

Digital Cultural Communication: Tools and Methods for Community Co-Creation

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Abstract

Only now are the communication technologies familiar to higher-end users becoming available to communities. When such technologies are married to traditional forms such as community narratives, they present an opportunity for communities to preserve their stories and distribute this knowledge to a wider audience. In some of the most remote parts of Australia, communities are partnering with cultural institutions to create digital cultural content. When communities create content in partnership with cultural institutions, both contribute to the sharing of cultural knowledge and distribution of this knowledge to a wider audience. In Queensland, a new initiative has created a mobile digital platform which travels into outlying areas of the community not just to capture and disseminate digital culture but to promote and train in new literacy.

Livingstone (2003) suggests that the new literacy has limited value to communities if they cannot access technologies, nor have reason to. This paper introduces Digital Cultural Communication, an interaction design-derived Solutions Architecture which weds new literacy to multiplatform communication design by providing a cost-effective strategic infrastructure. Cultural institutions can supply training in new literacy for community co-creation and by promoting the end product, stimulate demand.

Using an ambitious and exciting case study from Queensland's cultural sector, this paper illustrates how communities can engage in the co-creation of content which both extends their digital literacy and strengthens their cultural identity. Further, by framing this case study within the domain of Digital Cultural Communication, the paper illustrates the advantages of partnerships between communities and cultural institutions in the capture, display and distribution of knowledge.

Keywords

Digital cultural communication, interaction design, co-creation, multiplatform publishing, cultural institutions

What are the 'new literacies'?

Significant quantities of cultural content remain locked in museum and library archives worldwide, inaccessible to public view. Digital design and distribution processes have started a process of revealing cultural treasures and displaying them to a wider online audience: for example, the British Library's 'Turning the Pages' interface allows the visitor to digitally flick through Leonardo's

sketches and cartoons. However, the availability of more advanced online cultural artefacts does not guarantee that such artefacts are usable to untrained communities.

The skills required to engage in digital consumption have been termed the 'new literacies'. While media studies and education both describe frameworks for training in the new literacies, this paper posits that interaction design is well-placed to provide tools and methods for audience engagement not only in digital cultural consumption, but also in the creation of digital cultural content. This paper explores some of the debates ranging around new literacies and describes Multi-Platform Communication Design, a strategic interaction design Solutions Architecture developed by the authors and currently being trialled in a number of projects for cultural institutions in Queensland.

Literacy has historically been a field of study most notably discussed in education, but media and cultural studies have recently focused on the new literacies and the skills demanded of audiences as they negotiate the potential of expanding digital services. For example, Nixon proposes that forces such as the global cultural economy and public policies regarding information and communication technologies (ICTs) are now so deeply embedded in our daily lives — at home, work and school — that in many places they are shaping a 'new landscape of communication' and 'new learning environments' (2003). Leu et al. suggest that "The new literacies of the Internet and other ICTs include the skills, strategies, and dispositions necessary to successfully use and adapt to the rapidly changing information and communication technologies and contexts that continuously emerge in our world and influence all areas of our personal and professional lives" (2005).

The new literacies are a readily recognisable phenomenon: the impact of technology on cultural communication should be well-known to anyone familiar with the history of the printing press, radio, telephone and television. Indeed, interaction design research and practice have dealt quite successfully with some of the usability design issues raised by the new literacies for some time. Furthermore, ICTs offer an opportunity for regional and remote communities to partner with cultural institutions in the preservation of cultural identity. This research is formed around interaction design principles which foreground 'human' rather than 'technical' determinants of ICT usage. While this is not a new approach, the focus is on audience-centred outcomes which are facilitated by design and curation: audience experience drives technology and not vice versa. This approach is informed by media studies research which suggests that new literacy has limited value to communities that have neither reason nor ability to access technologies (Livingstone 2002).

Community content creation is not a new field of study. Since the 1960s, cultural institutions have broadened their programs to include audience interaction with content through education and a range of public programs (Hooper-Greenhill 2003; Pearce 1992; Vergo 1993). While audiences have come to interact with the institution, any artefacts which they create are not collected, registered and made part of the institution's collections. Audience interaction has been restricted to entertaining ways of 'making meaning' of content without an avenue for ongoing distribution of such

content. This research addresses this critical gap in community content creation by providing a structured methodology from which institutions can plan for the inclusion of community created content as integral artefacts of their collections.

Different disciplines pin different labels to the new literacies conception. In the media studies camp, Livingstone (2003) describes 'media literacy' and examines how its traditional focus on print and audiovisual media has been extended to encompass the internet and other new media. Media literacy is defined as the ability to access, analyse, evaluate and create messages across a variety of contexts.

- Access rests on a dynamic and social process, not a one-off act of provision.
- Analytic competencies include an understanding of the agency, categories, technologies, languages, representations and audiences for media.
- Evaluation – aesthetic, political, ideological and/or economic (all of which are contested).
- Content creation – the internet offers hitherto possibilities for audience content production.

Rather than comment upon the social processes and agencies to which Livingstone refers, this research will focus on how interaction design can provide answers to content creation — specifically community co-creation.

Community co-creation: The challenge

Schuler (1994) argued that communities were distinguished by lively interaction and engagement on issues of mutual concern and that their wellbeing contributes to the wellbeing of the state as a whole. He proposed that ICT could play a role in community life by improving communication, economic opportunity, civic participation and education. His position extended to community-oriented electronic communication where community networks have a local focus.

Schuler fails to provide a credible economic blueprint of how to deliver universal online access for communities, although he does make a case for how institutions can provide greater community access to ICT by providing no-/low-cost public access points. But the relationship between institution and community has far greater potential than the one-way provision of access and facilities. The newly literate community not only has the tools to consume digital culture, it can also work with the institution to create its own digital cultural artefacts. This relationship underpins the process of community co-creation.

The community co-creation equation is simple: cultural institutions have technical infrastructure and display mechanisms, and communities have original content in the form of narratives. The BBC's *Capture Wales* provides an excellent example of community co-creation: the institution (in this case, the British Broadcasting Corporation) has sponsored a travelling multimedia facility to visit communities and hold workshops in both image manipulation and narrative techniques <<http://www.bbc.co.uk/capturewales>>. This new literacy training has powerful cultural outcomes:

the community is empowered to create its own 'digital stories', short multimedia narratives constructed from personal photographs and memories. A collection of digital stories can provide a compelling snapshot of a community's cultural identity — the stories are supported by the institution, but created by the community itself.

Media and cultural studies seem to show some hesitancy in their approach to the community co-creation concept. Livingstone argues content creation may require further research to establish the relation between the reception and production of content in the new media environment, including clarification of the benefits — to learning, cultural expression and civic participation — and consideration of the best means of delivering these benefits (2003, p. 28).

Interaction design as a science has recognised early on the importance of audience focus (for example, within games design) and the discipline is very comfortable with the notion of audience experience. For example, Shedroff (2002, p. 2) asks us to consider the meaning of interactivity by envisioning all experiences as inhabiting a 'continuum of interactivity', which separates passive traditional media experience (reading, talking) from interactive new media experiences, the latter being distinguished by:

- the amount of control the audience has over tools, pace, or content
- the amount of choice this control offers
- the ability to use the tool to be productive or to create.

Shedroff's language — "audience control", "amount of choice", "creative tools" — contributes to the lexicon of community co-creation, and the continuum of interactivity can provide a simple yet effective model of how the new literacies can shift the audience experience from cultural consumption to cultural production. This research now describes an interaction design Solutions Architecture which allows the interactive system designer to realise this cultural shift.

Case study: Multi-Platform Communication Design

Multi-Platform Communication Design (MPCD) is an interaction design-derived Solutions Architecture which repurposes existing content across multiple communication channels in order to extend an audience experience across multiple target segments. Applied to the cultural institution sector, MPCD takes existing platform- or site-specific artefacts to new, distributed audiences in a cost-effective manner. In so doing, MPCD can extend and increase the audience experience beyond current curatorial and audience expectations.

MPCD borrows from a number of predecessors. The technique of repurposing existing content in a new format to create a new product is a tried and tested technique across many creative industries: for example, the physical and digital content of the *Lord of the Rings* film series has reappeared in games, DVDs, exhibitions, etc. Furthermore, the technique of designing specific media products to reach multiple audience segments is at the foundation of the marketing communication and

advertising industries. But MPCD goes further than media planning in that it uses multiple channels to extend the artefact itself, rather than just promote it.

More pertinent to this novel Solutions Architecture are the various other techniques which have been developed in response to digital convergence and which all — broadly speaking — share an understandable commercial desire to take existing content to new audiences.

- Multi-platform publishing brings a commercial focus to the possibilities of repurposing magazine print content for online distribution
- Multichannel broadcasting describes a technology-oriented initiative to rationalise TV broadcast formats as part of digital TV developments
- Multi-platform design examines mobile/Internet application delivery across desktops, PDAs, phones, etc.

Where MPCD differentiates itself from such precedent techniques is in its concern with traditionally site-specific media, such as the museum exhibition or the library collection (the potential commercial application of MPCD to immersive brand experiences, theme parks etc.. is not discussed in this paper).

A number of Australian cultural institutions currently seek solutions to high-level policy directives to increase audience numbers. To respond to such directives by simply increasing the number of exhibitions and/or programs is not an economic option for many cultural institutions. What is required — and what MPCD can provide — is:

- a cost-effective strategic and technological framework to repurpose existing content to reach greater audiences
- a mechanism for cultural institutions to share resources across multiple communication platforms
- a shared working model by which communities and cultural institutions can collaborate on creative projects — as Candy and Edmonds suggest, “learning how to collaborate successfully is very important and cannot be assumed to be a natural to everyone” (2002, p. 66).

Although this requirement may sound like the rhetoric of a Content Management System sales brochure, MPCD does not seek to commit its users to additional significant infrastructure investment. Rather, MPCD encourages the designer to use existing channels and platforms in a more strategic fashion to deliver and extend compelling audience experiences.

MPCD in practice

To illustrate the MPCD Solutions Architecture, this paper describes Queensland Stories, a current community co-creation initiative by the State Library of Queensland (SLQ). SLQ is not only a physical structure located on Brisbane’s South Bank, it is also the governing body for the entire state’s library network. This network encompasses a geographic area bigger than most European

countries, yet home to a population smaller than many European cities. Contemporary Queensland is a crossroads of South-east Asian and European culture, attempting to fit — often uncomfortably — not only with the world's oldest Indigenous culture, but also with an equally ancient, fragile and precious natural environment. This unique interface continues to produce individuals and communities with many rare and distinctive stories for the digital cultural communicator.

Libraries create cultural experiences which connect audiences to both physical environments and provide access to rare collections. So far, current media technology has achieved limited distribution within Queensland's regional library environment, where microfiche and photocopiers are often the only information technologies present. The Queensland Stories project is a giant leap forward, seeking as it does to capture, display and distribute community-generated digital culture from around this massive region. Queenslanders are encouraged to consider what is culturally important about their histories, places and people and to create meaningful stories which have a broad appeal to an international audience. To enable this exciting project, SLQ has invested in the MPCD methodology to produce a strategic end-to-end response for its new media-driven community co-creation programs:

Phase 1: Capture — community multimedia production

The first phase focuses on providing technological resources which enable community multimedia production. These resources are augmented by community multimedia production workshops which provide the level of tuition required for successful participation (with an emphasis on developing story skills and techniques as much as technical competence). The technological resources are supplied in the form of a Mobile Multimedia Lab, which brings the new literacies training into remote communities.

Phase 2: Display

The second phase focuses on creating a portal for display and enabling interaction with the portal. SLQ's website includes a portal for the display of community multimedia artefacts works produced throughout the workshops. These artefacts are collected and displayed as part of the SLQ collection. Audiences interact with this content through the Queensland Stories portal.

Phase 3: Distribution

This phase focuses on access to content and the promotion of that content to broader audiences. This is achieved by analysing technical specifications and capabilities of the institution's sites to identify interface problems, with a view to developing a systematic distribution model for multiple platforms. The aim is to deliver an online network for user-created content.

Importantly, the Queensland Stories project goes further than Schuler's policy demands by stipulating a comprehensive new literacies training program for regional and remote communities in Australia, based on workshops in PC multimedia skills and narrative techniques. The program

introduces community members to the skills, knowledge and processes required of them to produce self-authored multimedia narratives.

Queensland Stories: New literacies program design

The Queensland Stories project can be used to illustrate SLQ's end-to-end strategic response to the capture, display and distribution of knowledge across multiple media. MPCD also functions effectively as a modular method. For example, conceptual system design can be prompted by target platform prototyping during production.

Due to the unstable technologies involved in the multi-platform development (iTV, DVB, MHP, etc.), MPCD does not seek to start the design process with a clear statement of desired performance. Rather, agreement between client and designer upon target audiences and strategic platforms is sufficient to start the process. MPCD presents and functions as a complete end-to-end analysis, design and production Solutions Architecture. The successful implementation of the system assumes that the design team already has substantial cross-media experience, as well as interaction design knowledge and server/database familiarity (Hopewell and Dawtrey 2002). For the purposes of this research, we discuss only those aspects of MPCD which are relevant to the discussion of new literacies.

Table 1. The Multi-platform Communication Design Solutions Architecture (MPCD)

Current systems analysis
Domain overview: Digital Cultural Communication
General Task Model (current system): modernist cultural institution
Task Description (current system): cultural interactive experiences
Conceptual system design
Client Brief (target system): client requirements, audience segmentation
Domain of Design Discourse (target system): community research/participation
System Task Model (target system): delivery platforms technology
Conceptual Task Model (target platforms): front-end solution proposal
Production
X-platform Interaction Model (target system)
Interactive Prototyping (target platforms)
Detailed Artefact Design (target platforms)

Current systems analysis

Domain overview

From the client's perspective, MPCD starts with a consultancy to establish shared domain understanding between client and designer. Within the cultural institutional sphere, the domain of Digital Cultural Communication has been discussed broadly by the authors (Russo and Watkins 2004). The broad agenda of Digital Cultural Communication is concerned with the deployment of convergent digital technologies to achieve greater community representation within institutionalised cultural communication and thereby create a more representative curatorial practice. MPCD contributes to the domain by providing cultural institutions with a structured process to build multiple channels to multiple audiences.

General task model, current system

The General Task Model encourages client and designer to make a detailed analysis of the client's current communication procedures and practices. The State Library of Queensland has a wide

variety of online services accessible from its portal <<http://www.slq.qld.gov.au>>, although these services may not enjoy sufficient promotion. However, the Queensland Stories project is a very radical departure for SLQ and has prompted an ongoing re-examination of current communication procedure using MPCD as a model for target practice.

Conceptual task model, target platforms

Conceptual Task Model is one of the most powerful stages of the MPCD Solutions Architecture. It requires a clear high-level demonstration to the client by the design team of how the proposed solution will operate and fulfil desired performance. This should be a familiar requirement to user-centred and/or front-end designers accustomed to receiving multiple client 'sign-offs' throughout the project. It may be a less familiar action to back-end system designers whose focus is on functionality over usability.

The Queensland Stories website <<http://www.qldstories.slq.gov.au>> provides a streaming media display platform for the multimedia narratives produced within the new literacies workshops. Our approach has been to consider the current library systems which require new audience literacies to enable consumption and production of content. The library systems described in Table 2 frame the considerations for services which could be delivered across multiple platforms. Each system is described in relation to audience interaction or use; for example, interactive systems take on Shedroff's tenets of active engagement with content, transforming consumers into producers. The new literacies which are required to shift audiences from consumer to producer should be delivered by timely high quality programs which enable users to learn independently. This project employs Schuler's functional model of literacy training which describes a meta-language for new literacies. This model holds that by engaging in the process of production, audiences come to understand not only the creation process but the meanings which are imbued in objects; their environments and their use (Table 2).

Table 2. Queensland Stories — New literacies training strategy (Russo and Watkins after Schuler 1994)

System	Description	New literacy
Content-based	Systems have common artefacts, functions, interfaces and rely on constant visual messaging	Technical, interactive, aesthetic and strategic training to produce content
Interactive	Consumer as producer	High quality training built around capture, display and distribution of content
Collaborative	Producers comment on existing systems through special interest groups and forums	Community participation, i.e.: blogs, collaborative work environments
Unrestricted	Users participate in community networks	Digital community protocols, copyright, IP
Accessible & inexpensive	System is accessible from public or private locations	Repurposing content for cost-effective distribution
Modifiable	Users design or co-design interfaces or services, systems encourage evolution	Co-creation

Conceptual system design

Domain of design discourse, target system

In the first stage of the training, community members are introduced to conventions for meaning-making, how narrative is used to develop meaning and how visual cues can be used to encourage audience interaction. The technological aspects of the training support the strategic framework by providing the literacies required for capture and display, including introduce internet training, digital stills camera and scanning technologies for. The first stage ends with communities creating their own digital postcard using a single image to illustrate the meaning of the story they wish to tell. Importantly, the postcard is focussed at user reception or audience interaction with content rather than the creator's understanding of the work. This ensures that the content is not merely a self-reflection but a critical analysis of both object and narrative in terms of audience interest, engagement and interaction.

In the second part of the training community members are introduced to the processes of shaping emergent meaning by taking their still imagery and creating a visual and textual timeline and storyboard. In this phase the literacies shift from understanding convention, to critical visual and media literacy that is interpretation, recontextualisation and representation. It is important at this point to note that this shift from convention is part of the broader democratisation of cultural institutions enabled by new literacies. By encouraging community members to be critical of their images and narratives, the institution acknowledges that it is no longer the centre of knowledge production. In turn, it sends the message that communities are valued not only for their artefacts but for the context from which they are derived. Interaction design and MPCD provide active, tangible results in relation to this democratisation by situating technological skill within a cultural context.

Detailed artefact design, target platforms

In the third phase the community members finalise their digital stories — having taken content which was meaningful to them and remade it as a resource from which others can create meaning. The redesigned artefact illustrates the shift from institutional knowledge to the cultural market, from use value to exchange value, from passive systems to co-creative systems and from closed systems of consumption to user-led creativity and end-to-end production. By collecting and distributing cultural knowledge in this way, communities are engaged in actively shaping their cultural identity for future audiences.

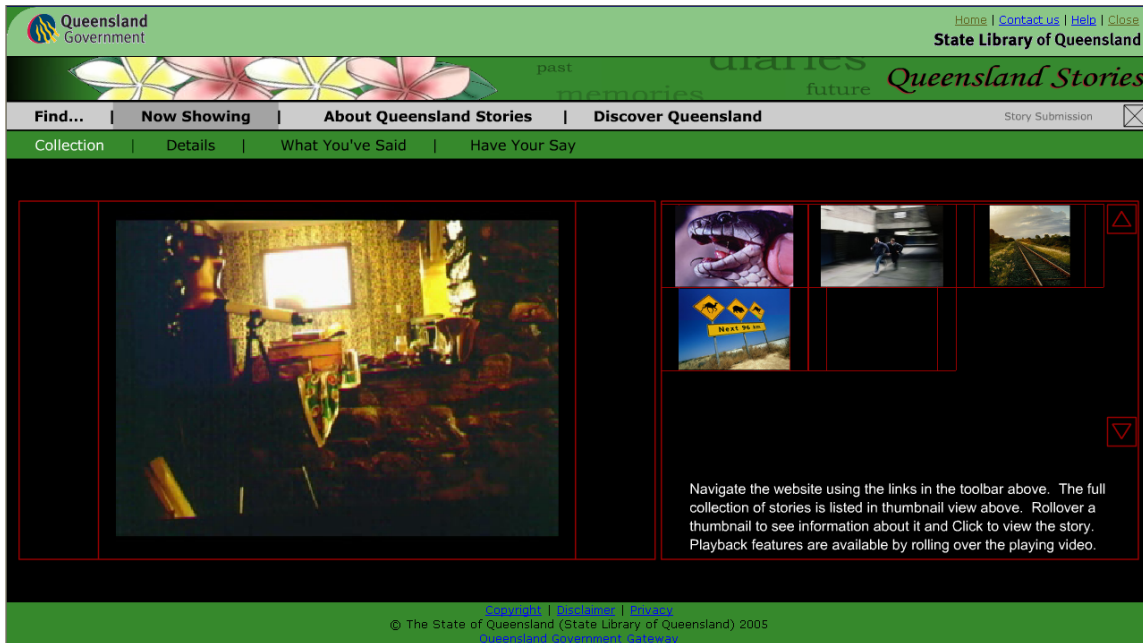


Figure 1. Queensland Stories portal <<http://www.qldstories.slq.qld.gov.au>>

System task model, target system

As discussed previously, the MPCD Solutions Architecture is not intended as a means to persuade clients to make yet another significant infrastructure investment. Where possible, the designer tries to make existing resources work harder in order to realise the target system and achieve maximum cost-effectiveness. The Queensland Stories training program is supported by a Mobile Multimedia Laboratory (MML). The MML has been developed in tandem with the new literacies training program and in collaboration with the client to ensure that communities have access to equipment to produce content. Importantly and unlike new literacies programs in other parts of the world (particularly *Capture Wales*) the training program uses preloaded movie editing software to create stories.

Whilst standard Windows moving editing software is not as advanced as the semi-professional applications such as Adobe After Effects or Premiere, it stands to reason that community access to the means of production must outlive a training program if the experience is to have any ongoing value to the community. Ongoing learning is meaningless if community members cannot access

the technology required to build the experience into their continuing lives. These digital stories are produced for web distribution. The Queensland Stories website has been designed to provide a 'broadcast' view of the finished stories, that is, rather than use current interface design protocols, the website is designed to predict how web enabled digital television may appear.

This means that all content is developed in the 16:9 standard widescreen format. When visitors enters the site, digital stories are always playing — the metaphor being that of switching television channels and finding entertaining content. The Queensland Stories website was designed as far as possible to operate as an alternative interface to the client's existing server/database architecture, in order to minimise redundancy. The most significant departure from client's operational norms was site construction using Macromedia Flash — rather than Dreamweaver or other HTML derivatives — in order to achieve the audience experience specified by the Conceptual Task Model.

Interaction design: The key to the new literacies?

The cultural consumer has the new literacy to participate in Digital Cultural Communication through interaction with — and even creation of — digital cultural content. Such skills might be the result of specific community-based training, education or general cultural absorption via Internet browsing.

Future services and roles will be enabled by new media, particularly in reference to modes of production, consumption and levels and methods of interaction. This holds implications for the different types of cultural artefacts for display and preservation as well as the new skills required to enable audience participation. As visual and textual literacies evolve, new skills are required by both producers and consumers of content in the creation of compelling and enduring experiences. Shedroff proposes that we "learn existing ways of organising and presenting data and information and develop new ones" (2002).

New literacies demystify cultural production and empower audiences

As ICTs become further embedded in our daily lives, they have the potential to create new platforms for community engagement. This paper has argued that the discussions ranging around literacy can be considered integral to the further development of meaningful services for communities. As theories and practices in media/cultural studies, education, Information Technology converge to contend with institutional access and community participation in production, all find themselves in relatively new territory. What seems to be consistent in each of these arguments is that literacy will be the key to the making of meaning. Literacy which enables cultural production can be developed by drawing together the discrete practices of a number of fields towards the empowerment of audiences and the development of the cultural consumer/producer. In doing so, not only are the processes of cultural production demystified, but the audience's ability to effectively engage in the civic opportunities afforded by new media can also be realised.

New literacies have potential wide-ranging social, cultural and economic benefits

When audiences are engaged in the act of consumption and production, wide-ranging social, cultural and economic benefits can be realised. In the cultural institution sector, Multi-Platform Communication Design can provide a cost-effective strategy for repurposing content for digital distribution to wider audiences. Providing an end-to-end delivery system for content distribution allows institutions to collaborate, share resources and extend audience interaction across these multiple platforms. As new physical systems draw audiences into a cross-section of content on a particular subject — drawn from a variety of organisations — the distributed network of audiences grows while the institution validates its collection and audience numbers across multiple platforms.

MPCD continues the relationship between audience and experience

As audiences expect higher levels of interactivity with content, MPCD provides a framework to deliver new experiences and continue extending relationships with existing audiences. By developing a mechanism which responds to successful commercial models, the cultural sector can successfully establish distributed systems which both deliver wider audiences and expand the knowledge and input of existing audiences.

New literacies can empower communities

Unlike print-based literacy, new literacies draw together texts, contexts and social practices across a number of media and create artefacts which afford audiences the ability both to create meaning and to broadcast community meanings in unmediated environments. This greater reliance on community knowledge can be well supported by cultural institutions which provide theoretical and technological frameworks and by educational institutions which act as advocates for the benefits of broader literacy and democracy within our societies. In this way, the discipline knowledge can converge in the making of new meaning and the creation of systems which support the empowerment of communities.

Conclusion

This paper has brought together arguments from media / cultural studies and education to describe the similar concerns each discipline has with “literacy” in the information age. It has posited that the field of interaction design can provide the tools for realising a democratic use of ICT. Importantly, the paper has taken the discrete knowledge from each field and proposed that by framing future practices within the context of digital cultural communication, all parties can contribute effectively to the evolution of theories and practices which support community engagement in content production. The authors have described how Multi-Platform Communication Design can meet the tenets of education and media/cultural studies by promoting a structured Solutions Architecture to the capture, display and distribution of digital content. In doing so, the paper takes a step into the near-future of both service development and delivery.

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