**CHAPTER 1**

**THE PROBLEM AND ITS BACKGROUND**

*This chapter serves as a background for readers to have an overview of the study even without prior reference to other publications on the topic.*

**I. Introduction**

In this world where people with disabilities are associated as a burden for others and being isolated from the society, a meaningful medium from where they can show everyone that having a disability is not a reason to treat them like they are being treated. There are different kinds of disability that needs to be given so much attention to. There are cases where lack of help and welfare for people with disabilities are reported. Not enough programs are built regarding these people, especially on the remote areas within the country.

Blindness refers to the lack of vision, that cannot be corrected with paraphernalia like eye glasses or contact lenses. There are two kinds of blindness which is Partial and Complete blindness. In Partial blindness, it means a person has a limited vision. On the other hand, a Complete blindness refers to the state where a person cannot really sight a light or see anything. But for most people who use the term blindness actually mean the complete blindness kind. Seeing this as a huge problem for one person can urge someone to do something about it, and perhaps other people will want to help on making a solution for it. There are different reasons why a person is visually impaired. It can be a result from a terrible accident, illness from which the eyes got affected and probably the disability is in-born. No one knows what horrible things might come, not even in a blink of an eye.

People with vision disabilities, face different problems every day, just like any other people but for them it is much more difficult because not being able to see the things around you is one of the reasons that made it hard. On their daily lives, they face hardships within their normal activities. Most of them have to depend on others just to go through the day.

As what the proponents have seen about the problems faced by the visually impaired people, they’ve decided to create an application that will help these people cope up to the world. This application is specifically made for the visually impaired people that will enter the vicinity of Pamantasan ng Lungsod ng Maynila (**PLM**). Providing them a guide while inside the university. It’ll help them depend more on themselves even on facing other people or the things that they will encounter around.

**II. Statement of the Problem**

Based on proponents’ research, they have come up to the following problems:

1. **Almost all of the reading materials and resources used by a person are not available in Braille.**

Scenario:

*A visually impaired student needs a textbook for him/her to read, this needs to be converted to Braille before he/she can obtain the information that the textbook has. It may take some time before it can be converted. And another thing is, this student received a letter from the office and because of his disability he won’t be able to read it by himself. These people have a high chance of not having their own privacy, given that they need other people to read it for them.*

1. **Difficulty in navigating within the environment.**

Scenario:

*The visually impaired person entered the vicinity of Pamantasan ng Lungsod ng Maynila but he/she walked alone after passing the gate. While walking, he/she is not sure if he was on the right place where he was supposed to go.*

*They probably could make a lot of mistakes regarding the spots, rooms, and offices while wandering around the university.*

1. **Visually Impaired People are having a hard time identifying objects and other people around them.**

Scenario:

*The visually impaired person went to the University canteen because of hunger. He stopped right in front of a stall but was not sure if it is right one. He then asked the seller, if they are selling some Sandwich. After the sandwich was done, he was asked for the payment of the food. He brings out the wallet from his bag but he is not sure if the money that he took was the right amount for the food he is going to purchase.*

**III. Objectives of the Study**

1. The objective of this research is to formulate a way to develop and provide the users (Visually Impaired Individuals) an immediate way to know the contents of an object with a text such as letters, lectures and menu information.
2. To provide a guide to the different locations and spots while the user is on the university.
3. To be able to identify and describe the objects, people and environment that can be encountered around.

**IV. Importance of the Study**

Not all people have the chance to see how wonderful the things that surrounds us. The beautiful faces of humans, things that can help us every day and up to the beautiful sceneries around us. As to give these people, more encouragement on their lives and if they wanted to depend upon themselves given the capabilities that they have, this study was made and an application for them to use. Specifically pertaining to those people who will enter the vicinity of PLM (Pamantasan ng Lungsod ng Maynila). It can be the students or other people from the outside who have their concerns inside the university. This application will be their guide, letting them wander inside if they need to go to a specific building, office, classrooms or even on the comfort rooms Knowing that most of the visually impaired people depend on others, the proponents want them to start depending on themselves. It can be a great attainment for them because often they don’t want other people to be bothered for their own needs.

This application will let them capture anyone or anything right in front of them, and be able to know what’s going around. Right about their privacy problems, because they cannot read on their own, the application will provide a way that will help them distinguish the contents of something with a text. Being able to use it to read letters, books, or even menu on restaurants and stores will be a great convenience to the visually impaired people.

This study was provided with the challenges that the visually impaired people encounter inside the university. Giving them more purpose to live and be able to boost their confidence within themselves is worthy.

**V. Significance of the Study**

1. To the ***visually-impaired students***, to help and provide a way for them to become more self-reliant whilst inside the university in terms of navigation and awareness.
2. To the ***programmers and developers,*** this study will encourage them to partake in the improvement and development of applications that can help disabled people and to advance and develop applications and system that utilizes this technology.
3. Lastly, to the ***future researchers,*** that they will further this study through investing more time in finding out the effectiveness and relevance and to what extent can Computer Vision help in today’s computing technologies.

**V. Conceptual Framework**

Application generates output in form of voice or speech synthesis

1. Application analyzes image and generates a brief description

2. Application looks for the shortest possible rout between Point A and Point B provided by the user

3. Application provides a short background information about certain topics regarding key point inside the University

APPLICATION

1. User inputs an Image, or

2. User asks for directions, or

3. User queries about key locations

OUTPUT

INPUT

**VI. Scope and Delimitations**

This study focused on the problems and difficulties faced by the visually-impaired people while they’re inside the university. It limits the places and spots which can only be found within the vicinity of Pamantasan ng Lungsod ng Maynila. All buildings, offices and rooms are covered by the study for the guidance in the navigation of the user. Things that can mostly be encountered in the university like letters, lectures, textbooks, bulletin boards and such are the ones that the application can handle for the user. Its description from the identification of the object, the color or even the size. People coming in and out are analyzed just based from their form and appearance. A person can be described on what its gender, how old, color of the clothes and the action currently doing.

The things and places outside the Pamantasan ng Lungsod ng Maynila is out of bounds and is not included in this study.