



Abu Dhabi Polytechnic

Students' Graduation Project Abstract

Department:	EMET	Semester:	Spring-2022
Project Title:	Artificially Intelligent Blind Stick		
Supervisor:	Dr. Fawwaz Alkhatib		

Abstract:

Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, speech recognition and machine vision.

Through these applications listed above, everyday life has been impacted by making smart systems and machines serve humans especially when dealing with a huge amount of data, organizing, and keeping track of updates. However, there's yet a solution to serve visually impaired individuals and aid them with navigating through everyday life and accomplishing tasks with less to no obstacles.

The idea of this project is to design and develop a smart stick using Artificial Intelligence AI to help visually impaired people.

The stick will be able to detect identify the obstacles using AI. Voice feedback will be activated with the object's name whenever the obstacle is detected. In addition, in case the smart stick falls from the person's hand a buzzer sound will immediately turn on, the person will be able to find it easily, and after a certain amount of time if the stick was not picked up a text message will be sent to an emergency contact chosen by the user.

Mainly the following components should be used: Arduino Microcontroller, Camera module, Ultrasonic sensors, Capacitive touch sensor, GPS/GSM module, Tilt sensor, Speaker, and Voice recorder module.