EatRight Design Explanation
Project 2 – Design Fiction
LMC 6399
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The Concept

The EatRight is a speculative, wearable technological device and accompanying mobile application that automatically monitors a user's food intake. It is based on the technological research featured in *Towards Automatic Food Intake Monitoring Using Wearable Sensor-Based Systems,* the dissertation of recent Georgia Tech graduate Temiloluwa O. Olubanjo. In his research, Olubanjo evaluates the pros and cons of different sensing modalities and on-body sensing locations, considering their potential implementation and effectiveness in advancing food intake monitoring systems beyond current manual self-reporting methods. One technology considered by Olubanjo is a device worn around the neck of the user, capable of detecting the act of swallowing via sonic sensors tuned specifically to detect the acoustics of the swallowing process. This device would necessarily be combined with others, collectively forming a multi-sensor system. The goal of this system, as well as others investigated through his research, would ultimately be to "quantitatively track aspects related to eating, drinking and/or any form of energy consumption in an effort to encourage healthier behaviors." (11)

I developed the fictional concept of the EatRight with Olubanjo's design goal in mind. Taking the various sensing modalities and on-body locations examined in his research into account, I speculated about a device that combined all of their best use-case scenarios with none of their real-world limitations. For example, the proposed acoustic-based swallowing sensor struggles to reliably operate in realistically noisy everyday settings. In the spirit of design fiction, I assumed no such shortcomings in everyday functionality with regards to the EatRight. Still a wearable, neck-based device with the form factor of a necklace, the EatRight contains all of the sensing modalities considered in Olubanjo's research into a single sensor.

The EatRight is capable of reliably and automatically detecting qualitative and quantitative data about the food that the user consumes. It then sends this data wirelessly to the user's smartphone so that it can be easily accessed via the EatRight mobile application. The mobile application allows the user to set various food-intake goals, and then track them with regular updates on their progress through notifications and real-time feedback from both the device and application. For example, if the user has set a goal of losing weight, the device will provide tactile feedback in the form of vibration and the app will notify them to stop eating if the food they are consuming is fattening. The fictional design concept of this device speculates about the existence of currently non-existent technologies that allow for multifaceted food sensing to be done quickly and effortlessly, and in engaging ways. I envisioned the user experience of the EatRight to be a generally enjoyable one, rewarding the user for healthy dietary choices and encouraging the user to make even healthier dietary choices more frequently with continued use of the device. This speculative user experience, more than any other component of the design fiction project, informed the creative process of my video situating the EatRight in the world.

The Process

I initially created storyboards for three separate use cases of the EatRight's potential functionality. For one, I envisioned a child arriving home from school and being scolded by his mother, who had been tracking his food intake on the mobile app, for eating junk food instead of the vegetables she sent with him for lunch. As another, I imagined a wife becoming frustrated with her husband for eating poorly and gaining weight, and insisting that he begin using the EatRight so that she could keep tabs on his snacking. In that case, I even imagined that she might set the EatRight up to shock him or send some other kind of punishment signal when he tried to eat unhealthy foods. I found the first situation to be a bit mundane, as parents are often capable of insisting that their children eat healthily by simply disciplining them or communicating with their teachers about what they should or should not be eating. I found the second situation to be potentially more engaging as it dealt with more significant power relationships between males and females within a marriage, but felt that the "shock" or punishment functionality of the EatRight device present in that case was a bit too imaginary, in that it seemed unbelievable or easily avoidable. For example, I wasn't sure how to get around the reality that the husband could simply remove the necklace without adding a locking mechanism to its fictional functionality, and I felt as though that would have taken the product in somewhat of an outrageous, satirical direction rather than a speculative one.

I finally settled on focusing my video around a positive, relationally and medically beneficial use-case featuring a family struggling with a young girl's eating disorder. I felt that crafting a narrative that engaged the EatRight's functionality at a vulnerable human level would provide the most convincing example of its impact when situated in the world. I cast my sister as the girl struggling with the disorder, and my parents as her parents. The plot and dialogue subtly capture her struggles and her parents' concern, and the ways in which the EatRight helps to mollify those struggles and concerns. It does so without mocking or aggrandizing the miraculous device's functionality, leaving the viewer with a clear understanding of the role of the device in the context of its fictional design setting.

I also smoothly incorporated the functionality of the EatRight's accompanying mobile application into the narrative in a way that highlights its benefits without hammering them into the mind of the viewer in overly obvious ways. I wanted the application to appear as well integrated into the daily technology engagement of the user as any social media application would. Featuring a young girl as the primary subject in the video helped immensely in conveying this aspect of the device's nature. Ultimately, the process of creating a video that placed the EatRight in the everyday realities of the world helped inform my development of the concept of its user experience, and vice versa.