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University of Ottawa

GNG 1103: Engineering Design

Deliverable B: Needs Identification and Problem Statement

Project Group C12

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Introduction

This two page briefing contains the information gathered during the first client meeting on January 26th, 2020 with Mitch Bouchard from General Bearing Service Inc (GBS). Mr Bouchard is seeking an innovative way to guide and improve individuals' recycling etiquette. GBS supplies recycling plants and trucks with a broad assortment of bearings, thus Mr Bouchard has a thorough understanding of the industry's struggles and needs. Amongst those struggles is the general public's ill sortment of recycled goods. Items that are incorrectly recycled get sent to landfills or worse, break recycling machines. Educating the public in a simple and user friendly manner, would address many of Mr Bouchard's frustrations. By empathizing with these frustrations and understanding the constraints and needs, a problem statement was created. In addition, needs were organized by importance based on Mr Bouchard's desires and on feedback obtained from similar products already on the market.

Problem

The world needs everyone to properly and thoroughly recycle. Landfills are filling up, the ocean is full of garbage, even the streets and roads are being polluted by unwanted items. The worst part is that the majority of these items can be recycled and reused. By creating an app that educates and offers incentives for people to recycle will result in cleaner cities, oceans, and the world as a whole.

A need exists for a recyclable item identification application to enhance the public's knowledge and improve recycling on a global scale while also remaining user-friendly, accurate and cost effective for the customer.

Needs

When speaking to Mr. Bouchard about what he wanted from our product, there were a few notable points as well as some wishful thinking. The first and most important point being a user friendly interface that allows any person to easily navigate and use the application no matter how tech savvy they may be. The goal is to reach as many people as possible and having an app that is easy to use is a necessity. Having a simplistic app also allows for easy globalization, another notable point mentioned by Mr. Bouchard. Creating an app that isn't limited to a certain region or country is of importance. The final necessity is accuracy. If this application is meant to educate and help users recycle then the app must be efficient and accurate. Any spread of misinformation within the app defeats the whole purpose of creating it.

In terms of desires, Mr Bouchard was fairly open to anything. With that being said, there were still a couple frequently mentioned features that we think should be included. The most notable being a scan application that allows users to hold up any item and receive all recycling information relevant to that item. Any items that require special treatment such as batteries and lightbulbs would have an additional pop up informing users of the extra steps required to recycle said item properly.

Interpreted Need	Importance
User friendly interface with easy navigation of application	5
Globalization of application	4
Accuracy of information accessible to user	5
Item scanning feature	3
Colour code for recyclable items	2
Game format	2
Location of local recycling facilities	3
Incentives for users	2

Table 1 - List of interpreted needs from client meeting 1 and their rank of importance
5 - Need is critical 4 - Highly desirable 3 - Would be nice but not necessary 2 - Not important 1 - Undesired

Limitations

The customers, Mr Bouchard, did not impose any limitations to the product. However, the University has appointed a $100 budget for the production of the application as well as a three month timeline to deliver the product.

Benchmarking

There are many innovative recycling applications for mobile devices on the market. Among the more popular ones are iRecycle, RecycleNation and Recycle Right. These three applications are available for both IOS and Android, satisfying Mr Bouchard's desire to have a nationwide platform. Although RecycleNation has one of the largest recycling databases, the user must input their item information as well as their postal code/zip code. This system would not meet the need to have a user-friendly application. All three of these applications use the user's location in order to find the nearest recycling facilities. This system would enhance the customization of the app, which results in a more satisfied user. Furthermore, Recycle Right included some helpful tips and tricks for making the most out of materials: they have included recipes that can be made from leftovers, project ideas that use recyclable goods, and lifestyle choices when deciding what to buy and where to buy it from. By identifying the features that meet Mr Bouchard's needs and desires, we can develop an application with a higher level of efficiency.

Conclusion

After gathering and organizing all of Mr Bouchard's needs and desires for the application as well as identifying the problem at hand, a final solution can be obtained. Specification for the product will be based on the needs presented in this briefing.

References

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