Graffito: Crowd-based Performative Interaction at Festivals

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Abstract

Crowd-based events are generating new forms of crowd-based performative interaction. Nightclubs and festivals are at the cutting edge of crowd-based interaction with ubiquitous computing. The social capital of crowd-based interaction is not well understood and is usually limited to one-off events. Our intention is to explore the possibility for generating a lifelong contextual footprint of crowd-based performative interaction. In this paper, we present and discuss two case studies of designing applications for crowd-based performative interaction at two large-scale festivals and reflect on their implications for design.

Keywords

Performative interaction, crowds, contextual footprint, festival, graffito, graffiti, iPhone, iPad, iPod, mobile

ACM Classification Keywords

H.5.2 [Information interfaces and presentation (e.g., HCI)]: User Interfaces, H.5.3: Group and Organization Interfaces

General Terms

Design, Experimentation, Human Factors, Performance.

Introduction

Increasingly, nightclubs and festivals are becoming a playground for exploring cultural and social issues related to human-computer interaction [12-14]. Dance music and clubbing websites such as *Don't Stay In* [6] provide web portals for encouraging social interaction among clubbers; participants can for example, upload photos or share information about upcoming or previous events. However, participation mainly happens online through content generated by individual users.

Likewise, innovative uses of technologies at festivals engages participants in a collective experience. For example, a silent disco is a disco party without traditional speaker system, instead relying on the use of wireless headphones and an FM transmitter to deliver the music to participants. Those without the headphones hear no music, giving the effect of a room full of people dancing to no tune.

Our interest is in turning the focus back toward the crowd - before, during and after events such as festivals by giving participants tools to generate crowd-based performative interaction during the festival. In this way, we create an evolving digital footprint of crowd-based performative interaction over a series of events and beyond, thus breaking down the conventional spatial and temporal boundaries of crowd-based events. These digital footprints [cf. 9] form integral and interconnected elements of our *lifelong contextual footprint* - a digital trail laid down throughout our lifetimes which reflects our "patterns of interaction with new and existing services, the contexts within which we choose to use them, and ultimately our reactions to them" [8].

In thinking about designing for the lifelong contextual footprint, we need to consider: What tools need to be in place before the event takes place? How to does performative interaction happen in crowds during the event? What tools are available for replaying or contributing content after the event has occurred?

To help answer these questions, we build on existing models of performative interaction [1, 5, 12-14], models of mutual engagement [4], analysis of spectatorship and crowds [10, 11] and tangible souvenirs [3], to inform the design and evaluation of new forms of crowd-based performative interaction.

Background

Our collaborative research comes from our belief that the festival context is a fertile ground for experimentation, innovation and creativity [12-14]. Our intention is to complement the aesthetic of the festival and to entice people into crowd-based performative interaction so that they may experiment, create, share and replay their experience for themselves and others.

A key element of interaction at festivals is performative interaction [1, 5, 12-14]. Performative interaction focuses on the often shared, anarchic and spontaneous play found in improvisation - it is social in nature, and happens anywhere, for any duration. Like street theatre, the audience and participants comprise of the people that inhabit the space at that particular moment in time and as such the narrative structure is emergent [2] and evolves in real-time as new participants are drawn into and become part of the performative interaction themselves. This drawing in of participants involves "wittingness" [1, 14], a key 'payoff' moment for bystanders as they engage in making sense of

others' use of the interface. As such wittingness is a crucial feature of performative interaction thus making it an ideal domain for exploring the issues about how to design for situations in live, public events such as festivals, where interaction is spontaneous, emergent and improvised.

Recently, examinations of interactions in public settings [10], has expanded to uncover the ways in which crowds are engaged in shared experiences [11]. The crowd itself is considered a distinct interactional unit and highlights the need to support crowds being *crowds* – for example, synchrony, timing and the physical and verbal ways in which crowd members make 'offers of participation' ensuring that their actions are observable and openly collaborative for 'strangers' in the crowd (e.g., chants, songs, Mexican waves). A critical component for thinking about the lifelong contextual footprint of crowd-based performative interaction is in how crowd-ness is expressed during the event via the use of shared objects [11] to offer distant members of the crowd to engage in shared, collaborative action (e.g. horns, flags, etc.) and how this engagement persists between events.

Our intention is to use case studies to analyze the shared, collaborative action in crowds using measures of mutual engagement [4]. Mutual engagement occurs at points of group flow - when participants are engaged with each other and with their joint product. It is the moment-by-moment inter-personal interaction that sustains performative interaction, and is indicated by repetition and building on of one another's contributions. It is not merely the quantity of co-interaction that indicates mutual engagement, but

primarily the quality of the inter-relationships between participants' contributions.

With these points in mind, we set out to develop a system which would allow us to log and analyze points of mutual engagement in crowds who were expressing performative interaction in public settings through the use of shared objects. We describe our system in the next section.

System

Using design guidelines from previous studies of performative tangible interaction particularly for the festival context [13], we developed a system that was intuitive, unobtrusive, enticing, portable, robust and flexible. We named our application *Graffito*.

Figure 1. Graffito iPhone App.

Graffito[1] [7] is a multi-participant drawing application developed for the iPhone, iPad and iPod Touch that allows anyone to draw with anyone else, anywhere in the world (Figure 1).

The application allows participants to draw digital graffiti in real time on a mobile phone by drawing on the mobile phone touch screen with their finger. Since

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[1] Graffito iPhone App is © 2010 NBK.

the mobile phones are networked together, multiple participants can draw graffiti at the same time. The drawings slowly fade out over the period of one minute, aimed at encouraging quick, lightweight contributions, providing continuous interaction opportunities, and reducing the amount of combative drawing. Participant data is logged on the server including date, time and location (Figure 2). The data can be played back at a later date for further analysis.
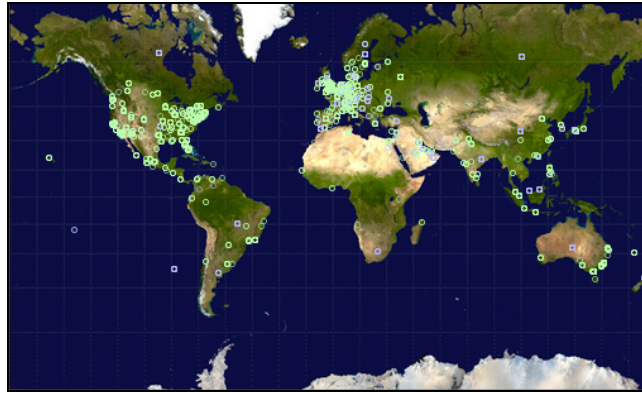

Figure 2. People connecting around the world.

In this paper, we describe the use of Graffito at two large festivals. At live events, Graffito can be run on a local wireless network, meaning that the large scale 'digital graffiti' shown on the public screens is created by people physically at the event (Figure 3).

Figure 3. Graffito on a 30-foot LED screen at Vintage@Goodwood.

As well as allowing finger painting, Graffito has a 'Dance mode' which lets participants dance around with mobile phone in hand or pocket so that their dance moves are visualized on the public display. Participants are free to choose whether to use Drawing or Shake mode. Shake mode was designed with hands-free operation in mind and for low-mobility participants.

Additionally, participants can choose to change their brush type and colour or to take a snapshot of their crowd-generated graffiti and then uploaded the snapshot to a social network site of their choice, such as Facebook™ or Flickr™ (Figure 4).

Figure 4. Graffito interface for choosing colour and brush.

Participants can also visit the Graffito site before, during or after the event to download the application to their personal mobile phone, or to replay drawings from previous events, view other participants' contributions or to contribute snapshots or video.

In addition, we designed an activity for creating an in-situ physical account of the digital activity at the live events using a self-publishing system called Bookleteer [3]. Using the snapshot feature of Graffito, participants could capture screenshots of Graffito in use and print them out using a mobile photo printer (in our case, Polaroid PoGo™). The printed images (which have an adhesive backing) could then be stuck into the Bookleteer sketchbook to make up a book of images of Graffito in action. Our intention was to then post the sketchbook online as a PDF file for anyone to download, print out and make up for themselves – thus offering participants the opportunity to own a physical publication as a 'tangible souvenir' of their experience

and extending the festival experience beyond time and spatial constraints.

Participatory Crowd-based Installations

Our first installation occurred at Vintage@Goodwood (V@G) a new festival in the UK which fused music, fashion and design to celebrate "everything that is great about the British creative industries" [16]. Approximately 10,000-15,000 people per day attended the ticketed event, many of them dressed in costumes ranging between 1920s and 1980. All of the tents were themed by decade. Our installation took place on the festival site in an area called the Warehouse - an industrial-style abandoned warehouse from the 1980s. The Warehouse was open from 2pm – 2am for three days. We ran the installation at least 3 times per day for approximately 1 -2 hours: in the early afternoon, in the late afternoon, and once at dusk.

Our second installation occurred in Tent Digital at Tent London, London Design Festival (LDF) a well-known international design festival [15] which draws approximately 20,000 spectators per year. Unlike our first installation, our equipment was set up front of house. An ultra short-throw projector was positioned inside a low-lying plinth on the floor a few feet away from a 250cm wide white projection wall. The ticketed event was open to the public from 10am – 8pm for four days. We ran the installation for the entire duration of the event: 10 hours per day for four days.

A video of our installation is available at: http://www.vimeo.com/15880103

Acknowledgements

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