

# The Role of Appropriation in the Design of Engaging Artefacts

Tom Flint and Phil Turner  
Centre For Interaction Design  
Edinburgh Napier University  
Merchiston Campus  
Edinburgh EH10 5DT  
[t.flint@napier.ac.uk](mailto:t.flint@napier.ac.uk) [p.turner@napier.ac.uk](mailto:p.turner@napier.ac.uk)

## Abstract

Creating engaging artefacts is a key objective for anyone involved in the design and implementation of interactive media. This is particularly true for those artefacts that comprise, complement and enliven modern museums. While recognising that engagement can take a number of different forms, appropriation appears to be the most pertinent here. By appropriation we mean people making an artefact their own, an observation we illustrate with details from an ethnographic study conducted at the Public (<http://www.thepublic.com/>). We conclude by observing that by empowering people to make artefacts their own is not merely an effective means of creating engaging artefacts but lies at the heart of user-centred design.

## 1 Introduction

With every passing year, people's expectations of interactive media rise whether these are of smart phones, the latest shoot 'em up, tablet computers or the latest installation found in a museum, galley or spontaneous happening.

The challenge for such public interactive artefacts is that the design needs to induce, entice, lure or beguile a prospective participant into wanting to interact with the designer's creation. Artefacts then, must be designed to demonstrate that a small investment in a user's time will be rewarded with a high level of engagement. This draw has been called fun (Blythe & Hassenzahl 2004), and hedonic stimulation (Hassenzahl, 2004). This focus on the hedonic is perhaps, the most recent challenge for creators of interactive products and is potentially a new paradigm for designers and users alike.

Engagement is immediate and visceral (Norman, 2004); users can appraise the appeal of a product in less time that it takes to twinkle an eye – or approximately 50 ms (Lindgaard et al., 2006). Having engaged a potential use, we feel compelled to interact with it (Turner, 2010).

This paper focuses on museum and gallery interactive installations and specifically on one interactive exhibit, namely Animo in The Public gallery West Bromwich. We will discuss appropriation and personalisation as important factors in sustained (as distinct from initial engagement) interaction. We will then consider details from an ethnographic study conducted at The Public, which illustrates the importance of appropriation in making an interactive exhibit engaging.

## 2 Appropriation

Appropriation usually means finding alternate uses for technology beyond those for which it was originally designed – a definition that Alan Dix describes as oxymoronic (Dix, 2007). Yet the very fact that we seek alternate uses is evidence of our engagement with the technology per se. Appropriation is to re-purpose, to re-configure and to re-work but more importantly it is to look afresh, to disclose new possible uses, or affordances (Gibson, 1986, Norman, 1988) and re-appraise their usefulness to us.

This re-working, or appropriation has found form in the growing interest in design for serendipity (e.g. Newman et al., 2002) and design for sustainability (e.g. Blevis, 2007); or the closely related interest in ensoulment. Further ‘do it yourself’ design (Blevis and Stolterman, 2007) and designing for hackability (Galloway et al., 2004) have found fresh momentum in recent years. Maclean and his colleagues have pointed out that there is a long tradition of interest in user-tailorable systems which can be dated back to such systems as the Xerox interface (MacLean et al., 1990) where its users were able to re-position on-screen buttons.

### 2.1 Light fingers

We can in turn locate this user-configuration within the even longer tradition of adopting, borrowing, stealing (as copyright holders would have it) and re-cycling in the arts. Music and voices are regularly sampled and re-produced in someone else’s musical piece. Picasso famously observed that ‘Bad artists copy. Great artists steal’ and by this reading he ‘stole’ from Delacroix and Velázquez specifically (Anglin Burgard, 1991), whereas Warhol’s (1968) famous “Campbell’s Soup” was prompted by his fondness for the soup and the appropriation of soup can labels.

TV series from the 1970 and 1980s are constantly being re-imaged, re-invented together with ill-fitting prequels. Movies employ pastiche, homage, allusion and may simply poke fun. And, of course, there is karaoke. Many forms of art frequently rely on appropriated elements. Art appropriates ideas, images, sound and styles from any and all aspects of natural and artefactual worlds. In essence, appropriation involves the creation of a new disclosive space.

However, our position is to propose that the appropriation of technology is a key expression of our engagement with it and occurs when ‘we make it our own’. This is, of course, an everyday occurrence – take a moment to consider just how much of the technology that we use was designed for us personally? The answer is almost certainly none, yet we happily talk about ‘my phone’ and we also (vehemently) distinguish between a work-issued PC, which we are happy for anyone to use, and our (work-issued) laptop that is mine and no one else’s.

Appropriation is not only about ownership but it is also concerned with customisation and personalisation. These processes of ‘making technology our own’ can vary from something as trivial such as customising the appearance of the desktop of a computer or the use of mobile phone ‘skins’ through to full blown personalisation which some

researchers have called 'ensoulment'. Ensoulment is the radical personalisation of technology as a means of expressing one's identity and has clear resonances with Ilyenkov's discussion of the ideal (Ilyenkov, 1977) as it is concerned with endowing technology with meaning and, perhaps, artefactual affordance. We are also appropriating when we re-use and care for digital artefacts, such interest has been described as sustainability.

A further expression of making technology our own is what Silverman and Haddon (1996) have called 'domestication' – a metaphor for the 'taming' of technology. Together, these different expressions of engagement offer a better reflection the original meaning of appropriation.

## 2.2 Making it our own

Personalisation is the process by which an artefact is endowed with greater significance by and for its user. Wells (2000) defines it as "the deliberate decoration or modification of the environment" and associates it with 'well-being'. Blom (2000) defines it as "a process that changes the functionality, interface, information content, or distinctiveness of a system to increase its personal relevance to an individual". All of which means that personalisation can take any number of different forms.

Blom and Monk (2003) have shown that personalising the appearance of an artefact has cognitive, social and emotional dimensions. Their account of personalisation was based on the analysis of three qualitative studies of the use of web-based personalisation in the UK; as well as Finnish mobile phone users and of the personalisation of home PCs, again in the UK. They describe the cognitive aspects of personalisation as improving ease of use, better recognition of the system and improved aesthetics; (though this might have reasonably have been treated as a category in its own right as the research was concerned with personalising the appearance of artefacts). The social dimensions of personalisation are concerned with reflecting personal and group identity. Finally, the largest category is the emotional effects on the user. These affective consequences include feelings of familiarity, ownership, control, fun, attachment, release from boredom and other positive attachments.

In contrast to this push-or systems-driven personalisation there are (at least) two forms of the user changing the appearance or functionality of a digital artefact. These changes can be trivial, expensive, evolutionary or revolutionary.

In addition to personalising the appearance and aesthetics of our everyday technologies we can also add functionality. Default games controllers can be replaced with more realistic (though plastic) sniper rifles for use in combat games. While Guitar Hero is a series of music 'games' in which players use a guitar-shaped controller to simulate playing the real thing. Other personalised controllers include skateboards, steering wheels boxing gloves and light sabres.

Personalisation is very clearly a source of pleasure and of fun. It is an expression of engagement with the artefact in its own right.

Taiwanese manufacturer HTC took personalisation to a new level as they released a mobile phone, the HTC Tattoo, which was marketed around the ability to design your own cover for the phone free of charge ([www.TattooMyHTC.com](http://www.TattooMyHTC.com)).

Personalisation also increases the sense of ownership of the artefact and allows people to express the aspirational, the playful and the gadget-loving sides to their sense of self. The design consultancy BERG<sup>i</sup> has worked with Nokia – the Finnish telecoms giant - to develop prototypes as a means of exploring the personalisation in mobile phones. They report that the project comprised three overlapping strands, namely, craft, hacking and mass customisation<sup>ii</sup>. They define craft as working with people who have specialist skills in the areas of making; hacking is combining the phone with other objects or ‘interfering with the phone functionality’; and they define ‘mass customisation’ as the means and materials available to local manufacturers for small scale production runs.

### **3 An Ethnographic Study in The Public**

The Public is a purpose built digital arts venue in West Bromwich, north of Birmingham in the UK. At the heart of the building is an interactive art gallery containing a number of permanent artefacts that were constructed with the input of various community groups. The building itself is a striking example of Will Alsop architecture, designed from inception as an interactive art space. Lead interactive consultants for the gallery were AllofUS (<http://www.allofus.com/>).

In the summer of 2010, The Public agreed to permit the first author to conduct an ethnographic study of the life of the building. The aim of the study was to observe the permanent exhibition in order to inform further study. The exhibits and their participants were observed across the period of a week, allowing an understanding of their use at varying levels of capacity.

The methodology of the study was necessarily loose. The main aim was to simply act as participant observer, volunteering help in any capacity The Public required. The permanent exhibition is laid out in space as a linear path and the study concentrates on finding areas of “breakdown” (Winograd & Flores, 1987, Wright & McCarthy, 2010). Breakdowns are noted and observed and a methodology will be developed to study them in detail at a later date.

Coincidentally, at the time of the study, The Public had taken on eight work placement students. The training and induction of these students was observed closely and interviews were conducted on their fourth day. The first interview was with a male and a female student and the second interview was with the group as a whole.

The investigation also took the form of interview, mainly opportunistic, with visitors, staff and designers of some of the exhibits. Much of the data is still being coded and



Despite the artefacts apparent ease of use demonstrators are necessary, particularly during quiet periods. On its own, without participants, the use of the interactive environment is not apparent but once in use, it comes to life. Hornecker and Stifter (2006) have also commented on this type of social scaffolding.

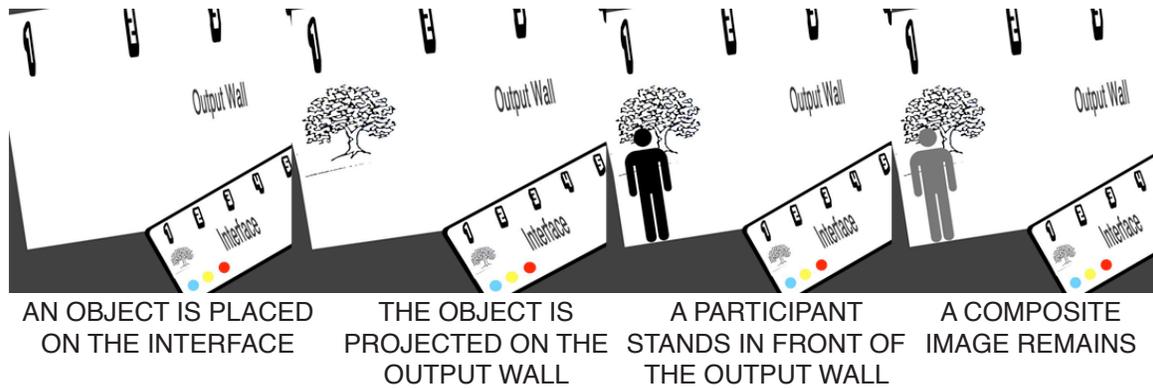


Figure 3: Diagram of Animo in action



Figure 4: Animo output.

Following is an extract from an interview with a male and female student. Both the interview extracts are from extended interviews discussing the whole gallery but the sections below have been selected because they specifically focus on Animo.

The reason this first extract is of interest is the discussion of ownership of the final output. The interviewees highlight the fact that “you can put your own props on” (line 6) and that the interactive works “for you” (line 8). The female is resistant to the

installation stating “I don’t like having things like that done” (line 65) but the male is enthusiastic “I’ll just go up and do it.” (line 68). Spontaneous repetition of the activity by the male was observed on numerous occasions.

Despite her ambivalence to Animo, the female highlights that she can see other people enjoying the installation and that she gains pleasure from viewing their participation. Animo is “the ice breaker” (line 85) and “brings personality out.” (line 83)

I indicates the interviewer, M, the male respondent and F the female.

- I: Do you mind describing Animo to me, what goes on in Animo? Imagine that I’d never been there, I can’t see it and you’ve got to describe it to me.
- M: You’ve got seven different frames.
- F: Yeah
5. M: You have like a, there’s a camera that shines on the actual frame and there’s a camera on the table which you can put your own props on so you can be in the actual cartoon and then take seven different photos and then after that takes your own animation does like little things for you.
- I: So the first time you saw it did you get it straight away?
10. F: Well, you
- M: It’s just, you just paper on a table with seven different numbers on.
- F: It did need to be explained, but you sort of got the general gist of it because of the example that’s on, you know that says “welcome to Animo” and you sort of get the gist because of the numbers and that but
15. how to use it is like a different story like ‘cos it’s very like.
- M: Holodeck
- F: Gerrin out like you stand in front of it and it takes your photo, that’s like fine, you get that but sometimes, if you’ve been on it you then think “how’s that work?” “How the cameras are (m)angled and how does it take
20. the photos like. That’s what got me like, how many cameras is there? How does the camera work? How does the lighting work?

- I: So are you were you were getting more into the technical angle of it and you were trying to understand it from a technical point of view?
- F: Yeah
25. I: So if there's a family there do you think that they need somebody there to explain it to them?
- F: Yeah
- M: Yeah
- F: Definitely
30. I: Even with the, even with the audio instructions?
- F: Yeah
- M: Yeah
- F: I just think there's somebody there needs to give them a push like
- M: Just to supervise all the way through
35. F: And like you obviously need someone there to move the pictures.
- I: Yeah, so you've got to have more than one person haven't you, maybe someone there to help you but I'm just thinking, just trying to think of erm you know, if you were going to put that up somewhere else and you had to put it in a shopping centre and you couldn't afford to have anybody
40. looking after it, what, how could you do it?
- F: Good question actually erm, for me I'd write like an instruction thing and like put it on a table, but you could also like have more in detail audio.
- F: Cos that like, cos it does give you a like "move to position one" "get ready" but, like if you've never done that how do you know what it's
45. gonna do? You don't.
- M: Where's position one ?
- F: And you don't know it's gonna take a picture because it doesn't tell ya
- I: So you think it needs to be even more descriptive?

- F: Yeah, maybe like give you an introduction of the exhibit like
50. M: The actual thing
- F: Yeah, like what it actually does
- I: How about just pictures of things that people have done before?
- F: Yeah
- I: Do you think they'd get it from that? I know that there's the big one on there.
55. F: You could have like different examples, yeah, yeah, yeah, that would be good actually.
- I: So you think that would get it over more?
- F: Cos then, that could give you an idea and if you copy one of them and then you can do your own
60. I: So do you think you need to do it more than once to get to to really get to it?
- M: Yeah
- I: And how many times have you guys done it now?
- M: Ooh, must have lost count
65. F: Well, for me, I don't like having things like that done. Like, I don't like standing there and watching people like and people watching me having my photo took
- M: But I'll just go up and do it I just
- F: So for me, I just didn't really like it didn't really like appeal to me like I
70. liked the technical side and how it worked and I think it's good fun for people who like it. For me, I just don't like people watching me have my photo took but like when [Male's name] was doing it, it was good fun, like it was nice to see how people.
- M: Interact with it

75. F: Interacting with it
- I: OK so you start and it's a way for you guys to get to know each other. Did you know each other before this?
- M: we go to the same school.
- I: You go to the same school so it's a lot easier for you to.
80. F: Well, yeah and there's me, [Male's name], and then there's the other [Male's name]

As a point of clarity, both Males discussed had the same first name.

- I: OK
- F: and we all go to the same school but everybody else doesn't and I think it was like that was the ice breaker weren't it kind of cos that was the first
85. thing we come to on the tour and it was the ice breaker because we was watching everybody have fun. And with things like that, it brings personality out, I think because if [Male's name] weren't really talking at the start but when he come on that he was like his funny self so people got that from him
90. I: (pointing at male) was that you? Was it that [Male's name]?
- F: Yeah that [Male's name] and people got it from him so like you can so like helps

Following is an extract from the group interview, again focusing specifically on Animo. For the group interviews subsequent participants will be referred to as M1, M2 or F1, F2 and so on Relevant here is that the discussion almost immediately introduces appropriation, "You can put anything personal to you on there." (line 4) The output is described as belonging to the participant "It's like being in your own little movie" (line 21).

- I: So describe Animo, come on everybody describe Animo to me
- M1: There's seven like green screens sort of things and you stand in front of it and you take your picture
- F2: You can put anything personal to you on there, like something you like,

5. and take a picture with it

I: Something personal, so would I need to come prepared?

M1: No

M2: No

F1: No

10. M3: The resources are available anyway

F2: All you need to do is bring yourself (laughs)

F1: Yeah

I: [] so come on, I'm quite interested in Animo, I've never seen Animo and I don't know what it's all about [].

15. F2: It's like really big, yeah (laughs)

M1: (laughs)

F2: And then there's seven different slide show things and then you just go there and you just have fun and then you jump around and take pictures and then at the end it's like a sequence and it goes really fast and it's really

20. funky

M3: It's like being in your own little movie

F3: Flipbook

F2: Yeah, like a storyboard thing

M3: Plus, if you wanted to do that by yourself, it costs a lot. This is free.

Much of the dialogue refers to personalisation and ownership of the final artefact. There is discussion on how the interactive is engaging and enjoyable though not immediately intuitive.

Many participants will use their first interaction as a way of becoming familiar with the workings of the interactive and will repeat their attempt, having gained virtuosity through practice. The final output of the interactive is a series of composite pictures of the participant that "acted" with enlarged versions of props placed on the table by the participant who "directed".

The Public provide a variety of props for people to use, often incorporating a theme. For example, various signifiers of local culture such as letters spelling out the phrase “Bostin,” a local slang term; and the coat of arms of the local football club.

It is on repeat attempts that participants take ownership of the interactive and appropriate the interface to create their own personal outputs. This was particularly pronounced during observations on a busy Saturday when the building was at capacity.

A group of four young people entered Animo and went through the interactive in its prescribed and intended manner. It was clear that these young people enjoyed their experience and they made several repeat attempts. During these attempts, as well as employing the props provided for them, they emptied their pockets and began to use the personal items they carried with them. These items included packets of cigarettes, mobile telephones and cigarette lighters as well as other items.



Figure 5: Output from a group of young people – their faces disguised

As well as using their personal items, the group used the opportunity to create a series of group portraits, posing and genuflecting. Many of the poses they struck were reminiscent of record covers by popular hip-hop groups. By adapting the interface and output of the interactive, the youths took ownership of the environment.

A good example of appropriation and personalisation through Animo is on display in the offices of The Public. Members of staff there have created a wall of images of each other utilising props that describe their daily activities. For example, the accountant is pictured with a giant calculator and the technical supervisor with a network cable.

Animo provides users with an environment in which they can create their own content. The design of the product encourages and rewards appropriation and it is this appropriation that creates engagement.

A consistent request after using Animo is whether users are able to get a copy of the final output. This is currently not possible but the apparent desire for this souvenir demonstrates the high level of satisfaction provided by engaging with this product.



Figure 6: The Office Wall – faces disguised

## 4 Discussion

We conclude by observing that by empowering people to make artefacts their own is not merely an effective means of creating engaging artefacts but lies at the heart of user-centred design.

Animo was originally designed to enable participants to storyboard seven frames of an animation. The interactive can be employed in this manner but through use, it has become common for participants to create engaging image series with increased creativity.

Users are not able to make Animo “their own” per se but they are given the opportunity to produce highly personal output. This output is seen as belonging to the user. From the conversations with the work experience students and the actions of the visiting youths as well as observation we can gather that Animo is a good example of appropriation producing engagement.

The factors to consider are how to demonstrate the engagement of a product from quick observation and how to allow the deliberate appropriation and reinterpretation of the product. When users feel that that they have made the product their own through appropriation, they are keen to repeat their experience. Repeat experience is a clear sign of engagement.

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<sup>i</sup> <http://berglondon.com/> [last retrieved 12 October 2010]

<sup>ii</sup> <http://berglondon.com/projects/nokia-personalisation/> [last retrieved 12 October 2010]