Project Deliverable B: **Need Identification and Problem Statement**
GNG 1103 – Engineering Design
Team C01-1

<u>Team Members</u>

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Abstract

Most recycling efforts today are wasted due to inappropriate disposal and improper application of recycling knowledge. The aim of this design project is to create an application that can assist people in recycling more efficiently. Through analysis of the first client meeting, the major requirements of the product include: Ease of use, accuracy, and automaticity. This briefing will include an overview of the problem, a description and prioritization of the client's needs, and a conclusive problem statement.

Introduction

Despite the illusion, recycling today is not as effective as one would think. This is partially because a lot of things that are recyclable are either thrown in the garbage or recycled incorrectly. Although there are other external factors of recycling that need fixing, a controllable and immediate solution to improve its effectiveness is by creating a means to help individuals dispose of recyclables properly. The goal of this project is to design a device that will help people effortlessly and correctly recycle products. Due to the constraints of this project, this will be in the form of an app that is able to determine how to dispose of products. However, the first stage in the design process includes an in-depth understanding and interpretation of the client's vision.

Client Needs

The client desires a simple, easy-to-use app that will encourage recycling and is compatible on any iOS or Android device. The app will utilize AR technology to scan products and provide correct information of the appropriate bin for the item. The scanner must be of high accuracy. Some educational game aspect was recommended to encourage users to learn about recycling, as well as to not bore them from using the app. It must also be easily expandable on the provincial and/or national scale. This interface should accommodate anyone of any level of technological literacy.

The table below delivers an overview of the overall needs of the client in rank of importance (5 being the most important and 1 being least important).

Number	Needs of Client	Importance
1	Accurate Item Scanner	5
2	Compatibility with Mobile Devices	5
3	User Friendly	4
4	Expandability	4
5	Educational Game	3
6	Extra Educational Information	3
7	Incentive System	2

Table 1. Ranked Client's Needs

Problem Statement

The goal of this project is to create a user-friendly app that will contribute to the education and promotion of healthier and more efficient recycling habits.

Conclusion

As per the client's needs, this project will seek to develop a simple, user-friendly application that is viable on most smartphone software and will encourage productive recycling, as well as enhance the users' knowledge about the subject. An eminent aspect of the application will be its innovative approach to the recycling method by incorporating game-like features.