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Testing Plan for Prototype

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1. **Prototype Overview**

The prototype is sleeping mask where it solves the problem of the night owl and the early bird having colliding schedules, where two roommates have different sleeping times. For example, a person who wakes up early by having an alarm wakes up the late nigher, who wants to sleep in. On the other side the late owl also disturbs the early bird by making noise whether just doing homework or playing video games. Both problems are fixed though the sleeping mask design. Where it consists of a layer of cloth wrapping around the face to block out all light and an electronic device embedded within the mask to act as a vibration device for the alarm, in addition to a Bluetooth interface card to be able to set and stop the alarm. The current prototype improved by having a sleeker more comfortable/usable design with more cushioning, distributing its weight for better fit. Adding an app component for better usability/programmability.

2. **Define Testing Goals**
    a. **Objective**

The first goal of this prototype is to be able to improve the device to maximize the usability and practicality of the device. Secondly, to be able to compete with the market and create a big demand for the product to be sold, this would require a critical comparison of other competitor products and practicality for the product to be manufactured. The purpose of prototyping is to be able to get a true grasp of what the user wants and needs.

    b. **Hypotheses**

The user should be able to open the packaging, set up the device and configure the application. In addition, be able to charge the device when the battery is low. Lastly the user should enjoy its benefits, of not being disturbed while sleeping and not waking anyone up.

    c. **Metrics**

- What is the rating of the device in 1 through 10.
- The amount of time it takes to get through setting it up.
- Amount of time it takes to wear and take the device off.
- Time it takes to recharge the device and how long the battery lasts
- How consistent is the device able to wake up the user
- How much does the device weighs.
- How long does it take to configure the app with Bluetooth.

3. **Testing Methods**
    a. **Unmoderated Usability Testing**

The unmoderated usability test is where users complete the task of setting up and using the device without any help, the only help they will receive will be the instruction manual and their intuition. This test is great for this product as it tests the real world better as it does not

assume the users will automatically work for them. It shines on a blind spot on the creators of the device, as they created the device bit by bit and they might unknowingly assume everyone else has the same knowledge as them.

b. **Think-Aloud Testing**

The think-aloud test is a scenario where, participance are shown the potential product and tell you what their first thoughts on it are, even though they might not have used it first. This test shows the potential interest the public may initially have in a new product coming out. This test is great for new products that the marketing/public interest is completely unknown. It gives the creators useful positive/negative feedback if they can sell their products, if they get negative feedback then they know that they need to make their product more marketable.

c. **A/B Testing**

A/B testing is used to compare two or more versions of a product with potential testers. A user would be given two versions, and they would point out the potential features/upgrades and tell if the upgrade is beneficial or not. If it is negative, then that feature should not be included in the next version. This testing model is very useful for revising the product and being able to highlight the features of the market.

4. **Test Setup and Participants**

a. **Participants**

Potential participants would be a mix of family, friends, peers, and strangers. Part of the user test would be people who I know, while the rest would be people found randomly nearby or in the school. Potential amount to test would be minimum 5 and maximum 20.

b. **Test Environment**

The test environment would be an indoor air-conditioned room, where they will be given a few minutes to see the product and come up with answers to how the product is.

c. **Test Scenarios**

The potential scenarios/task will include holding, feeling and wearing the device. In addition, be given an in-depth demonstration of how the product operates, which would include seeing how the device would wake up the user, how to charge the device and how to use the app. In addition, they would be shown the instruction manual and the prototypes.

5. **Testing Process**

- The first scenario would include the user who would be given info about what the product is and the instructions on how to use and maintain the product. They would answer questions about how to use the product and a correct answer to this question would indicate that the average user would be knowledgeable in setting it up.

- The second scenario would give the user two different versions of the products and list their features front-to-back and they would answer which specific features would be beneficial. Some potential questions would include how they feel about this feature, should this feature be added or rolled back.
- The last scenario would be a rapid question and answer right after seeing the product, the question would include things like how likely they would buy this and what features they would wish for this product to have.

6. **Feedback Collection**

The interview will be recorded to fill out and transcribe the data later. In this way the questioner will be able to fully focus on the interview instead of spending time plotting down the information. After the information is recorded the recording will be deleted.

7. **Analysis Plan**

The feedback will be recorded inside an excel spreadsheet and it will record both quantitative and qualitative feedback where some in numbers and some in a typed response. In this way all the responses will be easily organized and processed for the next steps. The spreadsheet will be neatly organized into columns and rows for each question and answer for each person.

8. **Next Steps**

The next steps of the iteration challenge will be to build a potential prototype and prepare it to be able to test purposes. Then feedback with people will be constructed and the responses will be recorded. After the recoding is done the recording will be processed and transcribed into a spreadsheet to find out the potential improvement for the device. Lastly would be to take those improvements and to build a new improved prototype.