**FLOOD MONITORING AND EARLY WARNING SYSTEM PROJECT DETAILED INFORMATION**

MOTIVE:

THE MAIN MOTIVE OF OUR TOPIC PROJECT IS TO MONITOR THE FLOOD ARRIVAL AND WARN THE PEOPLE AND RESPECTIVE AUTHORITIES TO ENSURE THE SAFETY AND THE PRECAUTIONS.

IT CAN BE SAID AS A 2 PARTS

1. TO MONITOR THE FLOOD
2. TO WARN ABOUT THE FLOOD AT VERY EARLY STAGE

**MONITORING OF THE FLOOD**

TO ACCOMPLISH THIS STEP WE USE THE ESP32 BOARD AND THE WATER LEVEL SENSOR AND BUZZER.

THE ESP 32 BOARD IS USED TO CONNET THE WATER LEVEL SENSOR TO IT , THE BOARD REQUIRES

CERTAIN INPUT CURRENT TO RUN PERFECTLY.

FOR PROGRAM CODE , WE NEED THE WOKWI SOFTWARE TO COMPLETE VIRTUALLY, ARDUINO SOFTWARE AND EITHER FIREBASE OR THE BLYNK SOFTWARE .

THE BOARD ALSO HELPS IN CONNECTING TO THE WEBSERVER WHICH HELPS IN SENDING THE DATA RECEIVED AS A SIGNAL FROM THE SENSOR.

HERE THE RAW WATER LEVEL DATA IS COLLECT BY THE WATER LEVEL SENSOR . AND IT IS SENT TO THE BOARD (ESP32).

WHEN THE LEVEL OF WATER INCREASE FROM THE GIVEN LEVEL , THEN THE BOARD WILL DOES THE PROGRAMMED WORK TO INDICATE THE RISING LEVEL OF WATER WHICH MAY LEAD TO FLOOD

**TO WARN ABOUT THE FLOOD AT VERY EARLY STAGE.**

NOW WHEN THE SENSOR DETECTS AND SENDS INFORMATION ABOUT THE RISE IN WATER LEVEL THE BOARD INFORMS ABOUT THIS TO THE BUZZER CONNECTED TO IT . ALL THIS STEPS WILL DONE ACCORDING TO THE CODE WHICH WILL BE WRITTEN.

NOW THE BUZZER STARTS TO BEEP UNTIL THE LEVEL OF WATER REDUCES ITS INDICATED LEVEL .

ON ADDITION TO THIS , IF THE WATER LEVEL RISES , THEN ESP32 BOARD HAS THE ABILITY TO SEND THE REAL TIME INFORMATIONS TO WEBSERVERS EXAMPLE BLYNK AND FIREBASE .

IF WE INTERCONNECT THESE SETUP AND THE IP OF THE BOARD WITH OUR BLYNK RO FIREBASE ACCOUNTES PAGE , TEHN THE INFORMAITON CAN ALSO BE OBTAINED BY THE USERS OF THOSE SERVERS AS SOON AS THE LEVEL OF WATTER INCREASES.

EVEN WITH SOME ALTERATIONS OF THE CODE , THE ECACT LEVEL OF WATER CAN ALSO BE SHARED WITH THEM BY SENDING THE RUNTIME DATA FROM SENSORS TO THE BOARD AND FROM BOARD TO THE SOFTWARE .

**PROCESS FOR PROJECT**

* **THE CIRCUIT CONNECTIONS WILL BE GIVEN BY CONNECTING THE BUZZER,ESP32 BOARD, AND THE WATER LEVEL SENSOR IN THE VIRTUAL SOFTWARE OR THE HARDWARE OBJECT , THE CONNECTION IS DONE USING WIRES .**
* **NOW THE CODE TO MAKE THESE CONNECITONS WORK MUST BE WRITTEN IN THE ARDUINO LANGUAGE IN ARDUINO SOFTWARE FOR HARDWARE PROJECT OR IN WOKWI FOR VIRTUAL PROJECT**
* **NOW THE WATER LEVEL IS SET IN THE VIRTUAL PLATFORM TO KNOW THE INDICATION PROCESS.**
* **NOW THE CONDITION IS SET TO THST , IF THE LEVEL OF WATER INCREASES THAN THE MENTIONED LEVEL , TEHN THE BUZZER MUST BEEP .**
* **NOW AS SOON AS THE LEVEL OF WATER INCREASES THE POWER IS SUPPLIED TO BUZZER AND IT BEEPS .**
* **NOW IF THE WEBSERVER LIKE, BLYNK OR FIREBASE IS CONNECTED WITH THE ESP32 BOARD IN HARDWARE , THEN THE PROGRAM MUST BE WRITTEN IN SUCH A WAY THAT THE INFORMATION MUST BE PASSED TO THE SERVER SO THAT THE NOTIFICATION IS SENT TO IT .**

**THANK YOU …**