The Reflective Zen Box: Speculative Technology to Slow Us Down

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Figure 1: *The Reflective Zen Box* as conceptually envisaged.

Abstract

We present an interactive installation entitled *The Reflective Zen Box*, which is a speculative portable tactile and haptic device designed to mitigate workplace stress. In such an era where technology and advancements in artificial intelligence (AI) are being pushed into the workplace with the promise of higher efficiency, the cost is increased burnout in the workplace. People are made to work faster, at the cost of increased cognitive demands. As a response, we present *The Reflective Zen Box*, an artwork that offers a physical, meditative alternative through soothing haptic vibrations, together with reactive generative visuals, and which aims to reclaim the technological push as a source of 'flow'.

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CCS Concepts

• **Human-centered computing** → **Interaction devices**.

Keywords

art installation, new media, work stress, multimodal, reflective.

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1 Introduction

The rise of automation at work, and the increased proliferation of AI tools, designed to 'liberate' the human worker, has been met with another stark reality: that of increased mental fatigue in the workspace, where the constant interaction with generative systems has not reduced cognitive load but shifted it. Indeed, it has been noted that the continuous evaluation and processing of

AI-generated data overloads the brain's limited working memory, leading to a state of chronic overstimulation that makes work even slower [3].

To counteract this cognitive fatigue, knowledge workers frequently pause their work to take intentional breaks, though what actually constitutes a restorative break varies heavily by individual definition. Research shows that individuals experiencing low productivity are significantly more prone to seeking out digital distractions, such as social media and web-surfing [7]. Unfortunately, these digital interventions, along with social breaks, regularly run longer than intended, and breaks that are cut short or disrupted by workplace notifications fail to provide the necessary mental reprieve required to lower stress and clear the mind. Ultimately, the study confirms that only breaks which leave a worker feeling genuinely relaxed and refreshed translate into a positive, measurable increase in self-reported productivity upon returning to work [1, 4].

Several works in the Human-Computer Interaction (HCI) domain have focused on encouraging workers to take breaks and refresh using a mix of approaches, such as a personal informatics desktop system that allows information workers to self-regulate break intervals [6], to immersive digital gameplay that act as immersive recovery mechanisms [8], and also structured emotion-regulation frameworks for online browsing [4]. In the work presented in this paper, we speculate on technology that slows you down, and which also moves from purely a screen towards the somatic.

We present a piece entitled '*The Reflective Zen Box*', which is a portable haptic and tactile device designed to facilitate 'wakeful rest' [5]. The piece can be seen as an analogy to a future stressball, with the device utilising a physical interface with mechanical switches, knobs, and buttons to contrast with the flat screens and 'frictionless' interfaces of today, which are all designed to produce barrier-free access to technology. Our chosen modalities — visual, haptic, and tactile feedback, was chosen as the latter combination has been shown to effectively communicate and modulate affective physiological states by bypassing overstimulated cognitive channels [2]. The work seeks to function as an exploratory probe into whether slower, tactile, and sensory forms of digital interaction can create a different kind of pause and reflection, ultimately allowing people to detach from the demands of a prior task.

2 Concept

The exhibited artwork, will consist of a an enclosure that has a number of physical knobs, buttons, and switches affixed to it (see Figure 1). A screen, which is embedded in the box, displays a generative system that is constantly flowing between states. The default state emits a pleasant haptic vibration, and the visual elements are gliding slowly. The switches, knobs, and buttons will have an effect on the movements and generative patterns of the visual elements, and the vibrations produced by haptic motors placed within the box. The idea is that someone can mesmerise themselves with all the unique combinations and effects that can be produced with the touch of tactile controls. The feeling of a tactile switch and button is also a contrast to increasingly touch-based interactions.

3 Technical Specifications

Enclosure: The dimensions of the box will be around 300 mm × 200 mm × 150 mm. Ventilation holes will be drilled around the box to assist with cooling.

Computing: We will use a Raspberry Pi combined with an Arduino (Mega) to generate the visuals and receive input from the hardware components, respectively.

Hardware: Using a standard 230V C14 receptacle, the box will have its own internal power supply. To this same circuit, a small 5V power supply would be connected to power the Raspberry Pi, Arduino, and any attached components. The interfacing hardware would consist of multiple different types of switches and input devices. These would include rocker switches, sliders, potentiometers, and haptic motors. A 7-inch screen in the centre of the box will provide visual feedback, while vibrational transducers enhance the tactile experience.

Software: The visuals and haptics will be generated using *hydra*.

4 Conclusion

We present a piece that speculates on technology as a calming mechanism in a stressful work environment, where the mix of analogue tactile modality — often missing in contemporary daily technology, together with soothing haptic vibrations and calming visuals, would lead to a moment of reflection.

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