



Paper Towel Dispenser Redesign

Using bisociation and applying design theories to improve a design.

Design Theories

Looking at the theories that we have learned throughout this course, there are a few that can be connected to the current designs of paper towel dispensers. The theories mentioned in this project are the different types of pleasure and levels of emotion associated with the experience of dispensing paper towels, abductive thinking, and bisociation. The two main types of pleasure relevant to these products are psycho-pleasure, which is a person's sense of cognitive reassurance, and physio-pleasure, which is derived from a person's senses. Of the three levels of emotion, this project allows users to display a behavioural level of emotion since it pertains to the pleasure and effectiveness of the product. More theories that were included in this project were abductive reasoning and bisociation. Bisociation is the idea of bringing two different ideas together and abductive reasoning consists of using observations of two separate things and coming to a new conclusion.

Current Products

When washing hands, there are several methods for a user to dry their hands afterward. One method is hand dryers, but the problem with hand dryers is that they increase all types of bacteria on hands after use because of the hot air. This contradicts the effectiveness of the method, making towel drying the most hygienic way to dry hands. Looking at the current paper towel dispensers, there are a few types that exist. There are dispensers that require pulling on the paper towel, autonomous dispensers, and those that have a lever or an area to push. When pulling on only the paper towel, the user's hands will be wet, which causes the paper towel to rip in their hands, causing an unpleasurable sensorial aspect. Automated dispensers will not give the user enough paper towels and they also dispense slowly for the user, which decreases their psycho-pleasure. When it comes to dispensers that have a lever or a specified area to push, these are touched by many people and are not often cleaned, another aspect of physio-pleasure that is unmet.

Suggestions

A suggestion for this problem would be to incorporate a foot pedal to the paper towel dispenser. After COVID-19, the use of foot pedals was integrated into the system for acquiring hand sanitizer. These foot pedals keep users from touching surfaces that would have been touched by many people, decreasing the spread of germs. With the use of these pedals for paper towel dispensers, users can avoid ripping the wet paper towel or touching the surfaces that have been in contact with many others hands, which in turn increases their sense of physio-pleasure, and can also be very satisfying for the user as well. As people use this product, they would use their feet to dispense the paper towel and have full use of their hands and arms while drying off, which takes the cognitive load off, increasing their psycho-pleasure. This solution was created using bisociation between current paper towel dispensers and hand sanitizer dispensers. It also uses abductive thinking because it takes ideas from both types of products and combines them to predict a brand new contact-free product.

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Bibliography

Huang, C., Ma, W., & Stack, S. (2012). The hygienic efficacy of different hand-drying methods: a review of the evidence. Mayo Clinic proceedings, 87(8), 791–798. <https://doi.org/10.1016/j.mayocp.2012.02.019>