STAND BY/ME

Yu Zhang

STUDIO Ü Eindhoven, the Netherlands
yuzhang.nl@gmail.com

Abstract

This paper describes initial intention, concept, concerns in design process, production, and technical details of an artwork named "STAND BY/ME". STAND BY/ME is an interactive installation that uses machine-learning models to generate speeches for Xi Jinping and Donald J. Trump, and uses randomness to build virtual conversations for the political spectrum, while connecting the information flow with the lived reality of the everyday. Visitors are exposed to narratives of both digital communism and digital capitalism that is randomly controlled. Next to the visual flow of randomly generated speeches, the work involves seemingly mundane, yet "super-charged" electrical household items, i.e., power sockets, as the actuality of human-technology confrontation. This work (1) allows visitors to feel like they are on "stand by" and (2) triggers questions about how technologism impacts individuals' views and information consumption, while (3) people face randomly generated political speech as a quiet, mundane confrontation. In sum, visitors are invited to be bystanders of randomized political speech, visualized through streams of text ad made tangible through everyday technology.

Keywords

Information representation, information flow, digitals and physicals, social media, technologism, politicism.

DOI

Introduction

With the advent of smart and learning systems, connected technology is no more a simple luminous torch to shine upon our wishes or serve our needs. It senses a multitude of signals from our environment, and shapes our thoughts, behavior and social interactions. We find ourselves at the moment when technologism becomes an almost unavoidable aspect of the everyday. Most often our true realization is overshadowed by technological wonder or even deeply influenced by a form of techno-mysticism. When we place the finger on the screen and swipe it, an "informative" world starts and soon it is filled with bits and glimpses of ever-faster news cycles. As individuals, we consume the abundance of news that produced to capture our attention, move us emotionally and sometimes even take action. Over time, we reach a state of being alert and at the same time wholly incapable of action, especially when consuming news about politics. The initial intention of the STAND BY/ME installation (Figure 1) is to synthesize the experience of "stand by," in the context of technologism and politicism, where each individual can view cycles of randomized and virtual information from two political "speakers" as a bystander. "Stand by" expresses a human inability to act socially, as an inhibition of the mind, a perversion of mindfulness. It is a deeply tiring state. The deeper intention behind this art scene is to state: when an individual is incapable of action, digital data still changes its meaning and form just depending on its medium of distribution, communication and interface.

Figure 1. Exhibition view from STAND BY/ME at Albert van Abbehuis (Eindhoven, the Netherlands).

"Stand by" and STAND BY/ME

STAND BY/ME focuses on the concept of "stand by" and transforms feelings of confusion, in-betweenness and randomness into an immersive audio-visual experience. This experience is designed to trigger visitors' reaction to human and technological expressions of "stand by", and visitors' feeling when encountering a situation gripped by a general sense of "stand by."

The physical part of this installation is composed of 30 linked power sockets (Figure 2), which are technologically extended and enhanced with light and sound actuation. Apart from the layer of connected physical sockets, the installation incorporates all public speeches by Chinese president Xi Jinping since 2014[1, 2, 3] and thousands of tweets by U.S. former president Donald J. Trump since 2016[4] until January 2021. A recurrent neural network (RNN) was trained with the speeches and tweet corpus, and we fine-tuned the parameter space to obtain synthetic speeches that express the current acceleration of digital communism and digital capitalism. The two "speakers" are then visually juxtaposed with a simulation of randomized draws of numbers (balls) from the National Lottery.[5] The lottery serves as the metaphorical random actor in this installation: conceptual and technical randomness controls relations between recurring concepts in each politician's generated speeches. The content and the processing of approaching information data are displayed as a digital information interface (Figure 3).

This work projects the patterns of information flow from the machine-generated speeches first, and connects with the lived reality of the everyday. The ordinary power sockets, "super-charged" household items, visualize a connected data system that enacts the randomness in the actuality of human-technology confrontation. Throughout the design process, this work touches on four symbolic and logic assumptions in the concept "stand by."

Two Politicians

As two "speakers," Mr. Xi and Mr. Trump have different ways of approaching the public, quite oppositely.[6] In 2020, we have read a lot about "truth" by analyzing and interpreting the information and actions from Mr. Xi and Mr. Trump. The citizens have been (still) confused about information and have perceived them as a strongly regional particularity. STAND BY/ME uses a format of public stances and, at the same time, is filled with

random content—formal posing as a facade. The concept of STAND BY/ME was accomplished around March of 2020. At the moment of writing this paper, the new conflicts in the world started to develop — presidential election result for the 2020 US election became a turning point for American foreign policy regarding Beijing, followed by Xi has secured a precedent-breaking third term as the Communist Party's leader and Donald Trump announced a White House bid for 2024. This work is filled with future projections including the efforts to establish dialogues between different cultures and regions. The result of such efforts seems very "virtual," either in this work or in the reality.

National Lottery

National lottery symbolizes the daydream of picking easy money, yet participating in a random gamble. The format of National lottery used in this work contains three main contents: jackpot size, six ball numbers and one bonus ball number. STAND BY/ME uses this format but creates new feeds that are machine-generated random numbers.

In STAND BY/ME, the lottery is a metaphor for randomness and offers each visitor only a passive role who are not able to take action in the process—intelligent agents submitting to luck.
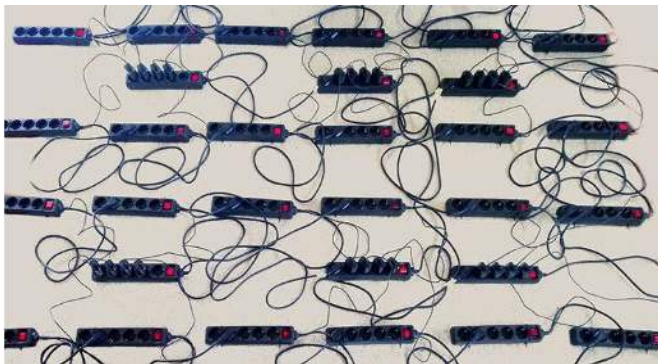

Figure 2. 30 linked power sockets that are extended with light and sound output in the day light.

Power Socket

The power socket in its most ordinary form is a distribution hub for electricity. Here, its function is transcended: it is a physical connection hub which is available all the time to connect devices that can send and receive all information packages. Power sockets often embody the most common notion of indicating "stand by," a glowing LED. The use of power sockets in

this work metaphorically refers to the action "to be on charge" and similarly as an active participant in propagating information and visualizes the information flow in the audio-visual patterns. Through multiple power sockets, STAND BY/ME embodies a sense of "something somehow happening," and visitors are incapable of actions.

Interaction

Interaction in this installation went through different stages: from a means to engage visitors in exploring and discovering the emptiness behind the façade to the final implementation where interaction is deliberately withheld from the visitor. The interaction becomes that visitors only remain passive in the installation to simplify the dynamics of light and sound (reacting only to the data processing of the National Lottery). By observing the data processing instead of being part of it, visitors are drawn into the processes of how information spreads or hits a levee or how light and sound trigger the translation of the digital speech data. As visitors realize that they are bystanders, in the back of their minds, they will feel the pressure and obligation to act, without being empowered.
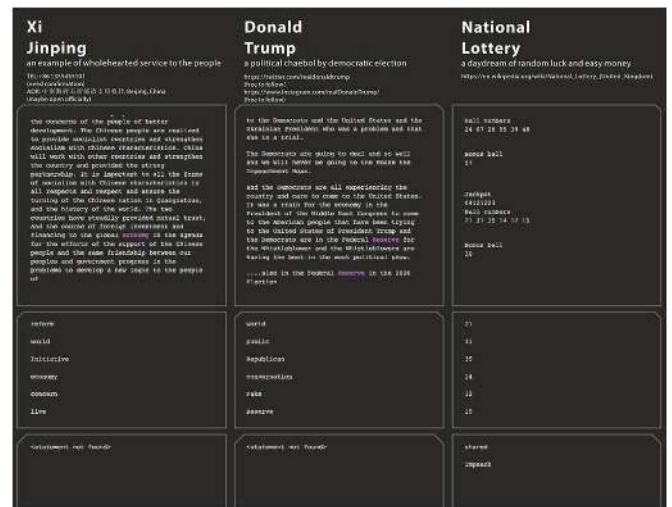

Figure 3. Information interface including from left to right Xi Jinping, Donald J. Trump and National Lottery for real-time generated text by a machine-learning model and generated "lucky" randomness.

Technical Details

In this installation, a central single-board computer (SBC) runs a Processing sketch that (1) displays the information interface with virtual speeches and conversations from two politicians and projects the results as a live "dashboard" of speeches, highlights and

lottery drawings (Figure 3), and (2) translates into 30 linked power sockets that are extended with light and sound output (Figure 2). Each of the 30 power extension sockets is internally altered, while keeping its original appearance. Inside each socket, WIFI-connected electronics (based on ESP32 boards) allow for decentralized control of each two LED lights and one speaker module. The installation generates its own data stochastically modeled after patterns of information flows from social networks. The patterns are mapped and distributed to all sockets via a message bus running on the SBC. The dynamics of light and sound of each altered socket are driven by each sockets' internal programming and designed to be responsive to the data in the system.[7] Let's dive in a bit deeper. The information display in figure 3 shows three columns. The rightmost column is the data display from National Lottery. It contains four main parts—(1) data source and its introduction, (2) real-time lottery information (jackpot size, six ball numbers and one bonus ball number) in technical randomness, (3) the latest coming six ball numbers, (4) the keywords from speeches by each "speaker" that generated from the latest coming bonus number. In the same figure 3, the two "speakers" are shown in the left and middle columns with each four parts of content: (1) data source introduction, (2) real-time RNN generated speeches, (3) up to six highlighted keywords from speeches selected by the latest draw from the National Lottery, and (4) the statement selected from the speeches with shared keywords selected by the latest draw of the bonus ball. The speeches differ in content and important repeating keywords, which are extracted in a ranked list per speaker. These lists are used to draw keywords from by means of random numbers from the Lottery draws.[8]

Conclusion

STAND BY/ME creates an immersive experience set up as interplay between humans, machine and artificial entitles in a cognitively overwhelming way using text, light and sound. Although STAND BY/ME seems calm in general, it puts visitors in an almost passive position when facing the complexity of the machine-generated progress. At the same time, visitors soon discover the need to process each incoming scenario of an entirely modified and virtual information for both digital communism and digital capitalism under the control of gambling randomness. The installation unpacks the concept "stand by" in a collaboration of data sources, data system, technologies, multiple electrical household items, and the digital interface. The design process of

this work dives into the process of refining audiovisual complexity with special attention to the details of information representations, metaphorical or not. This work provides the prompts for different perceptions and enables visitors to have a felt experience of the connection, distraction and confusion when digital data changes its meaning and form at every point, depending on its medium and the current "mood" of randomness.

Acknowledgments

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Author Biography

Dr. Yu Zhang has a background in fine arts and design. In her Ph.D. research she investigates the theory and artistic practice of interactive technologies for public, large-scale installations.

Over the past years, she has designed and researched interactive systems that respond to everyday phenomena, environmental concerns, child-system interaction, online collaboration platforms, and uncertainty in data visualization. Yu has participated in various international Art Residencies of the last years, and her work has been exhibited at galleries, museums, and festivals world-wide. Besides, Yu's teaching experience covers a broad range from traditional classrooms and workshops to designled project-based learning activities. Her book "Coding Art," co-authored with Mathias Funk, was published by Apress/Springer in 2021. https://yuzhang.nl/