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Collaboration and Community: Foreword

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The journal *Digital Creativity* was founded in 1989 (as *Intelligent Tutoring Media*, in the spirit of the 1990s). Colin Beardon, to whom this issue is dedicated, was the founding force of the journal and its peer community, serving as editor from Volume 1 (1989) through Volume 18 (2007). Eighteen years is a long period in the field of new media and digital creativity, and as good length of time as any to pay a well-earned personal¹ and communal tribute to Colin.

During his editorship Colin established a very high standard for the content of the journal by managing a strict peer refereed process supported by the editorial advisory board. He developed *Digital Creativity* from being a UK-based journal to become a well-reputed international journal published by one of the strongest scientific publishers in the academic environment.

Colin Beardon himself is an incarnation of the focus of the journal as he has worked in the field between digital technologies, art and design for many years. Originally trained as a classic computer scientist working in the area of artificial intelligence, he started moving into art and applications of digital technology in art during the 1990s. Through his own interests in the field and his own artistic development he inspired the journal to keep improving and keeping its position as the most relevant journal for academics and practitioners in the field spanning between art, design and digital technology. In a review of *Digital*

Creativity published in *Leonardo* (Spielmann 2001) it was stated that ‘many artists evidently kept the fires of creativity burning by publishing in the journal *Digital Creativity*’. We are grateful to Colin for having put all his fires of creativity and his huge knowledge of the field into making *Digital Creativity* this very unique journal.

This special issue focuses on collaboration and community to celebrate Colin’s passion and participation in the field of digital creativity and other communities, and his spirit of collaboration across disciplines and borders.

Jo Briggs opens the issue by case studies of community-engaged digital production in a particular socio-political context in Northern Ireland. He maps the forms and results of collaboration between artists, academics, funding bodies, other stakeholders and the local community. With healthy scepticism on the actual impact of the digital heritage and storytelling production for communities’ cohesion, Briggs’ investigation of situated cultural practices creates a larger context of the cultures and politics of collaboration, through which we hope that the readers of this issue examine also all the other articles.

The next three articles study digitally enhanced and/or mediated urban environment as a platform for community and collaboration. After a captivatingly described investigation of public park activities in Asia, Liselott Brunnberg and Alberto Frigo introduce the funfair design metaphor for

placemaking by mobile devices in urban environments. Yutaro Ohashi, Pihla Meskanen *et al.* report a study of children's collective media production on the city of Helsinki. The artists' statement by Andy Best-Dunkley and Merja Puustinen questions the power politics of urban architecture. After art historical and socio-political contextualisation of their participatory media art work *RE/F/r.ACE* under development, they return to the same essentials of collaboration and community than Briggs: digital technology itself has very little to do with social cohesion/alienation, while 'the answer is rather embedded into the long tradition of humanism: appreciation of social communities and relationships, and recognising the unique sense of subjectivity in the Other—in strangers and ourselves'. The final technical article by Pujan Ziaie and Helmut Krcmar investigates how this appreciation may be communicated in a design framework for online community reputation systems.

In 2000, Colin wrote:

the future direction of a technology might be well informed by an appreciation of some of the more fundamental concerns of the artistic world. At a technical level, computers are a product of late modernism ... but they are now becoming so complex that the meanings that they produce can no longer be understood within this paradigm ... The meanings behind the range of representational systems that have been considered then become a real issue for the future of computing. (*Beardon 2000, p. 358*)

The articles in this special issue of *Digital Creativity* contribute towards the matter that Colin identified. They are therefore important within the field of *Digital Creativity* but also have a far wider implication for the future development of the technologies that they refer to. These future developments will undoubtedly owe a debt to the legacy that Colin Beardon has and is providing.

Finally, Colin, we hope that you enjoy this special issue, dedicated to you. We look forward to good talks about it, over the dinner table, a cup of tea or online using one of the growing number of tools that support collaboration and community exchange.

Note

¹ In remembrance of creating metadata based on the countless extended footnotes made on *Hamlet* (Shakespeare 2006), when delivering the project HaMLET (Multimedia Learning Environment for Theatre and film) with Colin in the early 1990s, and as a fan of Danielewski's (2000) *House of Leaves*, Mika wants to deliver this lengthy personal footnote of the past: at the time of HaMLET, I worked as an assistant for theatre director Jotaarkka Pennanen, a Finnish pioneer in multimedia and interactive drama, in the Theatre Academy of Finland. There—in my twenties, very greenly indeed—I coordinated the European research project HaMLET. Colin and the University of Brighton, where he was then employed, joined the project with the research and development of the stage design sketching tool Visual Assistant. Colin's multidisciplinary experience, expertise and creativity—and wisdom, which for me signifies the rare and beautiful union of acute intellect and compassion of a living creature towards others of his kind, and the Others—were essential in carrying the project through successfully. I wrote, or rather learned to write, my first academic publications with Colin and have always owned gratitude to him for that fact and the entire process we were involved in after the very first encounters.

Then, and more and more in the following years, I feel that Colin became both my mentor and friend. I didn't make many decisions concerning my projects and formal education in the Media Lab Helsinki of the University of Art and Design (now the Aalto University School of Arts, Design and Architecture) in the mid-90s without consulting Colin.

From various occasions in Brighton and Plymouth, where I joined the first dinner at Colin's and his wife Christine's home, in Helsinki and Malmö (and I don't remember where else in Europe), I most distinctly recollect Colin's warm and serene presence and the calm thoughtfulness of a ruminating scholar. He always enjoyed playing the devil's advocate in order to improve upon my thinking. 'Interface' may just be a concept used to falsely place blame on a complex and inseparable part of human-computer systems design. Realistic representation by visualisation software is ineffectual, as it adds cognitively next to nothing to how we already perceive reality. 'Virtual' is, virtually, non-existent by definition—why do we use it in describing online worlds and communities, the actions and relationships of which are real?

After Colin's 'retirement'—I hear from New Zealand that he is a relentless community activist e.g. in the Artworks Community Theatre and the nature preservation of Waiheke Island—we have not met each other face to face. I frequently miss his and Christine's company, and Colin's views and advice. Despite the current geographical distance and long-term absence, my thoughts have allowed me a sense of Colin's presence: I've always been able to consult his wisdom in imagined dialogues and by reading his writings. I owe you, Colin, as a projection of my mind as well as yourself.

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Mika 'Lumi' Tuomola is the founder and director of Crucible Studio, the new media storytelling research group at the Media Lab Helsinki of the Department of Media, Aalto University School of Arts, Design and Architecture, where he teaches generative and interactive narratives and participatory drama. As an internationally awarded writer, dramaturge and director, his productions include the web drama 'Daisy's Amazing Discoveries' (1996), moving image installations 'Myths for One' (2002) and 'Alan01' (2008), avatar and game world designs for Fujitsu's 'WorldsAway' (2000) and the dark musical comedy series 'Accidental Lovers' ('Sydän kieroksella', 2006)

for television and mobile devices. He's in the editorial advisory board of the *Digital Creativity* journal, a founding member of m-cult, the Finnish association of media culture, and an affiliated member and visiting artist of the Digital Studio for Research in Design, Visualisation and Communication, University of Cambridge, UK. Lumi would not be in the field without Jotaarkka Pennanen and Colin Beardon.

Ernest Edmonds is founder of the Creativity and Cognition Studios at the University of Technology, Sydney, where he is Professor of Computation and Creative Media. He is also Professor of Computational Arts at De Montfort University, Leicester, UK. Ernest co-founded the ACM Creativity and Cognition conference series and has published widely on human-computer interaction, creativity and art. He co-edited his most recent book with Linda Candy: *Interacting: Art, Research and the Creative Practitioner* (Libri Press). As an artist, he has used computers since 1968 and has exhibited and performed in very many countries, including the UK, USA, Germany, Belgium, Australia and Russia. His work can be seen on the web sites of DAM in Berlin and the Victoria and Albert Museum, London.

Lone Malmberg is an Associate Professor of interaction design at IT University of Copenhagen, Denmark. She is a member the Interaction Design Research group. Before joining ITU, she has developed and headed a study program in interaction design at Malmö University, Arts and Communication, Sweden and has established and headed the research group Creative Environment at the same university. Her main research interests are in areas like interaction design, kinaesthetic interaction, phenomenology, design methodology and design for senior citizens' social interaction. She has been a co-editor of *Digital Creativity* since 1998.



Investigating situated cultural practices through cross-sectoral digital collaborations: processes, policies, insights

Jo Briggs

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Investigating situated cultural practices through cross-sectoral digital collaborations: processes, policies, insights

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Abstract

The (Belfast) Good Friday Agreement represents a major milestone in Northern Ireland's recent political history, with complex conditions allowing for formation of a 'cross-community' system of government enabling power sharing between parties representing Protestant/loyalist and Catholic/nationalist constituencies. This article examines the apparent flourishing of community-focused digital practices over the subsequent 'post-conflict' decade, galvanised by Northern Irish and EU policy initiatives armed with consolidating the peace process. Numerous digital heritage and storytelling projects have been catalysed within programmes aiming to foster social processes, community cohesion and cross-community exchange. The article outlines two projects—'digital memory boxes' and 'interactive galleon'—developed during 2007–2008 within practice-led PhD enquiry conducted in collaboration with the Nerve Centre, a third-sector media education organisation. The article goes on to critically examine the processes involved in practically realising, and creatively and theoretically reconciling, community-engaged digital production in a particular socio-political context of academic-community collaboration.

Keywords: socially-engaged, cross-sectoral, digital arts, policy, Good Friday Agreement

1 Introduction: contexts and motivations

This article draws from the initial phase of my practice-led PhD project, which was financially supported as part of the United Kingdom's Arts and Humanities Research Council's Collaborative Doctoral Awards (CDA) scheme. Borrowing from the scientific model of research—designed around team rather than individual enquiry and often engaging with expertise beyond the university—the CDA format aims to encourage cross-sectoral knowledge exchange between non-academic and academic partners sharing close but as yet unexplored synergies. The scheme enabled the Nerve Centre in Londonderry/Derry and Interface, Centre for research in art, technologies and design, 70 miles away at the University of Ulster at Belfast, to work together on a collaborative PhD project entitled: 'Visual art practices: digital literacies and the construction of identities in Northern Ireland.'

A brief overview of the project partners, below, aims to illustrate their various motivations behind project involvement—while also highlighting particular areas of interest in collaboration and community-engagement—to exemplify the different cultural, creative and disciplinary perspectives

that informed the ensuing research processes and outcomes.

1.1 The Nerve Centre (Londonderry/Derry)

Over two decades the Nerve Centre has grown from a grassroots self-help resource for unemployed musicians to a third-sector organisation with interests across Northern Ireland spanning the cultural production, presentation, appreciation and pedagogies of digital media, music and film. It initiates and manages projects in a number of cultural, informal- and formal-educational contexts, including those falling under the remit of ‘community relations’. Some of these are manifested by EU Peace programmes particularly concerned with consolidating Northern Ireland’s peace process following its emergence from 25 years of political violence—emanating from deep religious, socio-cultural and political divides between constituent Protestant/loyalist and Catholic/nationalist communities. Specific projects developed by the Nerve Centre under this remit include those involving media training and the production of digital didactic resources, such as ‘NI’s first accredited online cultural diversity training programme’, and educational CD-ROM resources addressing issues around national and cultural identities and sectarianism (Community Relations Council website).

As part of Northern Ireland’s Education Policy Working Group (EPWG), the Nerve Centre has been engaged and increasingly influential in mainstream formal education relating to audio-visual production. The implementation of a new educational strategy at secondary school level has fostered specialist qualifications in Moving Image Arts at post-14 years—designed by the EPWG and available in schools and education centres across Northern Ireland and in some institutions in England and Scotland. The Nerve Centre also manages two out of three Creative Learning Centres, founded as part of cross-departmental policy introduced after the Good Friday Agreement to support the development of digital media production-related literacies. As such, the Nerve Centre is extremely prominent within Northern

Ireland through its roles enabling access to moving image creative production and promoting cultural literacies.

1.2 Interface (Belfast)

Broadly concerned with similar social and political contexts of cultural production, Interface critically explores art practices that ‘converge the concerns of art (“in here”) and social (“out there”) processes’ (Fleming and Mey 2009, p. 5). These are typically situated beyond the confines of art and academic institutions. One particular focus concerns practice-led methods involving what is variously named—among other things—participatory, interventionist and socially-engaged art, as discussed arguably most prominently by Grant Kester (2004), Claire Bishop (2006) and Nicolas Bourriaud (2007).

Bishop’s now seminal 2006 essay associates the ‘surge’ of interest in collaboration and social-engagement—including that of successful fine art practitioners more usually associated with gallery contexts of displaying work—with a contemporary avant-garde (Bishop 2006, p. 179) manifesting: ‘dematerialized, antimarket, politically engaged projects that carry on the modernist call to blur art and life’ (p. 178). While Bishop’s critique primarily focuses on contemporary fine art practices *per se*, an increase in applications of ‘engaged’ creative activities more broadly is apparent. Susan Jones (2007), the managing editor of an artists’ opportunities newsletter, evaluated longitudinal data from the publication to reveal an increasing trend over time in the value of ‘public-service’ commissions and activities, by the time of the study representing 65 per cent of the monetary value of all advertised grants and earnings available to subscribing artists. The apparent boom in socially-engaged practices and public art towards the latter part of this century’s first decade, as discussed by Bishop, is arguably as much to do with increased proportionate funding for art as ‘public-service’ as it is evidence of a burgeoning avant-garde. In Northern Ireland for example, the Re-imaging Communities initiative (2007–2009) received Arts Council of Northern Ireland financial support to commission artists

and other creative practitioners to propose and implement urban environmental projects whereby:

Sectarian murals, emblems, flags and graffiti will be replaced by positive images which reflect the community's culture, as well as highlight and promote the social regeneration taking place in communities today. (Belfast City Council).

Interface, and the fine art area more broadly, encompass interests across this spectrum of the socially-engaged. Prominent individual practitioners developing practice-led PhDs include Loraine Leeson (2009) and Ailbhe Murphy (2010), while other areas of research explore the wider institutional structures and cultural contexts of contemporary, and indeed historical, art practice.

1.3 Researcher-practitioner

My practice explicitly foregrounds the use of digital media tools in co-productions developed in a range of situated cultural and institutional contexts beyond art practice *per se*, with notions of collaboration and community-engagement often at their core. My first ‘multimedia’ work was developed with Valentina Nisi during an MSc programme at Trinity College Dublin, and constitutes a reflective collective narrative developed with the residents, neighbours and friends of a village terrace in County Dublin. Local tales were elicited through social processes and realised through audio-visual tools, with 65 story vignettes filmed in and around the street or developed in post-production. The final piece was presented as a dual monitor installation exhibited in the Douglas Hyde Gallery in Dublin and the local Muintir Na Tíre (a community-focused town hall). *Weird View* aimed to capture and archive, at that juncture at the beginning of the new century, and using ‘cutting edge’ digital tools of the day (QTVR, 3D, video, Flash animation, Shockwave games, etc.) a complexity of social interrelations represented as an interactive narrative: recording a snap shot of time and place as urban Ireland underwent rapid social and economic change.

Weird View was loosely informed by methods taken from art practices, ethnography

(or, ‘quasi-ethnography’) and notions, at that time, of social computing—particularly the human-relational possibilities of web-database tools (subsequently labeled ‘Web 2.0’). In the ensuing period between *Weird View* and embarking upon the PhD, my own practice continued, albeit concurrent to a demanding academic role leading and teaching on a digital media production and cultural contexts degree course, situated in a media—rather than creative arts—faculty, in England.

1.4 Collaborative methods

Methodologically, dual notions of *collaboration* informed the PhD process. In this particular practice-led context, it functioned at cross-sectoral level, enabling Interface to work with the Nerve Centre, to recruit a PhD researcher and to generate artefacts together. Collaboration is also prominent as an ‘engaged’ method within constituent digital projects. Together, these processes constituted a platform for research and a vehicle for digital co-production—albeit extremely explorative—but which in turn, generated material outputs for textual analysis and for PhD examination submission as part of practice-led research (Briggs 2010).

2 Research rationale and implementation

The main PhD rationale examines emerging digital cultural practices, focusing on audio-visual art-related forms of production. Ultimately, it is informed by a wide range of social and visual cultural theory, particularly relating to communications (e.g. Hall 1997; Kress and van Leeuwen 2006), to examine how newly ubiquitous digital capture devices and digital and telecoms networks are manifesting particular human (signifying) practices and impacting on understanding. The enquiry builds on the substantial body of digital- and media-literacies related discourse concerning everyday activities involving digital and networked communications, exploring issues of democratic access, meaningful participation and critical understanding. For example: Sonia Living-

stone's (2009) investigations into the effects of state deregulation and market fragmentation on media consumption and understanding, with particular focus on children's online practices. Livingstone identifies a range of literacies necessary to deal with online risks and threats—summarised as commercial, aggressive, sexual and to values (p. 159)—in order to participate as digitally-engaged citizens.

Another expansive body of research concerns autodidactic practices involving *production* and dissemination of digital texts, and the construction and display of digital identities. Daniel Chandler (1998) examines how and what young people's creative personal websites visually communicate about them—comparing the 'under construction' signs prevalent among earlier online projects with their makers' still-developing identities. Even the modest 'talk and text' type of mobile phone facilitates, indeed manifests, creative forms of communication and representation; Manuel Castells *et al.* (2004) plot the device's evolving utilitarian, social and *expressive* uses; as an example of the latter, David Crystal (2008) examines linguistic creativity within text SMS messages, arguing that intra-generational 'text-speak' has evolved among groups of young people through socialisation. danah boyd's (2008) ongoing ethnography is also of note, concerning online social network profile building. This simpler form of web page production has facilitated mass participation in social media, with boyd examining young people's management of online profiles in relation to the generation and maintenance of social capital.

This research is concerned with addressing the cultural and aesthetic aspects of digital production in the context of recently increased availability of extremely sophisticated digital capture tools, associated networks of distribution, and institutional use. This is a largely underexplored niche: beyond autodidactic practices as outlined above or the didactic media production activities traditionally delivered in schools (typically focusing on 'meaning-making' and directed forms of production, rather than the aesthetic-expression, cf. Burn 2009).

2.1 Learning from the past

The two digital projects were developed—in what was deemed to be the 'spirit of collaboration'—to practically and culturally align with the Nerve Centre's ongoing activities across the heritage, culture and education sectors. An existing initiative, *Learning from the Past*, constituted a multi-strand project, including development of a *North West Film Archive* (bringing together audio-visual material from or about counties Londonderry/Derry and Donegal—in the Republic of Ireland—from almost seven decades: see Border Ireland website) and a complementary programme of didactic digital literacy workshops, enabling individuals to transfer cine film onto DVD and learn about digital editing techniques.

Learning from the Past was financed by the EU Peace II programme, which promotes cross-border exchange and reconciliation. The process of researching and digitising film and video artefacts along with the workshops intended to encourage social and cultural interaction, partly through inter-institutional collaboration in the border region—including through production of 18 contemporary digital stories to complement the historical content of the archive. Initial suggestions from the *Learning from the Past* project manager at the Nerve Centre were for me to develop, perhaps two of the 18 projects, by exploring potential synergies with ongoing programmes at the Regional Cultural Centre in Letterkenny, County Donegal, and the Tower Museum in Londonderry/Derry. While I had to make decisions with limited information, largely as the Nerve Centre projects themselves were quite developmental, the storytelling brief was open to interpretation. I envisioned this as prospectively facilitating the academic research themes more readily than other Nerve Centre projects exploring and generating teaching materials for the creative use of ICT (information and communication technologies) in the history and English school subject areas. However, 'community participation' was institutionally framed within *Learning from the Past* and conditions of funding determined engagement with specific demographic groups. Preliminary

meetings with the partner organisations identified areas of broadly common interest that simultaneously fitted their ongoing programmes, while aligning, somewhat tangentially, to the digital literacies and identities themes of the investigation.

2.2 Digital memory boxes: *Fergus, Josie, Susan*

Situated in the far North West of Ireland, the Regional Cultural Centre is an arts venue, which seeks to promote cultural excellence and facilitate wide community access, social inclusion, education and training (Regional Cultural Centre). A reminiscence-themed programme of workshops had run the previous year, linked to regional outreach work for older residents in this particularly rural part of Ireland. Workshops had enabled individuals to build—around tea chest scale—tangible three-dimensional ‘memory boxes’ (a term used by the staff) in a variety of materials. Documentation from the workshops showed artefacts resembling stage sets, displaying their makers’ personal photographs and mementos; one participant had apparently painstakingly recreated his one-roomed childhood home, finely crafting a curtained bed next to the chimney-breast. Staff recalled how the workshops had concluded with a particularly well-received exhibition, but that due to imminent relocation they could not currently envisage running such space-demanding and otherwise resource-intensive workshops. Thus, the idea was collectively agreed that the reminiscence workshop format should be recreated in digital form, as ‘*digital* memory boxes’, albeit with participants this year engaging as subjects and narrators, while I managed digital production. Participants fitting the ‘over 55s’ requirement, recruited by the Nerve Centre and Regional Cultural Centre, were invited to their respective venue for preliminary discussions and subsequent workshops.

Ultimately, three digital memory boxes were developed with Fergus, Josie and Susan, combining audio-recordings of memorable life episodes edited down in post-production to form a coherent narrative and sequenced to (mainly) photographic imagery. This was acquired from a range of

sources: family albums were an obvious resource but limited in breadth of subject matter; local archives meanwhile, provided imagery with contextual richness and conceptual neatness—facilitating the images’ (re)appropriation in the context of a new *North West Film Archive*. Another invaluable visual resource constituted my documentary ‘snaps’ captured during project development.

2.3 Artefact descriptions

Fergus (03:26)

Fergus—a retired nursing officer at what was Donegal Lunatic Asylum—recalls working with men recovering from the effects of extreme poverty and prolonged isolation living in remote parts of County Donegal. Since retirement he has developed a reputation locally as a storyteller. He evocatively describes the living conditions of those coming to the hospital:

You could picture it yourself, a fella living on the foot of the mountain and maybe a mile from the nearest neighbours ... on a dark November day ... and drizzle coming in the thatched roof and the window falling in ... he would get depression ... and then ... and only then ... would someone see to him ... and he would be admitted to the hospital where he would undergo the correct treatment and make a good recovery ... but by the time it was time to go ... the wee house was down on him.

The digital memory boxes combine only audio rather than video recordings of the reminiscences; the associated sequence of still images intends to generate an interesting ‘dialogue’ between sound and image. Synchronised to Fergus’ narration are photographs depicting cottages from across the region (Figures 1 and 2) sourced from the regional County Archives, in turn taken from an unpublished 1940s Master’s thesis (O’Neill). The images serve to strikingly illustrate the conditions under which people lived (in sharp contrast to the residents of contemporary cottages—and bungalows—across the region now constituting private holiday homes). The images were

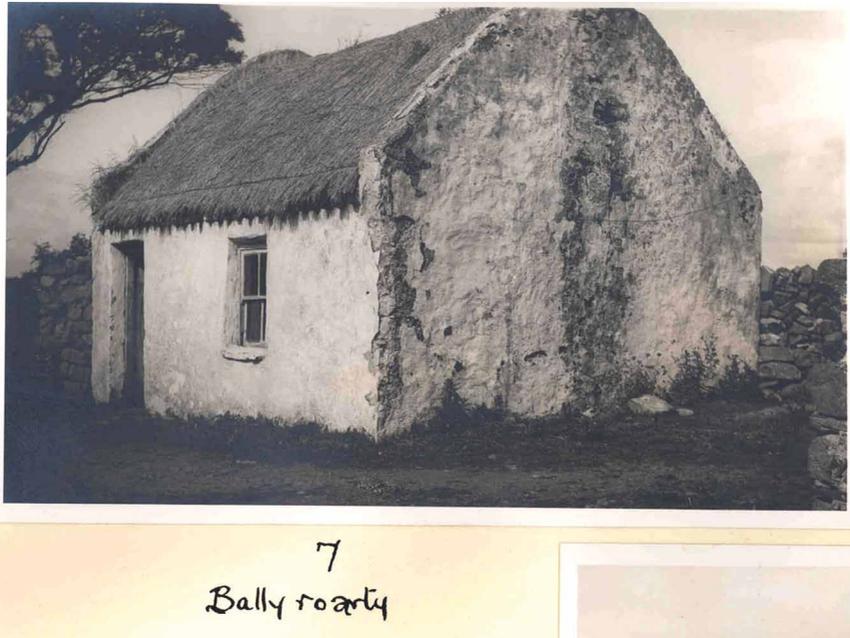


Figure 1. Photograph from O'Neill 1940, reproduced courtesy of the County Archives, Lifford, County Donegal, Ireland.

reproduced in an uncropped state—as received in email attachments from the archive—intending to communicate their loose, rather than literal, association to Fergus' story, and making

reference to their (re)appropriation in/from another archive.

Fergus goes on to discuss how his involvement in Co. Donegal's dance-band scene prompted the



Figure 2. Photograph from O'Neill 1940, reproduced courtesy of the County Archives, Lifford, County Donegal, Ireland.

use of music for patient rehabilitation. He assembled his saxophone and played a few improvised tunes at my request (Figure 3), later mentioning that it was the first time he had played in many years.

Josie (05:15)

Josie remembers her early marriage, bringing up teenagers on an expansive housing estate, Creggan, and the family's annual holiday in County Donegal:

They were good days ... only 14 miles down the road ... but you would have thought ... and especially during the troubled years in Derry ... you'd have thought you were in another country altogether ... 'cause there was such peace.

She goes on to discuss balancing domestic responsibilities with the overnight shift at the shirt factory:

The wages weren't that good, it was like slave labour really in my eyes you know ... on that night shift we got five pounds a week ... housewives' shift they called it.

The shirt industry in the city was thriving at that time, with several factories providing valuable work. Subsequently, industrial heritage constituted a rich visual resource. Figures 4 and 5 are sourced from a locally published book, *Derry's*



Figure 3. Fergus preparing the saxophone.

shirt tale (McCarter 1991), which includes documentation from the City Factory, now demolished.

Susan (03:35)

Susan was 96 years old at the time of project and had been a rural village postmistress up to retirement. She recalls the role's impact on day-to-day life:

The mailers used to come in ... in the morning at ten past seven ... and I would have to have been up like ... and had my breakfast and face washed ... and cleaned up a bit ...

Figure 6 was taken in Susan's home and depicts the stairs she descends every morning: and used to suggest the daily routine in preparation for the mail delivery. She goes on to remember acquiring the first village telephone—still kept for nostalgic reasons in the hallway (Figure 7)—and how it generated extra work. Susan recalls:

People used to come you see and they wouldn't want to wait ... with some urgent thing and I would have to [make the telephone call] whenever I would get time.

A linear audio-visual narrative was constructed out of discursive recollections in a process similar to what is typically referred to as the California Model of digital storytelling, developed two decades ago and still practised at the Center for Digital Storytelling (see Storycenter, the Center's website). Workshop participants develop time-based digital artefacts by zooming in and out of still images synchronised to voice-over narrations, giving a sense of video without necessitating use of complex digital editing tools. My constructions diverge from this model—arguably owing more in terms of treatment to a long-running *3 Minute Wonder* project on Channel 4 television. Aimed at identifying new talent, directors pitched for modest commissions to win prime time national exposure. The series thus generated a diversity of films, some quite experimental, broadcast five days a week in various series, running between 2006 and 2010.

However, the California Model and subsequent flourishing of digital storytelling practices has generated some useful academic texts. Knut



Figure 4. 'Backfitting' from the City Factory archive, documented in 'Derry's Shirt Tale'. Image courtesy of Guildhall Press.

Lundby's *Digital storytelling, mediatized stories: self-representations in new media* (2008) brings together critical texts that raise pertinent questions about institutional practices, including those eliciting personal narratives in public contexts—e.g. schools, the heritage sector, public sector broadcasting. Nancy Thumim's chapter (2008) examines such processes from participants' perspectives in relation to institutional motivations, and how representations of 'ordinary people' and 'community' are constructed to serve particular agendas (p. 85).

In this project, the additional academic institutional framework and artefacts produced were intended to represent some aspect of my creative practice. In this context, the projects described here aimed to aesthetically 'rise above' what I perceived to be some of the apparent digital storytelling 'clutter' being generated regionally and nationally. This involved a time-consuming process of shaping narrative forms out of myriad reflexive recordings and—in order to use the more interesting areas of reminiscence—sourcing suitable visual material from across regional and national archives. From the perspective of

socially-engaged art, Claire Bishop (2006) vigorously criticises projects that abdicate authorial voice and aesthetic values in gestures of democratic collaboration in order to 'strengthen() the social bond' saying these practices blur into the long tradition of community arts (Bishop 2006, p. 180). However, this is what Peace II projects intend, their primary *raison d'être*, thus raising inherent tensions within the art practice research process.

2.4 Interactive galleon

The Tower Museum in Londonderry/Derry has two permanent exhibitions: a political history of the city and the story of La Trinidad Valencera, a sixteenth century Spanish galleon wrecked off County Donegal and found by a local group of divers in the 1980s (Derry City Council). A second pilot—an interactive video and animation—was concurrently developed with two primary school classes, the Nerve Centre and the Tower Museum. Methods from socially-engaged art were applied here to populist forms of digital 'edutainment' by producing an artefact with and

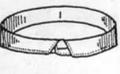
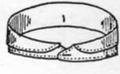
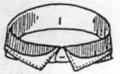
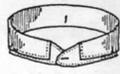
<p>PERSIGNY</p>  <p>Nº x 0 00 0x 1 2 3 Price</p>	<p>GEM</p>  <p>Nº 1 2 Price</p>
<p>OXONIAN</p>  <p>Nº 1 2 Price</p>	<p>ÉLITE</p>  <p>Nº 1 2 Price</p>
<p>MARSALA</p>  <p>Nº 1 2 Price</p>	<p>LEOPOLD</p>  <p>Nº 1 2 Price</p>
<p>GAETA</p>  <p>Nº 1 2 3 Price</p>	<p>ECLIPSE</p>  <p>Nº 2 Price</p>
<p>GARIBALDI</p>  <p>Nº 1 2 Price</p>	<p>PERSIGNY</p>  <p>Nº 1 Price</p>
<p>VOLUNTEER</p>  <p>Nº 1 2 3 Price</p>	<p>FAVORITE</p>  <p>Nº 1 2 Price</p>

Figure 5. ‘A selection of exotically named collars available for gentlemen’s shirts’ from the City Factory archive, documented in ‘Derry’s Shirt Tale’. Image courtesy of Guildhall Press.

for children, with the Tower Museum’s exhibition informing a Spanish Armada theme.

The first session involved a pupil tour of the museum, with staff recounting the history of the



Figure 6. Susan’s stairs. Photo Jo Briggs.



Figure 7. Ballymaleel’s first telephone. Photo Jo Briggs.

Armada, followed by sessions in each school, separately, to develop the narrative via drama reenactment. This was largely catalysed by availability of copies of artefacts recovered from the shipwreck (e.g. armour, cannon balls, shoe, ship’s clock) for educational use. Additionally, pupils developed drawings and paintings to help tell the historical aspects of the story, while classmates recorded voiceovers from a script that I devised.

In the final interactive (Flash and video) artefact, the galleon’s story—setting sail from France to conquer England, and following a violent storm, shipwreck and later, discovery and recovery by the diving team—unfolds through exploration of interactive interfaces representing the exterior and interior of the ship. Overall, this was a much larger, more educationally focused project involving a crew of sound recordist and camera operator, the *Learning From the Past* project manager, teachers and museum staff. My role was one of co-ordinating, ‘directing’ and later, compositing the outcomes from across the two schools, in post-production.

Subsequently, there are challenges in identifying ownership and acquiring permissions to use images from the project in publications. Requests to clarify rights and use images for this publication were unresolved, though carefully selected images, which do not identify participating children, are available online (Interactive galleon documentation website). These can be removed if necessary. This issue has surfaced in previous

personal projects (for example, as reflected upon and documented in Briggs (2012)) and is currently dominant in discussions around ‘multi-stakeholder’ academically led digital projects (e.g. Cooper 2012).

2.5 Collaborative methods and outcomes

Initially conceptualised as a novel platform and method of academic research, the cross-sectoral collaboration(s) increasingly blurred into complex project negotiation, facilitation and material artefact production. One had to pragmatically project manage and tailor significant amounts of digital production work to a range of schedules—to meet deadlines across different institutional calendars. Meanwhile, the constituent projects’ relative technological simplicity was in sharp contrast to increasing symbolic complexity, as (inter)textually and contextually, the socio-political and institutional situation of production impacted on the artefacts’ meanings. This publication presents an opportunity to reflect back and further explore particular areas of policy from which these and myriad other projects emerged.

3 EU Peace programmes and digital cultural practices

Learning from the Past was part of a series of EU programmes aiming to foster stability and social cohesion that distributed more than £2b across Northern Ireland through Peace I, II, II extended, and III programmes (1995 to 2013) (SEUPB n.d.). Thousands of projects have been catalysed including 13,000 funded through the first phase of Peace I (EUONI 2004). A particular decentralised system of community-situated organisations targets grassroots projects with the intention of fostering a sense of ‘local ownership’ and engaging those perceived as most at risk of becoming involved in violence (SEUPB n.d., p. 25). Peace II priorities include social integration and cross-border co-operation, and galvanising projects that help to address ‘the legacy of The Troubles’ in order to promote reconciliation and social stability (p. 4). *Learning from the Past* was awarded £194,864.55 from Peace II to:

Develop cross border reconciliation and understanding by providing opportunities for young people and adults to creatively engage with the shared history and cultural heritage of the counties of Donegal and Derry while learning skills in ICT and digital media technologies. (*Border Ireland website*)

Elizabeth Crooke’s work (2005) on the heritage sector in Northern Ireland contextualises these, as she calls them, ‘museum-like’ activities (p. 69), whereby alongside the ‘official’ museums services, locally-initiated community projects facilitate exploration, articulation and documentation of personal and collective histories. While projects foster cross-community or cross-border exchange, some also concern special interest groups from within one community (Crooke 2005). These include activities involving discussions and documentation of personal accounts of previously ‘taboo’ subjects, for example relating to the conflict, among wider processes of reflection, acknowledgement, healing and community-building (p. 77). The understanding is, that by investigating ones’ own cultures, values and traditions one is able to develop greater self-understanding and confidence locally, and thus learn to identify, acknowledge and tolerate difference.

The projects can be contextualised within wider trans-national processes of community building in post-conflict situations involving reflection and storytelling. Deidre Heddon’s survey (2008) of modern and contemporary theatre and performance art describes a ‘memory boom’ and ‘decade of life narration’ that links storytelling to geopolitical instability by functioning as a vehicle for healing and reconciliation, and by enabling local contributions to a ‘grand narrative’ which galvanises feelings of inclusive belonging (pp. 53–56). However, while acknowledging such activities catalyse and reinforce social practices among those whose lives were affected, Heddon cautions on the limitations of amelioration through ‘talking cures’ in this structural context (pp. 57–58).

Local digital stories produced in a Northern Ireland post-conflict context can, it might be

argued, contribute to the ‘grand narrative’, by articulating other experiences and perspectives, including ‘rewriting of well-known political events’ (Crooke 2005, p. 80). Crooke makes a comparison with the ‘People’s Movement’ in Australia and establishment of community museums by indigenous groups, which provide opportunities to elicit and present alternative narratives of the past (p. 70).

4 Ubiquitous practices of audio-visual self-representation

Discourse around audio-visual practice as a vehicle for reflexively exploring situation and as a means of developing alternative narratives extends to the formal schools sector in Northern Ireland, in part, fostered by the ubiquity, and related affordability, of digital audio-visual recording devices and editing tools.

The Nerve Centre is closely involved with more formalised digital media arts qualification development, being part of the EPWG formed in 2000 including representatives from the British Film Institute, the Northern Ireland Film and Television Commission (now Northern Ireland Screen) and Northern Ireland’s Council for Curriculum Examinations and Assessments (CCEA). The group was founded to advocate for, pilot and implement moving image education in Northern Ireland. As set out in its publication, *A wider literacy: the case for moving image media education in Northern Ireland* (NIFTC, 2004), it argues that specifically Northern Irish audio-visual production qualifications should enable acquisition of ‘expanded’ media literacies (p. 7). Meanwhile, cross-departmental policy emerging after the Good Friday Agreement, introduced initiatives aiming to harness the transformational potential of creativity (Unlocking creativity 2000, 2001, 2004). This led to a new formal educational curriculum which makes moving image education statutory to age 14 years in secondary schools, paving the way for the introduction of specialist digital media arts qualifications thereafter.

The EPWG argues that developed media literacies are necessary for critical evaluation of audio-visual texts in order to develop an understanding of difference, particularly important, it says, in political regions and situations experiencing divisive socio-cultural conflict (NIFTC 2004, p. 7). To facilitate this, the EPWG asserts that access to media production resources and associated opportunities to develop creative production skills is an *entitlement*. Further, it states: ‘It is through moving image education that many young people will find one way to express what they imagine their community to be’ (p. 41). While the EPWG does not explicitly address the issue, it must also be noted that most schools in Northern Ireland operate within a segregated system whereby young people are divided by social and religious background. As such, schools’ historic function of teaching sociality, what Gunther Kress describes as ‘the means, practices and forms of social living’ (2008, p. 7) is typically taught in Northern Ireland within the confines of one community, be it Catholic or Protestant. Nonetheless, the argument for providing individuals with the opportunities and skills to generate and disseminate diverse alternative narratives and identities is a pertinent one; relatively recently, a House of Commons Northern Ireland Affairs Committee report (CNIAC 2010) accuses the United Kingdom broadcasting industry of continuing to operate within a narrow and impoverished conception of ‘Northern Ireland’, with its representations—even beyond news and current affairs—largely featuring conflict or unfair and stereotyped portrayals of its people and culture (p. 3). Thus, specifically Northern Ireland-designed qualifications will, *A Wider Literacy* argues, not only foster positive alternatives to those largely homogenised representations of conflict constructed by news media, but ‘achieve social inclusion, understanding between culturally diverse communities, and remotivation of disaffected young people’ (NIFTC 2004, p. 8)—an extremely ambitious if not entirely utopian perception of the transformational powers of digital media in the classroom.

5 Discussion: creatively collaborating from outside ‘the community’

In her book on situated art and identity, Miwon Kwon (2002) outlines different models for artist-community engagement, from collaborating with existing groups (she cites the residents of an apartment block) to particularly goal-driven or issue-driven endeavours (including fulfilling an exhibition obligation)—to more, sustained, arguably more meaningful projects built on existing ties to a particular community or friendship group (pp. 123–134).

I was an outsider in a city where I had no established contacts negotiating and building partnerships for the research. And, while my particular practical skillset was a valuable resource for accessing institutions and initiating projects, this equally necessitated that I had to avoid being cast as media trainer, in an environment populated by facilitators, community artists and a ready supply of willing interns. Further, this was a relatively complex socio-political situation. The naming of Londonderry/Derry reflects and acknowledges its dual British/Irish identities and use of the term aims to respect citizens with allegiances to either. The cultural, social and political resonances of collaboration in this particular situation were arguably amplified by my own national identity, as ‘northern English’. Sociologists developing a ten-year comparative study of youth transitional identities across the United Kingdom (Henderson *et al.* 2007) found that people living in Northern Ireland routinely ascribe positions, placing people according to their ethnic or religious background, impacting on their qualitative research processes: ‘Identity positions were both ascribed and assumed by the young people, and indeed by the researchers’ (p. 7). In this context, explicitly or otherwise, the recording and subsequent editing of the digital memory boxes focuses on the routine of lives at home, at work and at leisure, with conflict, or The Troubles, appearing peripherally in the reminiscence recordings. Josie refers to it in terms of escape during the holidays and as a constant

source of anxiety concerning its potential impact on her children.

Claire Bishop (2006) discusses a video installation project by artist Phil Collins—who studied Fine Art as a postgraduate in Northern Ireland—involving the recording and depiction of teenage Palestinians disco dancing. Bishop says that ‘by voiding’ the work of political commentary, the viewer searches for possible intended meanings via the visual and audio clues—for example in the branded clothing and particular pop music. While the subjects’ cultural identities are familiar, she asserts that the ‘typical’ Western viewer’s mind is filled with imagery informed by media images: stereotyped depictions of ‘young Arabs either as victims or as medieval fundamentalists’ (p. 182). However, the digital memory boxes did not so much ‘void’ as possibly ‘avoid’ certain subject matter. Yet one can only speculate if a local facilitator would have elicited a distinctly different set of stories.

But on the whole, the collaborative ethos took priority over the intellectual and creative needs of the research, particularly concerning the production of ‘artworks’ for practice-led PhD submission, in that my authorial voice was abdicated to partners’ interests and my own aspirations—for developing a youth-focused multiplayer mobile computer game—were quickly but pragmatically displaced with more conventional digital storytelling projects. And, this gave rise to fundamental tensions—inherent in a process involving materially constructing and subsequently analysing digitally-mediated representations and identities of others. Critical reflection thus determined a subsequent practical project, with ways sought to enable participant-subjects to generate their own self-representations. To facilitate this: nine months of workshops were implemented in two schools for 16–18 year-olds, constituting didactic Flash animation and video production training. Designed around the new ‘open brief’ digital arts qualification discussed earlier, *Moving Image Arts*, participants were thus able to develop their own subject matter and audio-visual treatment across a range of animation and video media in individual

artefacts. This ‘community of practice’ informed method (see Wenger 1998) enabled observation through collaboration and simultaneous documentation (in field diaries and interviews) for research purposes, with the sustained process eliciting greater insights into, and through, social and creative practices, in a specific situated context with participants using particular devices and software tools.

The Nerve Centre-Interface research project was one of 49 collaborative projects selected for funding in 2006 (AHRC 2006) with more than 30 enabling access to special collections for conducting, arguably, relatively conventional forms of academic research. Eight forge academic partnerships with a more unusual range of organisations and businesses: a think-tank, an Aids trust, a law firm, a local authority, a visual arts commissioning agency, an artists’ development agency and—including the Nerve Centre—two media arts and education organisations (AHRC 2006). Collaboration through the Nerve Centre enabled short but highly informative periods of engagement with the heritage and cultural sectors, outlined here, and subsequently, the regional qualification authority, CCEA, and two secondary schools. Privileged insights were gleaned into a broad range of institutional practices and processes, subsequently constituting a body of research that acts as a platform from which to explore further lines of enquiry within academia or beyond.

While Elliot Eisner claims that creative arts research necessitates a very open ‘anything goes’ approach to its design in order to elicit the required knowledge (2001, p. 55), in light of experience I would vigorously contest this. I do agree when he says that knowledge is not ‘out there’ waiting to be discovered through research, but constructed through the processes of enquiry (2002, p. 211). And crucially that: ‘Some things can be known only through the process of action’ (p. 214), necessitating explorative practice-led processes, particularly, I would argue, in areas concerning emerging and rapidly evolving, and in turn transforming, digital cultural practices.

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Jo Briggs' current interests concern the design and use of novel collaborative/participatory methods for knowledge exchange and production in cross-sectoral research into digital cultural practices. She is currently working on a participatory design research project at Northumbria University in association with the Digital Interaction Group at Newcastle University. Previous projects have been displayed in public galleries and community spaces, presented at digital media festivals and academic conferences, and distributed on data disc and the Internet. After 14 years lecturing in fine art (graphic art and media) and digital design production, Jo returned to full-time study to pursue AHRC collaborative doctoral enquiry, documented online at www.jobriggs.info



Placemaking in the 21st-century city: introducing the funfair metaphor for mobile media in the future urban space

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Placemaking in the 21st-century city: introducing the funfair metaphor for mobile media in the future urban space

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Abstract

Good public spaces are essential for a sustainable and healthy city as they not only provide a meaningful place for citizens to meet and spend their leisure time, but they also enable and support relationships between people within that place. This article discusses the prospect for location-based social networks to support placemaking, that is, to inspire and enable the use of public space to foster a strong sense of community and feelings of belonging among citizens. This discussion draws on studies of two public parks that serve as important community spaces, one for seniors in Fuxing Park in Shanghai and the other for teenagers in Yoyogi Park in Tokyo. Based on the collected data, we present valuable characteristics to be considered in the design of location-based social networks for placemaking. To support the creation of vivid and vibrant public spaces, we propose design suggestions based on a funfair metaphor.

Keywords: placemaking, location-based social networks, communities, collaboration, public space

1 Introduction

Approximately half the world's population now lives in an urban context, and this is expected to increase to 70 per cent by 2050 (Population Reference Bureau 2008). Despite the vast number of people in large cities, it is not unusual that citizens experience a sense of loneliness and isolation (Wall and Waterman 2009). However, good public spaces, such as parks and plazas, can help people feel a sense of belonging and find personal meaning in their local urban environments as public spaces provide a neutral ground where people can meet, socialise or just observe others.

Visionaries within urban planning and design such as Jane Jacobs and William Whyte dedicated significant effort advocating the importance of lively and attractive public spaces in cities (Jacobs 1961, Whyte 1980). Their work is foundational for the concept of placemaking (Fred and Madden 2003). In urban planning, the practise of placemaking is an inclusive and community-driven approach for the design of human spaces, and it focuses on the entire process of creating meaningful public places in urban environments.

The design of physical form and tangible elements can contribute a great deal to the emergence of a good public space and the way it is used. However, quality of place also depends, to

a great extent, on intangible qualities. The art of placemaking values not only the physical but also the social and even the spiritual qualities of a place. William Whyte spent seven years studying why some public spaces were crowded with people and activities, while others were empty and deserted (Stevens 2007). According to Whyte (1980), the most important factor for an attractive public space is other people. Social encounters, such as chance meetings and familiar faces, are important factors for a meaningful place. This social aspect is also noted by Schneekloth and Shibley (1995, p. 1) who contend that ‘placemaking is not just about the relationship of people to their places; it also creates relationships among people in places’. Hence, enabling relations between people and creating a strong sense of community and sense of belonging are integral factors in the design of public places and placemaking.

‘A good new space builds a new constituency. It stimulates people into new habits’ (Whyte 1980, p. 16). Similarly, digital technologies can inspire new meanings and new uses for physical space (Dourish 2006). Location-based social networks connect people based on geographic location as they move around within the physical landscape. These networks have the potential to bring citizens together in new ways and enable relationships between people in the local urban environment. Under these premises, we explore design qualities aimed to enrich this emerging application area. In particular, we explore how location-based social applications could support placemaking and, hence, inspire and promote the use of public spaces, such as city parks, to foster a strong sense of community and feeling of belonging.

Previous work within sociology and urban design provide valuable knowledge on social life in public spaces. However, designing for computer-supported placemaking presents new challenges as the observer needs to put on a new pair of glasses. Studying prevailing parklife that displays a strong sense of community spirit can inspire innovation and reveal valuable characteristics to be considered when designing for placemaking. Our design thinking draws on the

studies of two public parks with such characteristics, namely, Fuxing Park in Shanghai and Yoyogi Park in Tokyo. In Shanghai, thousands of seniors populate the city-parks every day of the year and engage in various playful and social activities that support a healthier, happier lifestyle. In Yoyogi Park, Tokyo, youth gather on the weekends. For them, the park provides a place to perform personal and social expressive practices[0] through a variety of means. Based on the two studies, we draw lessons intended to inspire and inform the design of location-based social network applications for placemaking.

2 Location-based social networks

A number of research prototypes have been developed with the intention to connect people, information or virtual communities to physical space (Jones *et al.* 2004). Based on an analysis of a existing research prototypes and results, Jones *et al.* (2004) presented the People-to-People-to-Geographical-Place framework. Additionally, the authors presented implications for the design of future location-aware community systems. Based on two studies, they identified a number of situations in which users would like to know who is at or near a place where they are currently located or intend to visit, i.e.

- (1) To support ad-hoc interactions with friends, family, and colleagues.
- (2) To support ad-hoc interactions with strangers.
- (3) To determine if a place is busy and the resources it provides are in use
- (4) For better task coordination.
- (5) To avoid people.
- (6) For management purposes.

A range of applications that address the above situations in different ways have since been made available for the general public. These applications include location-based social networks, such as Loopt (loopt.com), Gowalla (gowalla.com), Facebook places (facebook.com/places) and Geoloqi (geoloqi.com). One of the currently most popular location-based social network applications is

Foursquare (foursquare.com). This service allows users to connect with friends by displaying their current location simply by using a mobile phone to ‘check-in’ at venues. CitySense (citysense.com) is a mobile application that displays a live map of city activity. It shows top activity hotspots and places with unexpectedly high activity. According to the developers, the application not only answers ‘where is everyone right now’ but ‘where is everyone like me right now’. Hence, it allows for communities to congregate in public spaces rather than be confined to the awareness of a limited set of friends, as is the case with, e.g., Foursquare.

The use of ethnographic studies to provide implications for design is a common practise within the area of interaction design (Dourish 2006). By observing naturally occurring activities, the researcher provides insight into the activity and informs the design of mobile applications (Esbjörnsson *et al.* 2003, Juhlin and Weilenmann 2008, Paulos and Goodman 2004). Similarly, our study intends to inform the design of mobile technologies. However, we bring the concept of placemaking to the forefront, arguing that location-based social networks can be further developed to support the emergence of vivid and vibrant public spaces, thereby increasing the sense of belonging in big cities.

3 Method and data collection

Several forms of data were collected to create a comprehensive picture of the park life. We have collected video recordings as well as notes from observations, experiences and sporadic conversations with people in the park. The study conducted in Shanghai also includes audio-recorded interviews.

To document and map park activities in time and space, researchers documented park life during an entire day. The method can be described as follows: the researcher arrived at the park when it opened and walked from the entrance of the park. Every time the researcher encountered a person or a group engaged in an activity, he stopped to observe and record the activity for approximately four seconds. Mundane activities,

however, such as chatting or eating, were not documented in this video mapping. These types of activities were, instead, documented in the notes if the researcher found them relevant for the study. The researcher then proceeded to walk until another activity was encountered. Such a documented walk is made throughout the park in a circular fashion, thus ending at the entrance where it began. The recorded walks are conducted five times throughout the day. In between the walks, the researcher documents his experiences in writing and may record longer clips of select activities. This method allows for a comprehensive understanding of how the park is being used throughout the day. The video material was later transcribed and coded based on the various activities in the park. The activities were also geographically marked on a map so as to establish an idea for their distribution in physical space. Once the material had been collected and organised in this fashion, it was thoroughly analysed by the authors. We studied what types of activities were taking place, noting the where, when, how, and by whom for each activity.

A second researcher spent the day in the park taking notes and conducting loosely structured interviews with park visitors. A native-speaking translator accompanied the researcher. The interviews, conducted in Chinese, were audio recorded and later transcribed and translated into English. The study in Shanghai includes a total of twenty interviews with random individuals of different ages and of both genders who were engaged in different activities or occupations in the park. Prior to each interview, the interviewee was requested to sign a consent form. The interview questions were based on the following topics:

Visiting the park – What time of year, how often, for how long, and with whom do you visit the park?

Activities in the park – What activities do you participate in? When are they held? Who organises the activities? How do you find out about the activities? Are the activities open to anyone? What do you like/not like about the activities?

Social Interaction – When visiting the park, do you engage in conversations with other people? Do you observe other people? Do you engage in group activities in the park? If so, where and when do you do these things?

Importance/meaning of the park – How important is the park to you as an individual? To the community at large? To the local residents?

Physical space – What are your favourite places in the park? Are there specific places you regularly visit in the park? Are there specific places in the park that you avoid?

Due to the lack of a translator during the study in Tokyo, no interviews were collected. However, these observations have instead been complemented with information taken from a literature survey. To give the reader an idea of the studied park life, we will begin the subsequent two sections by summarising our observations during one day of the study.

4 Fuxing Park, Shanghai

It is 6.30 am when we enter the park, and the park is already crowded with people. All along our walk around the park, we pass elderly men and women engaged in physical exercise. We frequently encounter small groups of two to four persons engaged in low-level exercises such as stretching, walking (both forward and backward) or gymnastics while talking with one another. Fences, trees and benches act as equipment. We also pass smaller groups practising martial arts led by what appears to be a skilled master.

Upon approaching the big open square in the middle of the park, we find a vivid and lively atmosphere. The area is crowded with groups of people performing a variety of activities ranging from dance and martial arts to choral singing and karaoke. A large collection of people led by instructors are performing basic gymnastics to classic Chinese music. Another group is practising tango steps, while yet another group performs a dance to Chinese music. At the opposite end of the open square we notice a group of ladies prac-

tising dance steps to pop music. A choir is singing, while a man changes the large hand-written pages with song-text. In another group, some women mimic the movements of an older man who is performing a kind of martial art, accompanied with swords, long sticks and tassels. Each group has their own sound system to amplify music and song. Some have brought big steel cabinets containing stereos and large speakers, while others use a laptop or an mp3 player connected to mini-speakers. We are surrounded by loud music and voices counting the rhythms, and the volume is overwhelming.

We pass a large, open grass field crowded with Kongzhu players. A tool made up of two sticks connected with a string is used to spin a plastic top that has openings to let the air in, thus making a distinctive sound. The players perform advanced, coordinated Kongzhu either as a solo or with another person. As we walk away from the open areas, the loud volume from the centre square quickly decreases. When we reach the south end of the park, we are met by a loud bird song. Along a short stretch, there are approximately thirty cages with birds hanging in the trees. The bird cages are brought to the park by elderly men who sit along the path chatting, smoking and playing Chinese chess.

When we enter the park at noon the large crowds have left and the atmosphere is relatively calm. People are sitting on benches, eating, drinking tea, resting or chatting. The large square now hosts only a few activities. In the middle of the square, a man is singing karaoke by himself as a laptop displays the lyrics and plays the melody (Figure 1). Two large speakers amplify the music. Not far away from the man singing karaoke is a gathering of approximately fifteen persons who are standing in a half circle singing a Chinese song. They are being directed by a man in front and accompanied by another man playing the flute. In the south end of the park, the birdcages are still hanging in the trees. Card players can now be found throughout the park, at every available table, on rocks and on brought-from-home chairs and tables. Typically, a smaller crowd surrounds each team, watching and interfering in the



Figure 1. Man singing karaoke.

game play. In the west end of the park, we pass a large crowd of men tightly gathered in groups of various sizes. They are eagerly discussing and arguing with each other. Some are arguing with loud voices, while others are listening.

Later in the afternoon, the vibrant atmosphere has returned. The park visitors are now more varied in age, but the elder generation still dominates the scene. Several choirs are singing, and people are now circulating around the park. One corner of the big square, which was empty during our noon visit, has now turned into a huge dance floor for couples (Figure 2). A portable steel cabinet on wheels holds a large stereo that delivers the dance music, which is played at high volume. Some people join the dance while others simply watch. The karaoke laptop is still running in the centre of the square, and a large crowd of people are watching and waiting for their turn to sing. At the west end of the park, the lively discussions have become even more articulated than before.

4.1 Interviews

From our observations, we note that the park is predominantly used by an elderly population. This fact was underscored by a couple of young women in their early twenties who explained that they usually do not visit the local parks because, as they stated, ‘they [the local parks] are only for the retired people’. Nevertheless, judging from the interviews, the park is a very important place for the elderly generation. Rue, a 76-year-old woman, explains that ‘if it wasn’t for the park, I would have to stay at home, watch TV, and would not live as happily as I do now. The park makes our Shanghai citizens more positive’. Yongi, age 62, also recognises the importance of the park. Yongi is disabled and hence, rides around in the park on a 4-wheel electric scooter. He comes to the park every day and spends four or more hours. He regularly drives to a particular place in the park where he plays his accordion. ‘During weekends, I play my accordion to accom-



Figure 2. Couples dancing Tango in the park.

pany singers’, he says. He further explains that for him, the park is like his home. ‘I changed the lyrics of a song to express my feeling about the park’. He then sings, ‘I and you, stay forever, in the park . . .’

The park hosts a wide range of activities. Many seniors come to the park for their morning exercise. Peter, age 56, is a member of a group of Kongzhu players. His group meets every morning in the park to practise and exercise. He emphasises that the activity benefits people’s health, and thus, their slogan is ‘to be healthy every day, to be happy every day’. Rue also comes to the park every morning. ‘I come here to practise Tai Chi in the mornings. Tai Chi is a physical exercise for us Chinese people. After the Tai Chi, I sing. There are teachers and music to accompany us’, she says.

During our study, we observed many activities being performed by groups of various sizes and being led by a coach or a master. One of the interviewees explained that some of the activities are a bit commercial. For example, professional dance coaches who come to the park to teach dance

may charge a fee for their services. However, the majority of the activities are organised by private persons are not profit-making ventures. Bob, 68, organises karaoke in the park. He comes to the park to sing every day for more than four hours. Bob explains that ‘People can have fun here. First, the activity is good physical exercise, and it keeps us in a good mood. Participants come and join the activity regularly every day.’ Many of the activities frequently take place concurrently and in the same location in the park. ‘Normally, we just sing at the small square over there. But in the summer, if it is sunny, we move to the kiosk’, Bob says, pointing towards a low building shaded by surrounding trees. Thus, even if it usually takes place in the same location, the venue may suddenly change due to weather conditions.

Xi, 67, another member of the Karaoke group, mentions the importance of the activity:

We get to know each other in the park, and we make friends through singing. The activity promotes our health, both physically and mentally,

and we enjoy the beauty of art. Also, we make the air circulate through our bodies.

Philip, 69, yet another member of the karaoke group, came to Shanghai two years ago, after his wife passed away, to live with his son. He said that after first arriving, he was really bored and wanted to leave. Then, one day he visited the park where he met some men singing karaoke and decided to join them. Ever since that day, he has joined them every day. When Philip meets elderly people who claim that retirement is boring and they have nothing to do all day, he tells them about the karaoke in the park. 'The ones who join become really happy and find meaning to their everyday life. People make this part of their daily activity and always attend', Philip says.

Even if many activities in the park are frequently recurring, they are usually informal in nature and park visitors may spontaneously join. Bob (the Karaoke organiser) explains that 'There are quite a number of newcomers who join when they happen to pass by, approximately 30% in total. I suppose they are touched by our music. We always welcome their participation.' Songping, 58, tell us that 'As for morning activities, private people organise them. We can join this group or that group, depending on what you like. Like me, I like Tai Chi, so I join a Tai Chi group for seniors'. One of the card players explains that 'We are just playing randomly with whomever happens to be here. If somebody doesn't know the rules, we teach them.' A person who practises Tai Chi together with four other persons also mentions that people spontaneously can join their group. 'However, our coach would talk with him first to determine if he has practised Tai Chi before. Our coach would consider that when he teaches him. If the person is a beginner, our coach would teach him basic skills'.

Activities such as the morning exercises, choral singing, dance and karaoke can also be found in many other local parks in Shanghai as can a great variety of martial arts, dances and music styles. Even though dance is organised in many parks, the type of dance may differ. In one

park, there might be tango and waltz on Sundays, while another park may host Latin dance and yet another may offer traditional Chinese dance. The parks may also host specific activities. One interviewee informs us that the 'English corner' is an unmarked place located in another park in the city. Anyone can visit this location on Sunday afternoons to practise their English with other park visitors in an ad-hoc, informal fashion. Yongi explains that 'there is a place near the monument that is especially for us disabled people to gather and talk'. Similar to the 'English corner', this place is not manifested in any tangible form that would make any sense to an outsider. Instead, it is a place for mutual support and socialisation, existing only in the mind of those introduced to the matter. However, these invisible places do not always have a positive connotation for visitors. One of those places is the so-called complaint corner, located in the south-west end of the park. In this area, groups of men gather to eagerly discuss different issues with each other. Songping tells us that 'Over there, many local people just complain; they are always complaining. I don't usually go there. Sometimes, if I am not in a good mood at home, I go there to complain, but after five minutes, I leave.'

4.2 Discussion

The study in Shanghai portrays a community of seniors who come together in public parks to socialise and participate in a variety of activities. This daily phenomenon is by no means global. However, it not only provides a very interesting use-case of placemaking in a public space, but it also reveals many valuable characteristics and potentials related to a healthier and happier life as retired citizen. With populations aging in nearly all countries, there is widespread concern about the ability of countries to provide support for their elderly populations (United Nations, 2009). Today, many elderly people are unfamiliar with the novel technologies and applications. However, with time, and as new generations retire, this is likely to change. Concurrently,

retired people often have the time and the need to engage in consistent social activities. Regularly meeting with familiar faces, being involved in activities and feeling included and needed in the local community contributes to many seniors living a healthier and happier everyday life. It is important to identify the valuable characteristics of such public spaces as they will contribute to the design of location-based social networks for placemaking.

One notable characteristic of the studied park life is that it is community oriented rather than simply a place where individuals randomly go with no specific intent or purpose or a place designed for single exclusive groups. This is notable from the mindset of the interviewees and in the distribution of activities throughout the physical space. The park does not just host arbitrary single events or activities. Instead, it is an organised space resembling, in many ways, a theme park with pre-defined areas devoted to different functions and interests. Every interest, and thus every activity, seems to have its own space within the park. Most of these places do not bear any physical manifestation that can tell an outsider about its use, such as a building or a stage. Instead, it is an invisible landscape of places that exists only in the perception of the consecrated.

It is not only the conception of the physical space that is established for local knowledge, but it also the agenda for these activities. Activities usually recur at the same time and place, often every day. The morning tends to be devoted to exercise, and hence, the park hosts many activities aimed to promote mental and physical health. After the morning exercises, many engage in choral singing or simply relaxation. After a quiet period, the park, around noon, becomes more of a leisure space, hosting activities such as couple's dances, poker playing, boardgames, performances and karaoke. The community-oriented mindset of the park life is also notable from the way activities are organised and attended. Activities are, in most cases, arranged by private persons without any compensation in mind. The people themselves bring laptops, portable CD-

players or some other sound system needed for their various activities. Others may offer their expertise in Kongzhu, Kung fu, Tai chi or some other Chinese traditional martial art. An important characteristic of the studied park life is the participatory nature of the activities, which promotes active and open participation in the ongoing activities. Based on the interests of the visitors, they can spontaneously join most activities in an ad-hoc fashion. Park visitors can take a fling with a partner on the temporary dance floor, stop to sing a song at the karaoke stand or find a partner for a game of poker. However, not everybody participates actively in the activities. This is particularly noticeable during the afternoon. The possibility to be a bystander and to simply passively engage in the vivid park life is an important part of the enticement. Many of the activities, ranging from dance and karaoke to poker playing and loud discussions, are surrounded by crowds of observers. Hence, the explorative part is also an important ingredient of park life.

The park activities provide meaning to the community on several levels. Not only do they provide the members of the community with entertainment and a social means to maintain their physical health, they also provide an opportunity for members to feel included in the community by providing a context where social interactions can occur and new friendships can be formed. Additionally, the opportunity to easily organise activities within the already established community provides a way for individuals to feel useful and needed by helping others. Hence, placemaking within the studied context helps community members find meaning in their everyday life.

5 Yoyogi Park, Tokyo

When we enter the park at 6.30 am, it is empty and quiet. Occasionally, we pass people sitting on park benches reading a book or contemplating the calm morning.

When we re-enter the park around noon, we witness a flow of young people moving into the park, and we follow a narrow paved path that winds around the park. We frequently pass large

groups of youths sitting together having a picnic on similar looking, bright blue tarpaulins. Other park visitors are involved in different kinds of playful activities such as shooting water guns, playing ball or throwing Frisbees. We notice a group of young girls fixing hair and make-up for each other. Four boys sit on a blue tarpaulin and play a board-game, while right beside them is a group of six boys playing cards. A group of six teenage girls are practicing jazz dance and close by is a group of four teenage boys practicing choreography to pop music. Further into the park, we find a young boy playing a trumpet by himself. We pass a group of teenagers dressed as Japanese cartoon characters, and some of them are reciting from a text on paper-sheets. We stop to watch three teenage boys dressed as manga characters dance energetically to an anime-song. The music is played on a mobile phone and amplified with mini-speakers (Figure 4).

When we begin our afternoon route, the entrance is crowded with people. As we pass the paved square, we encounter two separate groups of men and women dressed to rockabilly, wearing black leather jackets and gelled hairstyles. The two groups dance energetically to Elvis Presley music, and a large crowd gathers around to watch their activity (Figure 3). A person dressed as an anime character enters the park and poses while being photographed by a park visitor. We enter the narrow paved path and find that the park is filled predominantly by young people under 25 years of age. They mill around in the park, sit together in groups on tarpaulins or engage in activities of different kinds. The atmosphere is now lively and music can be heard throughout the park. We encounter a group of four young Japanese men in their early twenties singing boy band songs and using microphones and a small amplifying system. The boys tell us that they meet in the park every weekend so they can have an opportunity to rehearse in front of an audience. They have many fans and on the opposite side of the paved path sit a row of young girls who are watching their performance. The boys distribute leaflets with information

about the band. By scanning a QR-code on the leaflet, the audience can easily reach the bands website on their mobile phones. From a wooden deck by a small lake, Latin music is playing from a speaker, and young couples are dancing to the music. Throughout the park, we now encounter young people playing a variety of musical instruments, either alone or together in groups. It is clear that they are playing for enjoyment and not for money. We also encounter many groups of youngsters, both boys and girls, practising choreographed dance steps to Japanese pop music. Some groups consist of only a two or three people, while other groups consist of as many as 20 young people. Frequently, we encounter groups of teens dressed as anime characters.

5.1 Discussion

Even though the study in Tokyo was not as profound as that in Shanghai, we still gained a number of valuable insights. According to Jenkins (2008), the park and its surrounding area is a centre for youth culture in Tokyo. This statement is supported by our study. Similar to Shanghai, the studied park in Tokyo is populated predominantly by a particular age group, in this case young people, who come together to socialise, play music, dance or engage in other types of social activities. To a large extent, the park also acts as a performance arena where young bands and artists can have an audience. It is a place for young artists to reach out to the public and to gain new fans. Many also come to the park dressed up as fictional characters from, for example, anime or manga. Dressing up as an anime character is a popular activity in Tokyo, and the practice is generally referred to as Cosplay (Walz 2010). It is a type of performance art that is centred around role play. There are many different fan communities within Cosplay, and they come to the park to meet and socialise with other like-minded fans. For them, the park acts as a physical arena where they can publicly display their fascination and passion for a subculture, where they can assume a fictional identity and where they can bond with other like-minded individuals within the fan community. To be seen and



Figure 3. Rockabilly in the park entrance.



Figure 4. Boys practising choreography.

to take great pride in the outfit and fictional identity is a great part of the Cosplay culture, and it is not uncommon to see Cosplaying teens posing for pictures being taken by other fans or park visitors, pictures that often are shared in the community and on the internet (Jenkins 2008).

6 Design implications

How can we apply the above cases when designing applications that aim to foster a strong sense of community and relationships among people and, thereby, increase people's sense of belonging in a large city? In the following, we discuss ways in which emerging location-based social networks can learn from the studies of park-life in Shanghai and Tokyo. We base our design thinking around the metaphor of a funfair, which consists of a space to explore and of attractions one can attend. In our case, a funfair is defined, organised and attended by the community members themselves. In currently available location-based applications, such as Foursquare and Gowalla (see section 2), a user is able to check-in at spots or venues and inform their friends about their location. By so doing they can then earn a badge, receive discounts or explore tips from other users. However, the venue itself does not provide the user with any additional possibilities or opportunities. By thinking about a venue as a funfair, we imply that it would consist of a defined area that contains a nested layer of places, activities and information possible to create, modify and explore. By treating a venue as a container of events, a local community can collaboratively turn a park into a social community space that can then be organised in time and space. The prospect of officially defining a community space would provide its members with a common ground to gather despite differences in interests or opinions.

A key to the vivid atmosphere and strong sense of community that prevailed in the studied parks was the incentive for the community members themselves to organise the activities. Hence, tools that support and facilitate the ability for individuals to arrange shared information about inde-

pendently organised activities in the park is a crucial part of the funfair metaphor. Consequently, the park venue acts as a canvas where community members can define areas or places and establish meet ups and activities associated with specific physical locations in the park. The studied activities in Shanghai were, in many cases, daily recurring phenomena with a scheduled time and location that was well established within the community. Thus, to foster a strong sense of community, it is essential to provide the tools necessary to establish routines and thereby create a mutual conception of time and place. However, it is also important to keep in mind that the virtually organised space is secondary to the physical space. It is, for example, impossible to know in advance if a designated physical location is already occupied by uninitiated park visitors. As a result, this calls for high degree of flexibility and the ability to modify events in an ad-hoc fashion.

In accordance with the funfair metaphor, not only should park visitors be able to check-in at the venue (in this case the park), but they should also be able to explore its space, receive relevant information and participate in events. A mobile location-based social application can provide the visitor with current maps of on-going park life within the venue and create awareness of places, activities and other information about the park. An important characteristic of the studied park life in Shanghai was the possibility to spontaneously join an activity. Accordingly, a park visitor could, for example, use the application to find out if it was possible to join an on-going activity. A park visitor could also use the application to search for and determine when and where something of interest is happening within the venue. Additionally, many visitors visit the park just to stroll around, meet familiar faces and/or observe activities, etc. For these people, the application could simply provide awareness and, in some way, increase the sense of belonging to a community.

From a phenomenological perspective of a park explorer, we can compare the participatory activities found in Shanghai with those attractions that promote spontaneous participation. Similarly,

we could compare the different artistic performances taking place around the park in Tokyo with staged spectacles that often occur at a funfair and the Cosplay teens with their colourful personalities who might show up at events such as the circus, the theatre or a carnival. However, if we consider the park-life in Tokyo from an organiser's perspective, particularly the artists and the Cosplay teens, we must consider the park as a performance venue and a place where individuals can publicly express their cultural identity and sense of belonging. Consequently, a design based around our funfair metaphor could provide community members with the opportunity to create their own fan pages, adding an additional layer for their cultural identity and presence in the park. Artists, such as the Japanese boy band, could then virtually mark their performance stage with fan pages and inform crowds about their music, performance schedule, identities, etc. Cosplay teens could use a fan page to, for example, display personal extensive knowledge about their fictional identities, or a group of Cosplayers could create a venue-based fan page for instances sharing of photos and information, among other things. Even though the appearance of Cosplay teens dressed as anime or manga characters may not be as widespread in other countries as it is in Japan, the need for young people to express their cultural identity and sense of belonging is a global phenomenon, although it may take on other forms of expression in other parts of the world (Jenkins 2003, Steinberg *et al.* 2006).

7 Conclusion

In this article, we have explored qualities for the design of location-based social network applications. The suggested design intends to support placemaking and, hence, to inspire and enable the use of a public place to foster a strong sense of community and feelings of belonging in cities. The presented design qualities draw on ethnographic studies from Fuxing Park in Shanghai and Yoyogi Park in Tokyo, two parks that host vibrant community spaces where the visitors engage in various playful and social activities.

Quentin Stevens (2007, p. 1) points out that 'play is an important but largely neglected aspect of people's experience of urban society and urban space'. Collaborative recreational activity, such as play, 'can foster the sense of being part of a group' (Vogiazou 2007, p. 7). Location-based social network applications can help to inspire new playful uses of urban public spaces as they provide a promising approach towards the desire to support and organise lively and vibrant public spaces. As Humphreys (2010, p. 764) puts it, 'these mobile social networks can facilitate the flow of new kinds of information into public spaces and as such can rearrange social and spatial practices'. However, to date, this technology appears to be designed for a rather stereotypic user that generally assumes the inclusion of an already established list of friends. In this paper, we proposed a design around a funfair metaphor. Accordingly, the suggested design promotes a community-driven approach that enables citizens to arrange and become involved in activities in a spontaneous and ad-hoc fashion, to express their identity within the community and to collaboratively claim their rights to city spaces.

In our future work we are expanding the study to other parts of the world, as well as experimenting with technical implementations of the funfair metaphor. In future trials, we will investigate the applicability of the proposed design implications. We aim to explore the potential to attract new communities to the parks and the possibility to deepen the understanding between the various performers and interest groups. We will also explore the challenge to communicate the potential and availability of the funfair layer in public places.

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What children and youth told about their home city in digital stories in 'C my city!'

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What children and youth told about their home city in digital stories in ‘C my city!’

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Abstract

Children and youth have become an important stakeholder group in urban/city planning and tourism. While there are many practices of youth participation in planning in various countries, a policy of involving pupils and students as so-called ‘volunteer (tourist) guides’ is promoted in recent years in Japan. Previous studies have shown that there are many positive effects created from children being tourist guides. We developed this idea and conducted a project called ‘C my city!’ in Finland in order to facilitate children and youth to introduce their home city through digital storytelling. In the pilot project, 38 digital stories were made by the participants and the stories were embedded on a web-based map. Through analysis of the articulated words in the stories, we investigated how they introduced their home city. Furthermore, we discussed possibilities of applying this method in cross-curricular settings in school.

Keywords: digital storytelling, participation of children and youth, tourism, web-based map

1 Introduction

1.1 How do children and youth introduce their home city to others?

In urban/city planning it has been common that experts such as architects, city planners, city officers and politicians make decisions and manage all the things deemed necessary. But the field of planning is increasingly recognising youth as an important stakeholder group, and there are calls to directly involve youth in planning processes (Frank 2006). While there are many practices of involving children and youth in planning in various countries (Frank 2006, Kapanen and Svinhufvud 2011), the Japan Tourism Agency in Ministry of Land, Infrastructure, Transport and Tourism promotes a policy to involve pupils and students as so-called ‘volunteer (tourist) guides’ of local areas, which aims to cultivate them as citizens (Japan Tourism Agency 2009). Model projects were implemented in four municipalities. A review of the model projects reported that ‘volunteer guides’ gained the attention of tourists and provided them with friendliness, which is different to adult guides. Tourists could acquire knowledge

of the local area and enjoyed the company of the volunteer guides. For pupils and students, guiding tourists motivated them to study the local area. However, practitioners claimed that the insufficient budget and a deficit in know-how should be resolved for further development.

In this article, we expand the idea of involving children as 'volunteer guides' with the use of digital storytelling (DST). DST is increasingly used in a range of contexts. It makes use of low-cost digital cameras, non-linear editing software and notebook computers to create short, multimedia stories (Meadows 2003). Digital stories are produced by combining storytellers' articulated words with memorabilia from their personal archives, such as photographs, films, certificates, music and sound (Davis 2011). There is a great potential to use DST in order to increase the opportunities for children and youth to introduce their home city. In the autumn of 2010, we started a project called 'C my city!' in Helsinki, Finland. 'C' means 'see', and it comes from the capital letters of its concept 'Children Create City Culture'. This project aimed to facilitate children and youth to introduce their home city through making digital stories with the use of various media, digital still/video camera, computer, sound recorder and free web services/applications. The outcomes were shared on a web-based map. The participants were told beforehand that their works would be shown not only to Finnish people but also to foreigners.

Two of the authors organise Arkki, which is the first school specialised in architectural and environmental education for children and youth as an after school activity in Finland¹. Through different activities Arkki wishes to light a spark in young people's minds so that they can influence and participate in the development of the built environment in the future, whatever their occupation is. In cooperation with the Helsinki City Planning Office, participatory methods for children and young people in urban planning are being developed (Meskanen and Hummelin 2010). Four of the authors conduct research about mobile learning (Kynäslahti 2003, Kato 2010), learning environment design (Ohashi and Ohashi 2011), and the

learning effect of making digital contents (Ohashi, Mashima, *et al.* 2008, Ohashi, Nagata, *et al.* 2008).

In this article we report only our first findings in the pilot phase of the project, especially focusing on the articulated words in the stories made by children and youth to specify their viewpoints. The research questions of this article are listed below.

- (1) Which topic about the home city do children and youth introduce to others?
- (2) How do they explain the topics?
- (3) How does DST motivate children and youth to learn about their home city?

2 'C my city!' in practice

From October 2010 to April 2011, a pilot project was conducted by two researchers and four teachers of Arkki in Helsinki, Finland, and 40 students of Arkki (aged from 7 to 20) participated. The participants were divided in small groups based on their age. A common framework was shared. It included fieldwork in the neighbourhood, computer work and classroom training of various media, and proceeded as follows:

Step 1: Planning(November 4 or 5)

- The teachers gave an overview of the project to the participants and their parents.
- The teachers and the participants discussed in small groups and decided which place and/or architecture to introduce.
- They planned a route of excursion.
- The participants researched the places using maps, books, and/or internet (Figure 1).

Step 2: Excursion(November 11 or 12)

- The participants and the teachers went on the excursion in groups for photo/video/sound shooting and drawing (Figure 2).
- The route included places for locals (dog park, graveyard), historical architectures, and touristic places.

Step 3: Making digital stories (November 18 or 19 & 25 or 26)

- Participants aged 7–12
 - They used analogue media (drawings and texts) and digital media (computer, digital



Figure 1. Step 1: Planning.



Figure 2. Step 2: Excursion.

still/video camera, and sound recording device).

- They made stories by showing their drawings and pictures in front of the webcam.
- As a result, 26 digital stories were made (Figure 3).
- Participants age 14–20
- Various kinds of software (Photoshop, PowerPoint, Word, audio recording software, and free web services/applications such as

Picasa, Jing, and Youtube) were used according to one's aim.

- They recorded stories using PowerPoint and Jing (motion capture software, which enables to add voiceover).
- As a result, 12 digital stories were made.
- For those who felt uncomfortable speaking in front of the camera, alternative ways of presentation (e.g. using puppets or paper dolls, making animations, etc.) were useful.

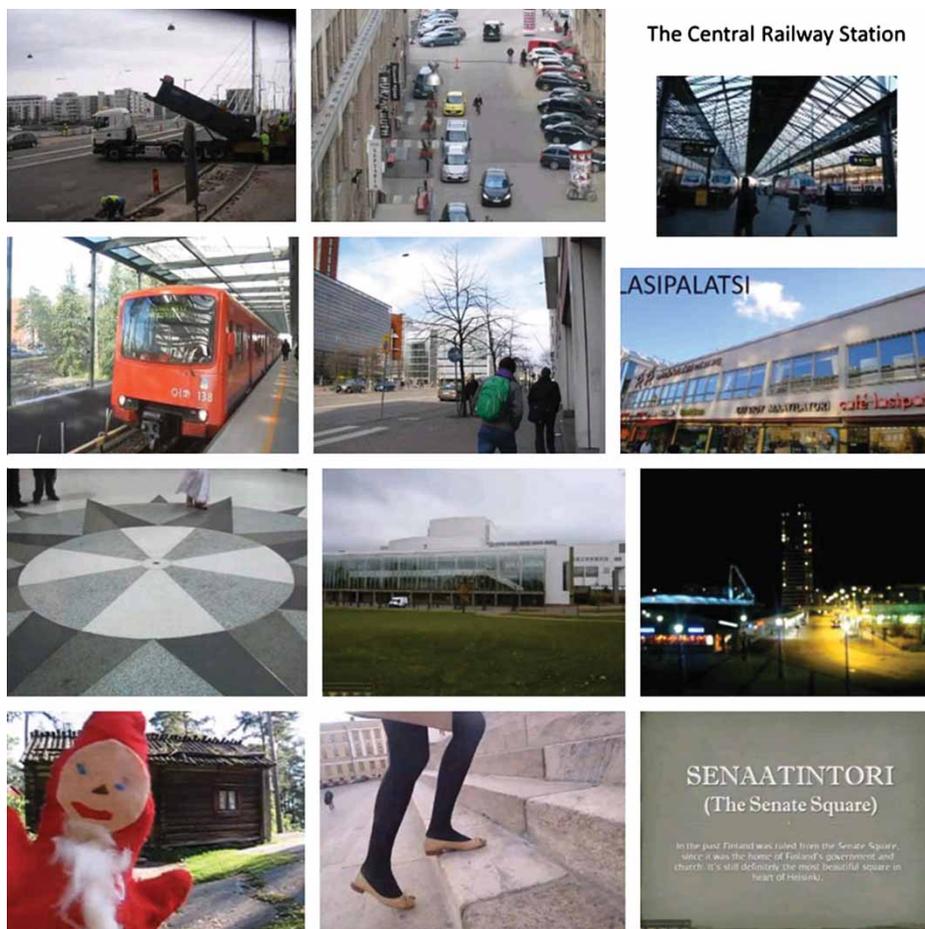


Figure 3. Step 3: The digital stories made by the participants.

- The digital stories in Finnish were translated to English by the teachers.
- The teachers asked the participants and their parents for their consent to share the digital stories online.

Step 4: Reflection

- The digital stories were uploaded on Youtube and were manually embedded on a web-based map (Google My Places) on the web site by the researchers (Figure 4). It did not require any special programming skill.
- The participants browsed the web-based map and reviewed their works with the teachers.

3 Data and analysis

3.1 Which topic about the home city do children and youth introduce to others?

First, we listed the main topics of the digital stories made by the participants and compared them to an official visitors guide provided by the City of Helsinki² (Table 1).

As a result, we found that 22 out of 38 stories were about the topics which were not explicitly explained in the official city guide (represented as ✓ mark in table 1). Those topics (e.g. graveyard, forest, school and bear) were not necessarily touristic but had special meanings for them. Giving

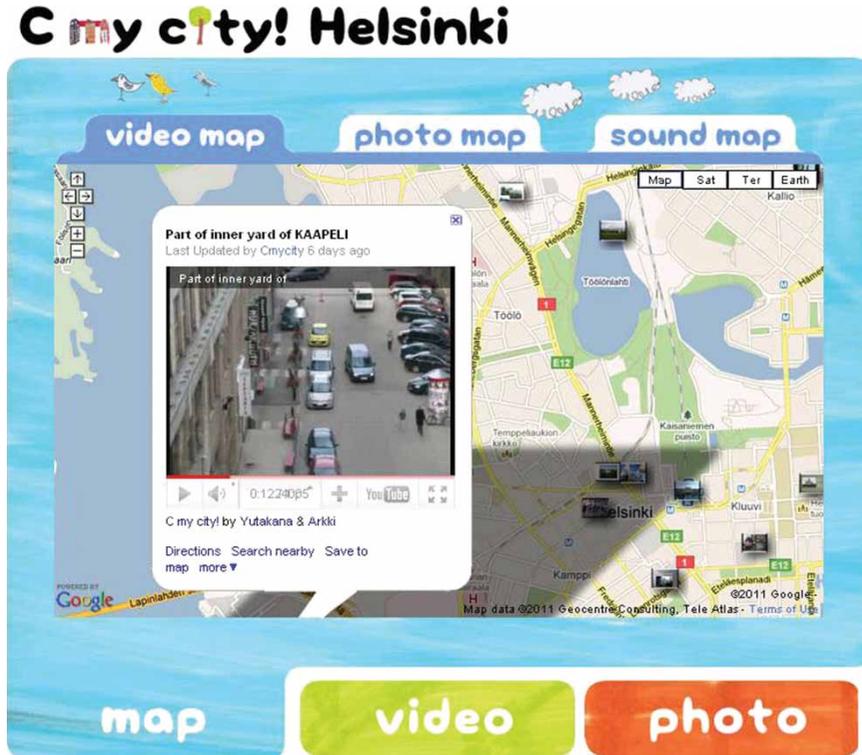


Figure 4. A digital story on the web-based map.

children and youth opportunities to tell about their home city to others would work for audience in order to find interesting sites, the concealed meanings of the places, as well as the concerns of children and youth.

I would like to tell you about the graveyard. The graveyard is a very big place and holds a lot of graves and dead people. This graveyard particularly holds a lot of famous Finnish people, like Alvar Aalto. Alvar Aalto is a famous Finnish architect. I like the graveyard because it holds a lot of not just people but also memories and stories that would have otherwise been lost. Sometimes people think of the graveyard as a sad place but I like to think of it as a happy place because it helps people live with the fact that the people they love are there. Otherwise lots of stories and memories will be lost. (9-year-old girl)

I'm 9 years old. I drew this forest because I like to play there and in there you can climb the trees. And then you can do lots of nice things and there can be some animals like squirrels. (9-year-old girl)

I like the World War II canon because it's near the sea and I love the sea. In Spring and Summer it has mushrooms and berries. Me and my sister sometimes play on there. But sometimes people, or lately actually people are noisy. (9-year-old girl)

I'm going to tell you something about Kallio. I've took some film clips from Kallio from some parts which I prefer and I found interesting. Mostly people walking around and I think people is the part of the city which makes it interesting. There are all kinds of people

video1	Finnish flag	✓
video2	Home	✓
video3	Finland/Helsinki	
video4	Forest	✓
video5	Forest	✓
video6	Four seasons in Finland	✓
video7	Architecture in Finland	
video8	Katajanokka (neighbourhood in Helsinki)	✓
video9	Architecture in Finland	
video10	Mannerheimintie (street)	✓
video11	Käpylä (neighbourhood in Helsinki)	
video12	Kamppi (shopping centre)	
video13	Mustikkamaa (island)	✓
video14	Metro	
video15	School	✓
video16	Graveyard	✓
video17	Alvar Aalto's grave	✓
video18	Kamppi (shopping centre)	
video19	Olympic stadium	
video20	School	✓
video21	Tapiola (neighbourhood in City of Espoo)	✓
video22	Bear (animal)	✓
video23	Linnanmäki (theme park)	
video24	Graveyard	✓
video25	Olympic stadium	
video26	Kallio (neighbourhood in Helsinki)	
video27	Graveyard	✓
video28	World War II canon on Lauttasaari (island)	✓
video29	Helsinki cranes and HTC high tech centre	✓
video30	The central railway station	
video31	Lasipalatsi (building)	
video32	Kamppi (shopping centre)	
video33	Kisis (sports hall)	✓
video34	Töölönlahti (gulf)	
video35	Esplanadi (park)	✓
video36	Senate Square	
video37	Plague Park	✓
video38	Torkkelinpuistikko (park)	✓

Table 1. Topics of the digital stories.

walking around doing their own things there. There are some people waiting for bread and some people walking to the off-licence. There are pubs, pubs, and pubs and a lot of people. There is a lot of pubs. (16-year-old girl)

3.2 How do they explain the topics?

The digital stories were grouped into two age groups, 7 to 12 and 14 to 20, and all the articulated words were simply listed in order of the amount used and the top 40 are shown in Tables 2 and 3. In this analysis we used Yoshikoder (<http://www.yoshikoder.org/>) for counting the words.

Word	Count	Proportion
and	98	6.23%
is	72	4.57%
the	58	3.68%
in	57	3.62%
I	55	3.49%
it	43	2.73%
there	36	2.29%
to	33	2.10%
a	32	2.03%
of	31	1.97%
am	20	1.27%
my	18	1.14%
Helsinki	17	1.08%
was	16	1.02%
are	15	0.95%
you	15	0.95%
about	14	0.89%
like	14	0.89%
people	13	0.83%
this	12	0.76%
yard	11	0.70%
can	10	0.64%
Finland	10	0.64%
grave	10	0.64%
here	10	0.64%
but	9	0.57%
Finnish	9	0.57%
metro	9	0.57%
old	9	0.57%
that	9	0.57%
be	8	0.51%
because	8	0.51%
hello	8	0.51%
tell	8	0.51%
we	8	0.51%
big	7	0.44%
buildings	7	0.44%
from	7	0.44%
Kamppi	7	0.44%
Katajanokka	7	0.44%

Table 2. The articulated words in the digital stories (ages 7–12).

According to the result, we found that in the age group 7–12 'I' or 'my' were more frequently used than the latter group. They tended to focus on personally close places (e.g. graveyard, forest, school and home) and to speak about the facts which were linked to their own subjective viewpoints or personal experiences.

I'm 7 years old. I came here to present my own home because it is so important for me. It's here. (7-year-old boy)

Word	Count	Proportion
the	137	7.75%
and	83	4.69%
is	82	4.64%
of	60	3.39%
in	59	3.34%
it	45	2.55%
a	42	2.38%
there	40	2.26%
to	31	1.75%
park	20	1.13%
was	17	0.96%
on	16	0.90%
this	15	0.85%
are	14	0.79%
can	14	0.79%
you	14	0.79%
I	13	0.74%
people	13	0.74%
Finland	12	0.68%
has	11	0.62%
square	11	0.62%
centre	10	0.57%
for	10	0.57%
Helsinki	10	0.57%
around	9	0.51%
one	9	0.51%
because	8	0.45%
by	8	0.45%
from	8	0.45%
some	8	0.45%
they	8	0.45%
Töölönlahti	8	0.45%
which	8	0.45%
also	7	0.40%
be	7	0.40%
most	7	0.40%
place	7	0.40%
Esplanadi	6	0.34%
Kamppi	6	0.34%
popular	6	0.34%

Table 3. The articulated words in the digital stories (ages 14–20).

I want to tell about my school. It's in Kamppi. It's old. I walk there. We speak German there. This is the front yard. And this the middle yard. And this is upwards. And this is my drawing. Thank you. (7-year-old boy)

In the age group 14 to 20, ‘you’ was more frequently used than ‘I’, and the percentage of ‘I’ was only 0.74 per cent of this group’s total, which was much lower than the former group (3.49 per

cent). In addition, more objective facts were introduced per story than the former group (e.g. name of place or region, historical year, name of person, and name of specific architecture or facility). These results implied that this group tended to make objective facts a priority over subjective viewpoints, being aware of others (‘you’) who would watch their digital stories. For example, the participants combined information about history, geography, architecture, and personal opinions.

Töölönlahti is located close to the centre of Helsinki, at the south end of central park. It's connected to the sea. On the west coast there is Finlandia Hall, Finnish National Opera, and Hesperia Park between them. On the east coast there is Linnunlaulu villa area. Helsinginkatu runs along the north shore. And on the other side of Töölönlahti nearby is Eläintarha Park lands and the Winter Garden. Töölönlahti is surrounded by 2.2 kilometres long pedestrian and cycling path. There are some of the Linnunlaulu villas between the path and the beach ... I like Töölönlahti because it's a beautiful area and there's so many things to do there. (14-year-old boy)

3.3 How does DST motivate children and youth to learn about their home city?

According to the teachers’ reflection, most of the participants told that they would like to do the project again. In addition, we asked the participants if they liked it, if they learned something, and if they would like to do it again. The answers in Finnish were translated to English by the teachers.

I have learned to make rap music, and then drawing new kinds of things and surprisingly much more about our capital city. (12-year-old girl)

I like studying about another city. (11-year-old boy)

I liked going around Helsinki in a big group where the group does drawings and plans

and stories about Helsinki. Almost everything I want to do again. I want to continue with new things and knowledge. (12-year-old girl)

I learned where Alvar Aalto was buried and I learned that things I have never heard of existed. (9-year-old girl)

I learned how to do a video and more stuff about the Metro and bus. (10-year-old girl)

I liked working with the computer and knowing that my work will be published on the internet. (16-year-old boy)

I could do the same kind of project. I would love to see the Japanese project ready! (17-year-old boy)

Maybe bring a less-known location to the project. Take pictures from all seasons to show the place in different conditions. (18-year-old boy)

I think the project was nice and the idea is good. I can imagine that these kinds of facts would be nice to know about some other city because these are the things that you don't find in the city guide. (20-year-old girl)

These positive comments indicated that DST motivated them to learn about the home city, the use of various media, and presentation skills. Besides, it might boost interests in other cities, foreign countries as well as different themes. However, some participants made critical comments, which are meaningful for further development of the project.

It was ok but I didn't like taking the pictures outside because it was so cold. (12-year-old boy)

I didn't really learn that much since we only took pictures. (12-year-old boy)

I wouldn't do it next time because I would like to make a model of some house. (12-year-old boy)

Everything was fun and great in this project. Perhaps more time would be good. (14-year-old boy)

I'm sorry I didn't learn anything. (17-year-old boy)

4 Conclusion and discussion

4.1 DST expands the idea of 'volunteer guides'

The participants did not only introduce touristic and well-known information about their home city. Especially the younger participants tended to focus on personally close places, speaking about the facts which were linked to their own subjective viewpoints or personal experiences. The web-based map in the 'C my city!' project visualised and opened up this kind of information which had been (perhaps) unknown even to their family or friends. This made it possible for local residents and tourists to find interesting sites, the concealed meanings of the places, as well as the concerns of children and youth in the city. The use of DST is expected to expand the idea of 'volunteer guides' beyond the spatial and temporal limitations of face-to-face activities.

4.2 Applying this method to an educational context

It seemed that many of the participants were motivated to learn about their home city by knowing that their works would be shown to others online. As Niesyto *et al.* (2003) indicated, enabling students to produce for a 'real' (aka non-teacher) audience can encourage them to think through the choices they make in production and their possible consequences more broadly, even though questions remain about how real the audience might be—particularly if it is an unknown audience that one never expects to meet face to face.

The method we implemented in the 'C my city!' project is widely applicable in cross-curricular settings in school, for example in lessons of English and geography, history and design, or communications and media skills. Seliger and

Tuomola (2011) indicated that a ‘visual ethnographical method’ to document a city has proven to be useful for analysing the complexity of city environments and human actions. Accordingly, DST could be a useful way for children and youth to study a specific theme such as traffic safety and/or environmental issues. However, some participants’ comments (e.g. ‘I didn’t really learn that much since we only took pictures’) indicated the need for more research on developing the method for educational purposes.

4.3 For further development of the method

We conducted the pilot phase voluntarily without a budget, making the most of free web services/applications, and equipment that we already had. For sharing our method and experience, we have developed a handbook on ‘C my city!’. We hope that it provides practical ideas for those who are hesitant to start this kind of project due to a lack of budget or know-how. The handbook is downloadable from http://cmycity.net/images/Cmycity_Handbook.pdf.

We think that ethics and safety issues are particularly important when involving children and youth. What we included in the statutory form in the handbook is listed below.

- Respect other people’s privacy as you would your own.
You can take pictures or videos in public spaces if it is allowed.
You may not take a picture or video of other people’s homes or faces.
- Respect other people’s drawings, pictures, texts, videos, music, etc. as you would your own.
Try to use your own drawings, pictures, texts, videos, music etc. made by yourself.
You may not copy or use other people’s works without their permission.
- Respect your safety.
It is easy to forget your safety when you are concentrating on taking pictures or videos.
Always be careful with steps, traffic, crowds etc.
It is good to work in a team and help each other.

These topics might be difficult for children and youth to understand. As Luttrell (2010) indicated, role-playing would be an effective way to make them think about the ethics and safety issues. For example, we can encourage them to practice asking people for permission to photograph, and discuss with them why a person might want to say no. We will focus on these issues in the future research.

This project won the fifth Kids Design Award (Future Action Division) in Japan in 2011, and it was officially selected as an affiliated project of World Design Capital Helsinki 2012. After May 2012 we made the digital stories by children and youth accessible on a new web-based map service with a free mobile application provided by Citynomadi (<http://www.citynomadi.fi/>). It will be a new way of ‘volunteer guides’, which enables the audience (e.g. experts in planning/tourism, tourists, and local residents) to see young people’s viewpoints. This article focused on the analysis of the articulated words in the digital stories made by the participants, but further research (e.g. analysis of the audience) should be conducted in order to develop the method.

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Notes

¹ Arkki offers a variety of architectural courses to young people and creates educational curriculums for schools, museums and after school art and architecture clubs. Over 450 children aged between 4 to 19 participate weekly in architectural courses on a long-term basis.

² http://www.visithelsinki.fi/sites/visithelsinki.fi/files/files/Esitteet/EN/visitors_guide_2012_en.pdf [Accessed 1 March 2012].

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RE/F/r.ACE: a participatory media artwork

Andy Best-Dunkley & Merja Puustinen

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RE/F/r.ACE: a participatory media artwork

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Abstract

This paper presents an overview of RE/F/r.ACE, a participative performance media art event in public urban space by Merja Puustinen, Andy Best, and Victor X. Situating the project within an art historical context, the paper discusses the social and political coding of the architectonic urban environment, and the rules and norms relating to everyday use of public space. The question is asked whether a poetic artwork can actually trigger emotional, intellectual or even behavioural awareness in an active participant, such that an artwork like RE/F/r.ACE, by activating local inhabitants, has direct influence on change in their social environment.

Keywords: media art, public art, participation, performance, empowerment

1 Introduction

RE/F/r.ACE is a performative media art event presented in urban public space. The performance consists of a few hours' long participatory happening with video images projected onto buildings or screens together with a surrounding, immersive sonic environment. The visual projections are developed from citizens' portraits. The flow of imagery and sound environments, and the overall visual and sound design reflect the rhythmic variance of urban life and its cultural and individual differences. The faces belong to people who represent the livelihood of the city's different ethnic identities, social hierarchies and classes. The human faces shown in the projections are animated and edited in real-time by our custom software. In conjunction with the animated still-photographs, the visual flow of the projected image is built up with the use of pre-recorded video clips of the slow movement of the human face: a blinking eye, smiling lips, turning heads, a tongue ...

2 Urban space: a battle zone for power and legitimisation

RE/F/r.ACE embraces contemporary political themes of social ecologies and democracy within the architectural design of the urban environment. The work brings into question the premise of

urban design which ultimately is not only aesthetical or functional but more importantly bears significant political implications to the inhabitants' possibility to use their environment. Who is the city for? Is it a site of spectacle for tourism, or a place for living, for work? Another large question is the visibility and normative social control implied by the movement of crowds, the symbolic representation: who has the legitimate right to *appear* in the public space? And how does one become a visible and legitimate user of urban space in contemporary society? It seems clear that public spaces are designed for fast and target-orientated transitional actions: people rush from home to work or to do their errands. There is little if any space within the built environment, apart from the occasional oasis of a park or garden, that is dedicated for casual social gathering unless this is specifically provided by a commercial venue. The speed and function orientated hierarchies of design imply that playing children, people with disabilities, youngsters with little money, and elderly people or the unemployed, who would have time and may just wish to pass the time watching other people, are not welcome in this environment.

In the past couple of years gypsy beggars from Romania have become a regular phenomenon in Finnish city centres. Their crouching, rigid posture on the street in all weather conditions through rain, sleet, piling snow and ice displays a stark rhythmic difference and functional (dis)order to the rushing passers-by. During the first few months, due to their Catholic beliefs, they were begging kneeling on the street with praying hands upraised. This body position, a direct plea for mercy through individual donations, seemed to generate violent confusion and antagonism amongst the native population, who are mainly dispassionate Lutherans supporting the Church through automatically collected tax payments. This example highlights the limits of normative control mechanisms in contemporary urban space including acceptable behaviour, clothing, body posture, rhythm of movement and symbolic representation. The Prime Minister at the time demanded control over this foreign gypsy

phenomenon in order to keep the streets tidy. He also implied that begging is not a part of Finnish cultural tradition, which is a far cry from the historical fact. During the 1866–1868 famine about 8 per cent of the Finnish population (approximately 150,000 people) died from hunger induced illnesses, forcing entire villages to leave their land and seek for temporary shelter and food by begging.¹

RE/F/r.ACE is posing a question: who does the city belong to? Who has the power to point to and direct the flow of people by forming the targets of desire which we access through various gateways and passages? Does it belong to the political and commercial decision makers who desire to control their subjects by organising the public space rhythmically and symbolically through aesthetic principles of sterile functionality and orderliness? Whose story of legitimisation is being narrated into the symbolic level of representation within the architects' and designers' work? Are the public spaces and the outlook of the city ruled by the private sector's speculative and commercial interests: the building contractors and multinational corporations? Is the city space developed in terms of grandiose WOW architecture to lure more tourism and cash flow for five star hotels and luxury brand outlets? After all, who are the favoured or legitimate users of the space—the inhabitants of the city, regular passers-by, or visiting businessmen and tourists? Is the city symbolically and physically accessible on equal terms for adults, children, elderly, and the disabled? Who sets the parameters of good taste or the modes of power through choices of material, form and symbolic presentation?

RE/F/r.ACE sets up a juxtaposing matrix of humanitarian questions concerning the importance of the variety of users' needs in the public space in contrast to regarding the city merely as a functional or an instrumental utility for commercial exploitation. Ultimately, at the most simplistic level, the work presents a question: what is the master narrative of power represented in the urban space? What are the fingerprints of history we accommodate our daily life activities through? Could there be alternative, more

diverse and more human stories told in the public space, stories which would resemble the cultural, ethnic and demographic variety of its users?

3 Art historical context

RE/F/r.ACE is naturally not created in an art historical or cultural vacuum. The piece has been inspired by numerous media art works and genres of popular culture which explore and test the possibilities of interactive media technologies in order to develop new forms of audio-visual content. The general motivation amongst these artworks has been to expand the delivery mechanisms and aesthetics of art to work outside the normative limitations of the institutional museum context which would allow them to address the contemporary audiences directly in the raw—the urban environment.

RE/F/r.ACE is a performative urban media art event where the format and the aesthetics build on long traditions starting from medieval mystery processions to contemporary rave culture. From the aesthetical view point including the desire to explore innovative uses of algorithmic image manipulation, RE/F/r.ACE bears some similarities with works like *Modell 5*, a four channel video performance by Granular-Synthesis (1995), Rafael Lozano Hemmer's *Under Scan* (2005),² Stelarc's (1993) performances with the robotic arm and video camera tracking audience reactions, 3D video mapping projections to public buildings,³ Kit Galloway and Sherrie Rabinowitz's *Hole in Space* (1980; see <http://www.medienkunstnetz.de/works/hole-in-space/>) and Tony Oursler's *Influence Machine* (2000)⁴ which all set up strategically different approaches for employing technology and audio-visual art in public spaces. At the other end of the spectrum of artistic urban strategies is Graffiti Research Lab that concentrates on providing open source technologies for the use of graffiti artists for visual communication in urban locations (<http://www.graffitiresearchlab.com>). Another contrasting example of a public spectacle is provided by The Sultan's Elephant, a public performance created by the Royal de Luxe theatre company

which comprised of a huge moving mechanical elephant and a giant marionette of a girl. In this project the presence of technology and the sheer size of the puppets produced a sense of community in the audience consisting of tens of thousands of people around a slowly unfolding magical narrative during the hours-long performative procession in the centre of London during 4–7 May 2006 (<http://www.thesultanselephant.com/gallery/gallery.php>).

4 An artistic experience

Despite our socio-political and research related ambitions, RE/F/r.ACE is not an attempt to visualise a theoretical, technological or political agenda. It is an art work. With RE/F/r.ACE, we bring the individual members of the audience together as a collective through a shared experience of a magical and surreal urban ritual which reaches beyond the repetitive expectancy of the thoroughly banal and commodified experience of the public space. This artistic experience acts as glue which bonds the individual members of the audience around a temporarily shared, re-possessed and transformed property—the urban landscape.

Through art as its means and end, RE/F/r.ACE is a performative happening which aims at a temporary but critical transformation of the mental qualities of urban space at the level of the audience experience, in which the passive consumer and bystander role changes to the role of a self-reflective and actively participating co-author in a mass event. The most subjectively identifiable part of one's body, the viewer's own face, becomes part of the artistic experience of 'refracting' the city by layering virtual imagery of the art work over the fixed and given city structures. The rhythmic components of RE/F/r.ACE vary from disjointed effects and soothing ambience to a hypnotising sonic experience. The audio environment of rhythmical varying elements and levels of loudness creates an emotionally insatiable, disturbing presence of otherness in the familiar city environment. RE/F/r.ACE therefore disturbs the virtual but imaginary safety of the city

experience as designed around consumerism, as well as the reassuring presence of continuity of power and selected narration of historical events as represented through design, material choices and portrayed symbols of power.

5 The active participant?

Besides providing a temporary audio-visual environment, RE/F/r.ACE is a participatory multimodal urban event utilising interactive and mobile media on several levels. The audience participates actively into the creation of the content of the art work. Passers-by in the street are able to send their own images directly from their mobile phones to our system. In addition to the mobile phone interface, there is a video camera array that automatically takes images of its surroundings at regular intervals. Lights indicate when each camera is active, allowing participants to pose—or turn their back, as they like. These images ensure that there are always new images generated within the system. The submitted images instantly affect the projected image, as they are combined, layered and animated with others from the database.

These ‘live’ images are simultaneously converted into sound data which feeds into the localised sound projections in the surrounding space. An ambient sound environment is created by recording urban sounds like the humming of traffic, horn honking and people chattering nearby during the event. These sounds are synthesised and projected back into the city space to accompany the images. The resulting still images and video footage gathered from RE/F/r.ACE performances in various countries are collected in a database where they can be incorporated for an international chorus of discourse of projected human portraits.

The interactivity of the work poses an intriguing possibility for the audience to produce content both deliberately via mobile phones and coincidentally through noise production and surveillance camera footage of the mass audience venue. Thus, the audience’s voluntary activity and their physical presence and movement in

space becomes a significant element in terms of content creation. Thematically, this refers to the similar conditions in the urban space: with our actions, presence and movement we all affect the social webbing of the city—moulding the urban experience as a whole. It is us, the users of the public space who give significance, meaning and interpretations with our actions to the other dwellers of the city.

Traditionally within the field of research of interactive art, the emphasis is laid on the descriptive qualities and merits gained by the technology itself, end-user processes and novel interface design. We rather are interested in the physical presence of the work, and the resulting affects that interaction with the work has on active participants. RE/F/r.ACE provokes interaction amongst friends at an intimate level. Who wants to be pictured, be *framed* in/on the city? The dynamic amongst the group is activated by the act of posing—or avoiding the shot. Mock shouts of fear or shame are uttered as the cameraphone is wielded. We deliberately use a familiar interface—the participant’s own mobile phone—so that taking part is not a question of technological knowhow but is rather a social offering.

Collaborative performance shifts interaction and participatory behaviour onto a social level. As Rancière (2009, pp. 19–21) illustrates, emancipation can arise through actions and activity which question the roles allocated to us by society. We use our art projects to investigate if and how social empowerment can be orchestrated through collaborative interaction with media art works. It is vital that the interactive experience invites and encourages SOCIAL interaction between the participants themselves, as it is only through social activity that the self-image can be positively developed. Can the artwork create a community of presence, an opportunity for living in the moment leading to unpredictable (inter)activity within the social group? The artwork provides the tools and setting for spontaneous actions by the participants that may spill over into the surrounding urban landscape. Participants maybe socially empowered, if even for a short while. The artistic TAZ (Temporary Autonomous

Zone) can act as a revealing agent within society using the tools of poetic terrorism to disrupt the status quo (Bey 1985). Hakim Bey's concept of the Temporary Autonomous Zone has been proposed by Geert Lovink (1994) as a model for network based communities of interest. Having worked extensively with 3D virtual communities in the past, we can say that the behaviours observed in real-world interactive environments can be identical to those seen in the TAZ of virtual communities. The physical artwork (environment, installation) becomes a point of focus for social interaction AND empowerment, as the normal rules of engagement within the public space are temporarily ignored in favour of those created by the participants themselves. We are forced to reappraise the traditional models for spectator vs. artist, as new tools and technologies allow the barriers to interaction to become transparent. The role of the artist or designer changes to become that of a facilitator or producer for a larger group of participants. In fact, the artist creates the situation, possibilities for others to bring to life, and accordingly the role of the artist as the author becomes less significant. According to curator and theorist Nicolas Bourriaud we have passed into a new 'altermodern' era where artistic production is concerned with the weaving of 'relationships' between people and things, where the artist 'victorises' objects to build narratives through 'post production' techniques—the re-use of artefacts, sampling, a mixing of cultures and signs. The discourse, the social activity, becomes the work itself (Bourriaud 2002, pp. 11–24; 2009, 11–24).

6 Motivations

We like to challenge the traditional boundaries between the viewer and the art work. Our artworks encourage and enable creative expression by active participants beyond everyday norms. The aim is to enable deep audience participation in media art installations and live performance through the control of audio, visual and robotic elements. Touching the surface or skin of some pieces, or movement and other forms of interaction in the exhibition space control changes in

sound and video projected as part of the work. Participants interact together and with the work to create their own experience of the art event which will remain unique for that moment in time.

We are known for large scale interactive installations which literally transform the experience of a space. We invite the audience to interact and play with each other—for us art is not a solitary experience but something to be enjoyed together with other people, whether friends or strangers. The act of physical interaction of the body and senses with the environment and other people causes traditional modes of seeing and being to be disrupted. The balance of power in the presentation space is shifted from institutional control to become a social space open for collaboration and expression.

7 Positioning RE/F/r.ACE

In contemporary media arts research and discussion there are many factions. One of the leading approaches is to emphasise technological novelty. According to one of the foremost new media theoreticians Oliver Grau (2011), with regards to the criteria for collecting and understanding the history of media arts, the quality and innovation of the interface design is more important than the artistic content. According to his view, artistic creativity, scientific research and technological development all spring from the same source of human curiosity for knowledge and play. If the essentialist ethos of modernist art philosophy was that painters should concentrate on colour and techniques of painting on a two dimensional surface, and sculptors should concentrate in their medium on three dimensional form and material, Grau seems to build his argument on the same logic of thinking. As a logical subset of his approach, media arts become essentially categorised through technology. If the McLuhanian idea 'media is the message' is accepted, this ontological inseparability further backs up the claim that the medium, the technology itself, should be regarded as the content of the media art work. Therefore artistic creativity in media arts is seen as taking place as technological innovation rather than as an interest in



Figure 1. Girls enjoying the social interplay while sending photos to RE/F/r.ACE.

quality or creativity in a more traditional artistic sense: content, concept, colour, representation, form or material display.

Another dominating view is the cultural critical approach which emphasises the instrumental use of technology and particularly the internet in various forms of struggle against the neoliberal world order. The aim is to emancipate various user groups by providing them with technological tools and skills. Often art projects in this area are organised around political activist and hacker communities. Pixelache festival in Finland is a good example of this type of activity, which has grown to encompass an international network of collaborators which operate on the fringes of the art world (<http://www.pixelache.ac/helsinki/>). The FLOSS movement (Free Libré Open Source Software) is closely related. The fact that Linus Torvalds won the .net category in 1999 of the Prix Ars Electronica for the Linux operating system illustrates precisely the position that media art does not need to deal with ‘art’ at all, not forgetting the controversies thrown up by the decision (see <http://residence.aec.at/rhizome/email/msg00043.html>).

A third approach to media arts research could be regarded as a humanistic and artistic approach as opposed to technological or cultural critical. Roy Ascott and Eduardo Kac are examples of artists who heavily rely on new technological developments yet create powerful poetical works that touch to the heart and mind. Their works allow space for the observer to discover something for themselves, about themselves. This is what we aim for with RE/F/r.ACE—to activate our spectator/participants through a magical, surprising, chaotic event that challenges their every expectation for the everyday space they are in. RE/F/r.ACE is more related to other performative traditions, such as happenings, street processions and rave culture rather than following simply generic media art traditions. As artists we prefer raising puzzling feelings and evoking questions rather than providing simple answers. In our view, art has other value propositions which cannot be reduced to measuring instrumental usability for emancipation or as a solution provider for deep social problems. But art does have the power to wake up, touch and make people feel and think differently.



Figure 2. An example of the projected image screen.

8 Conclusions

But in the end, is RE/F/r.ACE anything more than a futile gesture in the face of overriding control of the environment and citizens by corporate and political interests? Does the collective experience of the performative act really affect long term changes for the spectator/participant, or is the artwork just one more titillating experience amongst the milieu of commercial offerings we are faced with each day? With RE/F/r.ACE we do not attempt to answer these questions but rather we hope to peel back the veil of misunderstanding from the social and public space discourse. The simple act of sending your own portrait image from your phone and seeing it appear almost simultaneously, giant sized, in the public space, can, momentarily, create a feeling of yes, I DO matter—I am someone—but also, I am one amongst many others, with equal desires and frustrations in our lives. The interplay of layered images and harsh electronic sounds challenges these *active participants* to comprehend the message being offered to them.

Looking at the representational aspects of RE/F/r.ACE, the architectonic urban setting is paralleled with human faces and personal details of city inhabitants. The work reinforces the idea that the city is not only a manifestation of power through architecture, city planning and commercial offerings. The real city is alive and it is organic. The flora of human experience is the

heart and flesh which weave the concrete and steel structures into a web of semantic flow of cultural references and interpretations. In this constantly changing stream the subjects of time, culture and history are layered on the fixed statures of power and signifying icons of urban landscape.

As an art work RE/F/r.ACE investigates the variety of levels of narration, styles of expression and content streams created and delivered by digital channels. The most personal and subjective messages are intermixed with the socially tangled and shared urban experience which enables critical discourse about visibility as a question of power in the urban experience. On the conceptual level, interaction through social media devices celebrates the importance of the social glue, the miracle of human bonding enhanced and speeded up by the technology of our times (Gauntlett 2011, pp. 80–114). Through RE/F/r.ACE we suggest that the answer to alienation from one's own environment and deteriorating social cohesion of urban communities is not provided by the increased use of technology as such. The answer is rather embedded into the long tradition of humanism: appreciation of social communities and relationships, and recognising the unique sense of subjectivity in the Other—in strangers and ourselves.

RE/F/r.ACE online at <http://refrace.info>

Notes

- ¹ Wikipedia, 'suuret nälkävuodet', citing: Turpeinen, Oiva; *Nälkä vai tauti tappoi? Kauhunvuodet 1866–1868*, Suomen historiallinen seura, 1986
- ² Initially made 2005, shown in Trafalgar Square, London 2008
- ³ For examples of 3D video mapping see Helsinki Senate Square Opening Celebrations of the World Design Capital by Mural Media and 'Unveil' produced by Spearfish in Turku for the closing ceremony of the Cultural Capital Year 31 December 2011.
- ⁴ First shown in Madison Square Park in New York.

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Introducing a design framework for reputation systems in multi-tier production communities

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Introducing a design framework for reputation systems in multi-tier production communities

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Abstract

Reputation systems are an important part of online production communities, for they provide both users and machine with proper metrics to assess the truthfulness and reliability of users, and their generated content. In multi-tier communities, in which users can be promoted to higher ranks, reputation systems are given a new role, which is helping the community to have a more meritocratic promotion process. This paper provides a design framework for reputation systems and promotion processes in the context of multi-tier production communities (MPCs). An apt promotion process based on a well-designed reputation system can be deemed as a valid practice to motivate users, enhance their level of trust and satisfaction, and increase the quantity and quality of contributions. We address different aspects and design elements of reputation systems and their association with and their impact on user participation in production communities, particularly those with a multi-tier structure.

Keywords: online communities, multi-tier production communities, reputation systems, participation, promotion

1 Introduction

In the last decade, the success of online production communities¹ such as Wikipedia, YouTube, Slashdot, or popular open source communities have attested the power of crowd sourcing in generating content and sharing knowledge. Production communities are a certain type of communities in which the main objective of the community is to produce and evaluate content and share it with others and are considered as an increasingly important step towards a knowledge-based economy (Powell and Snellman 2004). This individually or collaboratively generated content can be anything from text and audio and video files to architecture sketches and maps (De Alfaro *et al.* 2011). The more users are actively and effectively involved in the production and evaluation process, the more valuable content will be accumulated. Moreover, involving users in the wide variety of community-related activities ranging from content generation to modification, evaluation, user moderation and even decision and policy making would provide the breadth, depth and complexity that is usually required for the sustained growth of a community (Kim 2000). This is why facilitating the knowledge, manpower, and ingenuity of a vast crowd with lower costs is an appealing objective of many companies, governments, or non-governmental organisations (NGOs). Yet, successfully motivating users or

members to participate in the process of content production is not a trivial task.

Understanding the motivation of users to participate and planting apt incentive mechanisms respectively is no easy procedure. What seems to be the advantage of online communities, namely connecting and harnessing the power of geographically and culturally heterogeneous users of different backgrounds, is often a true challenge for community designers and operators. Such heterogeneity combined with rapidly-changing external factors constantly challenges the long-term viability of production communities. After all, the profound complexity resulting from the inter-related nature of the individual, social, technical, and environmental elements of communities (Gurzick and Lutters 2009) is not easy to deal with. Constructing a befitting reputation system and utilising it for both content generation and governance purposes can be deemed as one important stabilising factor for this non-trivial matter.

Reputation systems, in the context of online communities, are generally used to ‘capitalize on the motivational power of reputation’ (Dellarocas 2010, p. 33). They are also availed to gauge the credibility of others for financial or otherwise risky transactions. Considering production communities, previous empirical studies have called attention to status and status seeking along with altruism and reciprocity as the key motives behind informational gift giving (Lampel and Bhalla 2007). Depending on many factors such as the culture of a community, the type of content, or its maturity, such status sentiments are very likely to foster an ongoing participation in communities, hence their sustainable success. Availing reputation systems is an effective tactic to be used to augment awareness of status. Besides reflecting the history and status of users, reputation systems can also play a crucial role in those production communities that have a multi-tier structure. They can provide quantitative and qualitative metrics on the amount and essence of the activities of users. What is missing in the literature is how reputation systems can be employed for the sake of promoting users to the next tier in a systematic and meritocratic way. A multi-tier

production community (MPC) uses different tiers to privilege active and loyal users by restricting access to allow only those in a higher tier to benefit from certain services (Saranow 2005) or be involved in more operational and strategic activities. It is believed that promotion mechanisms should be based on meritocracy in order to attract high quality contributions from voluntary users (Lee and Cole 2003). In the absence of a viable mapping function to reflect the reputation and activities of a user outside of the community (e.g. in other communities or in the society), a well-designed reputation system within the borders of a community is a valid approach to address this issue. For this reason, structuring and framing reputation systems from the perspective of production communities in general, and multi-tier production communities in particular seems necessary.

A large body of literature currently exists that pertains to participation, motivation and governance of communities with a focus on crowd sourcing (Leimeister *et al.* 2010, Schwagereit *et al.* 2011). In order to address and structure the pertinent design elements of reputation systems and the existing approaches toward user promotion, we first identified the relevant literature using a chain referral sampling (Penrod *et al.* 2003). To avoid problems afflicting chain-referral sampling (Erickson 1979), multiple networks and resources were accessed to extend the scope of investigation. We combined a snowball sampling based on the literature recommended by community experts with a snowball sampling based on keyword search in top journals and distinguished conferences. The *raison d’être* of this paper is, therefore, framing and highlighting those aspects and characteristics of reputation systems that can be harnessed to not only motivate users to be more participative but also facilitate their promotion in MPCs. The paper is structured as follows: first, reputation systems and one of their most essential elements, namely virtual capital, will be over-viewed and a fine-grained design framework is introduced. Next, existing promotion processes in production communities and their relation to and reliance on reputation systems will be elabo-

rated upon. Finally, the findings will be concluded and open issues will be discussed.

2 Definition and distinction of terms

Unfortunately, due to the rapid developments of new concepts and approaches in the domain of online communities, the terminology has not yet been delicately standardised and, therefore, many terms have been given loose or inconsistent definitions. There is, for example, ambiguity in using terms like *user role*, *rank*, *identity* and *status*. The definitions of various terms such as *contribution*, *participation* or *motivation* have not been fine-grained either. In Table 1, a list of terms and definitions is provided that includes the most frequently used terms in the context of production communities and with respect to reputation and promotion systems.

3 Reputation systems: a review of research and practice

Almost half a century ago, Weber theorized tradition, law, and charisma as the three bases of authority (Weber 1968). This does not hold true in modern collective forms of production (O'Mahony and Ferraro 2007). Multi-tier production communities, as non-commercial virtual communities of interest, mostly represent a virtue-based system, where those users that are more active are bestowed with more power and responsibility (by being promoted to the next tier). The mission of a reputation system here is to secure a systematic way of keeping track of users' activities (behaviour as well as the quality of the generated content), process it into digestible and relevant results, and finally, make them visible to others. In this section, we provide a comprehensive study on the characteristics of reputation systems in the context of production communities. Then, we introduce the design elements of a generic reputation system based on a descriptive analysis of the accumulated knowledge to help community designers separate the wheat from the chaff.

3.1 Characteristics of an apt reputation system

As discussed earlier, reputation systems play a vital role in production communities, for they provide the necessary foundation for users to not only know whom to trust, but also help the community promote active and reliable users to higher ranks based on their past behaviour and efforts. Users put a high value on the trustworthiness and fairness of a reputation system (De Alfaro *et al.* 2011) and it could, therefore, be considered as a major success factor of many such communities, particularly before they enter the maturity phase of their lifecycle (Iriberry and Leroy 2009).

3.1.1 Reputation systems: aspects and properties

Before addressing different design aspects and properties of reputation systems, it should be once more asserted that status, role, and rank have different meanings and should be distinguished. The status of a user is merely a label and is not necessarily correlated to his rank in the community. The status of a user might be only symbolic (such as '*junior member*,' '*power user*,' or '*expert*'), whereas a different rank (such as community moderator) guarantees accessing a different set of features. The role of a user, on the other hand, corresponds to his contribution pattern. For example, frequently mentioned roles in open source communities are *core members*, *peripheral members*, and *passive users* (Hinds and Lee 2008).

Moreira *et al.* (2009) propose three properties for every visible reputation system that is not solely based on content-driven analysis: first, the identity of users should stay persistent, whether they are pseudonyms or not. Second, there should be a feedback and rating mechanisms (mostly and preferably for the produced content rather than for the user), and the results should be visible to other members, and third, people should trust the reputation system and make their decisions based on its ratings (Rheingold 2003).

Dellarus (2010) provides a comprehensive study on the design and configuration of reputation

Term	Definition	Reference
<i>Open Production Community (OPC)</i>	Also known as peer production communities or community-driven knowledge sites, open production communities are communities with clear code of conduct, in which content is regarded as a public good, and at least one of the domains of content production, user moderation, or community governance is fully or partly delegated to users in a systematic way. OPCs can be divided into two general categories: open content production communities and open source production communities.	(Nov <i>et al.</i> 2010; Wilkinson 2008; Kim and Han 2009)
<i>Multi-tier Production Community (MPC)</i>	A multi-tier production community is a production community in which at least two different tiers (ranks) of users exist. Users can be promoted to a higher tier or rank or demoted to a lower one. (see Figure 4).	
<i>(User) Participation</i>	Involvement in all possible community-related activities such as content generation, discussions, evaluations, viewing, voting, flagging, etc. Every activity of users that in some way or other benefits the community can be classified as 'participation.'	(Lee and Carroll 2010; Ren <i>et al.</i> 2007)
<i>Contribution</i>	Activities that culminate in producing content are called contribution. Every contribution is considered participation, but not every participative activity is a contribution per se. In other terms, when participation results in content being generated, it is called contribution.	(Harper <i>et al.</i> 2007; Reiser 2008)
<i>Motivation or Motive</i>	Reflects personal or internal motivations to participate. Motivation shall not be confused or used as an act of encouragement (an incentive).	(Leimeister <i>et al.</i> 2010; Shah 2006)
<i>Incentive</i>	Incentive represents (external) motivational enticements that are practiced in communities to encourage users to be more participative.	(Farzan <i>et al.</i> 2008; Cheng and Vassileva 2006)
<i>User Role</i>	The perceived behavior of users. User role can range from reader (lurker), to leader (core member). It does not necessarily match the official status or rank of a user, but reflects a behavioral abstraction of user activities.	(Preece and Shneiderman 2009; Jensen and Scacchi 2007)
<i>User Rank</i>	The official position of a user within a community. User rank is usually associated with his or her level of access (privileges). The most basic ranks in communities are guest, normal user, and admin. However, in multi-tier or multi-rank communities users may be promoted to a higher tier and receive a higher rank.	(Saranow 2005; Shin <i>et al.</i> 2010)
<i>User Status</i>	User status is the label that is bestowed upon users based on their level of commitment. Unlike <i>user rank</i> , user status is symbolic and does not give them any privileges over other users. This is a common practice in many open source and game communities.	(Introne and Alterman 2006; Ganley and Lampe 2009; Lampel and Bhalla 2007)
<i>User Identity</i>	Identity is used to identify users either by other users or by the system (e.g. username, emails, or SSH keys). Identity is often a text (name, nickname, etc.), but can also be an image (badge or avatar).	(Castells 2009; Anthony <i>et al.</i> 2009)
<i>Ranking</i>	Ranking refers to listing entities (users, groups, content, activities, etc.) based on their given or received value (via explicit or implicit rating).	(Hearn 2010; Bender <i>et al.</i> 2008)

(Continued)

Table 1. Continued.

Term	Definition	Reference
<i>Rating</i>	Rating is the act of evaluating an entity (a user, a group, a piece of content, or an activity) which can be performed via thumbs up and down, Likert-type scale, like button, etc. Rating can be performed either by users (explicit) or by the system (implicit) based on pre-defined rating criteria.	(Hearn 2010; Agichtein <i>et al.</i> 2008)
<i>Virtual Capital</i>	Represent the abstract quantified reputation of a user within a community. It can be categorized as social, contribution, or cultural capital. Social capital is gained through socialization in a community, contribution capital is based on the amount of a user's contribution, and cultural capital refers to the amount of experience a user has within a community (knowing norms and culture).	(Zheng <i>et al.</i> 2010; Rafaeli <i>et al.</i> 2004)
<i>(Reputation) Points</i>	Also referred to as 'point', 'score', or 'equity', represents the building unit (currency) for estimating the virtual capital of users. This can be both input and output of a reputation system. It can be categorized into informational, personal, contribution, and participation points. Similar known terms are Karma, which is used in some communities such as Slashdot.	(Dong <i>et al.</i> 2010; Reiser 2008)

Table 1. Definition and distinction of frequently used terms in the context of production communities.

with a focus on non-production (service-providing) communities. He specifies a set of objectives and a set of key decisions to be met before designing any reputation system: why is it being designed (objective), What is being collected, computed, and shown (information), and how the information is being calculated and shown (algorithms and display). We add *contribution assessment* to his suggested set of objectives to provide a new dimension to be taken into account when studying production communities.

3.1.2 Virtual capital and the introduction of reputation points

Keeping track of the most prolific users (leaderboards),² making them be seen (visibility), and appreciating them (thankfulness) are believed to have a positive effect on participation (Viégas and Smith 2004). In order to empower reputation systems, spotting active users (and maybe later automatically promoting them to a higher rank), a kind of unit, or currency (Karma or *reputation points* as addressed in Table 1) should be implemented (Reiser 2008; Farzan *et al.* 2009). Based on this approach, each activity of a user that is in one way or another of benefit to the

community is rewarded with a certain amount of (virtual) points. How many points are being given for which activity and how the ultimate score is being calculated are very delicate matters, for two reasons. First, users are deeply concerned about how their reputation is being calculated, and constructing any system to capitalise efforts demands a certain degree of subjectivity. And second, introducing rewarding systems might make some users try to game the system and therefore might unwillingly trigger dishonest behaviour. Reputation systems need to provide necessary mechanisms against gaming the system, whether it is actions to enhance one's own reputation or actions to diminish or undervalue that of the others (Dellarocas 2006). One approach to address this issue is to try to remove the effect of the social capital of users based on their reputation points. Certain algorithms can be used to reduce this effect (smooth the bias) and calculate the points of users solely based on the value of their contribution (Shin *et al.* 2010; Chen *et al.* 2011).

Figure 1 demonstrates the flow of a combination of three input actors and two entities that provide input data for a reputation system. This

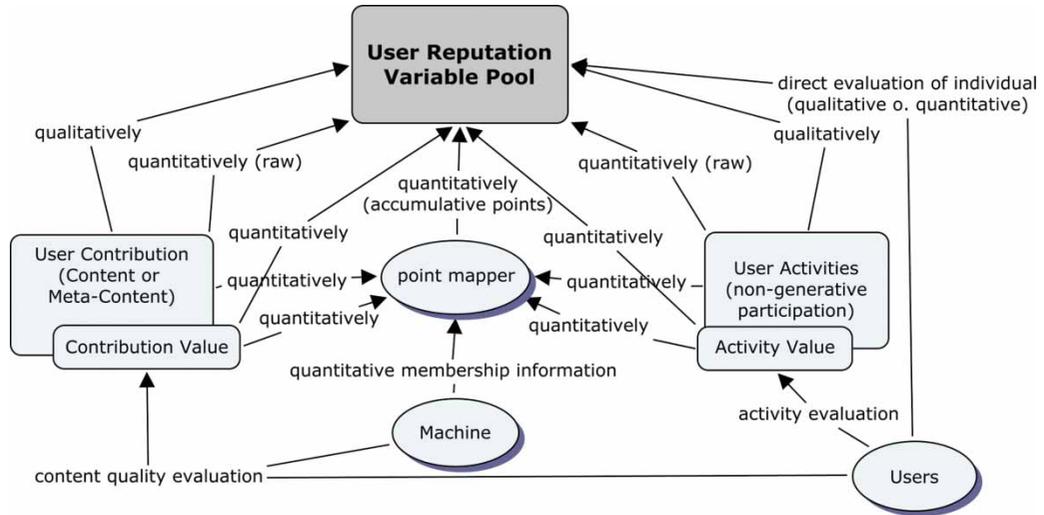


Figure 1. Generic input variables of a reputation system.

pool of variables is either presented directly (as raw information) or is processed by an algorithm when the raw data do not necessarily make sense by itself and should, therefore, either be converted or combined with other input variables. In the next section, this distinction of raw and processed data along with the necessary design elements is elaborated upon.

3.2 Design framework of reputation systems

Every reputation system has five major design elements: why is it required and what are the expectations (*objective*), what kind of information is collected (*algorithm inputs* and *raw information*), how is the reputation being calculated (*algorithm*), what is the output of the algorithm (*output*), and how is it presented (*presentation*). The objective of a reputation system is of tremendous importance, for it directly shapes the formation of algorithm, raw information, and presentation.

3.2.1 Objective(s)

The objectives of a reputation system should be aligned with the objective and culture of the community it is being facilitated for. For example, the main objective of reputation systems in commer-

cial websites such as eBay is to enhance or assess the level of trust. On some websites, the emphasis is on the reliability of reviews. On others, it may be used to recognise similar behavioural patterns to match members or recommend further material. In the context of production communities, reputation systems can be used for a variety of reasons: they can be leveraged as incentive mechanisms to enhance the quality and quantity of produced content by increasing participation. They can also be used shed light on the credibility and trust issues pertaining to users and content. Furthermore, regardless of what the main objective of a reputation system is, in most cases, it can also be considered as a strategic mean to increase user loyalty and lessen attrition (Dellarocas 2010).

Objectives of a reputation system determine what information should be collected, how it should be collected, what part of this information may be used directly and ‘unprocessed’ (raw) and what part should be processed (e.g. normalised) and or combined with other factors to produce more comprehensible and sensible results (outputs), what output should be calculated based on the aggregated information, and how and for whom it should be visible. That is to say that the defined objectives directly affects three major

design elements: algorithm (input and output), raw information and presentation. It should also be noted that depending on the context and breadths of a community, combining multiple objectives of reputation systems into one system is sometimes not necessary and might culminate in misleading or irrelevant results.

3.2.2 Raw information

Collected information (as demonstrated in Figure 2) can be used either directly (raw information) or as inputs for the designed algorithm (as algorithm inputs). It has been recommended that when possible, using manipulative functions on the collected information should be avoided and only raw data should be presented as supportive information for a reputation system so that the judgment is left to the users themselves. Raw information is either qualitative (e.g. reviews on the produced content, a list of users' activities, etc.) or quantitative (e.g. total number of posts, number of views of a piece of content, or time (e.g. duration of membership or the age of the generated content)).

3.2.3 Algorithm inputs

Information as input variable(s) provides the necessary material to calculate the outputs of the algorithm. The objective of a reputation system indicates what sort of information should be collected and how it should be processed. Algorithm input can be driven by contribution (content), user (activities) (De Alfaro *et al.* 2011), or a combination of both. Content-driven or, as Dellarocas (2010) puts it, *first-hand* information is preferred to user-driven or second-hand information (direct evaluation of individuals), for user-driven information increases bias and subjectivity and might also lead to undesired behaviour such as black-mailing or destructive feedback.

Also, the more dimensions that are added to the input, the more difficult it gets to calculate the right output and use that output to compare users or content. Even if a ground truth exists regarding the significance of the elements, they should nevertheless be weighted accordingly and a proper function should be sought, which might increase the subjectivity or decrease the aptness of outputs. Another important issue when collect-

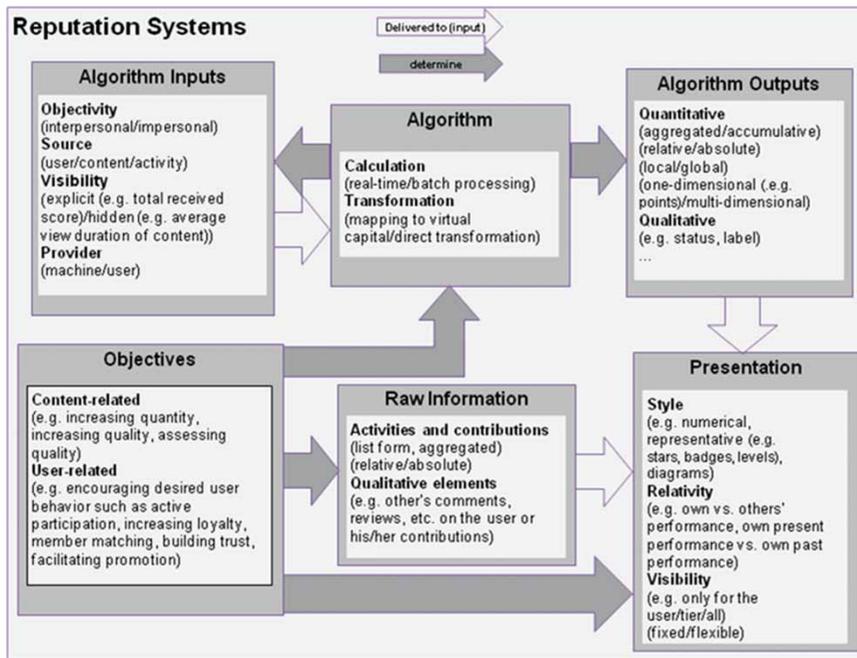


Figure 2. Generic design framework of a reputation system.

ing data is the privacy of users. It is recommended that the collected information is communicated clearly with the users, no matter if this information is visible to them or not. Regardless of the unethical nature of using unauthorised data, irresponsible collection of user data might have severe legal and organisational consequences.

3.2.4 Algorithm

Calculating the reputation of users can be based on different quantitative as well as qualitative input variables. As mentioned in the previous section, user's valuing of another user's contribution or behaviour, whether qualitative (in forms of reviews, comments etc.) or quantitative (in forms of rating, voting etc.) is a crucial source of information for such algorithms. In addition, algorithms may also take advantage of other users' actions on content such as number of views of a piece of content or the amount of time users spend viewing it. The recommendation system of eBay and Amazon's reviewing systems are two prominent examples in this regard (Bunz 2006).

A sophisticated and reliable reputation system should include all relevant input variables and weight them according to the required effort and their importance to the objectives of a community. Sizable literature deems the effect of mechanical (or statistical) method stronger compared to judgmental (subjective) methods (Stumpf and London 1981), for they are conceived as less biased. The fact is, the more manipulative operations are applied to inputs to calculate the output(s), the more subjective and judgmental a reputation system becomes.

Processing information and calculating the outputs can be performed in real-time or on a regular basis (batch-processing). Furthermore, the output can be calculated globally or chronologically (De Alfaro *et al.* 2011), and relatively (e.g. to a certain group within the community) or absolutely. If the reputation is mainly based on the amount of contribution, relative outputs are believed to be more suitable, since showing absolute outputs might scare off the newcomers (Chiu *et al.* 2006). Outputs can be calculated rela-

tive to time (recent activities) or relative to rank (within a tier).

3.2.5 Algorithm outputs

Generally, outputs of a reputation system should encompass three aspects of an individual: *trustworthiness*, *commitment* and *sociability*. Trust can be assessed by providing items that reflect an individual's belief in other members' non-opportunistic behaviour, promise keeping, behaviour consistency, and truthfulness (Chiu *et al.* 2006). The commitment aspect represents how active an individual is in community-related activities (participation), and sociability represents the amount of social interactions an individual practices with other members. In other words, reputation systems must indicate not only how much and what kind of contribution and social capital a user possesses, but also how reliable the actions and contributions of this very user are.

As discussed before, some of this information can be extracted directly (raw information), and some should be processed and combined with other factors and inputs (via an algorithm). The results of an algorithm may be aggregated (e.g. average number of posts per month) or accumulative (e.g. the total number of posts). It can also be calculated locally or globally, in case a website has more groups and objectives. The outputs of the algorithm can also be transformed into qualitative determinant such as labels or status. Moreover, in certain cases where the output primarily reflects the expertise of users (the value of their contribution), it can also be categorised and distinguished for different topics of content (Hong *et al.* 2009).

3.2.6 Presentation

The output of a reputation system consists of algorithm output and the relevant raw information. How a piece of information is being presented can have significant impact on how it is perceived. For example, sometime, merely changing the name of an online relationship can have positive or negative influence on users (Zhang *et al.* 2010). Like other aspects, displaying the reputation of users can also be both quantitative and qualitative. Quantitative display is the case where the virtual

capital of users or statistics corresponding to their contributions (e.g. number of posts in a forum) is shown. Qualitative display is showing the status or rank of a user, listing a list of his or her activities (e.g. comments or ratings), or listing other users' feedback about him or her.

To enhance understandability, users' activities and contributions can be visualised by using diagrams as well. In large communities such as Wikipedia, visualisation makes assessing the quality of content or legitimacy of edits easier (Kittur *et al.* 2006). The output can also be presented individually, or benchmarked with others. For example, the current performance of each user can be compared with his own past performance, or that of the others to instil a sense of competition into the community. It has been argued that comparing the outcome or input ratio for oneself with that of others determines an individual's perception of fairness of information exchange (Adams 1966).

The presentation of outputs can have different styles. Aggregated output can be presented by using stars and badges or be interpreted into abstract meanings such as user status. In point-based, multi-tier systems, the promotion of users to a higher rank (tier) can be performed automatically when users achieve the minimum number of reputation points required for a rank. This way, the rank of a user can also be an implicit form of presenting his reputation.

What is also of great importance is to whom the output is available (visibility). Perceived identification, which is backed up and amplified by a reputation system is believed to be an important predictor of individuals' involvement in online communities (Ma and Agarwal 2007, Zhang *et al.* 2010). Similar to privacy issues when collecting information, the visibility level of output results is also of utmost importance. The visibility can be limited to oneself, on specific group of users (such as friends), or a certain tier (e.g. admin rank). Figure 2 provides a view of the general design framework of a reputation system and the interrelations between the main design elements.

Elucidating users' history of actions and contributions enables a community to use this information, either quantitatively (e.g. via reputation

points) or qualitatively to promote a user to a higher rank. A fair promotion process is an important part of most multi-tier production communities (MPCs) in order to facilitate promoting users from a lower tier to a higher one (Figure 3). It not only motivates users to be more participative, but also secures the quality of content by privileging more active and experienced user to participate in content qualification, conflict management, or strategic decision making.

Defining different ranks and restricting access to certain features to those with a particular rank is a known tactic to increase awareness of status and motivate users to be more active in order to be promoted to a higher rank (Saranow 2007). Moreover, the distributed nature of communities often requires formal positions for certain administrative tasks (Butler *et al.* 2002). If we accept the positive correlation between the reputation of a user with his or her ability to perform activities such as user moderation or content quality assessment, the importance of well-designed reputation-based promotion processes becomes more obvious.

Promotion process is all about how users are designated to new ranks, which includes a bestowal of exclusive set of rights and privileges upon them within the community. The mechanism plays an important role in MPCs, for its fairness has a significant value on the users' level of trust in a community.

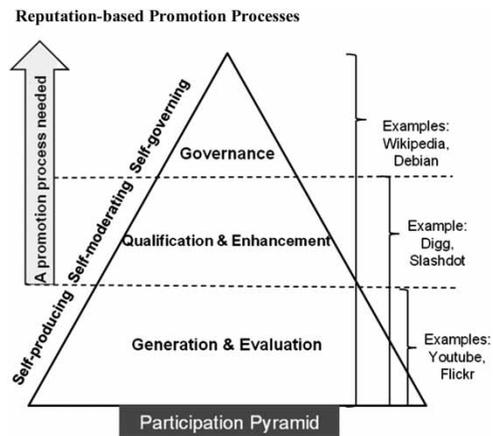


Figure 3. Different tiers of user activities in MPCs.

Promotion can be practiced in many ways. It can be practiced solely by the system (*automatic detection*), by operators (*selection*), by other users (*election*), or by a combination of two or all of them (*hybrid*) (see Figure 4). Selection is when users are designated to a new rank by administrators and operators, or by users possessing a higher rank (Rosenkranz and Feddersen 2010). This is a common practice in most communities for two main reasons: first, implementing promotion mechanisms and or organising web-based elections is a costly resolution and requires certain technical infrastructure, and second, community owners often do not want to lose control of the community. One possible downside of selection, depending on the degree of willingness of users to go to a higher tier, is that users would have little influence on the promotion process. The second method exercised in some communities, particularly open source communities, is to call an election for certain ranks (O'Mahony and Ferraro 2007). This is the most democratic form of promotion; however, with allowing every user to become a candidate, users may be confused and overloaded with data, which may eventually prevent them from making the right choice.

The third option is to elevate user's rank automatically based on detection. Intelligent algorithms to detect experts (Zhang *et al.* 2007) or simply defining a minimum number of reputation points for a certain tier are two common practices in this regard. Figure 4 demonstrates a rank pyramid, where ranks can be obtained automatically based on one's accumulated virtual capital in a community or by other methods such as election or selection. The problem with automatic promotion (detection) is that often qualitative attributes of users is not being taken into account. Furthermore, as discussed in the motivation section, users may try to trick the system to get to higher ranks (Cheng and Vassileva 2005).

None of the three promotion approaches can single-handedly fulfill the requirements of a flawless promotion process in a complex environment. It is recommended that any form of authority simultaneously preserves democracy and accountability to its members (Lee and Cole 2003). There-

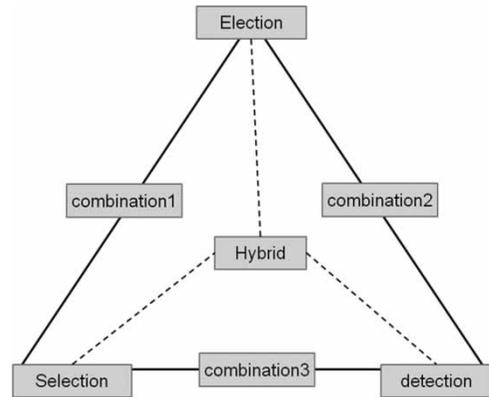


Figure 4. Promotion approaches in communities.

fore, some communities should adopt a hybrid process in which a combination of these methods is used (see Figure 4). For example, on Wikipedia, committee members are selected through a process of election by the community and appointment by Jimmy Wales (Forte and Bruckman 2008). The candidates must also have a certain amount of virtual capital, which is determined on Wikipedia by the number of posts and edits (Burke and Kraut 2008). This would not have been possible without a befitted reputation system to provide the necessary input data.

4 Conclusion and future work

A reputation system is an essential element of multi-tier production communities. They provide users with valuable information to assess their own performance and that of the others. They also help community owners to evaluate content and identify active users. Identification of active and committed users has two major advantages: first, their efforts are made visible to the community and this awareness of status has a positive effect on loyalty and participation. Second, particularly in multi-tier communities, this information can be used to promote users either in an automatic way, or indirectly by helping others when they have to select or elect privileged users.

While on commercial websites the focus of reputation systems has often been on building trust,

promoting quality, or facilitating member matching (Dellarocas 2010), in production communities, the emphasis is mostly on encouraging sustainable and high-quality contributions. In this paper, we studied reputation systems from the perspective of production communities. Our work was mainly based on the work of Cruz *et al.* (2009), Dellarocas (2010), and De Alfaro *et al.* (2011). We added two dimensions to the objective of reputation systems, namely increasing participation and facilitating promotion. We also accentuated the role of reputation points in assessing the virtual capital of users. Taking into account the downside of such subjective approaches toward calculating one's reputation, we argue that such systems can be used to facilitate promotion processes in multi-tier communities. We summarised the findings into a design framework that consists of generic design elements of a holistic reputation system.

There are several issues that need to be addressed in future works. One important issue is the impact of the lifecycle of a community on its reputation systems. The success of a community depends on what features are introduced when (Iriberry and Leroy 2009). The interdependence of lifecycle stages and design features holds true for reputation systems as well. For example, showing top users (leaderboards) based on their absolute virtual capital might positively influence participation in early stages of a community, but not when it has matured. Another issue that needs further scrutiny is the effect of reputation systems on different tiers (ranks) of a community. We argue that in communities with a multi-tier (multi-rank) structure, the effect of the outcome of a reputation system is distinct for each tier. If this hypothesis is valid, then thinking of a dynamic reputation system with different outputs for different tier of users is possible.

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Notes

- ¹ In this paper, the term 'community' is used as a short form of 'online community', unless otherwise stated.
- ² The effect of leaderboards may vary depending on the lifecycle of a community. For example, Lerman (2007) argues that eliminating user top list (leaderboard) of Digg.com in its maturity phase did not seem to have any negative effect on participation.

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