

MARVIN (Voice Automation)



KIET Group of Institution,Ghaziabad
(Affiliated to AKTU, Lucknow
Session 2022-23)

Functional Requirement

Voice command automation requires the following equipments and software to run properly:

- Software -
 - Arduino IDE
 - Python 3.9+
 - Tensorflow 2.11.0+
 - Numpy 1.24.2+
 - Tensorflow-io 0.31.0+
- Hardware-
 - Laptop
 - Arduino UNO
 - Jumper Wires
 - Breadboard
 - Resistors and LED
 - Relays
 - Microphone

Product Backlog

MARVIN's first Feature List is said to provide the following deliverables:

1. Speech Activation/Deactivation -
 - a. The Voice Automation System will boot up when the keyword "MARVIN" is said into the microphone. This will allow the system to address the keywords which it is able to recognize. Similarly, saying "MARVIN" again will shut down the Voice Automation System. When the system is deactivated, speaking the keywords will not lead to appliance automation.
2. Keyword Recognition -
 - a. The keywords like ,"ON", "OFF", "UP", "DOWN" , "ONE" ,"TWO" ,"THREE" etc. are part of the words that the system can recognize.
3. Home Appliance Automation -
 - a. As the words are recognized by the system, these keywords will allow the user to control the appliances. This includes turning on and off the lights and fans, AC's , speakers etc.

Workflow Diagram

