



# FLOOD MANAGEMENT AND EARLY WARNING SYSTEM

## ABSTRACT

- To detect a flood the system observes various natural factors, which includes humidity, temperature, water level and flow level. To collect data of mentioned natural factors the system consist of different sensors which collects data for individual parameters



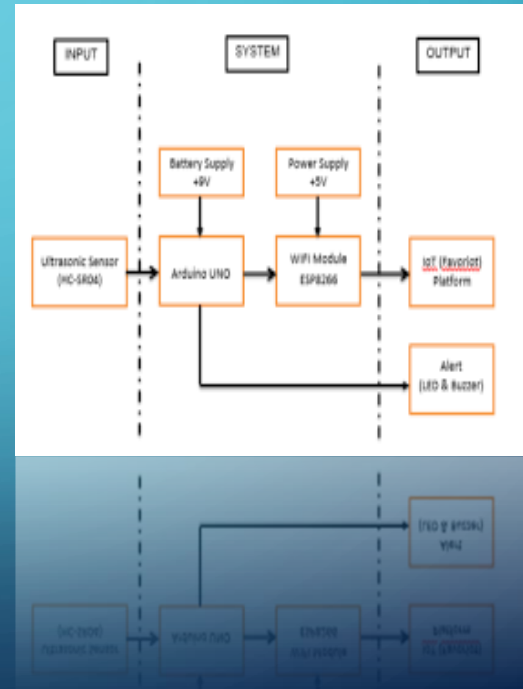
# INTRODUCTION

- The flood warning system utilizes computer technology, database technology, communication technology, and sensor technology. Powered by IoT technology, rainfall and water levels are monitored and floods are predicted. Early warning of impending flooding can save lives and reduce extensive property damage.



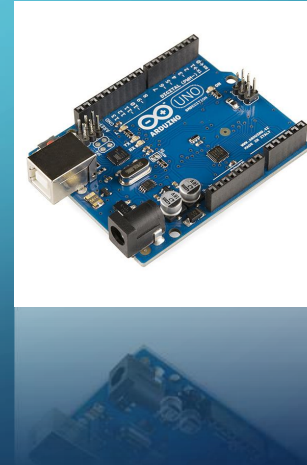
# DESIGN

- Block diagram for flood management and early warning system using IoT technology



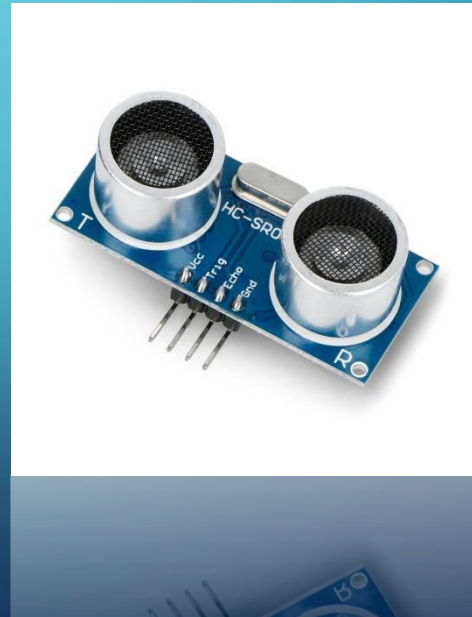
# HARDWARE COMPONENTS

- Arduino Uno Microcontroller:
- Arduino is an open-source hardware and software platform designed for computer programmers, industrial artists, professionals and those interested in developing interactive devices and applications specific to an interactive development environment. Arduino can receive input signals from various sensors and inputs.



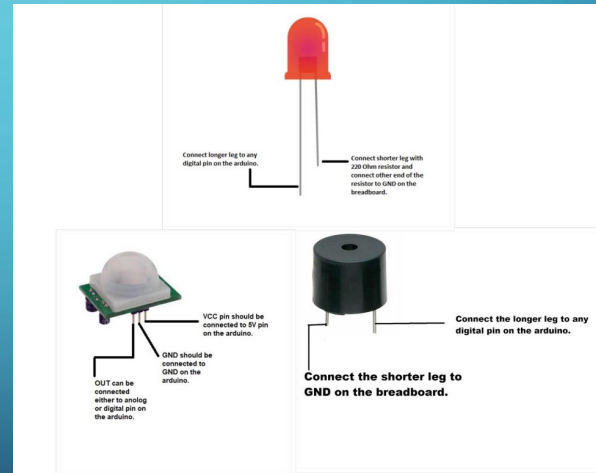
# ULTRASONIC SENSOR

- An ultrasonic sensor is an instrument that measures the distance to an object using ultrasonic sound waves. An ultrasonic sensor uses a transducer to send and receive ultrasonic pulses that relay back information about an object's proximity.



# LED AND BUZZER

- LED (Light Emitting Diode) is an electronic device, which emits light when the current passes through its terminals. LED's are used in various applications. It is also used as an ON/OFF indicator in different electronic devices.
- The piezo, also known as the buzzer, is a component that is used for generating sound. It is a digital component that can be connected to digital outputs, and emits a tone when the output is HIGH. Alternatively, it can be connected to an analog pulse-width modulation output to generate various tones and effects.



# CONCLUSION

Finally, the developed flood monitoring and early warning system that utilizes ultrasonic sensor to detect water level, functions perfectly according to the specification provided.



The background is a gradient of blue, transitioning from a lighter shade at the top to a darker shade at the bottom. In the four corners, there are white line art patterns resembling circuit boards or neural networks, with lines and small circles connecting them.

THANK YOU