

Configuring the 15 second dancers: distributed creativity in design for postdigital media

(draft)

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introduction

Two videos, each 15 seconds long, low resolution, shot with a handheld smartphone camera and each features the same jaunty instrumental music track. One shows a group of young people who burst into a dance routine that fits perfectly to the 15 second format, a routine captured by the smartphone camera that tracks its brief but carefully choreographed movements (**fig.1**). The camera tracks along a covered walkway, between lines of dancers in matching sweatshirts as they kick their legs high and pirouette in perfect time as the camera passes between them.



Fig 1. Early DanceTag choreography, South West England.

The second also features playful and performative movement, but this time the camera is in a shaky but more or less fixed position, close up to a hand that moves and swoops around to music, first and index finger pointing down vertically and moving to evoke a pair of dancing legs (**fig.2**). The phone camera is held low, close to a tiled floor or ledge and people can be seen walking past in the background, in what appears to be a museum space.



Fig. 2 Anonymous finger dancing, New York.

The videos are two from the several hundred uploaded during playtests of DanceTag, an experimental mobile phone dance game developed and tested from 2013 to 2014. They are evidence of an everyday and playful creativity - dance and movement - facilitated and encouraged by the app.

My research interests in this project concerned design for creative behaviour, and more specifically playful behaviour. That is, how aesthetic, cultural, and technical decisions taken throughout the design, development and testing of digital media platforms, software and

devices interact with each other in the process of anticipating and shaping their future playful behaviours and creative events. In the case of DanceTag, my question from the start was how a putative, rather nebulous, notion of a new audience for the dance sector might be attracted, constructed, or more precisely, *configured*, through the design, prototyping, testing and iteration of a game. I take the notion of configuration from Science and Technology Studies, and will employ it to explore the integral role in the achievement of creative projects and behaviour of nonhuman (technological, environmental) actors as well as human designers, producers and users. Throughout I aim to decentre the prevailing notion of creativity as a wholly human attribute and capability, and instead explore its achievement through networks of people and technologies, bodies and devices, environments and infrastructures.

The DanceTag project set out to develop a location-based gaming app for Pavilion Dance South West (PDSW), a publicly-funded dance development organisation in the south-west of England. It was hoped that the app would help in PDSW's aim to encourage more people to dance and to reach people who wouldn't classify themselves as dancers to take classes or attend performances. The app would allow players to upload their videos to a microsite, view, share and rate others' videos, and challenge other players at tagged locations. Initially, the project team wanted to explore the ways in which an app might connect PDSW to young people and groups outside formal arts and educational institutions, and subsequent questions arose how it might facilitate the bottom up development of social networks around the arts and creative practices. The idea for the form of the app came from discussions within PDSW, and in particular two key starting points: that it would be locative in character, exploiting the GPS and camera functions of smartphones to mediate between dance practice and its immediate environment; and that it would build on the popularity of dance videogames such as *Dance Dance Revolution*, *Just Dance* and *Dance Central*. The challenge for PDSW was to engage young people in an area of the UK that has a relatively dispersed population and few large urban centres. Noting YouTube videos showing a bottom-up culture of dance and performance in streets and parks, and the fact that these performances were being recorded and shared from mobile phones, PDSW felt that a game or app might connect these dispersed and momentary activities into a sustained community and to the established dance cultural sector of dance groups, classes and performances. So a game was imagined that would bring domestic videogames out into parks and streets, through an innovative use of digital media and popular game forms. The project was developed through an application

to Nesta's Digital R&D scheme¹. I joined the project as the academic researcher, and my role was mainly as an embedded ethnographer or design anthropologist². along with the Bristol-based mobile games company Mobile Pie as the project's technology partner. Mobile Pie were interested in the opportunity to try out unconventional game mechanics that used player movement (dance), location-awareness, and that would rely on community activity and communication for its success.

The idea was quickly developed for a pair or small group of players to video each other performing a short dance or some kind of playful movement to musical accompaniment from the app. Players would then upload their dance to a dedicated micro-site, tagging its location. Other players can then watch and respond to uploaded videos, and challenge to compete based on these locations. For example, a player might decide that they can perform a better dance at a specific location—they upload their competing video and other players' feedback via a voting mechanism will determine which is the best dance. Or players could just play for fun, and - as we saw - play with the game parameters and the producers' expectations. Initially at least the production team were happy that modes of engagement might be serious, fleeting or flippant.

This apparent opposition between open or free creativity on the one hand and the constraints or parameters of technological devices and algorithms on the other is key, I will argue, to understanding how players (or users), and their future behaviours, are constituted or configured. The project itself started with a very open notion of its future players: it was generally accepted that they would be young people, but it was hoped that it might appeal across a wide range of actual and possible dancers, from those involved in formal groups and competitions, to kids dancing with their friends for fun, to those who would not consider themselves dancers at all. How might young people with their own dance / movement practices and cultures be addressed by an app, and – importantly – how can an app be wide

¹ Nesta is a charitable organisation funded mainly by the UK's National Lottery. Originally NESTA, the National Endowment for Science, Technology and the Arts, it aims to innovate across all these sectors through research, policy and practical programmes. Digital R&D was a three-year, £7M scheme to develop innovative uses of digital technology for audience engagement and new business models. The funded projects were collaborations between arts / cultural organisations, technology companies, and academic researchers.

² See Sarah Pink, Elisenda Ardèvol and Débora Lanzeni (eds). *Digital Materialities: Design and Anthropology*, New York: Bloomsbury, 2016.

enough in its appeal to attract a significant audience, yet structured enough in its gameplay and aesthetics (images, sound, etc.) to provide a strong enough structure to engage and sustain this audience? I was particularly interested in the extent to which I would be able to get access to, record, describe and theorise the roles played by technological agents in this design and testing process, notably production software and platforms, and smartphones with locative and video functions.

I found out much more however, from the particularly dense and nonlinear nature of the design and testing processes and the inseparably entangled nature of cultural and technical actors and forces. A concern with the conceptual and material nature of technical constraint, affordance, and facilitation came to the fore through the ethnographic material I gathered at project meetings and play-tests. The *temporality* of the design process became a central interest, and in particular the speculative or predictive dimensions of design for play. Along with ideas about the final product and the ways in which it will be used or played with, I explored the role of technologies, from digital devices to communication networks and social media, in the generation of an imaginative vision of a future device or system and the events and behaviours it will facilitate. A second aspect to this concern with the *time* of design is the shaping of the moment-by-moment unfolding of future play with the design artefact, game or system. Pleasure, expertise and achievement in both digital games and dance are predicated on the microtemporalities of rhythm, reaction and synchronisation. In the development of DanceTag, the precise timing of moments of gameplay - kinaesthetic moments anticipated and tweaked through the design and testing process - proved crucial to the overall operation and realisation of play.

Secondly, I argue, human designers are far from the only agents at work in the design and production of a playful artefact. This article will identify and account for some of the heterogeneous actors - human and nonhuman, artefactual, systematic, and environmental, material and intangible - that collude in the production of a playful system and its realisation as behaviour. Ethnographic materials recorded during participant observation of design meetings, programming and development, user testing and promotion document a nonlinear complex of constraints, scaffolding and affordances through production and consumption platforms, creative ideas, intransigent devices and communication networks, the commercial and technical environments of app retail, and the vagaries and innovations of the players as configured.

Initially, then, I imagined that my main activity would be the ethnographic study of the play-testing of the prototype app, exploring how movement, lived culture, location and technology come together in moments of play. But, partly by necessity (this would have meant very little activity by me until a working prototype was available) and partly opportunity (I had extensive access to and cooperation from the designers and other partners and their thought and working processes) I was able to engage with the design process itself, from the articulation of early ideas and sketches by all the partners through software design, technology prototyping, economic, technical and cultural dimensions and how they shaped discussions and decisions (**fig 3.**). So from how the game's future players, and their play, were anticipated and configured through to tests 'in the field' and to the online environment and behaviour of the app and its players.

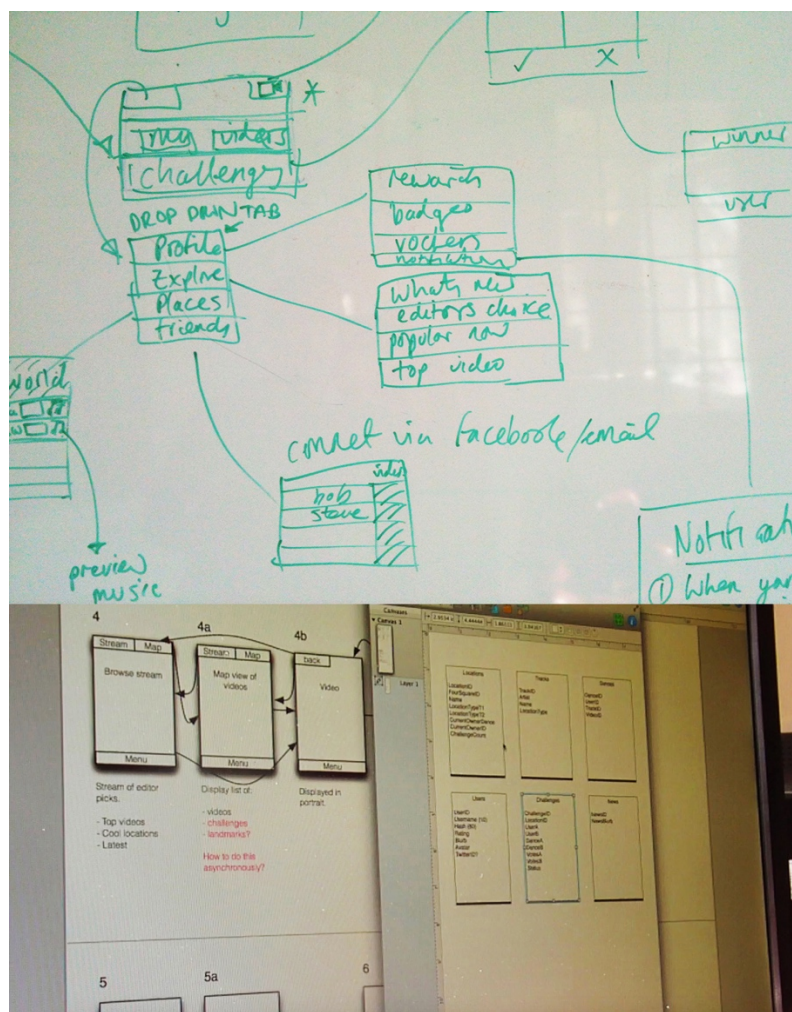


Fig 3. Designing the app structure from whiteboard to wireframe.

Looking back from the end of the project, after the reports were written³ and conclusions drawn it would be easy to see the whole process as one of the implementation and refinement of the initial ideas sketched out above into a coherent and operational game, one that to a greater or lesser extent fulfilled the promise of these early ideas. The process appeared to fit the pattern of flexible, agile and iterative design as set out by various game designers and writers on game design⁴, and the Mobile Pie team talked about their practice and approach in just these terms. That is, it progressed through stages of prototyping, testing, reflection and iteration. Yet from the perspective of a researcher embedded in the project, the process was a much less linear development - and less driven by clear decisions on the part of designers as might first appear. Rather, it was complex and tangled, with early decisions that felt almost arbitrary at the time establishing structural constraints that would resist or block future iteration and that would shape all other design decisions. What struck me in particular was the absolute inseparability of apparently discrete dimensions and trajectories of the project. Thus, decisions on the aesthetic appeal to audience (i.e what kinds of images or gameplay would attract or repel potential players by age range, gender, physical ability, cultural taste) were contingent on choice of technical platform (type of phone, networked services such as YouTube and FourSquare) and vice versa (**fig 4**).

³ Seth Giddings and Zannah Doan, *Pavilion Dance South West - Dance Video Game: Research and Development Report* (London: Nesta, 2015).

⁴ Mary Flanagan, *Critical Play: Radical Game Design* (Cambridge MA: 2013), Tracy Fullerton, *Game Design Workshop: A Playcentric Approach to Creating Innovative Games* (San Diego CA: Elsevier, 2004), Coleen Macklin & John Sharp, *Games, Design and Play: A Detailed Approach to Iterative Game Design* (Boston MA: Addison-Wesley, 2016).

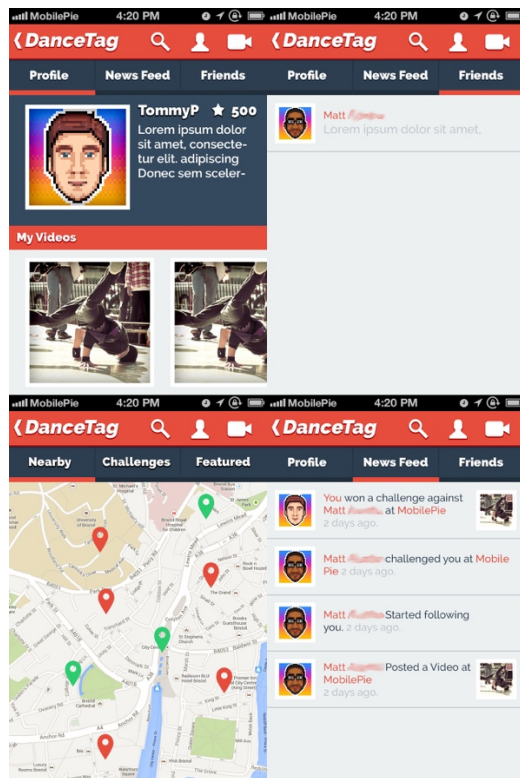


Fig.4 DanceTag and Foursquare

As Anne Balsamo argues, the design of technological artefacts and system is always cultural. Forgetting this and ‘continuing to bifurcate the technological from the cultural not only makes probable consequences unthinkable, but also severely limits the imaginative space of innovation in the first place’⁵. Whilst the cultural dimensions of aesthetics, taste, beliefs and everyday environments are perhaps more evident in design for play and popular culture than in the production of more instrumental and practical artefacts and systems, there can be a tendency to regard them as more or less distinct or autonomous even in entertainment technology. DanceTag demonstrates the always already inter-related and nonlinear relationships of technology and culture in design innovation. Thus, audiovisual aesthetic considerations are crucial in addressing and attracting a future audience for the game, but as the following example demonstrates, they are inseparable from the choice of, and the material affordances of, technical processes and platforms. Through the research then I came to realize that a fundamental shaping of the end user or player was taking place through the interaction of ostensibly non-technical *aesthetic* decisions and ostensibly practical decisions about *technical* form. Though early decisions about the form and look of the app appeared

⁵ Anne Balsamo, *Designing Culture: The Technological Imagination at Work* (Durham NC: Duke University Press 2011): 4.

primarily cultural, i.e. aesthetics and gameplay considered in relation to their appeal to an as yet only loosely imagined audience and social contexts for play, they were quickly sedimented into, and transformed by, their technical implementation and in particular by the selection of software platforms.

The role of speculation was central, particularly in the early stages: imagining how the game could be played, what kind of player might be intrigued by it, what kind of activities and behaviours would they want to engage in. This speculation was embedded into the emerging game as a technical system, with a series of points at which decisions were made that opened up some possible playful activities and closed down others. Each of these was inseparably technological and cultural: decisions about demographics - the kind of user we want to attract - were embedded or encoded into the project through the choice of software and hardware platforms, interface design, the deployment of music and video recording, and their reciprocal determination of the app's game mechanic. The implications of key cultural and technical decisions were markedly non-linear: they resonated with or interfered with each other in different ways throughout the duration of the project.

Two clear examples of this dynamic between the fixing or sedimentation into the material and kinaesthetic character of the game of speculative design and technical decisions are, firstly, the use of music, and secondly the persistently ambiguous nature of the project itself as it hovered between 'game' and 'app'.

Music was integral to this complex configuration. Music facilitates, invites, structures and sustains dance itself, and the choice of music was crucial in the appeal to young dancers. Along with the graphic design of the app screen, the choice of music is probably the most important decision in attracting a more or less specific group and age of players. Music was needed that would capture the attention in a few seconds, and would facilitate a variety of dance moves or styles. It should not be too complicated, but have a rhythm or hook that would immediately spur bodies into movement. Dance music in itself can be regarded as a technology, an affective environment and more or less programmatic and rhythmic set of instructions for kinaesthetic performance. However as a design issue, the choice and deployment of music came up against the technical possibilities of smart phones and their tiny (and tinny) speakers, raised issues of copyright and intellectual property - and hence systems of payment or voluntary creative production, and early decisions reverberated

throughout the production process as they in turn affected the ways in which platforms such as YouTube could be used, and the very nature and duration of the future dances themselves. For instance, an early decision to make a competitive game set in play interactions between music choice and technical factors in interesting and challenging ways. For dancers to compete from different locations or at different times, and for others to judge them, the music needed to be standardized, i.e. the competing dancers must dance to the same music for the same duration. This meant that the music had to be integral to the app, and the audio fed into the video as it was being shot. This had a series of inter-relating ramifications for DanceTag events. The need to have consistent pieces of music to allow the competitive dancing brought up production problems around the ownership and licensing of music, and at the moment of consumption it triggered frustration on the part of users who could not choose their own music, and had to dance to the 15 second tracks provided by the app. These tracks were provided by amateur musicians - the economics and feasibility of licensing popular and commercially available songs was discussed but not possible for this small-scale and low budget project. This proved a persistent criticism in play-testing from both serious and casual dancers. The former understandably wanted to choose music to suit their choreography and style, the latter regarding the app as an extension to their existing mobile and digital music culture, characterised by easy access to and selection from a wide range of favourite tracks and playlists.

This decision also channelled the range of possible playful and creative possibilities for the app in unanticipated ways. Some ‘non-dancers’ who helped test the game had neither the confidence nor the desire for performative dance. However they did imagine it as a party game, with co-located players engaging in competitive but simple or silly moves (along the lines of dance-themed videogames). However unless these playful and informal dancers were prepared and equipped to set up external speakers they could only use the phone’s integral speaker, which could not compete with the ambient noise of a party. As we found in a number of outdoor playtests the volume and quality of sound from a phone seriously limited the range and environment in which the app could be used. On the other hand, some of the ‘serious’ dancers appreciated and worked with the restrictions of the app’s music: its brevity and reliability meant that they could choreograph and thoroughly rehearse a routine before uploading a version they were happy with. Music use was tangled up in economic, legal, technical, physical / environmental and everyday cultural issues.

Again in retrospect, the fact that the team never quite settled on whether this was a game or an app is significant. This was rarely addressed as an issue, but it ran through the project and was partly due to the interplay of openness and constraint demanded by the aims and contexts of this particular project as experimental and playful: would rigid or complicated game rules restrict its appeal to non-gamers? The ambiguity was also driven by the wider cultural and industrial ecologies around mobile software and apps for everyday use and entertainment, a media environment that has emerged very recently and very quickly and which - though well-established now in its commercial and everyday operations - is still characterised by a flux in form, business model and everyday adoption. A key decision then, but one that was never fully addressed, much less resolved. More than a question of the convenience or conventions of naming media forms and platforms, it went to the heart of who was being addressed and how, what hardware and software platforms would be deployed, and what kinds of playful behaviours it would encourage and allow. Early ideas, particularly from PDSW, were for the app to have a strong videogame look and feel, with a game mechanic of location-based capturing of areas through playful dance performances. In design meetings a stylised hip-hop inflected street crew / dance battle aesthetic and game mechanic was discussed, with suggestions of narrative framing of a dystopian near-future city. The name DanceTag alluded to both locative tagging and the practice of marking territory through the hip-hop graffiti practice of tagging. Groups of friends would dance at a location, it was imagined, and upload their video through the app. The app would tag the location, and either claim it immediately for the group or present it to the wider game community to vote on which group should win the location. However this dramatic or narrative skin for the game was never developed, not through any clear decision to reject by the project partners, but rather because of the pressure to get a functional prototype up and running. As mobile game developers Mobile Pie were particularly interested in trying out ideas for social or community gameplay, a dimension of game / app design they had not had the chance yet to explore in depth. By the time the technical challenges of working across platforms, establishing data connections robust enough to upload video, and establishing an interface that clearly led the player through the stages of recording, uploading and viewing dance videos it would have been nearly impossible to strip the game back and rebuild it with a narrative or dramatic structure. Again, the abstract ideal of an iterative design process must tackle the material realities of temporal and technical investment.

This complex and nonlinear set of relationships between the identification (or more accurately, *imagining*) of an audience demographic and the techno-aesthetic decisions made to target (or more accurately, *configure*) it is one of the main concerns of this article. Identifying the taste and experience of a particular audience demographic is only part of this. In this case young people (never spelled out, but mainly mid to late teenagers), initially at least located in the south-west of England, so most unlikely to live in big cities, most already interested in dance - either through everyday dance with friends or some kind of formal club/class involvement. As an online and downloadable game, the potential audience was of course completely open and the project team kept this in mind. This in fact is a good example of a common design dilemma: how to balance an appeal to the widest possible audience whilst not alienating the core demographic without whom the game would not achieve any traction. From initial sketches of the broad categories of age and gender the project team, particularly PDSW, were concerned with how the audience would be understood, and would understand themselves, as *dancers*. Would these be serious dancers and if so what context? Formal jazz and ballet, or street dance? How to appeal too to young people who would not call themselves dancers? Or what about non-dancers who might just play around with friends at a party or in a park? This would turn out to be a fundamental challenge for the project, but in the early stages it seemed to be just a question of tweaking the graphic look of the game and its mechanic.

With hindsight, an early event now seems prophetic. PDSW asked a young Bristol-based hiphop street dance crew to help them with promotional videos and feedback. The group were happy to help and played with a very early prototype and posed for promotional photographs (**fig.5**). In discussion afterwards though they were clear that whilst they were happy to play around with such an app and lend their image to its promotional material, they would not use its planned full performative and competitive functions themselves. They already had their own YouTube channel and carefully managed social media presence - this game would not allow them the control over music, editing, image quality and sharing that their other platforms did, and its playful framing would detract from their serious performative practice and reputation. Again, technical, gameplay and cultural factors are inseparable: for many serious cultural practitioners from street level up the social networked mediation of their practice is fully integral. These are media practices and social media practices as much as dance performance, and technical factors such as editing, image resolution and audio quality are as important as choreography, performative skill and self-

expression. It became apparent that for many young dancers, their dance practice was already thoroughly digitally mediated and inseparable from the ludic and performative affordances of video sharing and social media.



Fig 5. Testing and promotion with street dancers.

To an extent then the wariness of this hip-hop crew is salient evidence of the applicability of a ‘social shaping’ approach to studying technology in everyday life⁶. The success of any new device or platform is dependent at least as much on its symbolic, cultural and social operations as on its technical efficacy or the predictions and projections of its designers and marketers. In this case a piece of playful software was designed in the hope of appealing to a particular group (amongst others) and did in *some* technical and operational terms, but could not find a place in that group’s subcultural performative and promotional milieu. It addressed them effectively as ‘location-aware’ dancers, performers for whom video recording and mediation is central to their practice, but not as serious actors in an emergent self-promotional social media environment. Video documentation and dissemination online for them is performative but not *playful* as such: it is how reputations are built and managed.

⁶ Judy Wacjman and Donald A. Mackenzie, *The Social Shaping of Technology* (Open University Press: 1999).

This three-way tension between imagined audience, choice of technical platform and parameters, and actual lived cultures of play and performance manifested differently across the various groups we play-tested the prototype with. Different groups responded positively to different features and possibilities. A class of undergraduate media students were intrigued by it and enjoyed playing with it, but in ways, again, that are specific to their own technocultural experience and expertise. They would not call themselves dancers, as any dancing they do engage in would be at parties and clubs, for social and personal pleasure not for the performance of creativity or expertise. They did however regard themselves as media producers and responded with interest to the tight constraints of the app as a playful video-making tool. The videos they made demonstrated an interest in location and visual environment, here exploring their university campus for suitable places to use the app, and in camera position and movement, aspects that connected with their own experiences, interests and technical aptitudes (**fig.6**). Compared to the formalised dance group mentioned at the start of this article, for whom the progression, variety and skill of their group dance is the focus, for these students their dances (whilst charming in their own way) were secondary to - even a pretext for - their creative and educational investment and expertise in the analytical testing of media platforms and aesthetic / technical use of video technology.



Fig. 6. Testing the app with media students

So, unsurprisingly, formal dance groups responded most closely to the producers' *imagined* future of the app. Videos shot and uploaded at a number of dance events organised by PDSW, or with which they or partner organisations were involved, feature a variety of dances from the impromptu to the imaginatively choreographed, but all of which can easily be accepted as *dance*, and dance with an advanced level of expertise. Tracking the operation of the app online after it was released through Google Analytics, we found marked and very localised spikes in activity - nearly always at or immediately after these organised events (**fig.7**). At the other end of the spectrum we found a significant number of videos featuring less 'professional' dances: some along the lines of those of the media students, others apparently rehearsing a limited repertoire of vernacular moves as much to test (or play with) the app as to enjoy the dance or perform for a local or online audience. Many videos featured playful and performative movement but not *dance* as commonly and professionally understood. The 'fingers' video mentioned at the start of this article is an example of this, and one of many similar 'dancing fingers' videos uploaded. Others include a video in which the camera is moved backwards and forwards, in time to the pulsing music, into the face of a disdainful-looking cat (**fig.7**). As well as testing out the DanceTag system, this video might well be a playful allusion to the ubiquitous trope in popular playful media production for social media - the cat video. It could be either a playful testing of the app or a gently resistant inversion of its performative entreaties. Others involved a similar back and forth movement but to a large poster of a giraffe's head, coupled with a side to side rocking motion, the animal seeming to dance through the motion of the camera (**fig.8**). One particularly dry meta-level video captured small bronze sculptures of dancers in an art gallery vitrine, both camera and object static but a video of 'dance' nonetheless (**fig.9**).

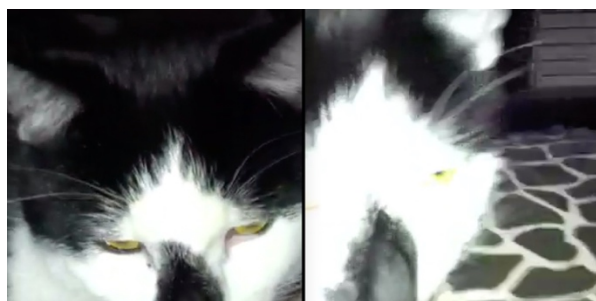


Fig. 7 Dancing camera, static cat.

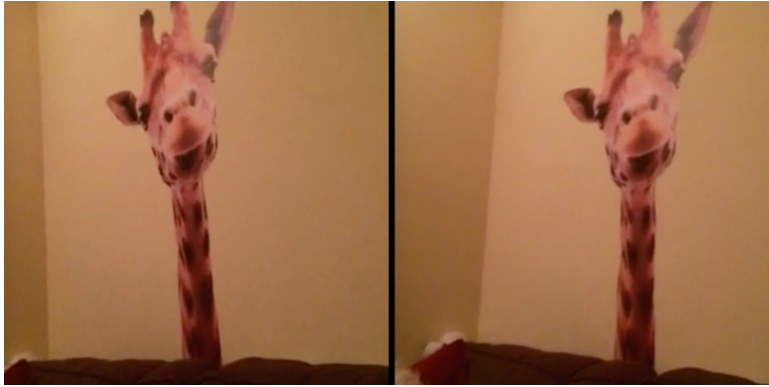


Fig. 8 Giraffe in motion.



Fig. 9 Video dance.

These videos that stretch both the definition of dance and the clear aims of the app / game are scattered in time and space, a fascinating map of the spatio-temporal dynamic of app distribution, testing, and (more or less) adoption. The locative dimension of the app was widely used, tapping in, perhaps, to its wider audience's general experiences in and practices of social media tagging and 'checking in'. Surprisingly it was the least expected videos that demonstrated the most consistent address to location. A user sightseeing in New York, uploaded an innovative sequence of dancing fingers at the Rockefeller Plaza, by sculptures in MOMA and so on. The competitive / territorial dimension of the app as a game never took off however. The reasons for this are as tangled as everything else in this project, but the

particular challenges of designing games or other communicative media for a social media environment were central - I will return to this.

Neither the widely accepted understanding of design as the targeting of an audience's *need* with an innovative *solution*, nor the 'social shaping' model of technoculture is fully adequate for the complex and nonlinear relationships between ideas, technologies, and dancing, playful bodies that I tracked through this research. Each of these approaches is predicated on a fundamental separation in time, space, agency and ontology between designers and producers, technologies of production, prototypes and finished artefact, and the end users or audience. The DanceTag project demonstrates how technical, aesthetic, gameplay and demographic decisions are inextricably tangled throughout the circuits of design, testing, iteration and dissemination. It also suggests that the user, player or dancer is less a pre-existing entity waiting to pick up and test, adopt, adapt or reject the game, and more a speculative figure constructed or configured by it.

To explain this I will firstly address an alternative understanding of technology and culture in design, production and everyday life, and secondly explore the particular role of *play* in technoculture. Like the design process, a collaborative research project begins with a sketching out of ideas, the making of decisions on disciplinary platforms, a tentative plotting of conceptual terrain and an anticipation of future trajectories and outcomes. I approached the writing of the research section of the Dancetag project with the concept of *configuration* in mind from the start. Configuration has proved a productive term in critical attention to the development and design of technical systems in Science and Technology Studies. In his influential article 'Configuring the users: the case of usability trials', the sociologist of technology Steve Woolgar set out the argument that users themselves are configured by the technological design and production process, just as much as the devices and systems themselves⁷. Or, more precisely, users and systems are reciprocally produced or manifested by the production process. The term 'configuration' has everyday technical connotations, particularly in relation to digital technology, that complement and extend notions of design as a primarily aesthetic or intellectual process: we configure the settings on a tablet or laptop, on a monitor or in a videogame. Rather than the production of discrete and finished object,

⁷ Steve Woolgar, "Configuring the User: The Case of Usability Trials," *Sociological Review* 38, no.1 (1991).

configuration implies a system of parts and variables that can be adjusted or recombined to plug into everyday activities and existing media environments. Configuration necessitates play in the broadest sense of the word: a flexibility and manipulability in both the anticipation of future use and users and those users' adoption and adaptation of the object in their everyday environment.

Woolgar's study is based on participant observation at a computer company of the production and marketing of a new home computer. In the late 1980s the IBM-compatible personal computer had yet to be established as the near-ubiquitous standard for domestic computing, and so the design of domestic and educational computers - or microcomputers ('micros') - was a markedly open-ended and speculative venture. The design challenge was to establish a stable and popular platform, rather than today's tweaking of well-established architectures for consumer niches. Moreover in those largely un-networked days, the very reason for buying a home computer was ambiguous and required a great deal of imaginative projection on the part of the producers and marketers to attract buyers beyond hobbyists and computer enthusiasts. The micro might be a machine for managing home finances or encouraging children to learn information technology for instance, or, more successfully, as devices for playing computer games⁸. For all the radical changes in digital culture over the past thirty years, significant underlying aspects of this design process and its analysis resonate with the design and dissemination of digital and mobile devices and systems today. As then, a rapid upgrade culture demands persistent attention to the material demands and possibilities of new platforms and components and a constant analysis of and appeal to target demographics. Moreover the particular flexibility of digital technology, first challenging consumer production in the 1980s, persists. As 'universal machines' what functions should producers include and for what reasons?

That digital devices are an assemblage of discrete components and connections to diverse communication networks is clear in a desktop PC with its replaceable graphics cards, wifi hardware, upgradable monitor and so on. Less so in the sleek and sealed smartphone, but still evident in its screens of app logos signalling the bundling together of once distinct technologies: camera, compass, clock, games, maps, network connections, and of course

⁸ see Martin Lister et al, *New Media: A Critical Introduction* (London: Routledge 2009): 237-307.

telephone. Each of these components not only offers particular functions (though these often open up new and unexpected possible functions in themselves), but also - importantly - demands of the future user the corresponding technical competence. By technical I mean bodily techniques as well as a cognitive grasp of digital components and applications, the ability to swipe a touchscreen or orientate oneself with an accelerometer or GPS enabled app must be also be learnt and embodied. This attention to the role of bodily techniques becomes key in design for playful technoculture.

For Woolgar then the choice and configuration of components for a new computer is also 'the configuration of the user'. This configuration does not simply provide a clear, existing user with a device that meets existing needs, rather these anticipated uses, and the technical means for realising those uses, are *productive* of their future user. As he puts it, the

design and production of a new entity [is] a process of configuring its user, where 'configuring' includes defining the identity of putative users, and setting constraints upon their likely future actions⁹.

Thus the user is configured rather than assumed or anticipated, and clear conceptual distinctions between users and artefacts, subjects and objects, are weakened: 'as a result of this process, the new machine *becomes* its relationship with its configured users'¹⁰. It is the *relationship* that is central here, the *becoming* is the object of study. It is important to note then that this configuration in the field of media entertainment technologies such as videogames is not just the operation of ideas and aesthetics, of cultural positioning and identity formation, though these are also key dimensions. Rather, the technological choices have *material* ramifications for what the user can do, who the user will be. On one level this is driven by technical constraints: a computer without networking capability generates a solitary not social user, whereas with real-time interactive graphics and sound a *playful* user can be configured.

⁹ Woolgar, "Configuring the User": 59.

¹⁰ Woolgar "Configuring the User": 59. (My emphasis).

Others have extended the operations of Woolgar's configuration to address the reciprocal configuration of new devices and systems by the users or consumers they configure¹¹, or adapt media studies theory and audience research to pay attention to the activities and feedback, ideas and cultures of these users¹². Mackay et al note the multifarious actions that are grouped together under the term 'configuration,' 'defining, enabling, constraining, representing, imposing and controlling - which are all very different from one another'¹³.

This configuration works at a number of levels. All design decisions entail the deliberate or inadvertent inclusion and exclusion of possible users. We have seen how DanceTag's removal of control over editing, sound and online distribution for game mechanic purposes effected the cultural de-configuration of a street dance crew. For mainly practical reasons, Mobile Pie decided to release the app on Apple's AppStore first, meaning that any owner of an Android device was simply not configured in any way. Owners of Windows phones or Blackberries (at the time very popular amongst young people in the UK, particularly girls) could not easily become DanceTag dancers, they could only be configured as spectators, or collaborators with iPhone-equipped friends. On the other hand the PDSW team worked closely with associated groups to test and adapt the app for deaf and hard of hearing dancers and for those on the autism spectrum.

As the user is configured just as much as the device, clear conceptual and material differences between human subjects and artificial objects are weakened: again, the new machine becomes its relationship with its users. Though Woolgar doesn't spell it out, surely the obverse of this holds true as well: the configured users become their relationship with the new machine. It suggests an attitude or orientation that is fruitful for the study of the design of playful technologies in particular: it is the mesh of relationships between design and event, designer and system, system and player that is key here, what I have called *collusion*, the coming together of heterogeneous components in, and constituted by, play¹⁴.

¹¹ Nelly Oudshoorn & Trevor Pinch, "How Users and Non-Users Matter," in *How Users Matter: The Construction of Users and Technology*, ed. Nellie Oudshoorn and Trevor Pinch (Cambridge MA: MIT Press, 2005).

¹² Hugh Mackay, Chris Carne, Paul Beynon-Davies and Doug Tudhope, "Reconfiguring the User: Using Rapid Application Development," *Social Studies of Science* 30, no.5 (2000).

¹³ Mackay et al, "Reconfiguring the User," 752.

¹⁴ Seth Giddings, "Events and Collusions: A Glossary for the Microethnography of Videogame Play," *Games and Culture* 4, no.2 (2009): 144-157.

The playtest with media students mentioned earlier exemplifies this notion of the (future) playful event as the mutual becoming of the (playful) technological system and its users or players. Though their testing of the app lasted only a couple of hours, it is evident from the video that in that even this short time firstly that they *were* configured as dancers (albeit not as the type of dancer the project anticipated and designed for) and secondly that DanceTag's instantiation in the testing was itself a configuration. The app, along with the educational setting of the playtesting, and the students' willing and playful attitude, came together as dancing and video recording bodies - both human and smartphone, software and network connections environment (lecture theatres, social space of the refectory, a collective willing 'lusory attitude', and so on). The students' cultural experience and taste, kinaesthetic expertise and pleasures (i.e. dancing), social environment, architectural and institutional space, infrastructural ecology (e.g. location and strength of wifi signal), and the vagaries of the prototype app came together - and became together.

Understanding the contemporary technological landscape for digital and postdigital play requires critical attention to the various platforms available to designers and developers. The assemblages of human and nonhuman agents and systems that constitute contemporary technoculture are at key junctures organised, articulated and facilitated by open-source and proprietary software and hardware environments and standards, from the consumer-facing Android and iOS smartphone operating systems to social and locative media such as YouTube, Foursquare and Facebook to platforms for designers and technologists from game design middleware to the Amazon Cloud Services adopted by Mobile Pie to underpin Dancetag's development. Some of these platform choices had immediate implications for the speculative future of Dancetag. Foursquare was chosen to facilitate the game's location-aware functionality. Foursquare is a free and robust platform with a now clear and familiar interface and conventions of mapping, location tagging, social media sharing and a gamified mechanic of locational 'capture'. It also inevitably shapes the nature of the locative experience though, for example flagging up (or pinning down) businesses and landmarks, over – say – natural features (trees, rivers), and its gamified dimension offered a wide channel down which to direct the anticipated trajectory of the gameplay. This choice inevitably shaped future behavior in both clearly-defined and more complicated ways. It anticipated and hence configured a set of players willing to locate themselves in different places in order to play. This is not a surprise: from the start the game was always going to be

location based, but the use of Foursquare in particular threw up all the possibilities of a gamified structure for engagement, both as a concrete platform and as a set of now familiar semiotic, social, commercial and organisational conventions: from GPS location / mapping and ‘pins’, the flagging up of businesses to the innovations in social media and gamification epitomised by ‘check ins’ and the winning of ‘Mayor’ status at frequently visited locations. Foursquare’s gamified dynamic of collecting locations suggested or amplified that dimension of DanceTag into something that anticipated and engineered not only a competitive, geographically dispersed and mobile set of players, but also – more specifically – a gameplay dynamic of competing for and holding locations through dance (**fig.10**).

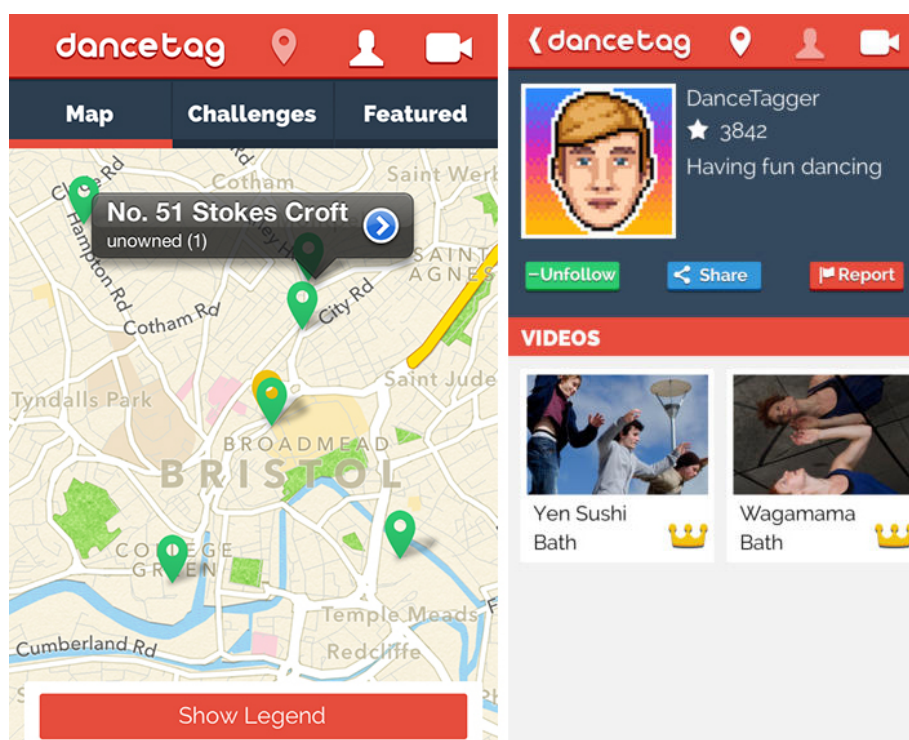


Fig.10 Locative dance interface.

That play itself is a necessary element or context for the configuration of a game event is self-evident. However from these playtests emerged a sense of the diversity of activities and attitudes that fall under the heading ‘play’. Thus we saw forms of play that ranged from in-the-moment pretexts for spontaneous playful behaviour to underlying cultural and social patterns and rituals of playful dance, and the channelling of these forms through technical platforms and game mechanics. Dance itself, whether serious or in the form of play with the device and software, is a socially-sanctioned alteration to everyday work-like behaviour,

requiring our playtesters to adopt a personal and intersubjective willingness to play, what Bernard Suits calls a ‘lusory attitude’¹⁵.

An example from a promotional event for DanceTag captures the importance of each of these conceptualisations of configuration and play. In Brighton on the south coast of England to showcase the prototype app at a digital festival, the production team and myself took to the streets to test the game and to assess public reaction to it. After a slow start, we found a number of very different people willing to test it. These included a group of eight women in town for a hen party. They were dressed in matching ‘I [heart] Brighton’ sweatshirts, and were happy to cooperate with our unusual request set up and bolstered, no doubt, by cultural and locational specificity (the hen party with its own rituals of dressing up, performative sexuality, alcohol-fuelled transgressive behaviour, the seaside resort promenade with its clubs, bars and beach). A collective playful choreography emerged almost immediately as they danced and pumped the air in a simulation of a nightclub or rave, even forming a circle around the handbags they placed on the floor in a jokey allusion to working class women’s nightclub behaviour. It soon transpired that the app itself wasn’t working - the music could not be heard above the traffic noise and the video wouldn’t upload due to poor network connection. This did not impinge on their performance, even the absence of music was not a problem as they quickly demanded that one of the testing team ‘give us a song’. He obliged with a simulated techno beat, pumping the air to set the rhythm. Here then the app served more as a pretext or catalyst for play, and the dancers themselves, configured by the mechanic of the game, if not its actual operation, played at dancing. This meta-dance, the shape and behaviour of the dance and dancers themselves, was driven more by other agents and aspects of the environment, not least the desire for, and culturally-legitimated opportunity to, play.

¹⁵ Bernard Suits, *The Grasshopper: Games, Life and Utopia* (New York: Broadview Press 1978).



Fig.11 Configural attitude: testing in Brighton.

For the hen party, technical shortcomings were more than compensated by the social technics of rhythm, friendship and liminoid ritual. The moments where the app broke down then are illustrative of its configurative operations. Another example from the Brighton trip captured a moment of game design and affective breakdown that demonstrates something of the subtle yet crucial relationship between technical design, embedded decisions, and embodied play. As noted, the video recordings were set at 15 seconds to facilitate the competitive game mechanic. The 15 second duration was arrived at early in the development process, honed down from 30, then 20 seconds. 15 seconds, it was felt, was long enough for accomplished dancers to choreograph a significant dance, but short enough both to keep the accomplished dance playful and the less confident dancer with a forgivingly brief timespan. It would also produce a relatively small video file size to minimise problems with uploading. However with playtesting it became clear that 15 seconds could feel like a long time, painfully long even, as it stretched the aptitude and self-consciousness of tentative dancers. For players whose dance experience was mainly social but non-performative movement in the low lighting and busy environment of a party or nightclub dancefloor, 15 seconds in the bright light of day, on their own - and on camera - was more than enough to expose their lack of performative confidence. One young art student out taking photographs was happy to talk about the idea of the app and offered thoughtful suggestions. We set the app recording and he began a simple movement in time to the music, swinging his arms back and then forward to cross in front of his body. Each full iteration of this movement lasted around a little under a second and so after 5 seconds or so our dancer was clearly feeling self-conscious at his repetitive actions. At around 10 seconds, painfully embarrassed, he swivelled on his heels, gave us a double thumbs-up gesture and the dance gestures flowed into his rapid departure.

Here technical, game design and affective mechanisms colluded in triggering an emotional and physical ejection from play.

The media students were similarly uncomfortable with the 15 second duration. They reported that they would must prefer a six or seven second window to perform a few playful moves, alluding to the Vine video sharing platform in which the strict seven second format has configured a global user-generated creative but fundamentally playful moving image format. For formal dance groups the 15 second duration had other, unanticipated, effects on play with and adoption of the app. Through field tests and online analysis we found that the most sustained use of the app was at day- or weekend-long dance events and festivals. Building no doubt on familiar cultural practices and technical affordances of popular app use, the young people would try out DanceTag in the interstices of these programmed events, in the time and space between and around their formal, rehearsed performances (**fig 12**). Like playing *Candy Crush* at a bus stop, the app facilitated playful, inconsequential activity in otherwise dull moments of hiatus. Though interstitial and momentary these dances and their videos were also the most persistent use of the online and social media dimension of the project. The online data collected through the app's microsite demonstrated that these videos were viewed and shared by the dance groups in the evenings and days after the events.

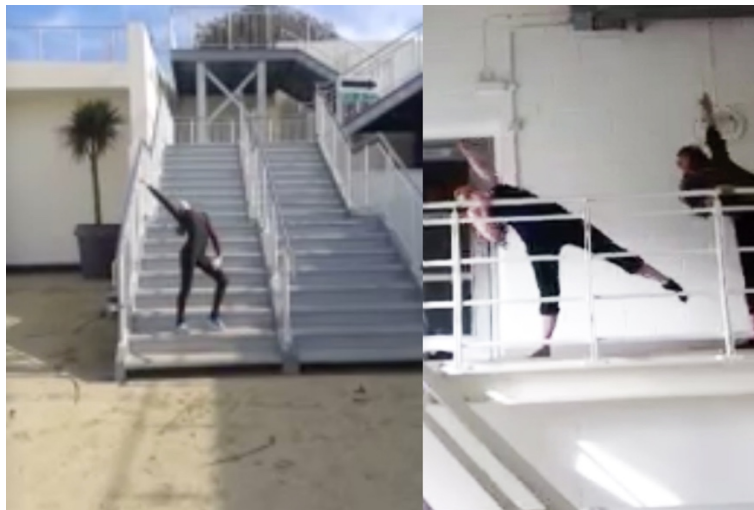


Fig.12. DanceTag in the wild: uploads from dance events in the South West

The automated time limit for video was necessitated by the early decision to facilitate a competitive game mechanic and a clear intention to shape creative behaviour and hence attract and hopefully retain a particular kind of (collective) player - the 'serious' group

dancer. What was perhaps impossible to know until field trials began was the effect these apparently straightforward decisions would have on the embodied and affectual configuration of some players, and conversely the de-configuration of others. This wasn't a case of game design simply not appealing to a particular set of potential players: it was a visceral and deeply felt ejection through the precise nature of technical parameters.

As mentioned earlier, the project retained throughout an ambivalence over whether it was primarily an app or a game. Whilst in some ways this distinction is trivial: games are a particular subset of apps in online stores and on the phone interface. In a rapidly changing digital and networked popular culture, the differences between an application with a game mechanic as its primary motive and one driven more by social media and / or locative connectivity have blurred. Though designed and promoted with the competitive game as its primary motive, the DanceTag team were keen to hold open the possibility for noncompetitive, social and experimental dance, what we might call 'playful movement' rather than dance proper. It seemed obvious from the start to include social media connectivity. Again the technical systems and devices facilitate this: an important part of the business model and infrastructure of YouTube, FourSquare and Facebook is to be open to and to encourage connections of many kinds between platforms. For game designers working in relation to social media platforms it is easy to add in sharing, voting, linking to other forums - in fact in some ways their inclusion can be easier than designing them out. Thus DanceTag was from the start a very different game to console dance videogames such as *Just Dance*, with its scoring and competition determined socially not algorithmically like the latter. This social dimension, and its social media-derived channels and conventions, necessitated an openness to a diverse range of playful and playfully communicative behaviour that go beyond the rule-based parameters of common understandings of the term 'game'. Social media is often characterised by frivolous or nonsensical communicative play between friends – more about a playful moment than about leader boards, expertise or sophisticated performances.

So it was both a game and an app, but there are structural, economic and social implications to which of these is dominant in its distribution and use. The sheer familiarity of social media forms and activity may have contributed to what in hindsight is I suspect was a significant oversight in this design process: a future that was assumed or hoped for, but that is in fact extremely difficult to realize. It led to a game the success of which inadvertently came to rest

on its ability to function as a social network platform, with all the intensity and scale this technocultural form requires. What wasn't acknowledged was that the online social media life of any game or community – particularly for young people – is not a simple gradual increase in numbers. It needs momentum and crucially a critical mass that will log in, participate, share and compete. The sheer amount of activity and critical mass of users needed for a self-sustaining social media community is the holy grail of any new platform. Players would have to be logged in regularly, have enough 'friends' also playing to make this checking rewarding or enough competitors to provide / provoke feedback. Apps with a social media dimension have a ruthless temporal economy of attention: unlike conventional videogames, they need to be upgraded and maintained, communities need to be fostered and responded to, and apps for young people require systems of scrutiny, safe-guarding and moderation. For a commercial app this ongoing activity and investment is funded by devices such as in-app purchases. This is not a model that our project had the resources to adopt¹⁶.

In this article I have tracked the development, design and individuation of an experimental game app. I have tried to articulate the relationship between the creativity of the design process and the resulting playful activities, whilst opening up and questioning the complexity of each of these as technocultural, configural phenomena. The temporality of the design process and of the playful events it configured have been of particular interest, from the iterative time of production and testing to the rhythms and durations of the playful and choreographic behaviour itself. There are questions here about whether dominant notions of contemporary design processes are fully borne out in ethnographic attention to them. The notion of iteration in particular can be seen as in tension with both the configural nature of technical decisions, and the configured but unpredictable character of the future players and future playful behaviour. It became clear that key decisions - such as platform choice - had

¹⁶ Low budget promotion and local events triggered bursts of enthusiasm and activity, but weren't enough to seed a self-sustaining system. This said, there were significant successes in terms of a proof of concept: it became apparent that it worked very well with different kinds of communities and in particular environments and cultural contexts. As a technocultural platform, the app afforded a lively and fun activity for young dance groups at dance events, to be played with between more conventional moments of performance and rehearsal, and plugging in to their social media lives in a more punctual temporality. It proved a productive and playful scaffolding for dance activity in and around this environment. It is not my role as a researcher to make predictions or substantial suggestions for the future of the app, but the testing so far suggests that a mix of local, dedicated activity with an online record and game layer, works well.

persistent effects that cannot be easily revisited or reversed. Similarly, the decision to make a competitive game laid foundations for all other decisions from type of music to interface to duration of video recording. To 'iterate' on any of these elements would have meant starting from scratch. Whilst a sensitivity to user experience and technical challenges - and the feeding back of these to the design process - led to a more robust and enjoyable product, this project hints at the limitations of the current design mantras of iterability and flexibility. Firstly, as set out above, because early technical decisions effectively determine the range of future possibilities, and secondly, because these possibilities must be realised in the unpredictable complexity of enmeshed cultural, technical and environmental forces, connections, spaces and behaviours. Against the tendency in accounts of creative design to valourise the agency of the human designers and their creativity and to dismiss technological devices, processes and systems as more or less arbitrary 'tools,' I would argue that these nonhuman agents are fully part of the complex and nonlinear achievement of 'creativity' in both design and configured use.

Finally this study has paid attention to the specific demands and characteristics of design for *play* – for entertainment, aesthetics, kinaesthetics, and hinted at a dynamic tension between configuration (of human and nonhuman collusion) and emergent, unanticipated playful behaviour. This tension is not adequately accounted for in the familiar binary in STS and design studies of constraint and affordance. Thus, whilst all design has an anticipatory dimension, effected through the setting in place of platforms and expectations, the tension is particularly vivid in design for play which requires, for games - rules, and for more 'open' play - some kind of scaffolding or armature, a certain set of resources, a playing space, temporality, and at least suggested behaviours, a matrix from which improvisation and or repetition can emerge through a balance between a zone of possibilities from rule-bound moves to free experimentation. And also the ludicrous, the resistant, 'playtesting to destruction'. From the 'app-free' dancing on Brighton promenade to the dancing fingers, cats and giraffe poster - the design and testing of this game tells us much about play within systems, play with systems during and after the design process.

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