



Smart Home Using solar power, Control & Monitoring

SUPERVISOR :

Maithem Hassen- Ahmed Razzaq - Fatima Ghali

GROUP :

Mustafa ,et al

ABSTRACT :

Our project describes a system for the automation and monitoring of a smart house. The system consists of several sensors such as: temperature sensor, humidity sensor, light sensor and presence sensor. The data from sensors is processed and transmitted to the central module via a smartphone through the Bluetooth module. The central module connects at the Internet via Wi-Fi and through an application we can remotely monitor the state of the house or control various devices within the enclosure.



What's Connected

'Internet of Things' is abbreviated as IoT, which is a network for things around us. It is similar to the internet we use, however, not as advanced. Digitally connected devices can work with IoT wherein they installed with sensors and software, which enables them to transfer data.

What's Connected

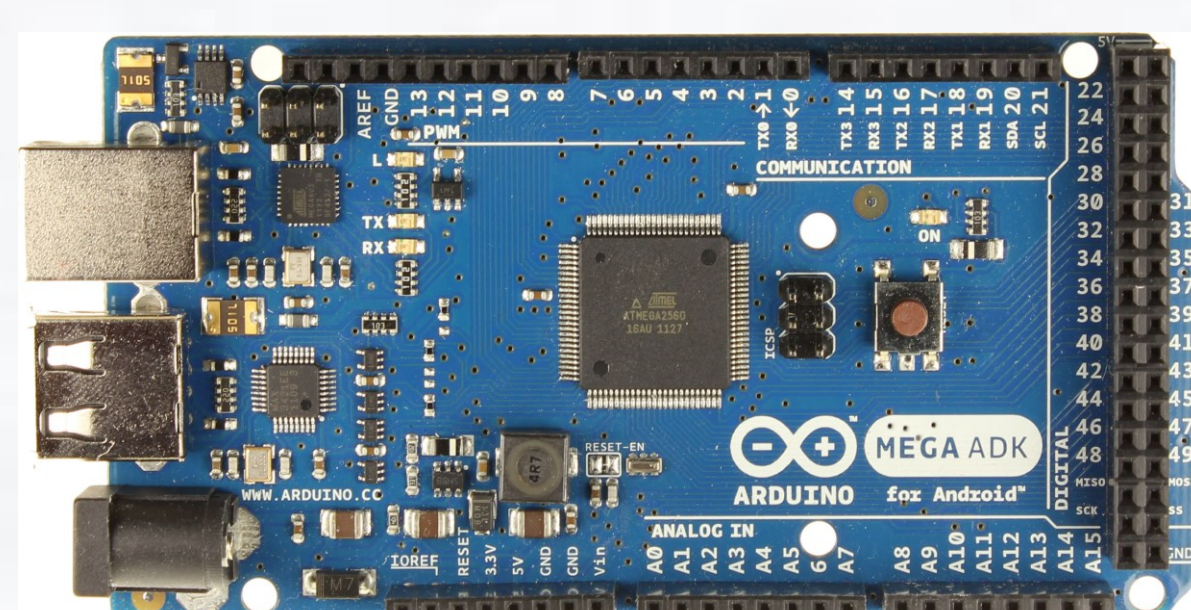
Arduino Mega ADK board, ESP8266-01 as a Wi-Fi shield, photo resistor, LEDs, LCD, a potentiometer for LCD brightness setting, LM35DZ temperature sensor, MQ2-Smoke detector, H-bridge, DC Motor to control a door, fan whose speed changes proportionally to the temperature, buzzer to alarm in case there is any smoke, another buzzer to work as an alarm clock using event and scheduling feature.

Triggers & Alerts

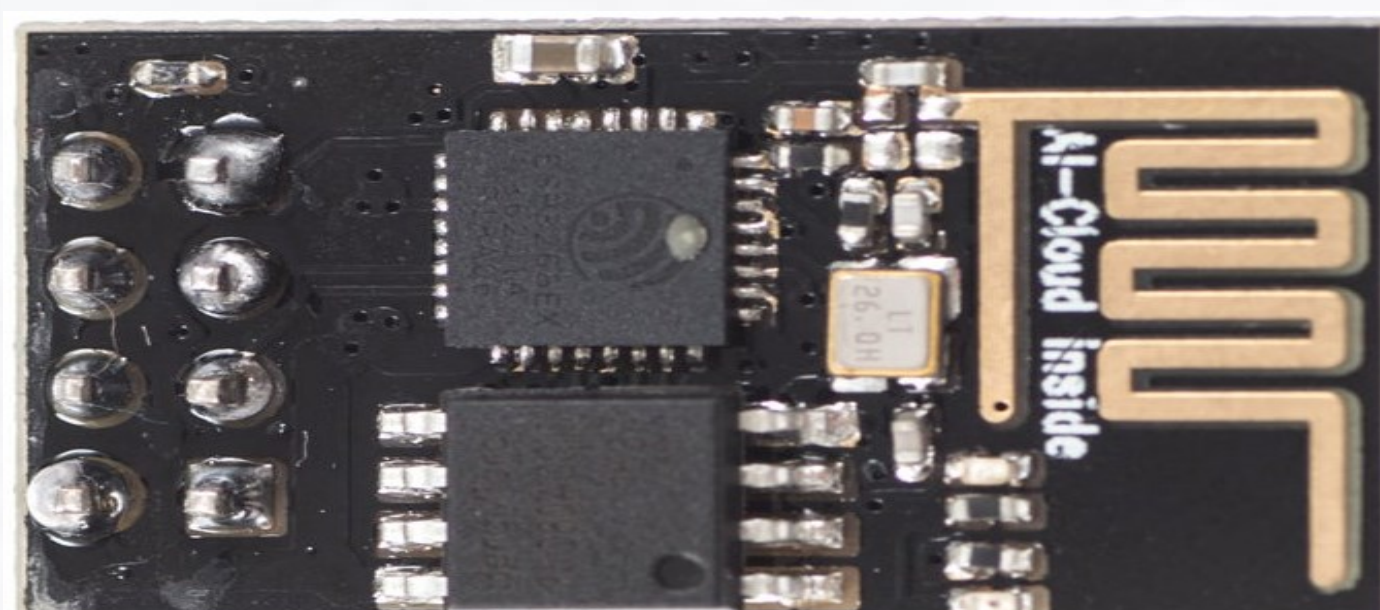
When smoke level exceeds a certain level Cayenne's sends an alerting email & SMS to the user also the buzzer in the house works and the LCD displays a warning message.

METHODOLOGY

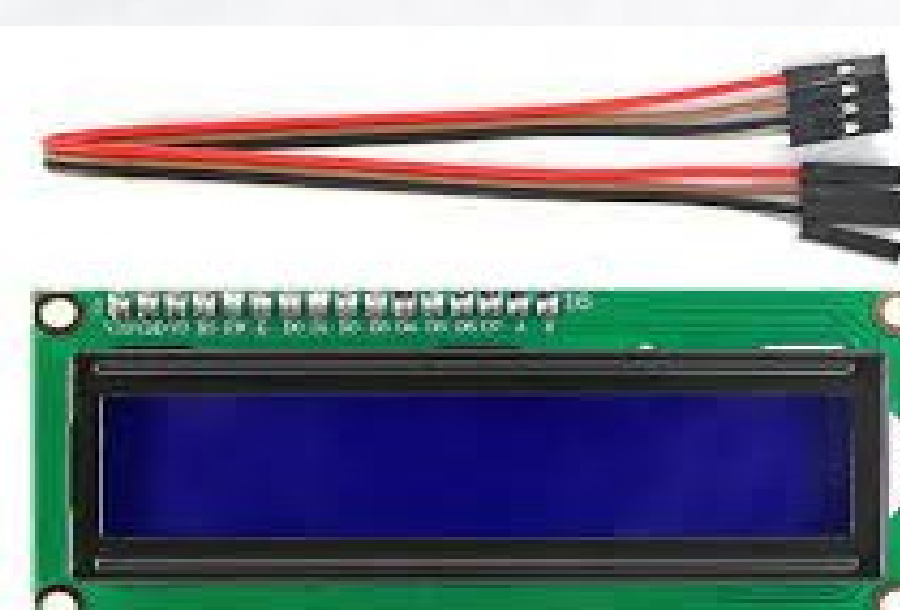
The Arduino mega is a microcontroller board based on the ATmega32u4 and the Atheros AR9331 processor which runs OpenWrt-Yun, a customized version of a Linux distribution called Open Wrt. The reason behind choosing Arduino is it comes inbuilt Ethernet and Wi-Fi which help to make a good IoT project



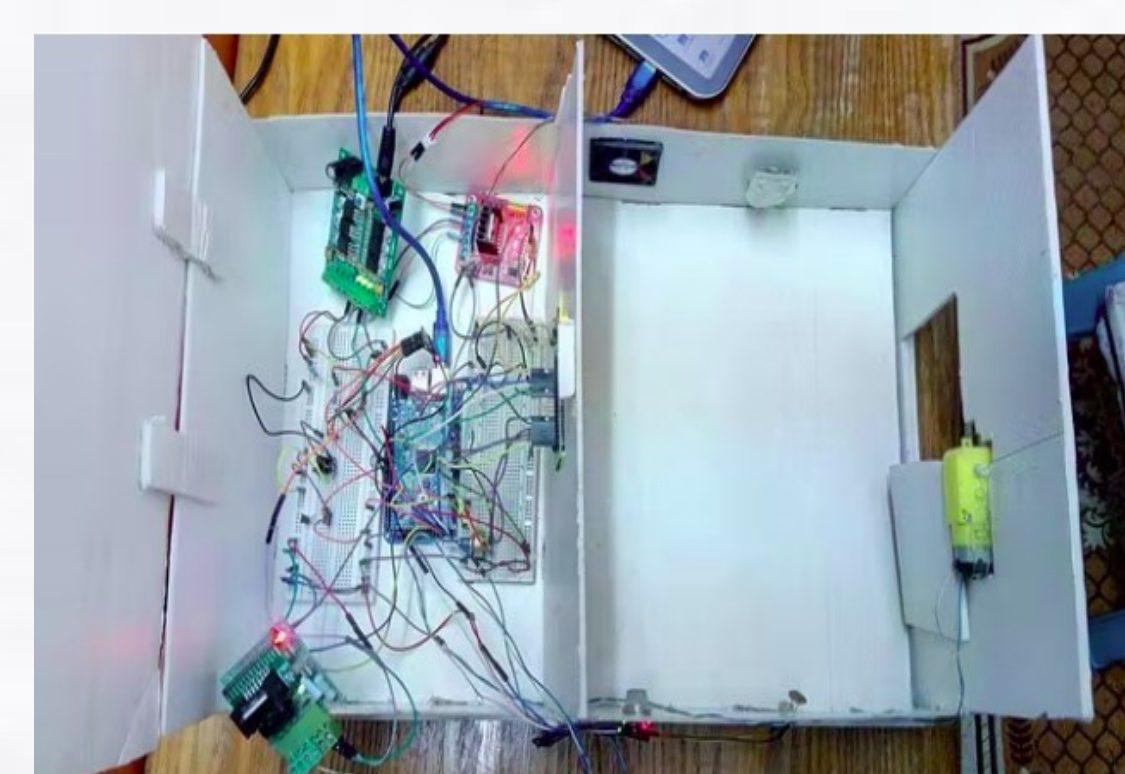
Arduino Mega ADK board



ESP8266-01 as a Wi-Fi shield



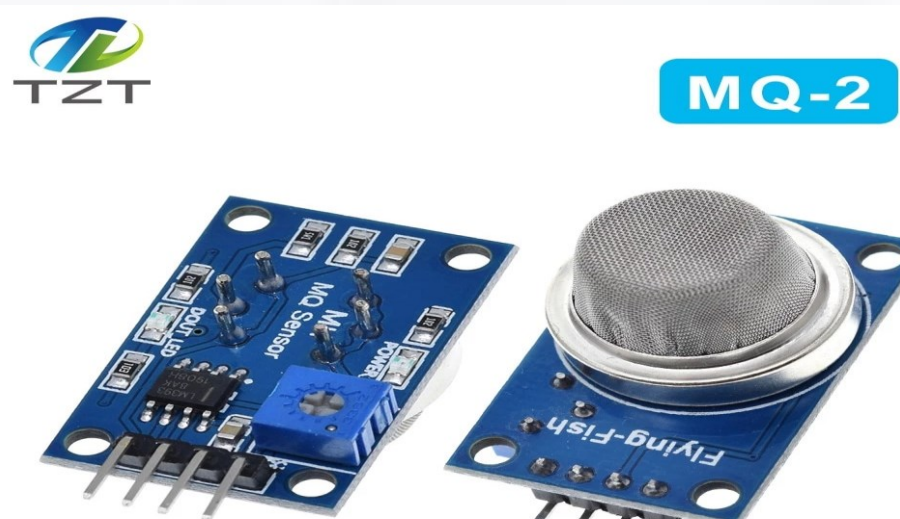
LCD



DC Motor to control a door



fan speed changes proportionally to the tem.



MQ2-Smoke detector

