

# Exploring “Hacking,” Digital Public Art, and Implication for Contemporary Governance

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## INTRODUCTION

This article presents the application of the online (Internet) ‘hacking’ concept to community life and processes from two hypothetical contexts: First, it was hypothesised that technology could be ‘hacked’ into by disadvantaged communities to create a digital public art. Second, the community-generated digital art platform could in turn be used to ‘hack’ into images and memories to facilitate the sharing of conversations and identity, social engagement, and digital inclusion among residents. The article therefore presents how these contexts of the characteristics and practicality of online ‘hacking’ inspired the design and functionality of a community digital artwork in a disadvantage urban estate in Edinburgh, UK. In addition, the article considers the implication of the ‘hacking’ practices by and among disadvantaged communities for realizing the social action, social engagement and networked society goals of the UK Government’s ‘Big Society’ policy. This is significant because the ‘Big Society’ agenda promotes an interactive networked culture that has transformative potential to connect citizens, build knowledge and continuous learning and regenerate communities at a time of economic austerity in the UK (Mayo & Steinberg, 2007; Speed, Khan & Phillips 2016).

The article is presented as follows. The following section is the conceptual path-clearing.

It traces the etymology and usage of the concept of ‘hacking’ from the techno-scientific domain. Section three makes an attempt at disambiguating the kinds of ‘hacking’ practices that are relevant to issues of community relations and processes. Section four presents the practical application of the ‘hacking’ concept that culminated in the social design of a physical digital public art, the ‘totem pole’. In section five, the implications of ‘hacking’ for the ‘Big Society’ policy is considered. Section five provides suggestions for a research agenda that could generate future design interventions that are inspired by concepts associated with digital media culture and for realizing forms of contemporary governance such as the ‘Big society’.

## CONCEPTUAL BACKGROUND: THE “HACKING” FOLKLORE

In tracing the etymology of ‘hacking’, folklore rather than the history of the concept should be prioritised. This is because there are many narratives to explain the emergence of the concept and its incorporation into contemporary public discourse (Devitt, 2001). History could be subjective, but mainly expected to be a precise and accurate record. Folklore, although rooted in historical narrative and passed down across generations, is not expected to carry the kind of accuracy as history should. This is because its mainly verbal

form of transmission and its inherent performance element makes folklore vulnerable to variability and manipulation (Khan, 2009). A word of caution though! History could be handed down verbally too, and like folklore could be accurate, written down and passed through generations. Nonetheless, folklore is associated with traditional stories, gossip, myths and legends, all of which are traditional art forms that are characterised by dubiety, as might be the case with history. A look at the many romanticised accounts of the origin of ‘hacking’, lends weight to prioritising the folklore around the origin of the concept over historical accounts.

Against this background, folklore has it that ‘hacking’ originated from the realm of technology as student slang at the Massachusetts Institute of Technology (MIT) between 1950 and 1960 (see Levy, 2002; Devitt, 2001). MIT is said to have been amongst the first institution to offer courses in computer programming and computer science, and that it was on such a course that group students taking a class on artificial intelligence came to coining the word ‘hacker’. Students used the term to refer to their ability to manipulate a computer to perform actions not intended for that program. It has also been suggested that the term was used to convey a sense of performing a “practical joke and feeling of excitement because the team member would ‘hack away’ at the keyboard hours at a time.” (Moore, 2006). Examples of ‘hacking’ folklore associated with MIT include: in 1964, MIT students (hacks) placing a convincing replica of a campus police car on top of the Institute’s Great Dome as a form of practical joke, manipulating electric trains to make it perform faster and more efficiently (see Levy, 2002; Moore, 2006). Ward (BBC 27 Oct 2000), argued that ‘hacking’ originally meant “an elegant, witty or inspired way of doing almost anything”. Since then, the practice of ‘hacking’ has been evident in or applied to other fields and scholarly or technical communities, and not just limited to technology. The next section briefly explores these folkloric dimensions of

‘hacking’, namely ‘phreaking’ & ‘cracking’, and ‘hobby-ism’ & ‘prosumerism’.

### **“Phreaking” and “Cracking”**

In the 1970s, ‘phreaking’ or phone ‘hacking’ emerged by which ‘hacks’ manipulated telephones to make free calls. A legendary figure in this respect was, a ‘phreaker’ John Draper, who discovered that a whistle included as a free gift in boxes of Captain Crunch cereal emitted a 2,600 hertz pitch which was the frequency used to indicate operator calls to phone exchanges (Burnham, 2009; Lapsley, 2011). Blowing the whistle into the mouthpiece of the phone meant that the call was seen to come from an operator and hence no charges were levied on the call. Not only did John Draper become known in the hacking world as Captain Crunch, but his work is seen to have inspired Steve Wozniak and Steve Jobs who went on to found Apple Computers (Burnham, 2009). By the 1980s, ‘phreaking’ was evident in computers in the form of Bulletin Board Systems (BBS), which is believed to be the precursor to the yahoo groups of today (Levy, 2002; Lapsley, 2011). In addition to enabling individuals to post messages of any kind of topics, the BBS specialized in disseminating information on how to break into computers, how to use stolen credit card numbers and share stolen computer passwords (see Levy, 2002). Known as ‘cracking’, the practice entails the circumventing computer security and unauthorized remote computer break-ins via a communication networks such as the Internet.

From the above practices, two distinct but interconnected senses of the term ‘hacker’ and ‘hacking’ in the domain of technological science are discernible: the modification of use and the breaking of codes/security (Raymond, 2001). This often came together in particular ways to establish particular but interconnected areas in the domain of technological science: computer programming and computer security. In the former sense of the term ‘hacker’, emphasis is put on modifying computer programmes/technologies

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