Secure Vocal Home Appliances Control

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Our project aims towards a very smart and futuristic home automation system.

Project Description :
In this project we will have speech controlled devices, where only the registered users can give commands to switch on/off the appliances. We will implement this feature using state of the art machine learning models to classify STFT(Short-Time Fourier Transforms) of the received audio signal. This makes our product really secure. Here we will have an app which will convert the speech signal into string which is then given to the bluetooth module which performs the actions according to the message. This project will be implemented using Arduino UNO, Bluetooth and a smart phone.

Components Required :

Arduino UNO – 1
HC – 05 Bluetooth Module – 1
NPN Transistor – 4
12V Relay – 4
1 KΩ Resistor – 4
PN Junction Diode – 4
Power Supply
Connecting Wires
Breadboard
App for transmitting voice to Bluetooth
Bulb

Applications
This system will help us control different appliances with simple voice commands which is very useful for people with disabilities. Further, the project can be expanded by adding different sensors (light, smoke, etc.) and build a full scale home automated system.

References -

https://www.electronicshub.org/voice-activated-home-automation/
https://www.electronicshub.org/rfid-based-attendance-system/
https://www.electronicshub.org/hand-gesture-controlled-robot/
https://www.electronicshub.org/arduino-gsm-home-security-alarm-system/