

Project pitch: Realtime advertising using environmental data

This is a proposed method for advertising in which technology collects real-time environmental data to manipulate and display a final image.

It does this by using sensors situated at the screen's location for the advertisement, and sends the data online to a rendering engine. External software re-renders an image based on the data, e.g. if it's hot outside, the image will display cool drink, whereas if it's cold it'll show a hot drink (see fig. 1.1, 1.2). The image is then sent back to the screen to be displayed as a 'real-time' advertisement.

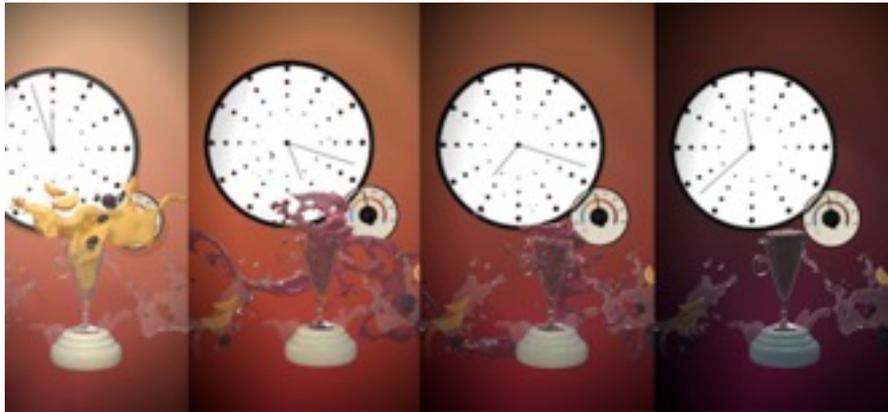


Fig. 1.1, The displayed image at different times and lighting. When the temperature at the advertisement is greater than an input threshold, a tropical image is shown.

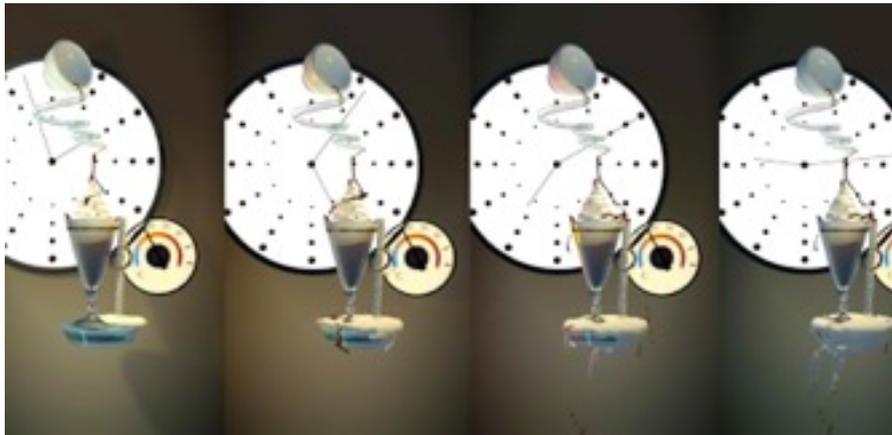


Fig. 1.2, Similarly when temperature is less, a warm drink is shown.

This method of advertising integrates computer graphics to produce unique images which change depending on factors such as time, light intensity, temperature, humidity, and more. There are several benefits of this, such as:

- The advertisement is exciting for the viewer as a unique image is produced every time; people may *want* to see it out of curiosity.
- The resulting image bridges virtual and physical environments, and can compliment its surroundings as it can be manipulated to blend in with the environment nicely.
- It allows multiple advert designs rather than just one.
- There's a sensory relation between viewers and the advertisement: viewers form a connection between themselves and the advert as they both share a sensory relation (i.e. the location, its

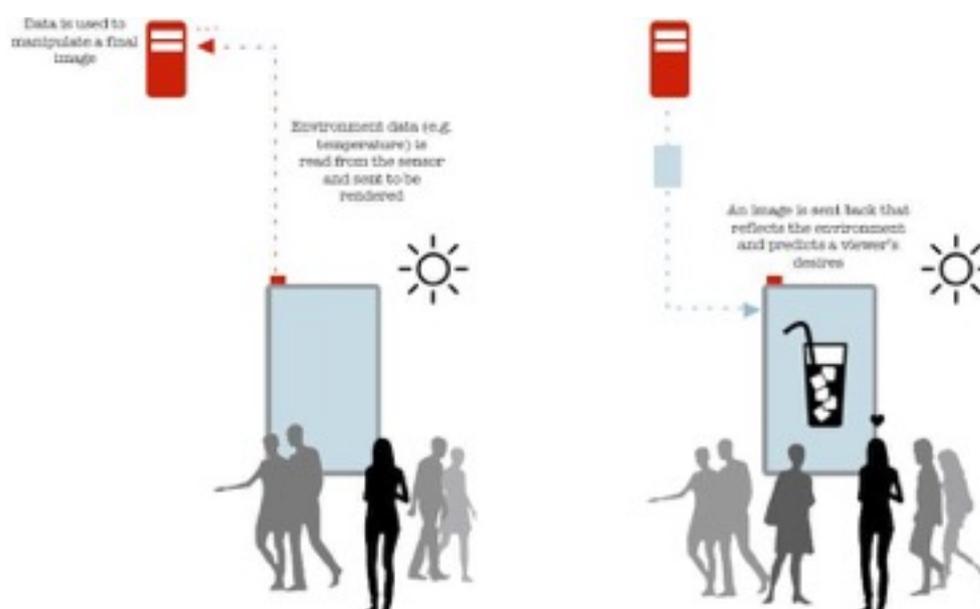
temperature, time of day, lighting). Where autobiographical memory is concerned, this makes it more memorable to the viewer.

- It's a method of target advertising, as the image prompts the viewer to desire the product displayed in their present environment; if it's cold, one can assume the viewer will be cold and therefore may desire a warm drink.

Prototype

The above images are the results of my prototype, where time and temperature are shown for illustration purposes, as the light and images' animations change throughout the day. By incorporating several factors into the scene, the image will better reflect its surroundings.

Without going into great detail of scripts used, I created the following process using a raspberry Pi as the sensor to collect the data connected to an LDR and thermometer, then programmed the system to send the data to a 3D software package, commonly used by major advertising firms.



Development:

This project can potentially be improved to become a commercially viable, advanced tool for businesses. The resulting product would:

- Use a compact sensor used to collect data
- Be portable; it could be placed anywhere with heavy footfall and still be able to transmit data using its own internet access.
- Visually enhanced to blend seamlessly between renders.

For further information, please contact:

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See <https://ellieansell.com/portfolio/advertising-with-the-pi/> for further details, including a video and photos of implementation.