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BSCS 3A

Thesis title:

**“An Assistive Mobile Application of Philippine Bill Recognition**

**for the Visually Impaired”**

1. Background of the Study

According to a research conducted by the World Health Organization on the 13th of October in 2022, there are about 2.2 billion people globally who have a near or distance vision impairment, where the majority of these individuals are over the age of 50 years; al though vision loss can affect of all ages.

Currency recognition is a critical task for visually impaired individuals, as it enables them to manage their finances independently. However, this task can be challenging due to various factors such as the small size of coins, the lack of distinctive textures, and the absence of visual cues. This can result in difficulties in identifying coins and lead to errors in day-to-day monetary transactions.

Implementation of machine learning specifically image classification and text-to-speech technology has the potential to provide an accessible and affordable solution for currency recognition. Through this, visually impaired individuals can receive spoken information about the coin’s denomination that allows them to accurately identify and manage their money.

This thesis aims to implement a mobile application that utilizes text-to-speech technology to assist visually impaired individuals. The proposed solution will address their challenges and will provide a new and innovative approach to their problem.

1. Objective

To provide an easy-to-use and accurate tool for visually impaired individuals to identify and distinguish Philippine banknotes, enabling them to manage their financial transactions with greater independence and confidence. The application aims to use machine learning algorithms to recognize and classify Philippine bills through the camera of a smartphone, and provide a real-time audio feedback to the user.