for the development, sharing and exchange of content, and for exhibiting the results of their activities. To encourage and focus their efforts, the project ran a number of creative competitions.

Overall, then, this research examined the potential for online collaborative environments to act as a means of skills training, support for cultural and creative diversity, and economic development.

Local Context

Developed in collaboration with a large regional local government, the Ipswich City Council, the project addressed the Council's policy objectives relating to cultural development and community building through the examination of new forms of community engagement around grassroots content development and broadband participation. The research project examined these relationships, organised competition events (described as 'Expos'), mapped and recorded user activities, and carried out ethnographic research into participants and their practices.

Ipswich is a small city, a 45-minute drive southwest of Brisbane, the capital and largest city in Queensland. Ipswich has a population of about 150,000 people, comprising a diverse range of ethnic communities, long-established working class and working poor or welfare-dependent suburbs, as well as more recent and more affluent new housing developments. From a long history as a prosperous coal-mining town, Ipswich has slid into a less viable economic position, and has had its fair share of social problems as a result.

The Ipswich City Council (ICC) has an interest both in community engagement and skills development and in generating further potential for e-government and service delivery to operate through broadband environments. The uptake of broadband is an important precondition for being able to move more of the city's services online. Further, ICC also has a history of innovative development strategies in the new media field; during the very early days of public Internet access in Australia, it backed an ISP (Global Info Links) to provide services to Ipswich, and supported Global Arts Link, which sought to develop and display creative work online. ICC also fostered the development of SeniorNet, a group of older residents who train each other in using new media technologies. These are continuing infrastructure and community support programs that have aimed to improve new media literacies and achieve widespread community engagement with the Internet. ICC's engagement with the *edgeX* project was therefore aligned with their policy objectives relating to cultural development and community building.

Towards Local Creative Industries Policy

While access to local information and content is important and attractive to current and potential Internet users, the online media content delivered to audiences in Australia does not reflect the cultural diversity and local concerns of its people, particularly in regional areas. Awareness of this lack mirrors widespread concern about the lack of local media content in Australia. It is feared by many Australian producers that the Free Trade Agreement with the USA will further erode local content regulations. Traditional media models of content production – high cost, ‘one-off’ productions – are unsustainable, and in many cases unsuitable, for online distribution and participatory environments. ‘In-house’ production costs are unviable as media audiences become more fragmented, calling for new modes of generating highly targeted content (reality television, talent competition formats, and cross platform content) (Ferrier, 2000, 2002). Cutler (2003: 59) points out that

the scale of investment in innovation in and through digital content appears significantly underweight relative to the funding of other industries. Given the growing economic importance of the creative industries, increased investment in innovation through digital content initiatives is key to capturing future national benefits.

He also notes that

the leading edge activities within digital content industries function as the research and development for the content industries at large. The interface of creative industries with the cultural and not-for-profit sectors appears to be an important factor in creating economic multipliers Digital content production appears to thrive where there are strong

informal people networks and where not-for-profit organisations provide inclusive and stimulating meeting places. (2002: 69)

Such considerations also appear to be behind the Australian federal government's recent announcement of 15 million Australian Dollars in funding for the development of Regional Broadband Hubs (Conroy, 2009), a project to be shepherded by the Australian Broadcasting Corporation (ABC). That project, now renamed *ABC Open*, aims "to give people the chance to participate in lots of different ways – to create, share and collaborate with the ABC and each other through ABC Platforms; radio, online, tv and mobile" (ABC Open, 2010), and will approach this task by building the content creation skills of local users in 45 rural and regional locations around Australia. *edgeX* can clearly be seen as a local precursor to this nationwide initiative.

The *edgeX* Site

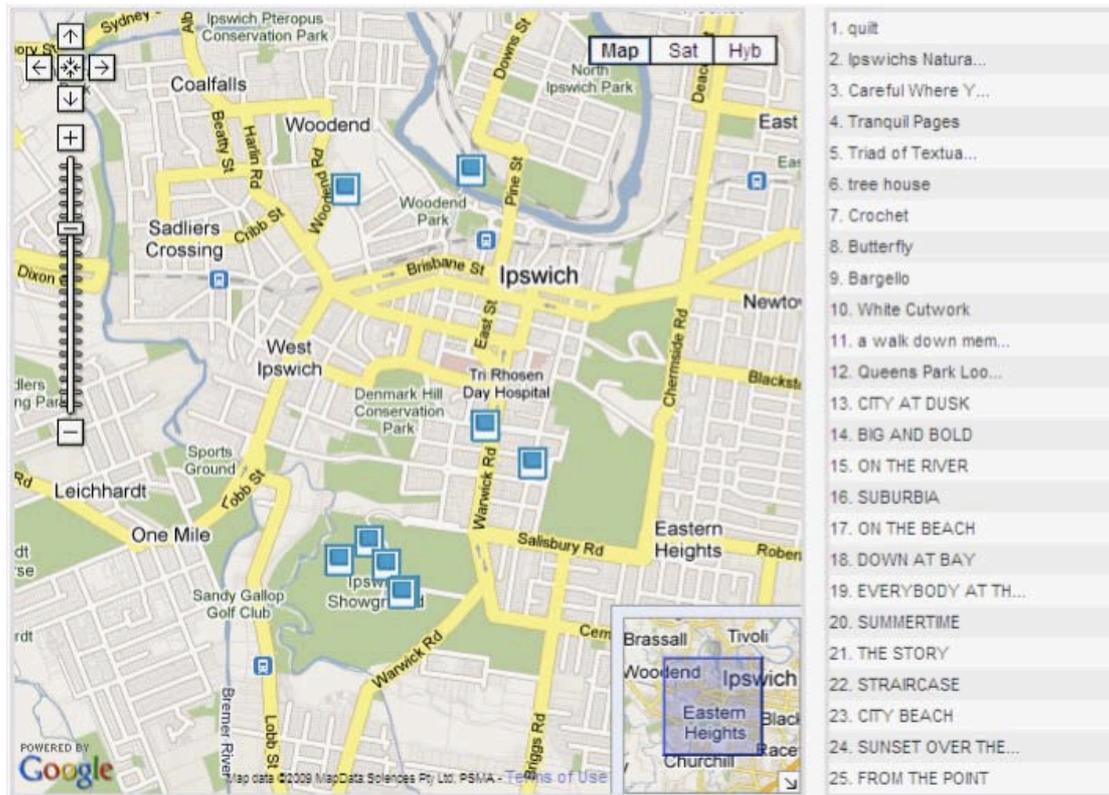
The initial stages of the *edgeX* project (during 2005 and 2006) involved the development of a Website, which allowed for the uploading of content in many formats – combining the functionality of a *YouTube*-style video site, a *Flickr*-style photo site, and of blogs and podcasting, in one environment. The site was to provide commenting, rating, and tagging functionality, to allow the development of specific user groups, with their own self-moderation structures, and to position a competition space as a central feature. The aim of this development was to enable the site and its competitions to provide a meeting place, to offer a space for grassroots content development, and to act as an entry point for innovative content creators to the for-profit sector of the creative industries. An important feature of this multi-media content sharing system was that it was designed to enable users to

communicate not only through text-based interaction, but also directly through the content uploaded to the site. By employing a range of creative commons licences alongside standard copyright and public domain licences, the site also encouraged users to modify and 'mash up' one another's contributions, thereby ideally creating a continuous stream of content evolving over time in the hands of a varied community of participants. Competitions held on the site were to be judged by professionals recruited from relevant industries, and it was hoped that the exposure given to artists' work through this process would act as a promotional tool to help launch them into professional careers.

Locally-based aspects of the *edgeX* project were also reflected in a strong focus on browsing and accessing content through geographic or quasi-geographic features on the site. For example, through integration with *Google Maps*, *edgeX* provided users with the opportunity to geo-tag their contributions on a map of Ipswich, allowing others to browse all site content (or subsets of all content as filtered by tags, topics, media forms, and other factors) through a map interface.

Community Engagement

In addition to such online engagement, the project team considered sustained face-to-face contact with community groups to be an essential part of generating the critical mass needed for the site to become self-sustaining. Such contact between the



edgeX project and Ipswich community groups was premised on two main understandings: first, that a 'build it and they will come' attitude toward *edgeX* as a community Website would not be enough to ensure its success, and that active outreach towards potential users was therefore crucial; second, that a project seeking to enhance online literacies amongst groups in the Ipswich population who had a very limited prior experience with Web 2.0 principles would require a substantial skills development component.

The process of engagement was designed to offer as much support as possible to help groups or individuals overcome technological literacy barriers. Over 30 groups were contacted in the first 6 months of the project, and each initial contact followed up with at least two and sometimes more visits, phone calls or emails. Training and

support were offered and taken up by many groups. This face-to-face approach to recruiting for the site was supplemented with a small amount of online marketing through *Facebook* and *MySpace*.

One of the key interests of this project was to explore how people in local communities utilise new media technologies as part of their overall communication ecologies, and whether uptake of new media technologies can be encouraged by the provision of both access and training to people within these communities. Thus, the people targeted through community engagement strategies have not necessarily been people already using these kinds of technologies. The research team approached local groups, craft businesses, and arts and crafts practitioners. Each contact included an offer to demonstrate the capacities of the site and also to train the person or group in using the site. We were able to do 'on site' training, taking the technology to the groups' meeting places and using mobile wireless broadband and laptops to demonstrate how to use the site. The team also had access to a number of training labs at the local University of Queensland campus.

Early contacts with community groups and individuals were also used to test various features of the site and gather feedback to make any needed changes to the site. Groups were given private spaces where they could interact out of the public eye, but also with the option of making some of their content public. This gave them the opportunity to use the site for both publicity and internal communication.

However, implementing this blend of public and private in a transparent and user-friendly fashion proved a substantial technical challenge, which took some time to resolve. While the functionality was eventually implemented, it made the uploading

process less intuitive and straightforward. Nonetheless, such developments were necessary as they substantially improved some user groups' trust in the site, and thus markedly increased the likelihood of their participation.

As noted, the project also sought to emphasise the local nature of the site by making its geo-tagging features very prominent. Initially, the default interface used for searching the site was a map with geo-tagged content, people, and user groups. After some months, however, it became clear that not enough pieces of content were being geo-tagged to warrant this kind of search return – much of the content uploaded to the site failed to be accessed frequently because it was not placed on the map. In addition, differentiating between individual content tags was difficult as the individual pins for content tended to crowd on top of each other. While some of these problems may have been addressed through further user training or user interface enhancements, we chose to seek a more immediate improvement to the user experience and reduced the prominence of the mapping interface on the site (any geo-tagged content still appears on the map on individual content pages, however, and the map-based content access interface remains available for users who wish to use it). The locally-based nature of the site continues to be emphasised, too, through the default site background: a schematic map of the Ipswich area. Erikson (2010) has also found that the design and functionality of software interfaces can influence the degree to which geography and locality provide coherence for online communities. The *edgeX* team attempted to enable and reinforce the Ipswich identity of the site through these various mechanisms and to respond to the user feedback and adapt the site in ways that would enhance rather than elide its local flavour.

Further contact was made with individual craftspeople, arts practitioners, and suppliers or shops that run workshops within their business (for instance, a sewing supply shop which runs quilting groups, an art supply shop which runs painting groups). The researchers' recruitment encounters exposed some interesting attitudes towards the Internet as well as highlighting some of the barriers that prevented people from engaging with it. One woman who operates a small craft business from home was very unenthusiastic initially and stated very clearly that she was not interested. However, having had the project explained to her, and also coming to understand that it was free, she became extremely enthusiastic and wanted to sign up for training immediately. For this woman, the barriers of cost and skill were key in creating resistance. Our experiences indicated that this was not an isolated incident - that the 'participation gap' in online engagement comes about not just through lack of access but also lack of access to training.

A number of other notable *edgeX* users operated at the amateur/professional interface (as organisers of community arts and crafts groups, as Pro-Am creative practitioners in the Leadbeater & Miller (2004) definition, or as small-scale creative entrepreneurs). For these participants, the challenge of getting involved in a project such as *edgeX* is technical more than attitudinal: they were already enthusiastic about their creative practice, and in many cases actively involved in the local creative community, but had yet to make the move towards seeing the Internet in general, and Web 2.0 platforms in particular, as tools for communication and collaboration with like-minded practitioners or for the exhibition, distribution, or even sale of their works. Such practitioners were often self-motivated learners about the site functionality and features once they had been introduced to *edgeX*, but first needed

to acquire the technological literacies needed to engage with it initially. It seems clear, therefore, that with the appropriate resources for helping to overcome such barriers, it should be possible to create similar enthusiasm on a widespread scale within the established Ipswich creative community. While we acknowledge that many of these local groups are already thriving in their offline contexts, the lack of opportunities to participate in online environments and tap into the advantages that such engagements can produce seems unacceptable and may contribute to an increasing digital divide that builds on existent gaps between the haves and have-nots.

The willingness of practitioners to engage and to train themselves was less evident the more we move beyond the established, immediate constituency of the site, and towards more disadvantaged and marginalised communities of *potential* users with their specific additional needs. For instance, in one writers' group with which we had multiple contacts, there was an immediate and enthusiastic understanding of how the site could be useful for them for both publication and collaboration – in the sense of seeking feedback from each other on work in progress, within a private group setting. With this group, the barriers lay in technological literacy and technology access, with only one person having a broadband connection. Two more had dial-up access, and one lived outside any accessible broadband area. One member could not use a computer at all, and several were computer-literate but did not really use the Internet. Thus, over a period of three training sessions, the group uploaded content and started their own group page, and enthused about the potential for getting various geographically distant people whom they used as critics to access and discuss their work on the site. However, since training finished, the

group have not used the site at all. It is not difficult to see that for them the project has foundered on the rocks of access and technological literacy (and notably, a second writers' group has been much more active on the site as it does not face the same barriers). The following case studies demonstrate the level of support required to generate more widespread local engagement beyond the Ipswich creative community in order to highlight some of the barriers to such engagement, which we encountered during the research project.

Case Studies

The Schools Competition

As noted, on-site competitions were seen as key mechanisms for generating interest and content. We planned to run competitions on the site as a means both to stimulate the production of high quality work (for example, focussed around specific themes or forms of content) and to increase awareness of the site and its usefulness as a community tool.

One of the strategies for driving uptake of the site and for dovetailing the project's interests with those of various partners was to run a competition for local high schools. The aim was to engage students through a citizen journalism project, where they created a digital story in some form (video, slide show, animation, text, etc.) about some aspect of Ipswich life. The business school at the University of Queensland agreed to offer a \$3000 prize to the winning school. To run the competition we cooperated with a local youth project coordination service called Lead On, and with the Creative Commons (CC) clinic run by QUT. It was hoped that

by using these organisations we would gain access to teachers, to students, and to resources. We planned to run a teacher training session in the University of Queensland computer labs which would count as a metric for professional development for participating teachers. The teachers would then have a chance to work with students for a few weeks, before a student workshop was run at the University computer labs. The CC clinic would run a session within each workshop on how students could access properly licenced material (particularly music for soundtracks) for their work. Lead On's role was to help with accessing youth groups. (Unfortunately, after the first couple of planning sessions the Lead On person fell ill and could not return to their job. They had not been replaced by the time the competition was being run, and so this source of contacts dried up.) Entries would be uploaded to the competition space on the site, and judged through the site alongside a 'people's choice' voting system that was designed to get family and friends to vote.

However, a number of barriers affected this community engagement initiative. While there was good interest from local teachers themselves, engaging with schools in the local area meant having to work with the Queensland state education system and its bureaucracy. In particular, protocols existed that prevent state school students from accessing most of the Internet from school; they are restricted to a 'walled garden' space operated by the education department. We thought it was worth attempting to argue the case with the department, but it was not a battle we could win at this point. Education Queensland is not alone in its overly risk-averse stance towards Internet access for students, and larger cultural changes will have to happen before similar forms of engagement could succeed in the future. While the *edgeX* project could have been used as an opportunity to teach students risk management and safety

behaviours on the Internet (as suggested in the Byron review for the British Government in 2008) , the Education Department were unable to overcome the perceived potential risk from litigious parents. For our project, this meant that students themselves could not register directly on our site unless they did so after hours from home (if they had Internet access at home). They were unable to explore the site from school, or to see other school entries. Content submissions to the site had to be made by the teachers on their behalf and under the name of the school rather than of the students themselves. Thus, the project's aims of recruiting grassroots creative practitioners to the site, of building their Web 2.0 literacies and encouraging them to participate in collaborative content creation, and of guiding them towards more substantial and potentially professional participation in the creative industries, was somewhat hampered in this initiative.

Secondly, although there is not a history of teaching media in this area, we were hoping to address this as well, but the enthusiasm of a handful of teachers was not enough to drive sustained participation. Effective uptake would require greater institutional support and investment. Teachers from nine schools – from departments as diverse as Art, IT and English – attended the teachers' workshop. Their comments after the workshop showed that they were particularly impressed with the Creative Commons presentation and that they had been desperate to find a resource of this sort. While all were enthusiastic about the competition, only four were able to bring students to the next workshop.

Twenty students attended this workshop, at which students and teachers were given digital video and still cameras and provided with hands-on experience with software

tools (available for free online). One student commented to his teacher later in the week that it had “changed his life”, and that work in this field was what he wanted to do when he left school. In both sessions the Creative Commons speaker gave clear information about CC and provided both a list of sites and information for teachers about how to access CC material with their students. This information was also loaded on the *edgeX* site and emailed to participants. Ultimately, however, this wealth of information proved less than effective: only nine competition entries were received (from three schools), and of these, eight were in breach of copyright.

Overall, then, this initiative highlighted some significant systemic issues relating to the large bureaucratic structures of education departments (especially at the non-tertiary level) and to engagement with poorly resourced local partners where some of the basic access and infrastructure problems have yet to be overcome.

Engagement with creative practitioners (the students) through intermediaries (the teachers) can lead to an element of uncertainty and a loss of enthusiasm, unless the intermediaries themselves are thoroughly trained and appropriately supported throughout the whole process.

One conclusion from this experience, then, is that wherever possible it is strongly preferable to cut through the bureaucracy and work directly with the creative practitioners themselves; this approach, however, is problematic where practitioners are not yet in and of themselves active in (or even have access to) collaborative online environments. For *edgeX*, for example, access through the school system was one of a very small number of viable avenues for reaching those students from disadvantaged backgrounds who might most benefit from involvement in a project

such as this. The systemic problems which we encountered in our efforts serve to sustain the digital divide between privileged, Web-savvy students and their less privileged counterparts.

SeniorNet

One of the groups that it seemed most promising for this project to engage with was the local seniors computing group. This group has been operating since 1995 and is a peer training network of seniors dedicated to computer literacy. The SeniorNet group has a lab with 13 computers with broadband access that all members can use. Access is thus less of a problem for this group than for the school students, although domestic use of broadband among SeniorNet members is still not high.

SeniorNet's train-the-trainer mode matched *edgeX*'s peer-to-peer grassroots aims, and we hoped that as we trained them, they would spread the word through their own networks as part of their core business. We had contact with a number of key figures in SeniorNet, including the president, head trainer and Webmaster, and ran two initial training sessions in their training lab. These were well attended, and it became clear that this group had a computer literacy focus, but that very few had engaged with the Internet – particularly with respect to uploading their own content. Thus, while some members were familiar and competent with email and could engage in some basic Web surfing, almost none had used the then emergent 'Web 2.0' tools like *Flickr*, *YouTube* or blogs.

While participant interest was maintained throughout these sessions, two responses were dominant. The first was scepticism about whether *edgeX* was a useful tool for SeniorNet members. Some thought it might be useful for uploading photos to show to geographically distant family, but most were unable to conceptualise how they might adapt the site's functions to their own needs. This attitude is particularly interesting given that SeniorNet has its own Website, to which the Webmaster uploads member-generated content. Secondly, participants expressed significant concern about protecting their privacy. One woman refused to register because she was afraid to put a password online. She was convinced that providing *edgeX* with her email address for registration would enable others to steal her identity. This was an extreme case, but it demonstrated that the discourses and rhetoric of the Internet as an unsafe place have a powerful hold on some users.

There was very little further use of the site by this cohort of people after the workshops, although the head trainer immediately saw its value and started posting his 'tips sheets' there. Disappointingly, the Webmaster, who had initially been enthusiastic about the site and the work it might save him, did not attend the workshops. He runs the SeniorNet Website, and is frequently called upon by members to upload content to the site, as he is the only one with the access and skills to do so. While he understood that training SeniorNet members to upload their own content would reduce his work, and team members spent some time seeking to engage him, he attended the training lab for an individual session on *edgeX* (one-to-one) only very reluctantly. However, after a couple of hours going over the site and learning how to use it, he became an extremely enthusiastic supporter. His responses to the site and the project were invaluable for its development: he reported that he

had been put off by the cumbersome registration process that was initially implemented on the site (and which was subsequently streamlined), and emailed and telephoned us with questions which enabled us to provide technical support and further training. He also taught himself how to implement various functions for the group.

The SeniorNet Webmaster subsequently ran two more workshops on using the site for SeniorNet members. We believe that this points to the importance of projects having a champion from within the organisation; such internal advocacy can be a crucial driver of uptake, as the champion's enthusiasm can be enough to convince other members of the organisation to incorporate the project into the group's communication ecology. This role of the participation champion is not unique to community groups which move towards greater participation in social media, in fact – the importance of social media champions as “change agents” has also been observed in corporate environments as companies move towards adopting new communication strategies (Solis, 2010).

A key lesson from the SeniorNet experience, then, is that it takes time to nurture interest among participants, and that this is reliant to a certain extent upon building relationships and trust, as well as on providing satisfactory support. Our engagement with SeniorNet shows that it is possible to generate substantial enthusiasm for collaborative content creation even in groups which are building on a relatively modest level of digital and Internet literacy, to the point where they actively and independently explore how a generic site may be utilised to support their own specific needs. More sustained, longer-term, and more broadly based

efforts in this space hold the potential of building the skills and capacities of new participants and of leading them towards higher-level amateur and Pro-Am creative practice. This appears crucially dependent on the participation of lead users from within the community as project champions and advocates (also see Bruns, 2009).

The Implications of Working with Cutting-Edge Technology

This project developed from ideas generated in the early 2000s, and was finally funded to develop during the middle years of the decade. At that time, sites such as *Facebook*, *YouTube* and *Flickr* were only just becoming popular and had limited functionality. *edgeX* was intended to provide the Ipswich community with the functionality to enable them to share content of salience to local users in a variety of formats (text, photos, audio, video), with geotagging tools to make this a hyperlocal form of content creation and sharing. Additionally, widespread use of Creative Commons licences was hoped to provide a platform for collaborative approaches to creative work and remixing and mash-up experimentation with the material provided by others. When the site framework was first drafted, no existing mainstream site or platform offered the functionality required to achieve these aims.

Consequently, much of the project's resources and time was spent in developing functionality for the *edgeX* site which could today be accessed through these leading social media platforms and tools. Today, the increasingly sophisticated Application Programming Interfaces (APIs) of *YouTube*, *Flickr*, and other relevant sites create a very different online environment in which content posted to these medium-specific storage sites can be re-embedded throughout a variety of social networks from

Facebook to *Twitter*. A key challenge for the *edgeX* project was that it operated very close to the bleeding edge of then very new technologies – the researchers had identified ‘Web 2.0’ as a key trend in Internet developments, and had sought to explore the affordances of these new technologies for creative participation. However, this desire to harness the new trends meant that off-the-shelf technical solutions were not available to the project, and that technical development of the site absorbed a substantial deal of available resources.

As a result, the careful, extended process of community engagement did not have the chance to mature to the point where we were able to achieve a large, sustainable on-site community. That Website development took so long is an indication that, unless a project is properly resourced and can employ technical development staff on an adequate and ongoing basis, easy and low-fi solutions should be given preference, perhaps even if this means not being able to access all of the latest affordances available. Although the project’s Website now has an enormous amount of functionality and works well, the fact is that in many ways its development risked turning *edgeX* into a technology project rather than a community-based development and investigation project.

Today, it would be possible to store videos on *YouTube*, photos on *Flickr*, and blog content on *Blogger*, to geo-tag such content using *Google Maps*, for example, and to transparently integrate these elements through a relatively lightweight custom-made community Website. This is the approach taken at least in part by “crowd-powered” citizen journalism site *NowPublic*, by project-based social networks host *Ning*, and by many other sites which build on a ‘services mash-up’ philosophy. By pursuing a mash-up approach, such sites divest themselves of the need to address information

storage and format conversion issues (leaving such technical questions to the better resourced mainstream media sharing sites on whose services they depend), and can instead focus on optimising the integration between different services, on building attractive and user-friendly interfaces, and on fostering an engaged on-site community. Additionally, by being available both through their own site and through the sites of the media sharing services upon which they build, their content gains further exposure, thus potentially drawing additional users to the mash-up site.

At the same time, in drawing on the services of others, such sites also give up a significant degree of control over the content uploaded by their users (or, more precisely, require their users to do so). Where *edgeX* was able to implement Creative Commons licencing options effectively and in a legally appropriate fashion by providing its own content upload and storage functionality, for example, an *edgeX* alternative that built on *YouTube* and *Flickr* for content storage would also have been beholden to those sites' content licencing, terms of service (TOS), and end-user licence agreements (EULA). In the worst-case scenario, this approach would condemn any users of the site to surrendering, by default, some of their ownership rights to the corporate operators of these service providers.

That said, it might be that the benefits of being able to draw on such reliable, industry-standard services in developing new, more specialised or niche content sharing sites outweigh the concerns about licencing agreements. Being able to focus on integrating these services rather than having to develop storage and management systems from scratch enables a more rapid prototyping and development process

than is otherwise possible (and would likely have sped up *edgeX* development substantially). APIs and related services are improving and expanding rapidly, and new services, gadgets, widgets, and mash-ups are constantly becoming available.

In future, unless in an attempt to build platforms for sharing forms of content or offering types of interaction that have not yet been addressed by any mainstream site, it appears probable that there will no longer be a need to develop entirely self-contained platforms such as *edgeX*. Instead, for projects such as ours which attempt to increase the participation of local communities in online cultural practice by providing new social media platforms, it will be possible simply to use the service and storage facilities of extant media sharing sites as a back-end. This follows the logic behind the use of sites like *YouTube* or *Flickr* as storage facilities for a wide range of social media sites, and enables developers and researchers to direct more energy towards those processes of user engagement and community development which matter to the specific project, rather than re-inventing the wheel by developing their own storage solutions. The conceptual aims of projects like *edgeX* remain valid and important, in other words – but the technological challenges associated with addressing them have become, though not trivial, then at least significantly less intimidating.

Conclusion: Reflections on the *edgeX* Project

As the case studies demonstrate, engaging community groups beyond already active high-level amateur and Pro-Am creative practitioners, and sustaining that engagement, has proved slow and difficult. Two key factors explain this: firstly, we

were working with people who do not as a matter of course use new media technologies to communicate within their community, and who have not incorporated the Internet into their general communication ecology. Secondly, different people and groups combine their use of telephones, mobile phones, mail, email, and face-to-face communication in different ways. Although some of those we trained were very enthusiastic and could see many opportunities and potential ways of using the site, unless the group or network of people they belonged to could also be convinced to use it, the site failed as a communication and collaboration tool.

This form of technology, and the kinds of uses it could be put to in the context of trying to build local community identity and strengthening community ties, needs *groups* of people to adopt it, rather than individuals. The integration of an online communication tool into an existent ecology of communication strategies in offline groups can be achieved, given the right contexts, but is not assured of success. Thus, unless the enthusiasts champion the site and convince others in their groups to integrate it into their communication strategies, we suspect that no strong site-based online networks will form. While the site may eventually generate some networked activity between people who had no prior knowledge of each other, our initial thrust was to harness existing groups and networks to populate the site and generate the critical mass it needs in order to be sustainable.

Secondly, there are access and literacy problems whose resolution is beyond the scope of this project. As discussed in this article, significant barriers still exist for people and can be seen to be widening the participation gap through a digital divide that needs to be addressed. Beyond the efforts of individual projects such as ours,

this points to the need for a larger, more concerted effort to build technological literacies in state-of-the-art online environments and encourage broadband take-up by users in all socioeconomic strata – these, of course, are also the stated aims of current federal government projects such as the Regional Broadband Hubs (now *ABC Open*) and the National Broadband Network.

Our point here is not that local communities' existing forms of cultural participation and creative activity are not already meaningful, of course. However, in a shifting media ecology in which an online presence is playing a more and more central role, communities which are not also significantly active on Web-based platforms for creative participation and cultural exchange will be rendered more and more invisible, disconnected from the key channels of grassroots cultural activity; this is an issue especially for traditionally disadvantaged rural and regional communities as well as for socioeconomically underprivileged groups. If successful, and if conducted in such a way as to ensure uptake well beyond the already techno-literate users (and neither is guaranteed as yet), initiatives such as *edgeX* may be of substantial benefit to local communities, then. They may benefit the aspiring creative practitioners on whom *edgeX* has focussed – and whose potential for further development our project has at least highlighted, even if it has not been able to serve them as comprehensively as we had hoped. And such initiatives may also benefit other local communities of interest and communities of practice by adding to their existing offline activities and thereby extending their reach and connections with fellow practitioners both in their local and broader geographical areas.

The issues of access and literacy in local communities, and the question of whether there is a role for new media technologies in building local community identity and a pool of talent that will feed into an innovative creative industries sector, must continue to be foregrounded and addressed. It is possible that the perception that new online social media spread virally, and that uptake is driven through mechanisms of social networking, applies mainly to those who are already technologically literate, and who are already online. For those who are part of communities and networks that are not yet online and not yet already technoliterate, the barriers remain high, and the gap to their tech-savvy counterparts continues to grow. In economically depressed areas, where most members of a community may rely on non-Internet technologies for their communication, uptake will continue to be slow. This raises a significant risk of further entrenching the divide between the haves and the have-nots, a divide which is often mapped onto existing divides between cities and regional areas.

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