

## HOME AUTOMATION DEMO

### 4-Channel relay control using Home Assistant, Arduino, Raspberry Pi with MQTT

This project was created to illustrate the use of Home Assistant platform to control common electrical and electronic devices within the home.

The operation of the demo board is as follows:

1. Three lamp fittings, each (3) tied to a relay to simulate turning on/off lights to different rooms in the home.
2. nRF and Arduino ultrasonic sensor, triggers a light on when motion is sensed with the room.
3. Raspberry Pi Server with MQTT, allows for wireless communication between devices
4. ESP8266 and nRF RF Gateway, allows for wireless communication between RF devices
5. nRF24 and Arduino Solenoid Door Lock and Alarm System,
6. Power Module with 5Vdc and 12Vdc regulators, controls all power to the devices on demo board
7. External Duplex Receptacle, tied to one relay to control external devices plugged into the outlet.
8. 4-Channel Relay with ESP8266, triggers devices based on Home Assistant Dashboard Settings.



