# FIRE ALARM & AUTO EMERGENCY DOORS

# PROJECT REPORT

## GROUP 1
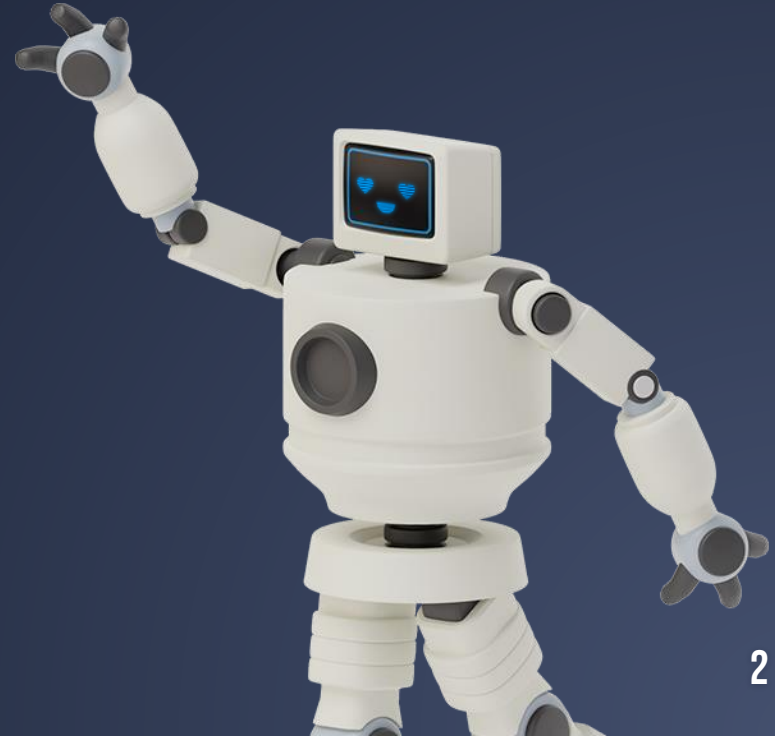
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# ABSTRACT

Catching FIRE is one of the worst accidents to happen, nobody can prevent that but what can be done is to get notified and evacuate the place.

But at the places where there are large number of people, evacuation can cause stampede and results in accidents. It is difficult to open Fire Exit doors manually.

In this case think of a system which detects FIRE & RINGS ALARM, TURN ON THE EXTINGUISHER & OPEN ALL THE EMERGENCY FIRE EXITS.

This report describes the implementation and working of the central idea.
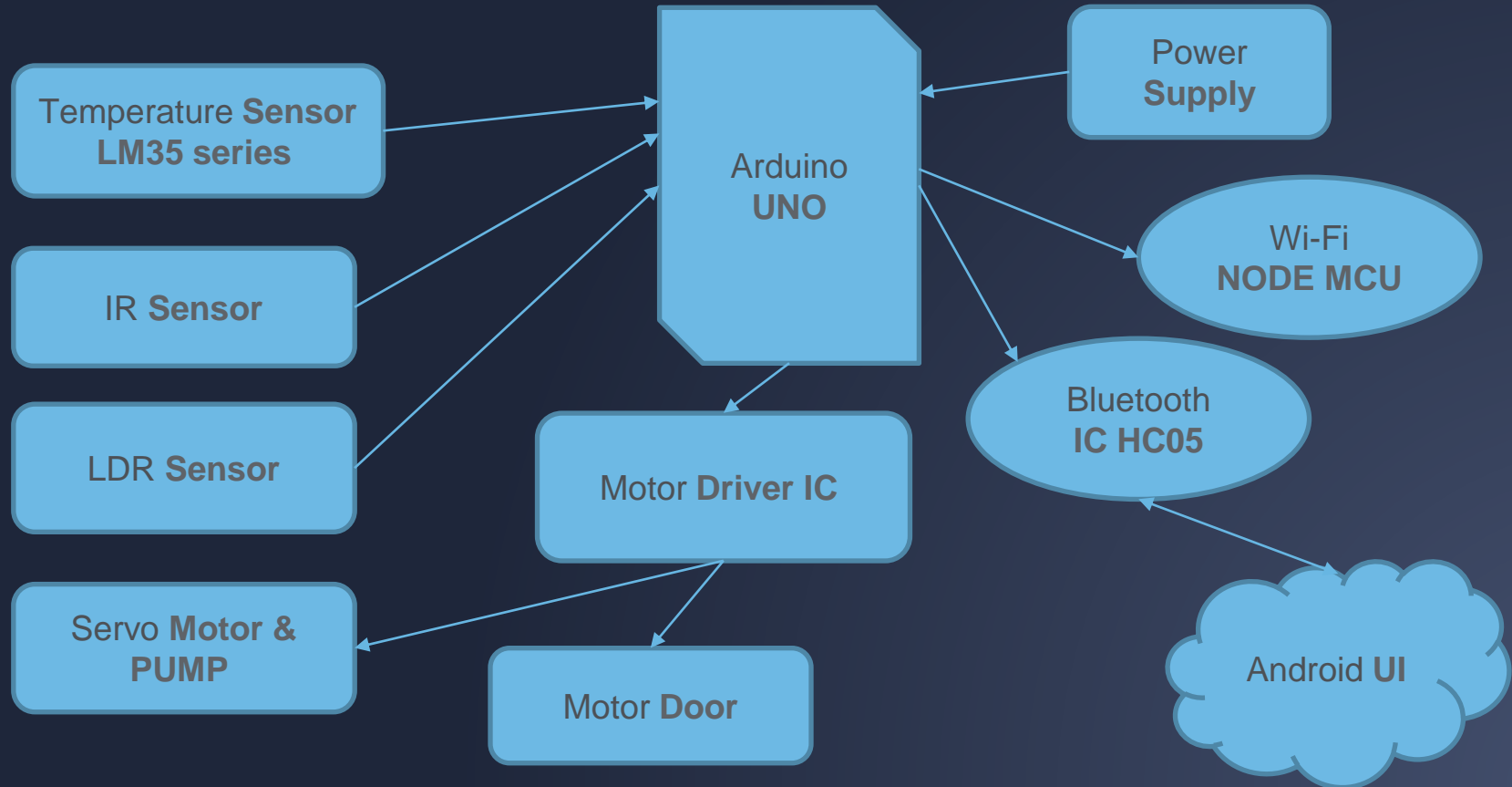
# JUSTIFICATION

This project provides an easy solution to prevent the stampede and rash near doors during catching fire to areas having more number of people.

The process can be monitored through an application available to the admins by using technologies like Embedded System, Bluetooth, Sensors, Wi-Fi modules, etc.

By using these type of smart automation system we can prevent causing casualties and accidents.

# FUNCTIONAL BLOCK DIAGRAM

Temperature **Sensor LM35 series**

IR **Sensor**

LDR **Sensor**

Servo **Motor & PUMP**

Arduino **UNO**

Power **Supply**

Wi-Fi **NODE MCU**

Bluetooth **IC HC05**

Motor **Driver IC**

Motor **Door**

Android **UI**

# COMPONENTS

**HARDWARE –**

- **Arduino UNO**
- **NODE MCU**
- **Servo Motor**
- **Bluetooth HC05 Module**
- **IR Sensor**
- **LDR Sensor**
- **Power Supply**
- **Connecting Wires & Resistors**
- **Motor Driver IC**
- **Servo Motor**
- **Motor Door**
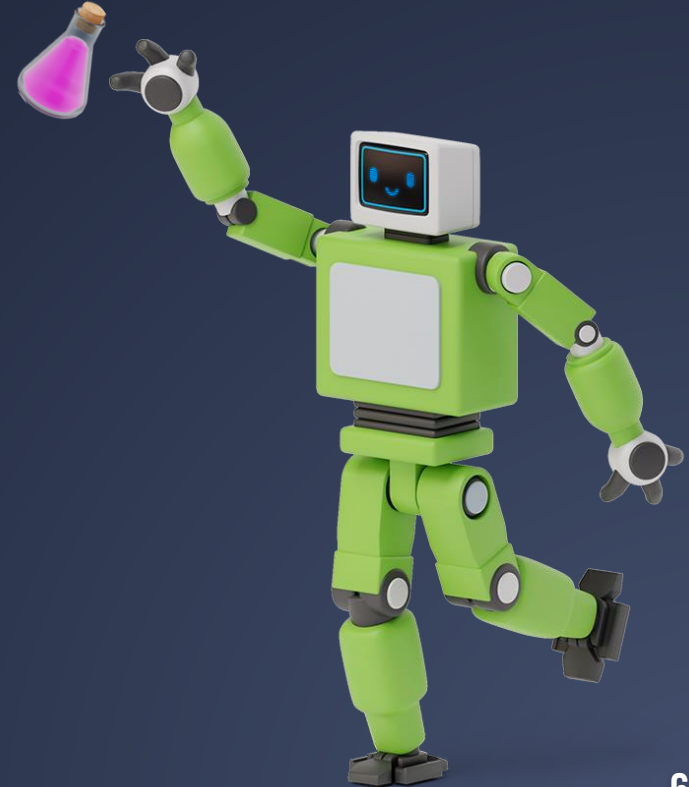
# COMPONENTS

**SOFTWARE –**

- **Arduino IDE**
- **Visual Studio Code**
- **Android Application UI**
- **Algorithm :: The sensors detect the fire and corresponding signal is sent from the Arduino Board to different modules for different work.**
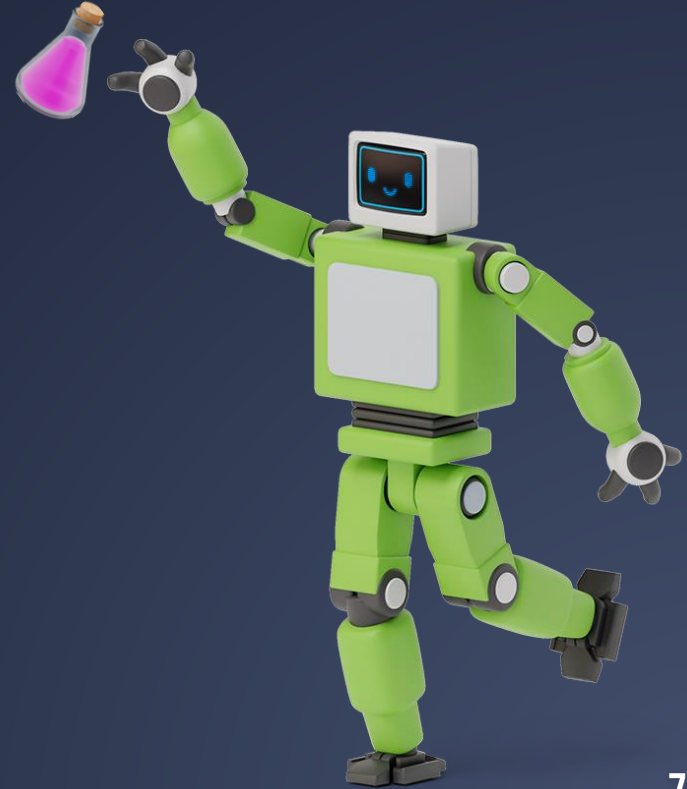
# PHASE WISE IMPLEMENTATION

**PHASE 1 : OUTPUT FOR PRE-EVALUATION –**
Demonstration of Fire Detection by the Arduino Board and sending Bluetooth signals to open doors and start the extinguisher process.(Software Level)

**PHASE 2 : OUTPUT FOR FINAL-EVALUATION –**
Demonstration of whole project with an app UI which monitors the status of door and open doors and start extinguishing process.(Hardware Level)
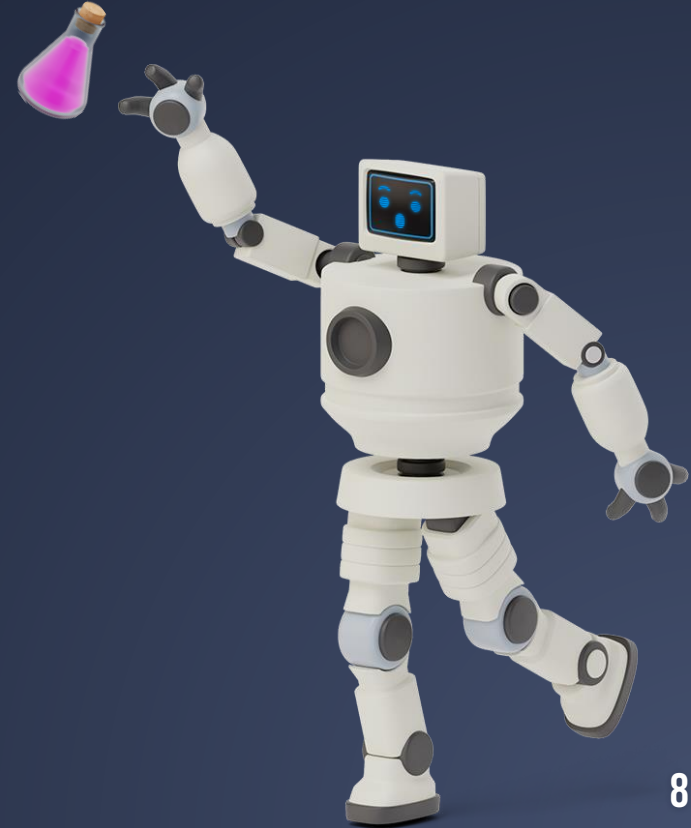
# CAR ACCIDENT AND ALERT SYSTEM

# PROJECT REPORT

## GROUP 1
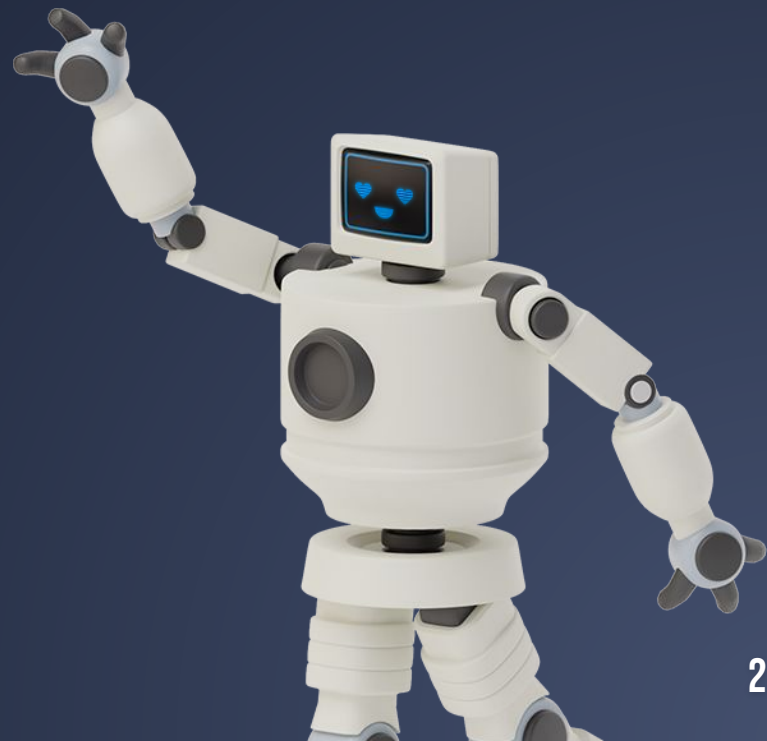
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# ABSTRACT

Every day around the world, a large percentage of people die from traffic accident injuries. An influential indicator of survival rates after detecting the accident is the time between the occurrence of the accident and the arrival of emergency responders to the scene. Reductions in this time, in turn, may reduce the numbers of fatalities
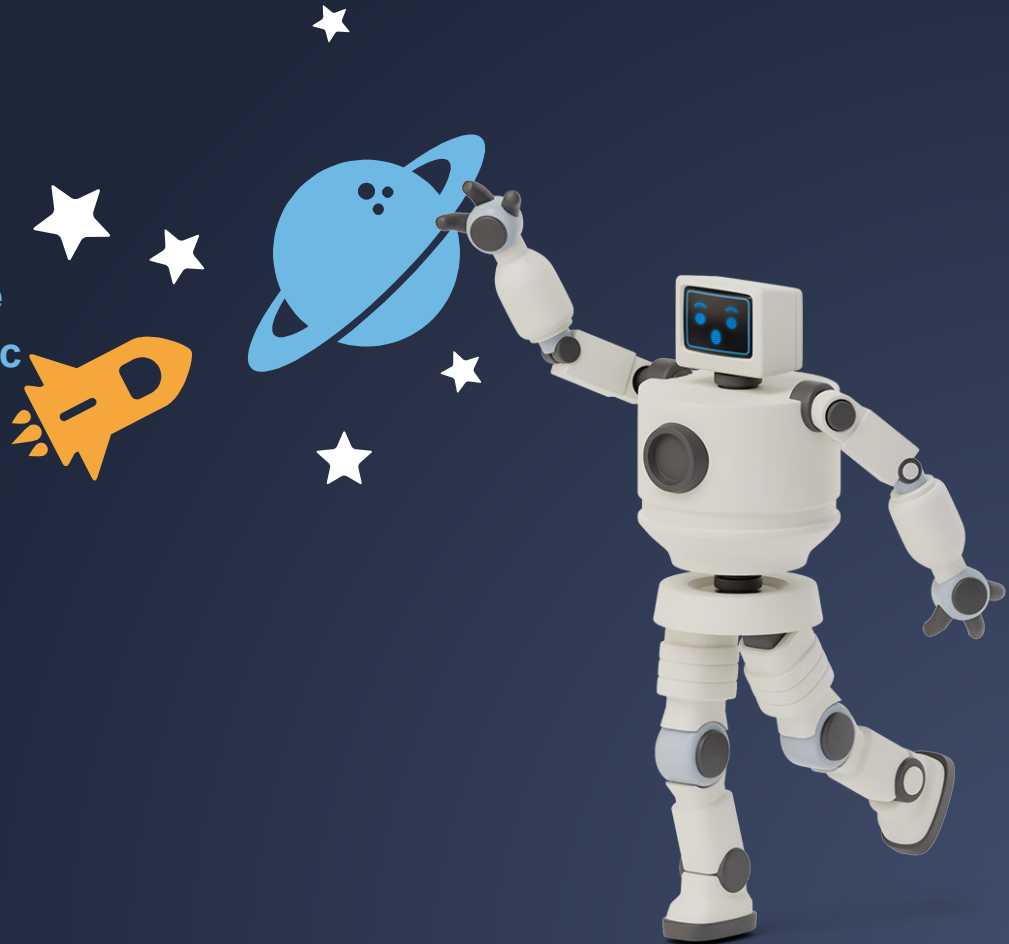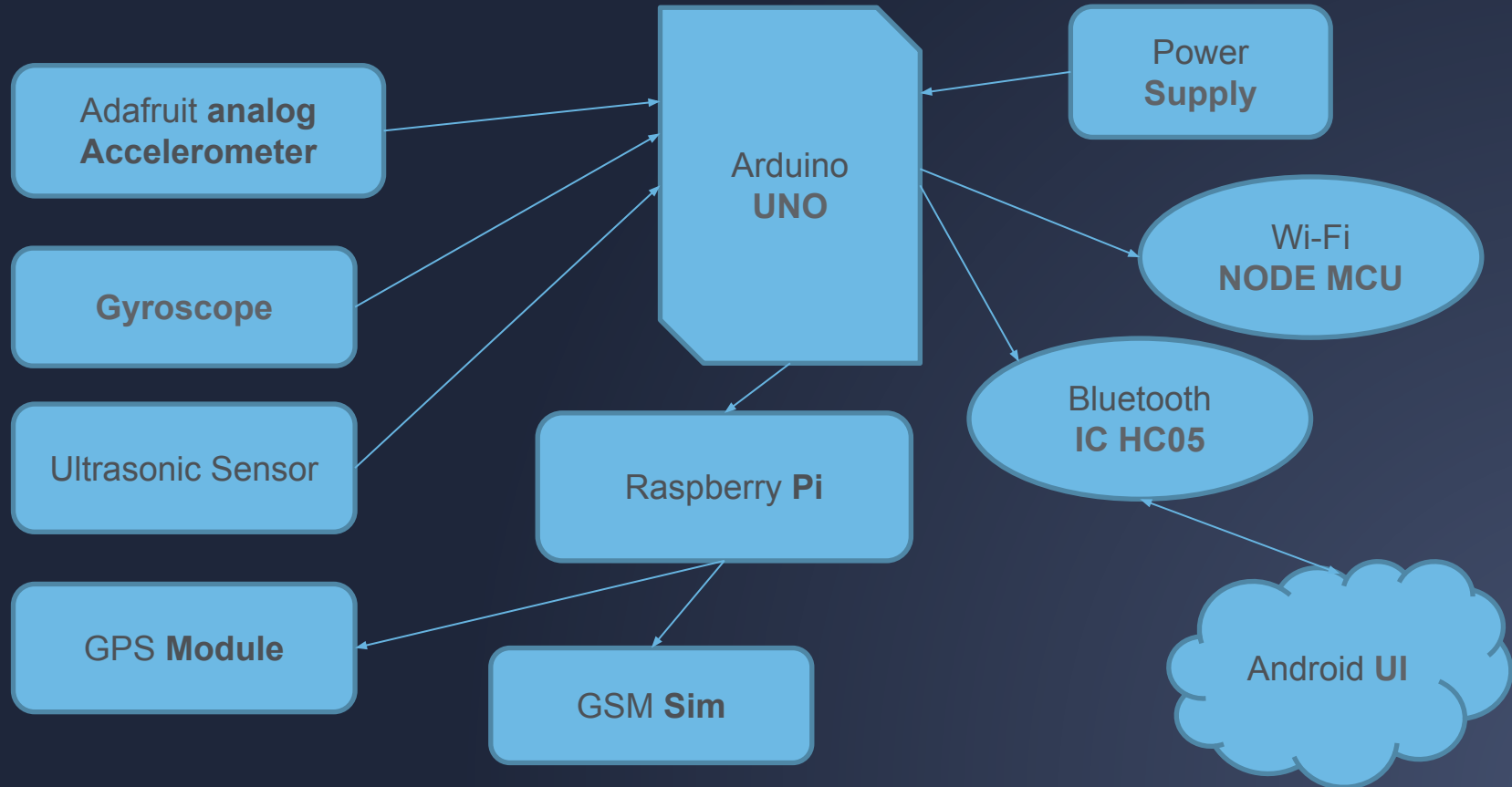
# JUSTIFICATION

This project detects whether accident occurs or not using accelerometer,gyroscope & ultrasonic sensor and it notifies to some emergency numbers through call and notifies on the admin app with location and details.

The process can be monitored through an application available to the admins by using technologies like Embedded System, Bluetooth, Sensors, Wi-Fi modules, etc.

By using these type of smart automation system we can prevent causing casualties and accidents.

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# FUNCTIONAL BLOCK DIAGRAM

Adafruit **analog Accelerometer**

**Gyroscope**

Ultrasonic Sensor

GPS **Module**

Arduino **UNO**

Power **Supply**

Wi-Fi **NODE MCU**

Bluetooth **IC HC05**

Raspberry **Pi**

GSM **Sim**

Android **UI**

# COMPONENTS

**HARDWARE –**
- **Arduino UNO**
- **NODE MCU**
- **Motor & Wheels**
- **Bluetooth HC05 Module**
- **Gyroscope**
- **Ultrasonic Sensor**
- **Power Supply**
- **Connecting Wires & Resistors**
- **Motor Driver IC**
- **Servo Motor**
- **Motor Door**
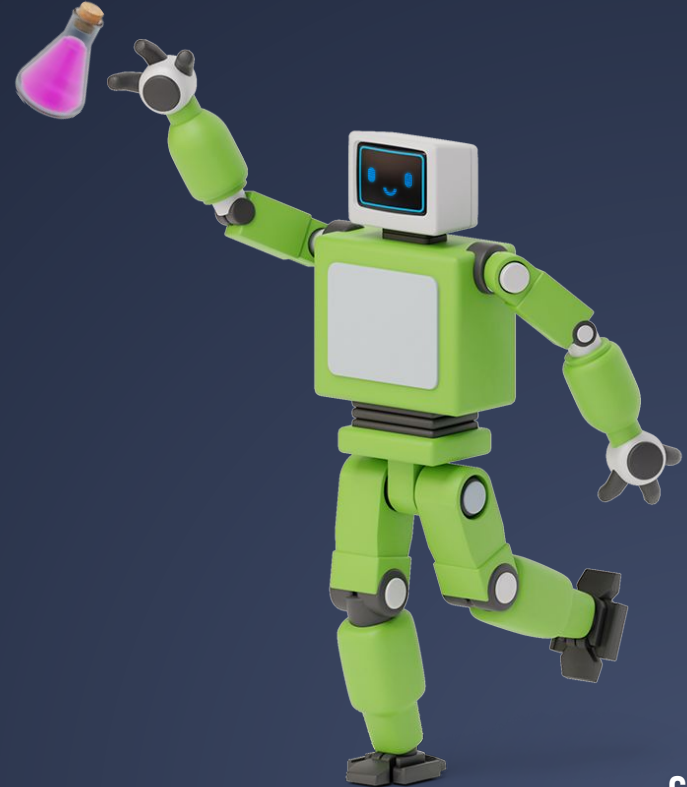
# COMPONENTS

**SOFTWARE –**

- **Arduino IDE**

- **Android Studio**

- **Android Application UI**

- **Algorithm :: The sensors detect the accident and corresponding signal is sent from the Arduino Board to different modules for different work.**
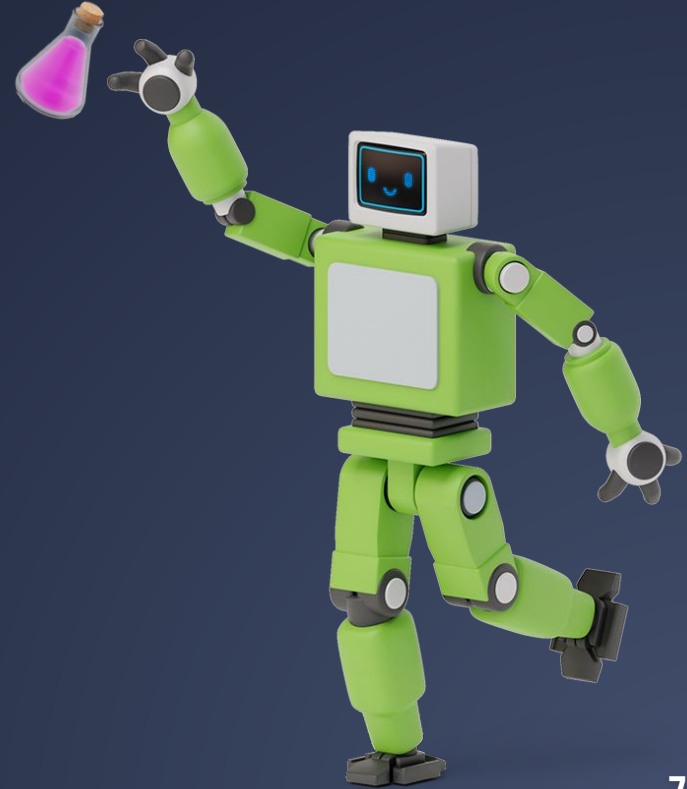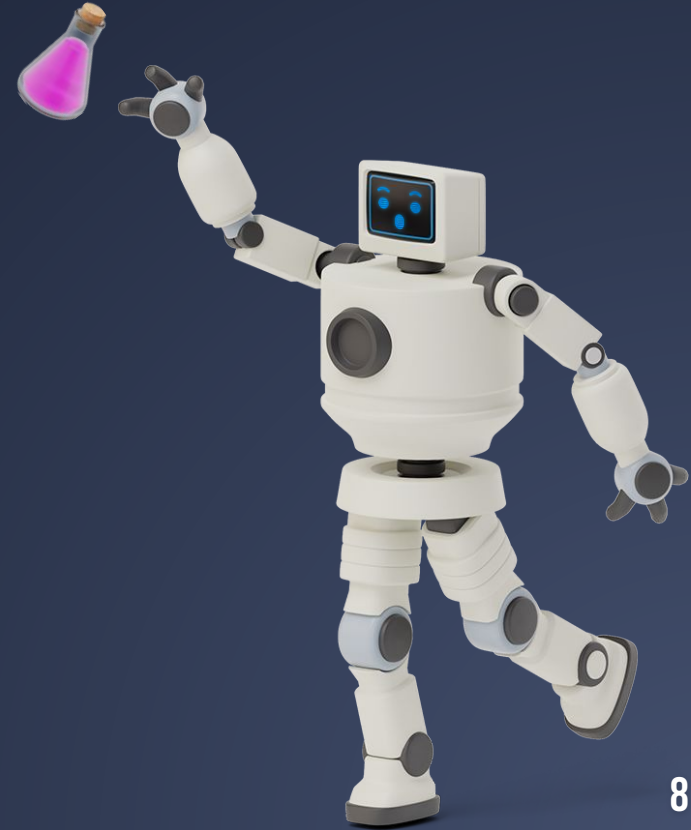
# PHASE WISE IMPLEMENTATION

**PHASE 1 : OUTPUT FOR PRE-EVALUATION –**
Integration of sensors into the car and uploading of data manually to the cloud.

**PHASE 2 : OUTPUT FOR FINAL-EVALUATION –**
Demonstration of whole project with an app UI which monitors the status of car and sending of messages using sim on the event of an accident.

# VEHICLE TRACKING AND ACCIDENT ALERT SYSTEM

# PROJECT REPORT

## GROUP 1

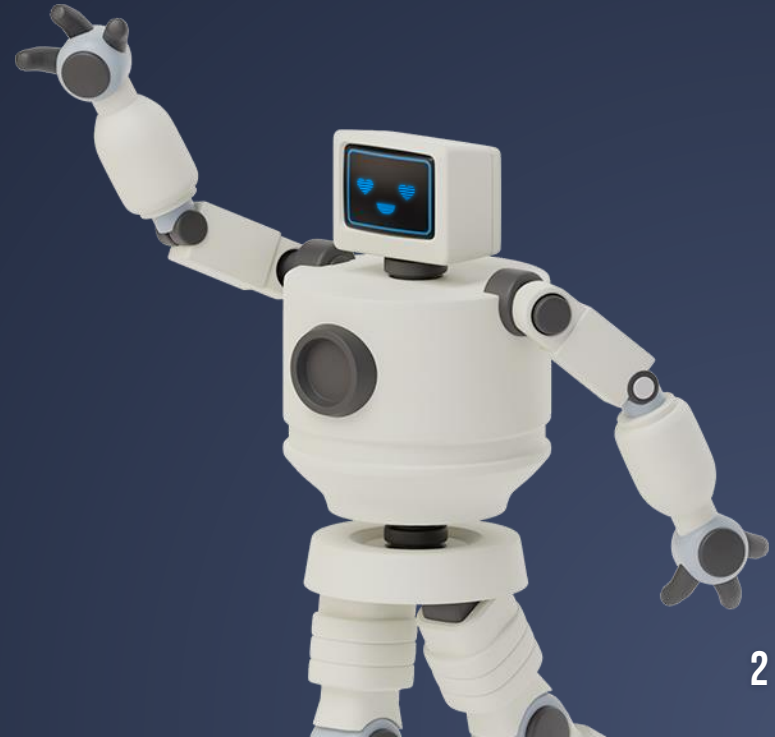S20210020325
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# ABSTRACT

Vehicle tracking system main aim is to give Security to all vehicles. Accident alert system main aim is to rescuing people in accidents.

The project aims at finding the vehicle where it is and locating the vehicle using a GPS & GSM within the vehicle system to send a message.

Most of the time, we might not be able to locate the accident because no one known where the accident will take place. Our Real Time Vehicle Tracking and Accident Detection project with GPS is designed to avoid these circumstances.
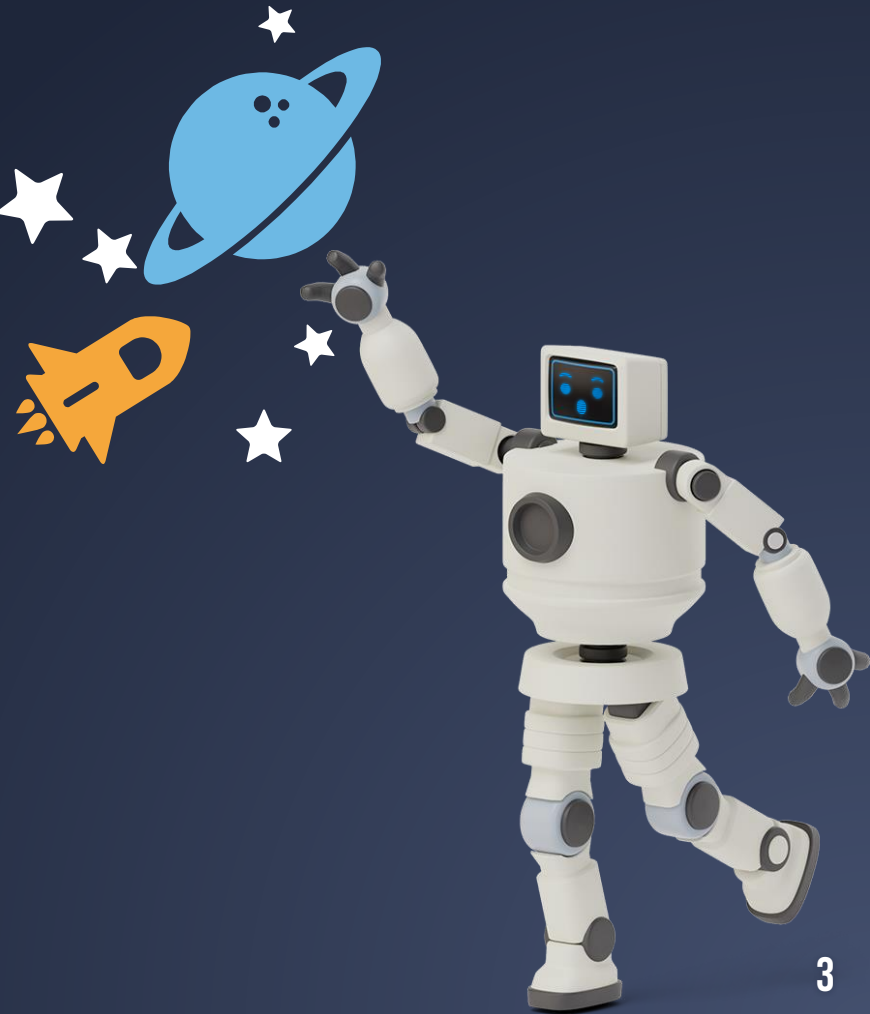
# JUSTIFICATION

Main motto of the accident alert system project is to decrease the chances of losing life in such accident which we can't stop from occurring. Whenever accident is alerted the paramedics are reached to the particular location to increase the chances of life. This device invention is much more useful for the accidents occurred in deserted places and midnights.

This vehicle tracking and accident alert feature plays much more important role in day to day life in future. Vehicle tracking both in case of personal as well as business purpose improves safety and security.
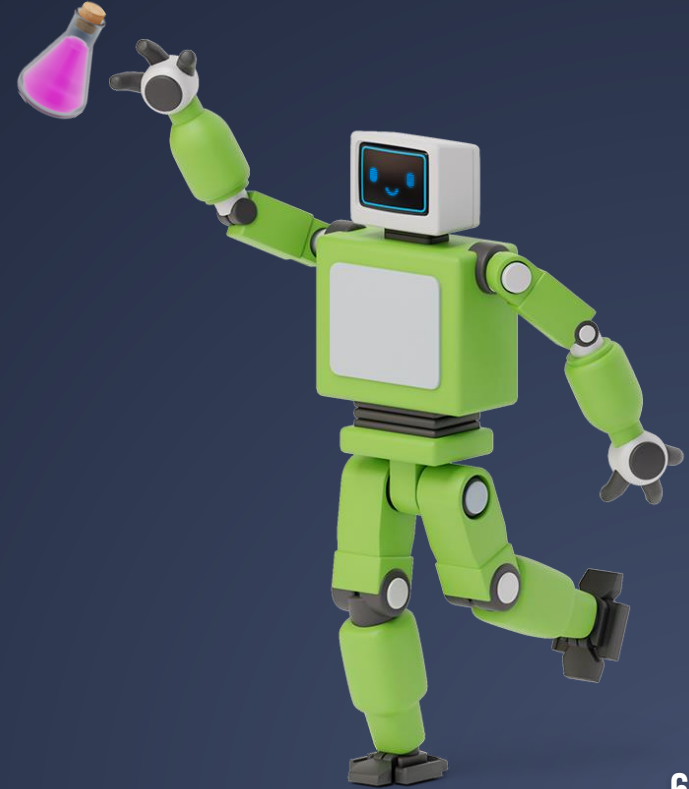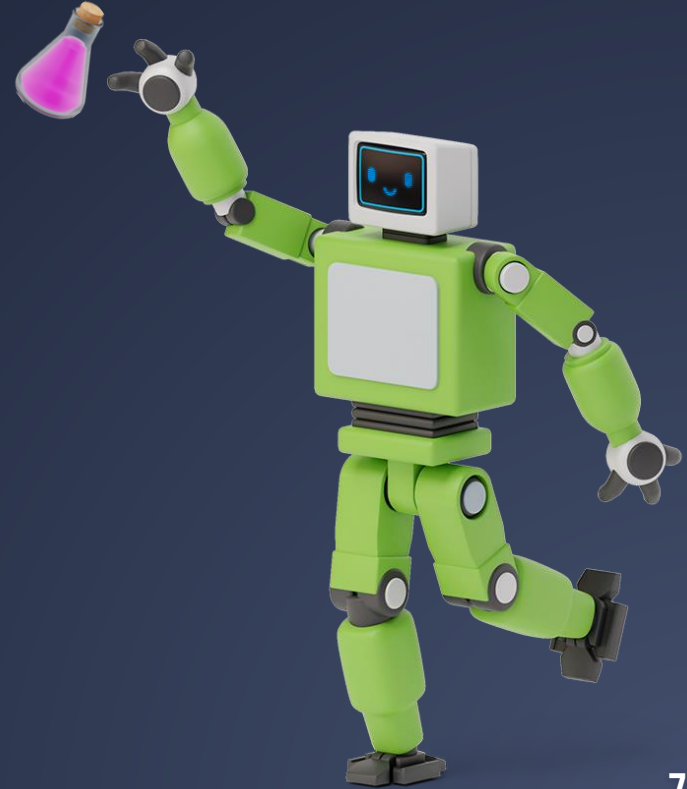
# FUNCTIONAL BLOCK DIAGRAM



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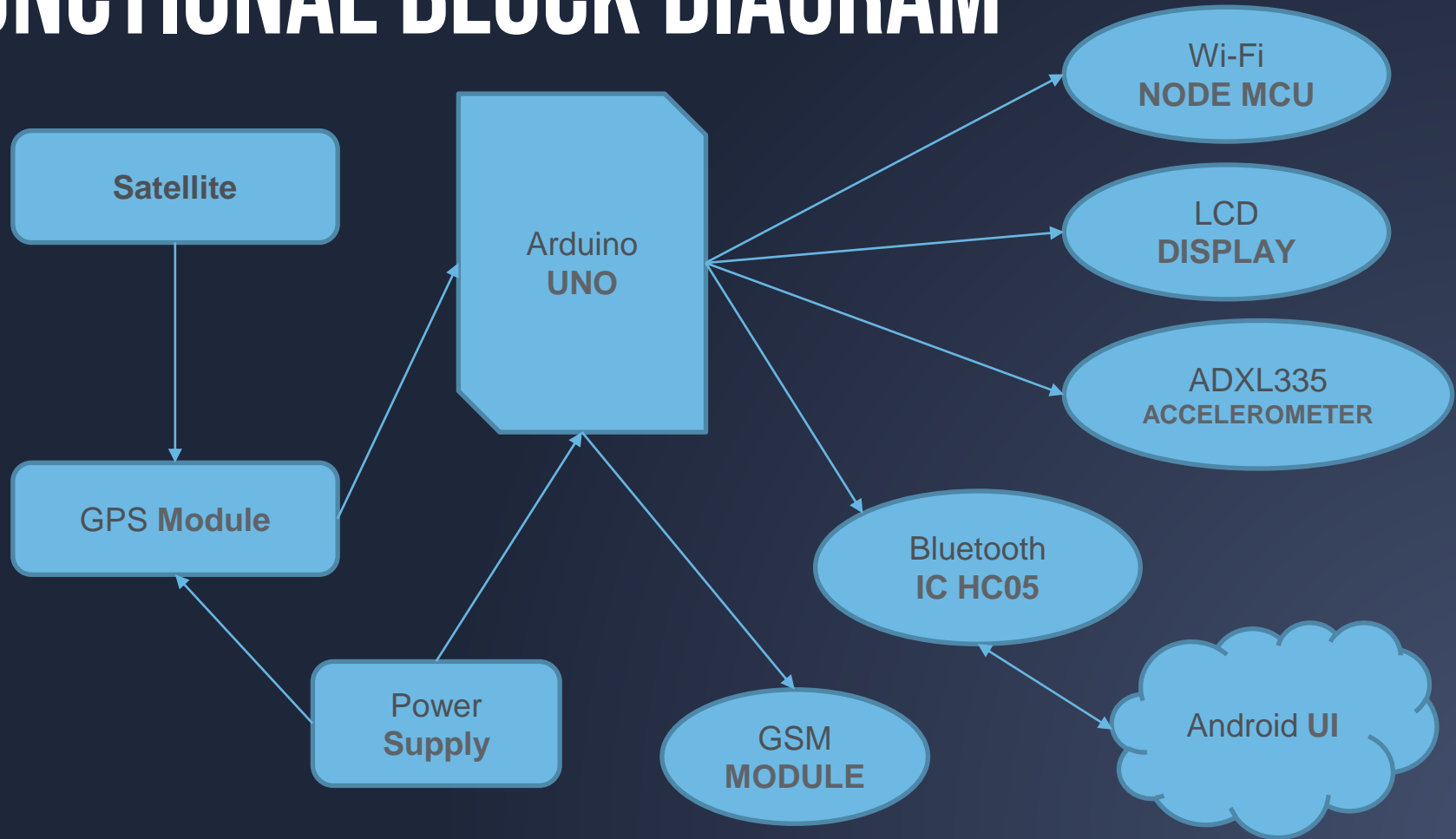
# COMPONENTS

**HARDWARE –**

- **Arduino UNO**
- **NODE MCU**
- **ADXL335 Accelerometer**
- **Bluetooth HC05 Module**
- **GSM module**
- **GPS module**
- **Power Supply**
- **Connecting Wires & Resistors**
- **LCD Display**

# COMPONENTS

**SOFTWARE –**
- **Arduino IDE**
- **Visual Studio Code**
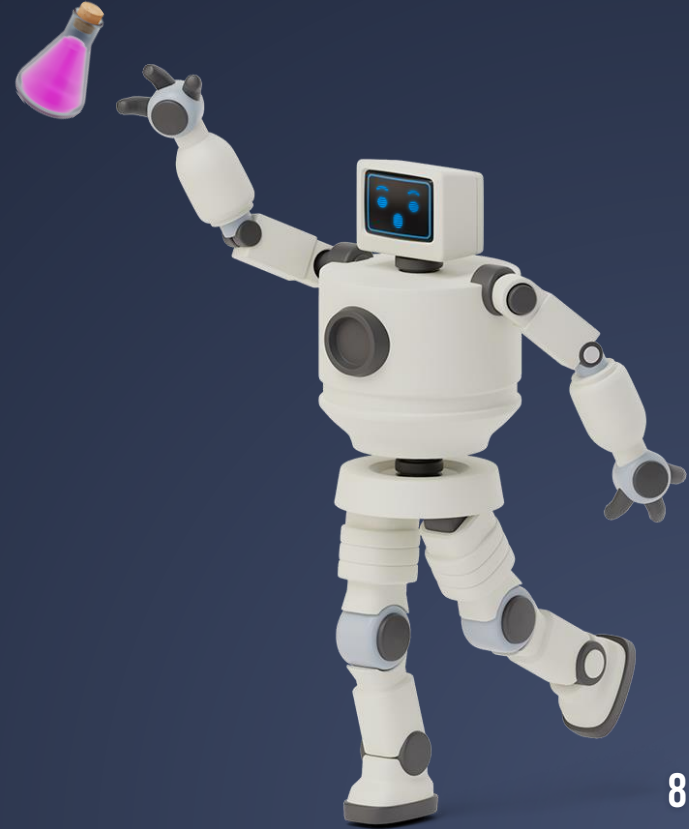- **Android Application UI**

# PHASE WISE IMPLEMENTATION

**PHASE 1 : OUTPUT FOR PRE-EVALUATION –**
Demonstration of Vehicle Tracking using Arduino Board and send the alert before crash.

**PHASE 2 : OUTPUT FOR FINAL-EVALUATION –**
Demonstration of whole project with an app UI which monitors the status of location and Alert messages.

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# Automated Plant Watering System

# PROJECT REPORT

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# ABSTRACT

- The aim of this project is to ease the mechanism of watering plants with the help of Automatic Plant Watering System which automatically switches the water pump ON or OFF depending on the moisture content of the soil above or below a certain satisfactory threshold value, which is continuously sensed by the soil moisture sensor. The entire process is controlled by Arduino UNO.

# JUSTIFICATION

By designing and implementing this simple Automatic Plant Watering System to your garden or agricultural field, you will **help all of your plants reach their fullest potential as well as conserving water**. Using sprinklers drip emitters, or a combination of both, we can design a system that is ideal for every plant in our yard. The **maintenance of household plants becomes easy** for those who travel quite often, very much busy in their work and tend to forget to water their plants. Further enhancement of this project can also be done in the medical field where certain medicinal plants require frequent watering of the right amount of water at the right time, which will be very difficult to be watered by human hands.

# Functional block diagram
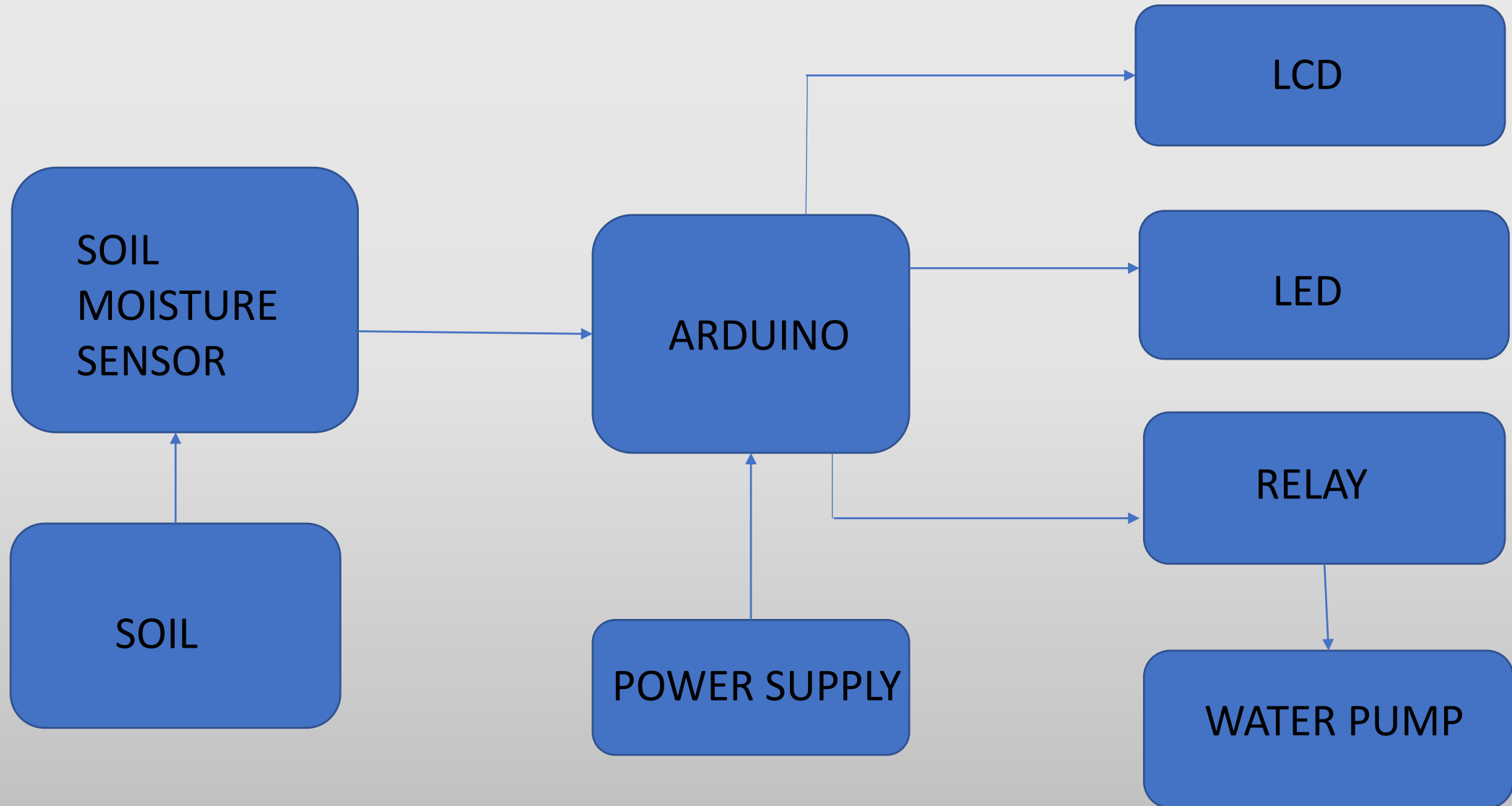
# COMPONENTS

**HARDWARE COMPONENTS**

- ARDUINO UNO
- DC MOTOR
- TEMPERATURE SENSOR
- NPN TRANSISTOR
- LCD
- RESISTOR
- LED
- POTENTIOMETER
- DIODE

**SOFTWARE COMPONENTS**

- ARDUINO IDE

# PHASE WISE IMPLEMENTATION

PHASE 1:

Demonstration of Software design, implementation and testing.

PHASE 2:

Demonstration of Hardware design, construction.

Full project implementation and testing.

# •THANKYOU