ZRecognition
TPJ665
Final Capstone Project

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1 Executive Summary

2 Introduction

Security is an important feature for a company providing a service to their customer. The company must ensure that its service can only be used by authorized personnel. This is where Z-Recognition comes into play. Z-Recognition is a license plate recognition system that ensures only authorized personnel have access to a designated area. Z-Recognition accomplishes this by taking an image of the approaching vehicle and processing it. If the vehicle is authorized, meaning the license plate is recognized, the vehicle is given access. Our group has decided on a license plate recognition system due to its uses in modern day society. Today, one can still find areas that are monitored by a single employee, or by a ticket-based entry system. These systems could be found inferior because of their reliance on periodic human interaction or supervision. Z-Recognition is designed to run autonomously with minimal costs, and a single requirement of an active internet. This license plate recognition system also implements a core feature in the future of computer technology, machine learning. With machine learning, an artificial intelligence (AI) can provide systems the ability to learn and improve without being explicitly programmed. This means that automated systems become more secure and reliable, without the need of constant supervision. Finally, this project will require both hardware and software implementation to be fully functional. It will require us to work with and learn both software development and hardware assembly which we, as Computer Engineering and Technology students, would prefer.

3 Functional Features of the Product

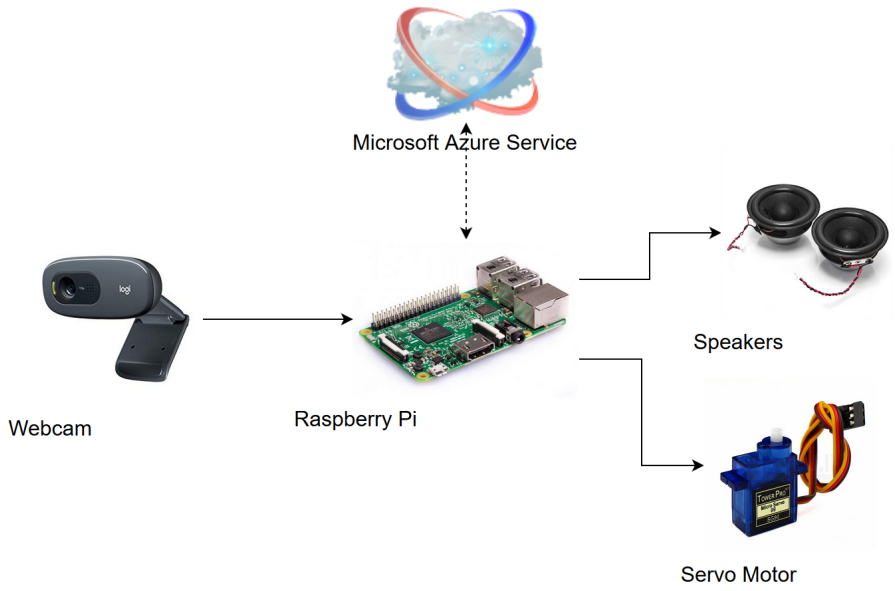
The following are inlcuded features with full functionality:

- Image processing - Using Microsoft's Cloud based Computer Vision Service, called Azure, a captured image will be uploaded to

4 Specifications of the Product

5 Product Design, Implementation, and Operation of the System

5.1 System block-diagram



5.2 UML diagram

5.3 Software flow-chart

5.4 Component images and components description/Captures of the major GUI used

5.5 Theory of operation of the entire system

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