Crypto Heater: A Design Fiction

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PROPOSAL ABSTRACT

This proposal is to exhibit the work named *Crypto Heater* which is part of a design fiction [c.f 1,5,8:30] series intended to explore a near future world in which cryptographic currencies such as Bitcoin [6] have become commonplace. This work opens up space for discussion about the activities of the distributed peer-to-peer network of so-called 'miners' that ensure the security of the Bitcoin network and regulate the supply of new currency in the Bitcoin economy.

The physical part of the work (the heater itself) is set within a fictional near-future reality. In this reality, Bitcoin has become central to our financial service industry, and 'mining' in domestic settings is promoted by the government, as a means of heating our homes and to ensure security of the network. A 'story world' is constructed using devices such as promotional materials from the UK Government's *Ministry of Crypto Currency;* technical specifications; customer testimonials; and the heater itself.

The main element of the exhibit is a fully working *Crypto Heater* prototype. This device *is* (in the fictional world, and the real world) part of the distributed network of Bitcoin miners. Through computation, it converts electrical energy into cryptographic currency. Uniquely *Crypto Heater* dissipates the heat energy (a by-product of the computational effort required to be a Bitcoin miner) through a standard household radiator. By offsetting the value of the cryptographic currency produced, against the cost of electricity used, the heater provide subsidized domestic heating.

Author Keywords

Design fiction, Bitcoin, Diegetic Prototypes

ACM Classification Keywords

H.5.m. Information interfaces and presentation: Design

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BIOGRAPHY

I am a doctoral candidate at the HighWire CDT (Lancaster University). My PhD research is centred around producing knowledge about design fiction, by research through design [c.f 3,7,10].

Outside of an academic context I have a variety of experience. From 2002 to 2006 I worked as an ICT professional, writing code, doing systems analysis and managing projects. In 2006 I joined Manchester School of Art & Design in order to study Interactive Arts, obtaining a 1st class BA (Hons). During the same period I made a living as an artist, photographer and musician, completing a number of commissions, exhibitions, and publishing/performing music for Creaked Records (Lausanne) under the moniker Joe Galen. Between 2010 and 2012 I managed the Interpretation and Translation Service for Central Manchester Hospitals (UK National Health Service), leading the team staff through a comprehensive modernization programme.

NOTES ON THE WORK

This proposal describes an iteration of a pre-existing work[1]. Previously the concept pivoted on a story world that was told and created using fictitious newspaper headlines [4]. This second iteration crafts the story more passively, utilising promotional and technical materials as a means to ask the audience to participate in the fictional world in an embodied mimetic mode, as opposed to the purely diegetic mode [1]. Producing knowledge through designing, making, and practical experiments, forms an integral part of the research through design approach that my doctoral research is focused on.

This work comprises of two elements, one is the story world and the materials needed to construct it. The second is the prototype heater. In the case of this work the prototype is a standard personal computer that has two GPU devices cooled by water. For this iteration presentation of the heater is revisited in order to make the heater seem less prototypical and appear more

[1] Previously exhibited at Synergize 2014 (Lancaster University) (http://www.synergize2014.org/ and #include2 (Edinburgh College of Art)

production-ready, with the intention of improving the work's ability to suspend disbelief [9].

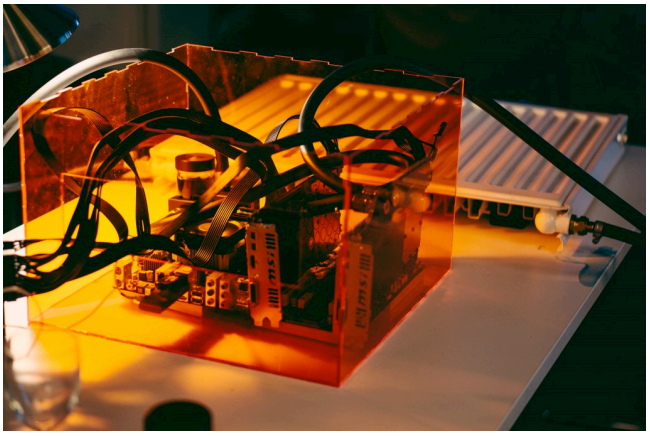

Figure 1. An illustration showing the first iteration of the crypto heater.

Figure 2. Draft promotional material for the (fictional) Ministry for Crypto Currency.

RESEARCH SIGNIFICANCE

This work is part of a wider body of doctoral research that hinges around a research through design approach to conducting research [3,7,10], as such the academic contribution is inherently contingent and reflexive. Proposed discussion points include:

- Nuances of the Bitcoin electronic cash system (that make this concept plausible)
- Commenting on how this work opens 'a discursive space' [2:6] and what emerges from it
- How the original incarnation of this work lead to the conception of a three-layer model for design fiction [4]
- What lead the move away from diegetic (telling) narration of the story world to a mimetic induction (showing) of story world – does this have implications for design fiction?
- Discussing what this work is *for*, for instance can design fiction work like this help us move towards "preferable" [2:5] futures?

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