IDEATION

Summary

The Dream Team proposes two different products to satisfy the needs of THE BOSS. The first product is a custom ramen dispenser which will create custom orders of ramen with the dried ingredients that are loaded into the containers. The second idea is a way to sort and organize electronic components. This method will utilize modular drawers that can identify what component is in it and will maintain an organized space. These ideas were generated by first defining the problem, which was to develop a system that can dispense small objects and is robust. Additionally, using various ideation techniques, the team defined three guiding principles: organization, modular, and portable.

During the ideation process, the team took several approaches to come up with different ideas by looking at target markets, bisociation, and identifying pains to form ideas.

Identifying Target Markets

To start, the branch method was used to begin the brainstorm process. The figure to the right is the branch brainstorm conducted. The two markets were chosen as the first words that came up when thinking about a market. School was narrowed down to Santa Clara University (SCU). Specific to SCU, the team explored several ideas like food and beverage options, electrical components, and toiletries. After some discussion, food and electrical components were determined to be the most applicable ideas.
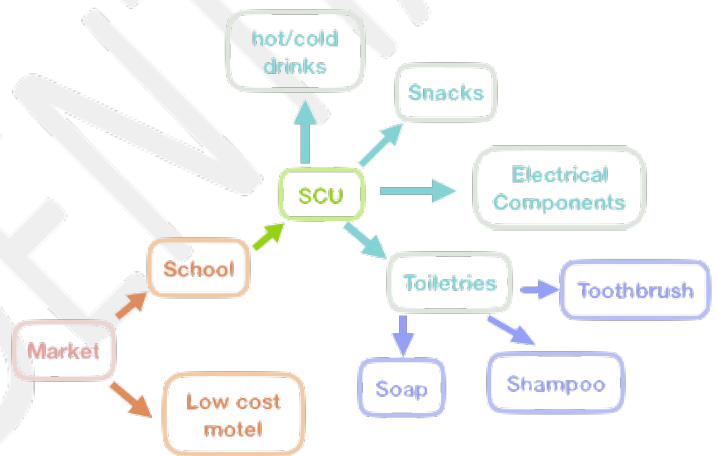

Figure 1: Initial web of target markets

Identifying Pains and Opportunities

The team identified different pains by focusing on different aspects of life. The main metrics that the team used to define the pains were general pains, company/corporate pains, and home pains. Some examples of pains included cleaning, washing clothes, leftover food, lack of food, and food expiring. These pains can all be solved by providing an organizational flow to streamline work flow.

Bisociation Results

The team used different objects such as tiki heads, tables, and chairs in order to create novel innovations. For brevity, only the toothbrush bisociation will be covered. The team analyzed the functions of a toothbrush and came up with a list of product features. Some features include, waterproof, scrubbing, vibrating, modular, and portable. The features that the team wanted to focus on was the modular and portable aspects.

Final Ideation Results

From the brainstorming process, the team recognized a need for an organized system that can provide modular and portable aspects. Additionally, this system must be able to handle small items and provide easy maintenance for the owners.

Implementable Products

From our ideation results and the problem definition, the Dream Team developed two different product ideas.

Custom Instant Ramen Bowls

The Pains:
- Difficult to get good snacks around campus
- No customized food from regular vending machines

Bisociation: Toothbrush
- Human operated and human decision-making required
- Involves water

The concept behind this idea is to have a dispenser for users to buy a serving of instant noodles and customize their meal by selecting various dehydrated toppings based off of the amount paid. During the topping selection process, a hot water kettle would heat up to provide a method to cook the instant noodles. The user would then pour hot water in and wait the requisite amount of time. The ramen dispenser would then be ready to service the next user.

Problem Solution

This product provides a simple system that is fun and interesting to use. All of the selections will be neatly organized and all the ingredients will be well stocked. The system should not have many points of failure and errors will be easy to recover from. The product footprint should be relatively small. This product will solve organizational issues by providing all food in disposable containers in order to minimize cleanup.

Electronic Component Dispenser

The Pains:
- Difficult to organize components
- Components often placed in wrong drawer
- Easy to knock over drawer

Bisociation: Using a toothbrush
- Cleans
- Portable

The team expanded off of the idea of being portable which lead them to thinking of a customizable vending machine. Having modular drawers that can seamlessly interlock would allow users to add on new drawers as needed. Each drawer will house resistors of a single value to provide an organized workflow. When the user returns the components, the dispenser will measure the values to put them back in the corresponding drawers.

Problem Solution

This product provides a more complicated system than the custom ramen dispenser. Since the market for this product is more niche, the pros and cons of this product are of greater impact. The electronic component dispenser is technically difficult to implement, with added complications of having a wide range of components. Additionally, the process of reading each resistance value is slow. The modular interface may also fail. However, this product would solve the otherwise painful process of organizing components while preventing component spillage and components going into the trash. The dispenser also allows for a centralized storage location and saves the user time in the sorting process.