ECE 2800

Productivity Watch

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25 April 2022

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1. Project Definition

1.1. Background

The overall purpose of our project is to help the lives of college students improve day-to-day performance, function, and promote a healthy living style. As students in college, there has been a point where we have wondered if there would be any benefit of staying up to continue to do school work or going to bed and have a clear mind in class the following day. Whenever we reach this point, we often make the wrong choice, which makes us feel burnt out the following couple of days. The Productivity Watch attacks the problem of the college feeling of being tired and burnt out, yet having a great work ethic that allows for better efficiency and productivity when tackling assignments.

1.2. Objectives

The Productivity Watch main objective is to notify the wearer when it will be the most valuable time for them to complete a specific task. It will also provide them with a way to look up their energy levels on the app that their watch connects to see at any given time if they actually need to do something other than schoolwork. Notifications that the watch will give a person include when they should take a break, nap, or consider eating food to help with their productivity. Overall, it aims to provide a solution for the guessing game of what to do when motivation is low and makes the decision for you. College is a very stressful time because if you do not have good time management skills, you will struggle. The productivity watch will help college students live a less stressful life while still having great success in the classroom.

1.3. Specifications/Constraints

There are essentially two mini-products within the overall product: the physical productivity watch and the partner app to download onto your cellular device. The watch will include a sensor that takes biometric measurements such as heart rate, blood oxygen levels, and hormone levels that allow that productivity meter to make its decisions and notify you of what action to take. It will also have a touch screen that shows you what percentage of productivity you are at out of 100, what times of day you usually are very productive, and when you should be going to bed that night. The bracelet part of the watch will be interchangeable with many different styling options. The app will provide the same features as the watch plus a feature to add your weekly schedule, the levels of the actual biometric measurements it has taken, and if any of your biometric levels are abnormal. Lastly, the app will also allow you to manage your subscriptions if you choose to subscribe. You do not have to subscribe, but your app will not allow you to view any of your biometric data if you do not. There are three subscription plans. The first is our base plan for the average person/non-athlete and costs thirty dollars per month. The second plan is our yearly plan for the average person/non-athlete and costs three hundred dollars per year. It is the same as the first plan, but just yearly. Our final plan is for college athletes and is

twenty dollars per month. They will get a ten-dollar discount per month and be required to make a social media post once a month to have access to this plan.

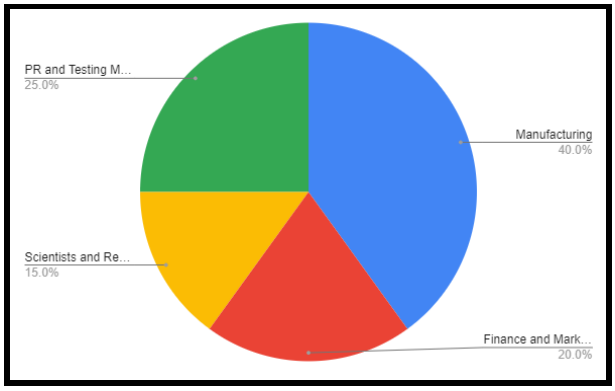
2. Methodology

2.1. Feasibility Analysis

When looking at the feasibility of our Productivity Watch, it passes all 5 major challenges of any project. First off, our watch would not tread any legal borderlines, and the legality of the project should not be an issue. Secondly, operationally, this watch, if completed correctly, would help to solve the issue of procrastination and resting times, and also it would perform well in the open market. Our watch would also be economically feasible, although it would require major funding to get started, when released it would make that money back in sales, according to our estimates. In terms of schedule feasibility, our project, as shown later in this paper, would take roughly 5 years to complete, and would not be available for a short timeline. Technically, our watch would also be feasible, although it would require a lot of research and testing.

2.2. Proposed approach

Our proposed approach would consist of the research stage, hiring stage, development stage and release stage. During the research stage, an initial a team of skilled scientists would be hired, and research on the best way to complete the project would begin. During the hiring stage, an estimated 450 employees would be hired. Rough estimates show that around 40% would be working in the manufacturing plants, 20% in financials and marketing, 15% researchers and scientists, and 25% in public reputation and testing management. During the development stage, production would begin and we estimate that we would need around 25 metric tons of recycled materials and new electronics in order to manufacture as many as we see fit. And finally during the release stage, marketing would start to kick into high gear and our budget would now be more pointed towards advertisements and monitoring the release of our watches.



2.3. Non-technical aspects

When looking at the non-technical aspects of our Productivity Watch, no concerns arise. Globally, this product should perform just as well as it does in the United States. Environmentally, our watches would no doubt have a small impact on the environment, as most manufacturing does, but we ensure the use of recycled plastics and polymers in the creation of our watches, and adhere to the environmental guidelines where our manufacturing and office buildings are. This product would be completely ethical, as it would help people in their lives, and make them less tired and more productive with no negative effects.

3. Administration

3.1. Major Tasks

To complete this project, a number of tasks need to be accomplished and would be split among various individuals for the tasks to be completed by those best suited for it. One of the first tasks that would need to be completed before starting another part is the initial planning and brainstorming for the prototype. The design of the watch face, band, and mobile app would need to be drafted in order to be able to explain it to others. This task would be completed as a team to have everyone on the same page and to divide future task responsibilities. Next, there would be three main focuses. Each team member would be responsible for managing either the development of the mobile app and subscriptions, the watch, or recruiting and advertisement of the productivity watch. By the end of the development phase, the two team members responsible for the development of the watch and mobile device would have to take the feedback received from the trials and make improvements. While their team continues to receive feedback and changes that consumers have suggested, the final team leader would focus heavily on the advertising portion to reach our target audience. The advertising would also be divided into three main focuses, campus advertising, NIL, and social media.

3.2. Schedule

We estimated the project timeline to take around five years to complete before the product is ready to be sold on the open market. As seen from the proposed approach, the steps would roughly follow a research stage, hiring stage, production and development stage and release stage. For months 1-6, we would be in the opening stage of our development, and this would entail finalizing designs, estimating costs, estimating resources and staff needed, etc. For the latter half of the first year, we would start setting up our project to be completed; this could include hiring staff, buying or renting office spaces, and ordering the supplies needed. In years 2-4, this would be our production phase, where we would create, build and test our product out. This would take so long because we want thorough testing, so when it comes to the open market, it is a complete product. To thoroughly test the device, we would have to develop a prototype to give it to our target audience for feedback. In year five, we would finally

be ready to put our product on the open market and then, from there on out provide maintenance and fixes as needed.

3.3. Budget

As shown before, we estimate we would need 32 million dollars in funding from our investors to complete this project within five years. Would split the investment among three different focuses. Our company would allocate 20 million dollars for the actual building of the product and buying materials, researching costs, and buying real estate. The next main focus of development would receive 6 million dollars to test the product and give people incentive to try the product and give feedback. We would then allocate the last 6 million dollars to pay the wages of the workers and executives in the company.

3.4. Facilities and Resources

For our facilities for this project, different types of office spaces are needed to complete the specified tasks within our group. To assemble our devices, we would need to have a manufacturing plant that will be outsourced at first, until our company has enough profit to build and maintain our own factory. In building our plant in the future, we will have higher quality control present at each step of the production process and lower costs. We would also need an office space to house our software development team and our managerial staff in one shared space.

With the resources that we will receive from investors and supporters, we will be able to develop and grow our business. Our management team will be split into three main sectors to oversee the development of the project portions. The software development manager will have robust software and coding background where they would be able to guide their team through problems that emerge. They would also be able to design new ideas for the mobile app and have their team develop. The hardware manager will oversee the watch's manufacturing process and design new styles that would maintain inference in our product. Lastly, the last manager would manage more day-to-day activities, focusing on the advertising portion to make sure that our target audience is seeing the product.

4. References

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