



**BITI3533 ARTIFICIAL INTELLIGENCE PROJECT
MANAGEMENT**

**PROJECT TITLE: HOME AUTOMATION USING ARTIFICIAL
INTELLIGENCE**

LAB 1: PROJECT MANAGEMENT FRAMEWORK

Project Members

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Executive Summary

Since the age of smart appliances is blooming, we can apply the knowledge of Artificial Intelligence (AI) and Internet of Things (IoT) into our everyday devices to make our life, smart. This project is focused on create a system by applying the concept of Internet of Things (IoT) and Artificial Intelligence (AI) for home automation to improve the quality of life.

The scope of this project to apply Natural Language Processing, one of the specific applications of AI into the system to capture, interpret and execute action using owner's voice command, using Arduino to control the light switch.

The AI concept that will be used for the system is Natural Language Processing (NLP), and the reason is, we want to develop the machine in a way it could understand, analyse, manipulate, and generate the suitable response (action), based on the users' voice command. Generally, NLP is a branch of AI, where the main idea is to give computers the ability to read and comprehend the spoken and written words on the same way humans do, by analysing the grammatical structure of the sentence.

As for the hardware, we are going to use Arduino, an open-source hardware development board that contains a microcontroller. It is basically a device for controlling electronic devices. The board is

capable on reading input(s) and turn into output(s), thanks to its microcontroller. Furthermore, Arduino is designed simple and easy-to-use yet flexible for users. Arduino IDE is also cross-platform, enabling user to run it on multiple operating systems such as Windows, Linux and Macintosh OSX.

The significance of this project is, we can control the light usage anywhere, and there'll be no need to going back and forth to turn on/off the light in the house, especially when we are going out or going to sleep. One simple command is all it takes. Besides that, the system itself can be used as a stepping stone for controlling other electrical devices in home, such as controlling air-conditioner or locking/opening garage door. This can lead us to adding new features in the future.