

# **ROBO PHANTOMS**

Group Number-7B



**Academic Year- 2022-2023**

On

## **IoT Based Laundry Management System**

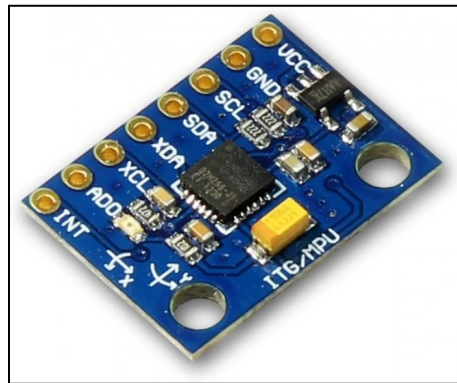
Submitted by:

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## Sensors Used/Hardware :-

### Gyroscope Sensor (MPU 6050)-

In our project, we used a gyroscope. **MPU-6050** is the model. When the sensor is moving, the voltage comparator within will produce a certain voltage. It can tell whether the machine is in use by detecting motion. 8 pins make up the sensor.



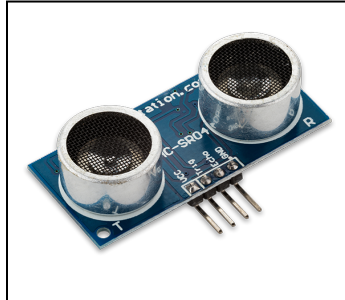
The sensor contains 8 pins. These are:

VCC	3.3V DC power supply
GND	Ground
SCL	Serial Clock
SDL	Serial Data
XDA	Auxiliary Serial Data
XCL	Auxiliary Serial Clock
AD0	12C Address bit
INT	Interrupt Output

### Ultrasonic Sensor (HC-SR04)-

It is an electronic gadget that can count objects independent of their size, shape, colour, or other attributes. While one type of sensor is used for range detection, the other is for proximity detection. In our project, the **HC-SR04** ultrasonic sensor was used. It is a

reasonably priced sensor that can gauge distances of up to 400 cm. The time it takes for the wave to return to the receiver tells us how far away the transmitter is from the target. The sensor contains 4 pins.



The sensor contains 4 pins. These are:

VCC	5V DC power supply
Trigger	Trigger pin is an Input pin
Echo	Echo pin is an Output pin
GND	Ground

### **Bluetooth Module (HC-05)-**

A straightforward Bluetooth SPP (Serial Port Protocol) module, the **HC-05** Bluetooth Module is made for setting up transparent wireless serial connections. It communicates using serial transmission, which makes interacting with a controller or computer simple.

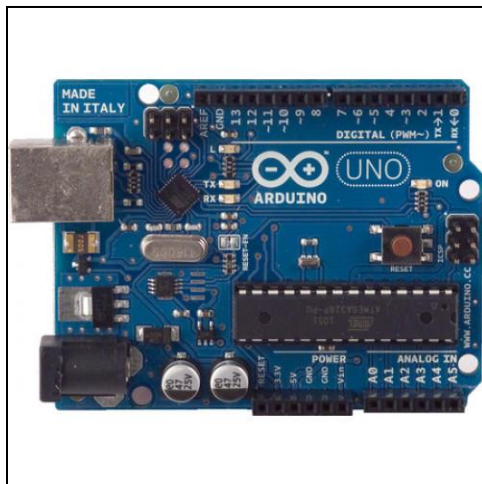


The sensor contains 6 pins. These are:

KEY	AT Commands mode
VCC	5V DC power supply
GND	Ground
TXD	Transmitter
RXD	Receiver
STATE	Connected to LED

### **Arduino Uno-**

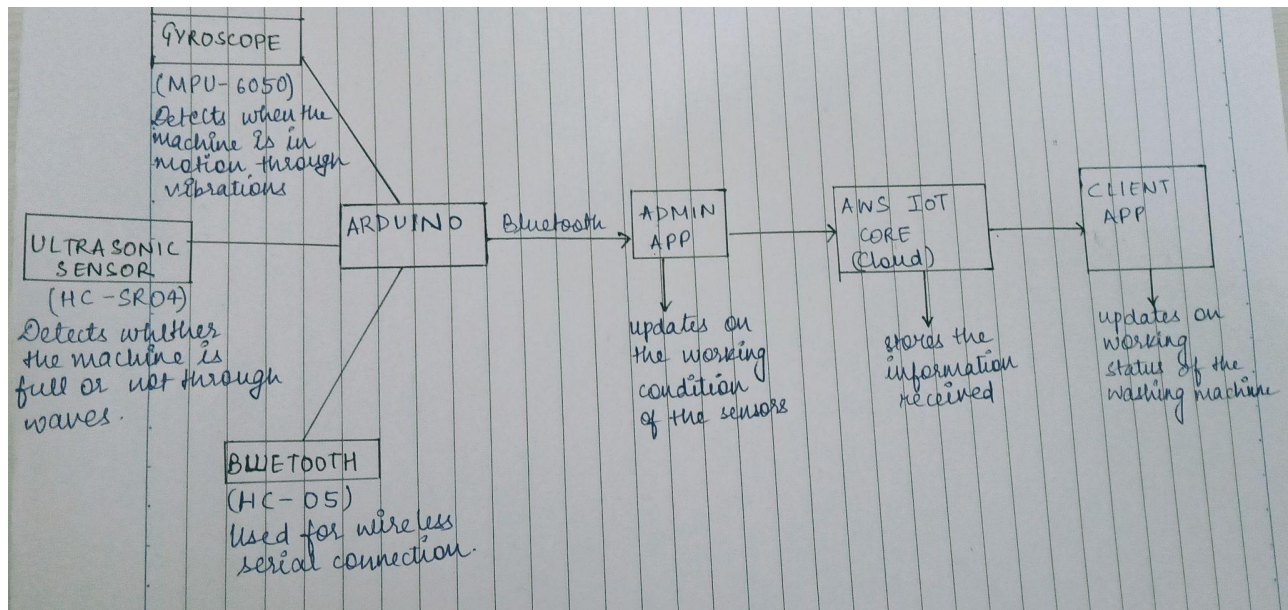
Arduino is a programmed circuit board that is open source and may be used in a wide range of makerspace projects, both simple and complicated. This board has a microphone that may be configured to detect and control real-world items.



### **Jumper Wire**

### **BreadBoard**

## Block Diagram :-



## Methodology :-

Our advanced laundry service, which is described in two parts a sensor and a mobile application is depicted in the above figure. This demonstrates how the mobile application and sensors work together to enhance our laundry management system's capabilities.

Firstly, a gyroscope sensor assists us in determining a machine's status through vibration. Next, using waves from an ultrasonic sensor, we can determine whether the washing machine is full or not. After gathering all of the sensor's data. Bluetooth allows us to share data to the Admin app. Client apps receive information such as washing machine status from Admin apps, while Admin apps store all data, including backup files, in the AWS cloud.

## Objective :-

We have designed and developed a system for washing machines and an application which can detect working machines and notify the Client on their mobile app about the status of their laundry.