IOT BASED TIDE LEVEL DETECTION

GROUP MEMBERS

ABSTRACT

- Detect the occurrences of high tide
- Ultrasonic sensor measures the distance of the water
- Rgb led indicates the level of the water,high,low normal tide respectively
- Distance is updated to the web.

INTRODUCTION

- Iot based tide level detection-Embedded hardware+Wifi module

- Embedded hardware-microcontroller,switches,relays,lcd

- Wifi module-wemos

BLOCK DESCRIPTION
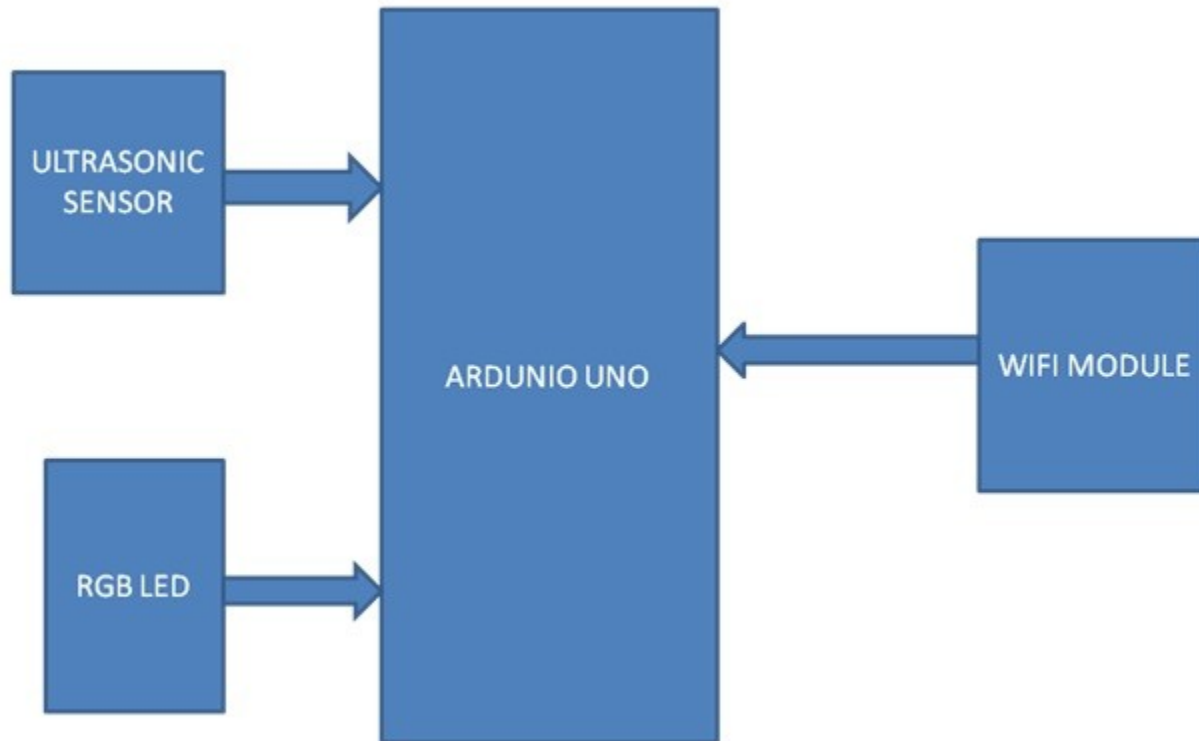
HARDWARE DESCRIPTION

- Microcontroller board – Arduino UNO

- Ultrasonic sensor

- RGB led

- Wemos

ARDUINO UNO

- Microcontroller board based on the ATmega328P.

- 14 digital input/output pins (of which 6 can be used as PWM outputs)

- 6 analog inputs.

- 16 MHz quartz crystal

- A power jack

- Connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started.

BOARD
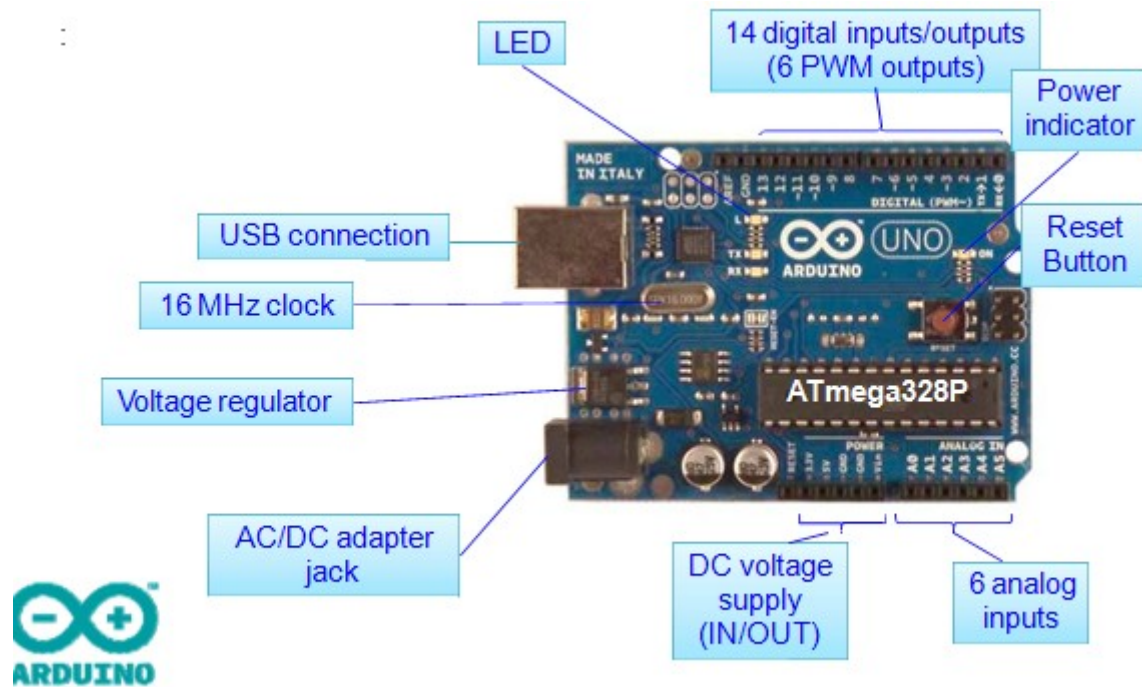
ULTRASONIC SENSOR

- measure the distance to an object by using sound waves.

- It measures distance by sending out a sound wave at a specific frequency and listening for that sound wave to bounce

WEMOS

- **Microcontroller**: ESP8266EX
- **Operating Voltage**: 3.3V
- **Digital I/O Pins**: 11 (all I/O pins have interrupt/pwm/I2C/one-wire capability, except for D0)
- **Analog Input Pins**: 1
- **Flash Memory**: 4MB
- **On-Board Switching Power Supply**:
    - **Input Voltage Range**: 9V to 12V
    - **Output**: 5V at 1A Max
- **Board Dimensions**: 68.6mm x 53.4mm (2.701" x 2.102") / Long x Wide

RGB LED

- additive primary colors, red, green and blue.

- Purpose of sensing, representation and display of images in electronic systems

- RGB is dependent color model

SOFTWARE REQUIREMENTS

Tool - Arduino IDE

Programming Language – Embedded C/C++

CONCLUSION

- High tide can detected
- Current status of the tide level is updated to the web
- So we can know the current tide condition