UX202 - Maker Lab II

Speculative Design Project II

Julia Purza, Mary McDonald, Olivia Albin, Chantal Vaillancourt

Project Topic

For this second speculative design project, our group chose to build upon our first design to create a solution for the BIA that addresses a broader range of issues facing business development in the downtown area. Specifically, we want to build upon the usefulness of QR codes to spread awareness of not only local businesses, but also community services for volunteer and utilization purposes (get information on how to get involved or how to access services).

We also want to improve upon our design for the storefront QR code — scannable to get more information on that business. By making the QR code appear on an LED screen with a built-in motion sensor, we could engage the somatic senses of pedestrians to more effectively catch their attention as they walk by a storefront. When the sensor activates, the device will play an attention catching sound or the screen will flash a different colour in order to catch the pedestrian's attention from their peripheral.

Project Aim and Objectives

Our aim for this project is to create a somatically engaging design that assists in promoting downtown businesses and assists in addressing social issues faced by many residents of the downtown community. We also aim to have our design be accessible to all Brantford residents by utilizing different media such as sound, visuals, and vibro-tactile feedback to communicate the functionality of the design. Overall, we hope to create an engaging, connected system of business and service promotion that will help to improve the downtown community overall.

Electronic component that engages with the user's somatic experiences

Our prototype's electronic component will engage with the user's somatic experiences in multiple ways. Our new and improved prototype will have 2 electronic components in a higher-budget option (using an LED screen to display some of the QR

codes), whereas a lower-budget option (using only physical QR codes) will only require a user's personal mobile device. The mobile device in each option will engage with the user's visual, auditory, haptic and kinesthetic senses. Visual confirmations on the screen, audible sounds that play to confirm a successful scan, and a vibration of the device will all be part of the user's somatic experience, allowing for many methods of confirmation. We hope this will also help with accessibility, providing more than one way to experience the design. The visual sense will also play an extra part by showing the information or deals associated with that QR code on screen. The kinaesthetic sense will be engaged through the arm movement required to bring the user's mobile device to the right position for a successful scan.

The LED screen we are proposing will add an even stronger electronic somatosensory component. We will be adding not only the QR code to the screen, but also motion sensors that will trigger eye-catching visual effects and sounds. This will add another layer of somatic experience for the user, making the experience more engaging and accessible.

Prototype's "speculative connection" to the Internet of Things.

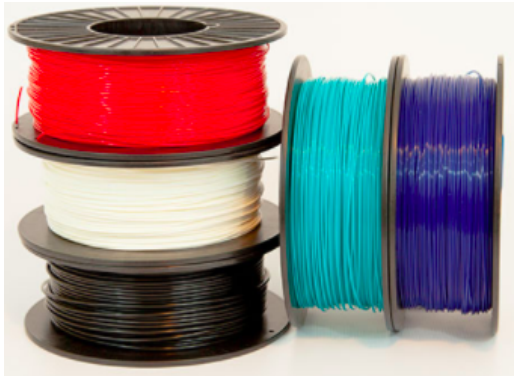
Our QR code design, whether we choose to create it as a sticker or as a digital screen, connects to the internet when scanned. QR codes are described as a gateway to the IoT (Ramalho et al.) as they are smart tags enhanced with storage capacity and secure electronic access. A digital QR code screen would only add to the concept of the IoT that we spoke about in our lecture. In addition, our group thought of the idea to have a sensor on the QR code that tracks how many people scan it and participate, so that statistics can be processed from that. Finally, we were brainstorming whether to have a sensor on or around the QR code that senses when someone walks by and turns on and lights up, possibly even creating a sound. This would help with energy consumption and also awareness of the QR code by passersby. These wireless sensor aspects can also be considered as being a part of the IoT.

Details about Prototype Production Methods

For the prototype we will be using the adobe creative suite to create more QR code designs to be used by community services. We will be collaborating on each step of the production process by sharing our work and encouraging feedback. We will be designing a different QR code concept for the buildings using a Tablet screen so that the code can be visible at all times. We would ideally put the tablet screen in a 3D created box so that it is protected and it looks the same in every business front. We will be using adobe illustrator to create more visuals for our idea that include interactive options for the users. Our team will be dividing the work to ensure that each aspect has been thoroughly thought out and designed.

Three Photographs showing materials that will be used to produce the prototype

2.1 - Photo of tablet



2.2 - Photo of 3D material

2.3 - Photo of vinyl stickers

Works Cited (MLA 8)

Ramalho, João F., et al. “Super Modules-Based Active QR Codes for Smart Trackability and IoT: a Responsive-Banknotes Case Study.” Npj Flexible Electronics, vol. 4, no. 1, 2020, doi:10.1038/s41528-020-0073-1.

“Internet of Things: What Is an IoT Device?” *HCL Technologies*, www.hcltech.com/technology-qa/what-is-an-iot-device.