

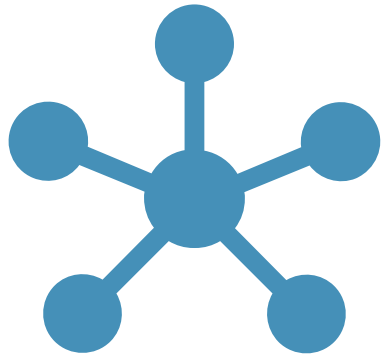


# WATER ANALYSIS

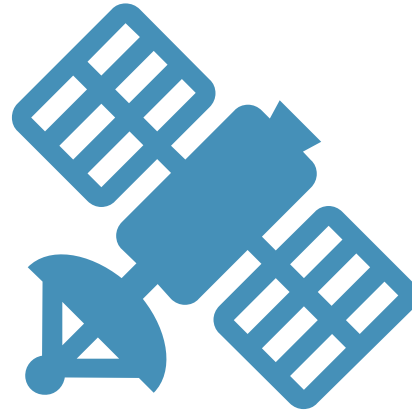
X-IOTA PSI REPORT

TEAM – SOOJI#449

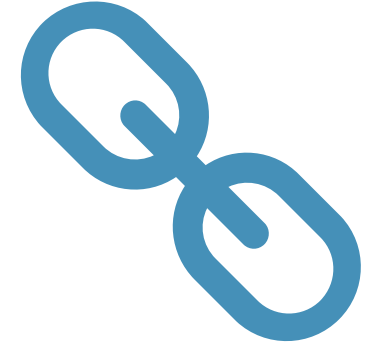
VAIBHAV BANSAL & MEHUL KUMAR SAHOO



PROTEUS



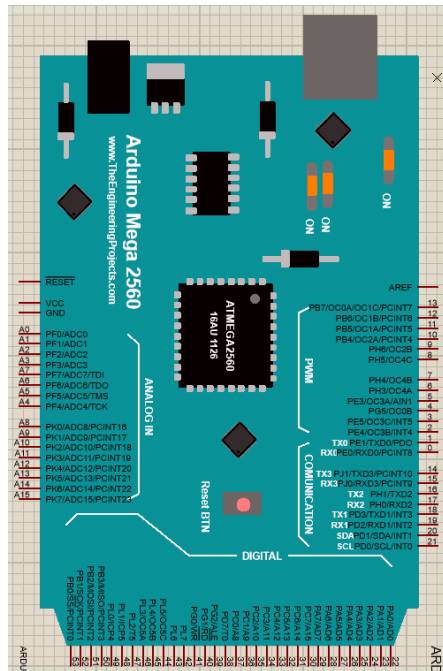
ARDUINO



VSPE &  
BLYNK

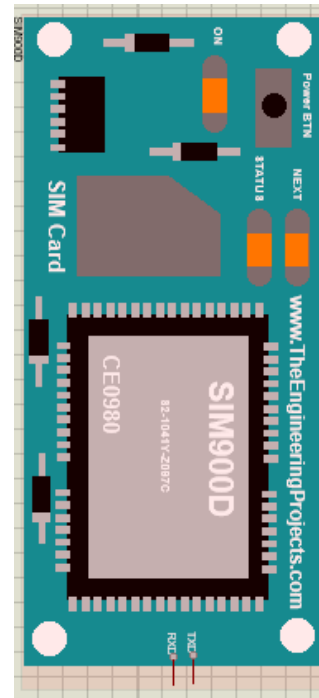
TECH REQUIREMENTS

# TECHNICAL ANALYSIS OF VARIOUS COMPONENTS



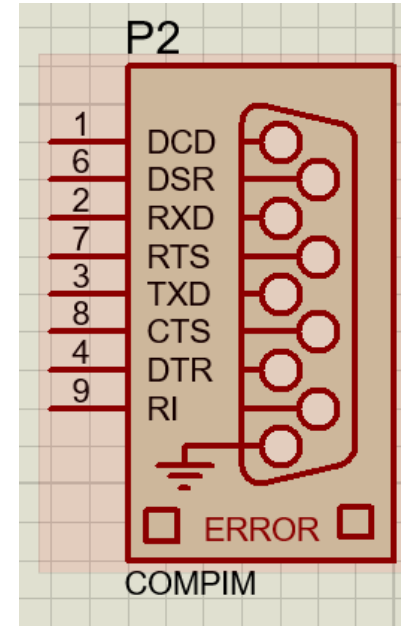
Arduino Mega 2560

The microcontroller which controls the whole working process.



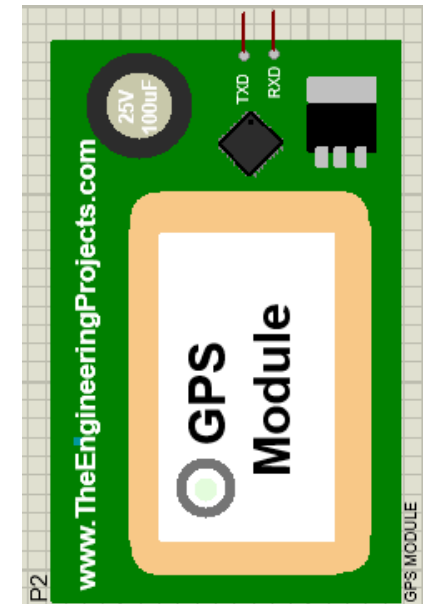
GSM Module

The microchip which helps to send a message or an SOS.



COMPIM

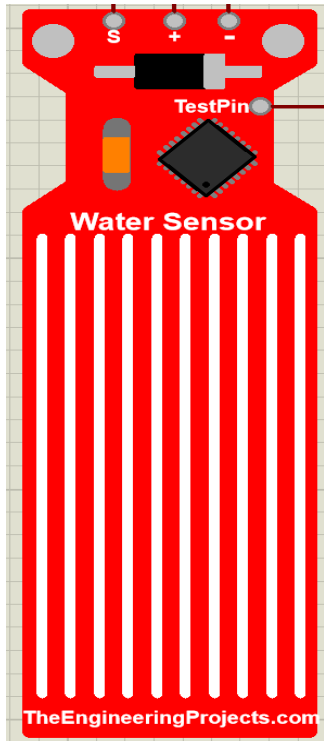
It is used to model physical COM interfaces in Proteus.



GPS Module

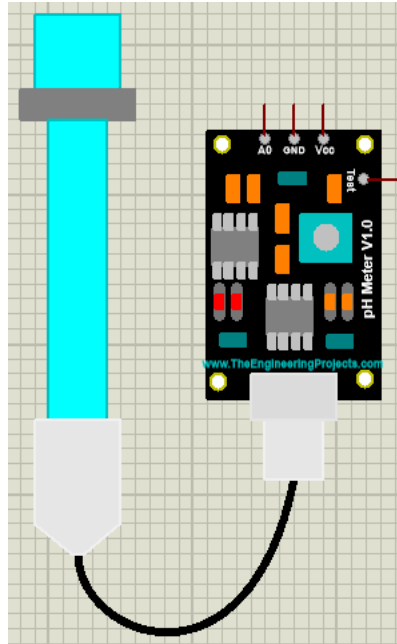
The microchip that detects the current location.

# TECHNICAL ANALYSIS OF VARIOUS COMPONENTS



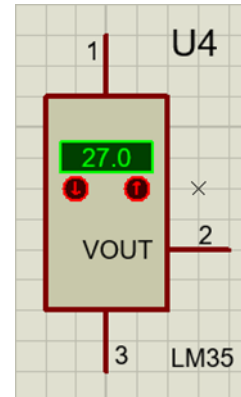
## Water Flow Sensor

Senses the water flow rate (in l/min)



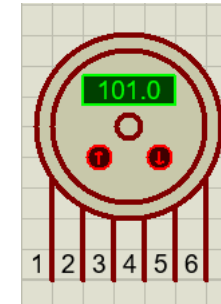
## pH Sensor

Senses and calculates the pH (in l/min)



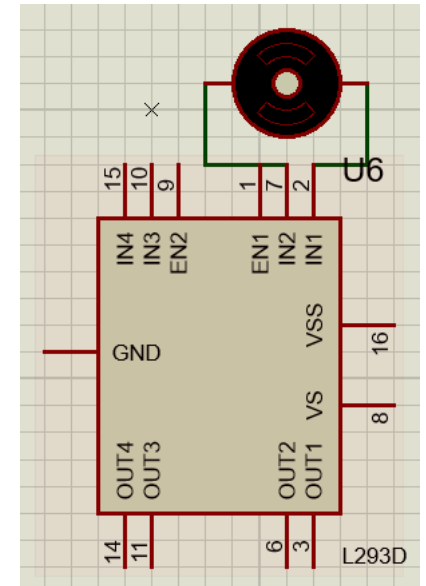
## Temperature Sensor

Senses the temperature of the flowing water(in l/min)



## Pressure Sensor

Senses the fluid pressure of the flowing water(in l/min)



## Motor and Motor Driver

Simulates the motor that drives the flowing water(in l/min)

- For the purpose of microcontroller, I am using an Arduino Mega 2560 which would be conducting all the necessary functions. Input from the sensors I am taking through analog input pins and the output is being displayed on the LCD as well as the Blynk Web dashboard. Motor is turned all the whole time during the simulation which tell that when there is no discrepancy in data, i.e. if all the readings are within the prescribed ranges then motor is on.
- Within the proteus simulation, I am varying the value of the sensors using the variable resistors attached to the test pin of the sensors. The device is turned on through the 'Start' button present in the Blynk Simulation. All the reading are displayed.
- Suppose if there leak or degradation(discrepancy in data) in the water flowing, then an SOS is sent to a prescribed number and same is reflected onto the central control server(Blynk web dashboard) along with the location of the sensor i.e. where the damage has happened. Also when this is observer the motor controlling the flow is stopped to avoid further wastage of water.

WORKING

How does all this function?





# THANK YOU

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