Predictive modelling and Data visualisation to explore game participants' 'Happy Place'

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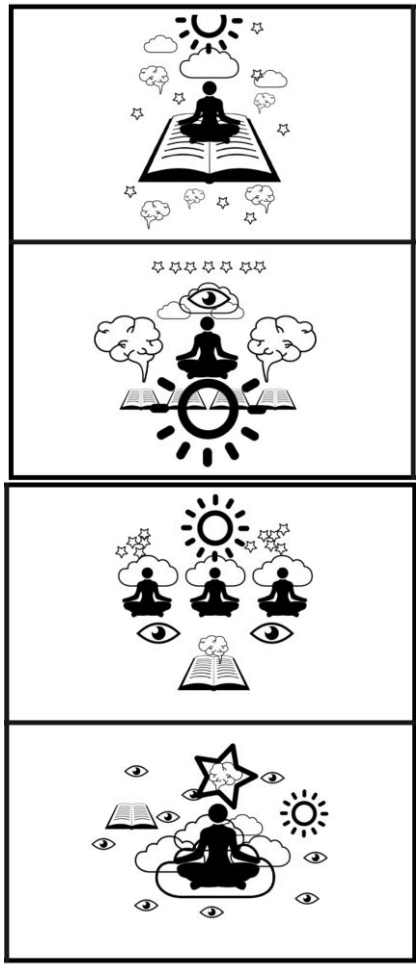

Research Background

The Museum of the Home is dedicated to the history of domestic spaces - housing examples of furniture, decorative arts, and period interiors. The museum's mission is to engage audiences and reflect the local community through a programme of contemporary art commissions and temporary exhibitions that initiate debate on the meaning of 'home'.

An upcoming online exhibition, called 'Happy Place', is supported by the Museum from the female-founded arts collective Visualogical. Visualogical fuse art, technology and the power of the public to tackle some of the most urgent issues of our contemporary zeitgeist.

Happy Place is a research driven, interactive exhibition that will explore how visitors' mental health relates to their homes. It aims to combine **machine learning** with **online games** and **social media** in order to publicise the Museum with a younger, more technologically engaged demographic. The data gathered over the course of the exhibition will inform the development of the Museum's education and outreach programmes, as well as be given to local charities and councils in the hope of providing unique insight into how to make peoples' homes happier places.

Central to the Happy Place exhibition is an online game that invites visitors to create **digital generative artworks** in response to the prompt "Please list all words that come into your mind when you think of the concept 'happy place'". The game aims to create a visualisation of each player's personal response to the prompt while simultaneously collecting the cumulative contributions of all users into a socio-visual language database.

Several demographic questions at the start of the game also inform the research. A web-based version of the game is being launched to the public in Summer 2020. Users playing the game will input words that they associate with the term 'happy place' and will then build personal 'psyche-selfies', or 'memes', by making selections from icons presented to them by the system that best represent their inputted words.

Figure 1 (left). Examples of psyche-selfies (© Copyright Victoria Westerman - All rights reserved

The choices made by a user over several generations of selections of icons become a process of 'cumulative selection', with each choice influencing the final psyche-selfie that is generated. These psyche-selfies aim to capture a user's mental well-being, subverting the usual conceptualisation of a selfie as superficial

Research Approach and Results

Birkbeck's contribution to the research relates particularly to

- development of software to query, analyse and visualise the data arising from the Happy Place game, to be used by staff from the Museum of the Home, Visualogical, and other research collaborators;
- development of a machine learning model to be integrated into the Happy Place game; the model will recommend memes that it predicts the user will choose as representing their inputted words on the basis of their previous choices and the choices of similar users;
- investigating supervised machine learning techniques to make predictions of properties of the final psyche-selfie from users' demographics and game play features.

Figure 2. The psyche-selfie generation process through successive generations G.1, G.2 … (© Copyright Victoria Westerman - All rights reserved)