



SMART BRIDGE

PRESENTED BY

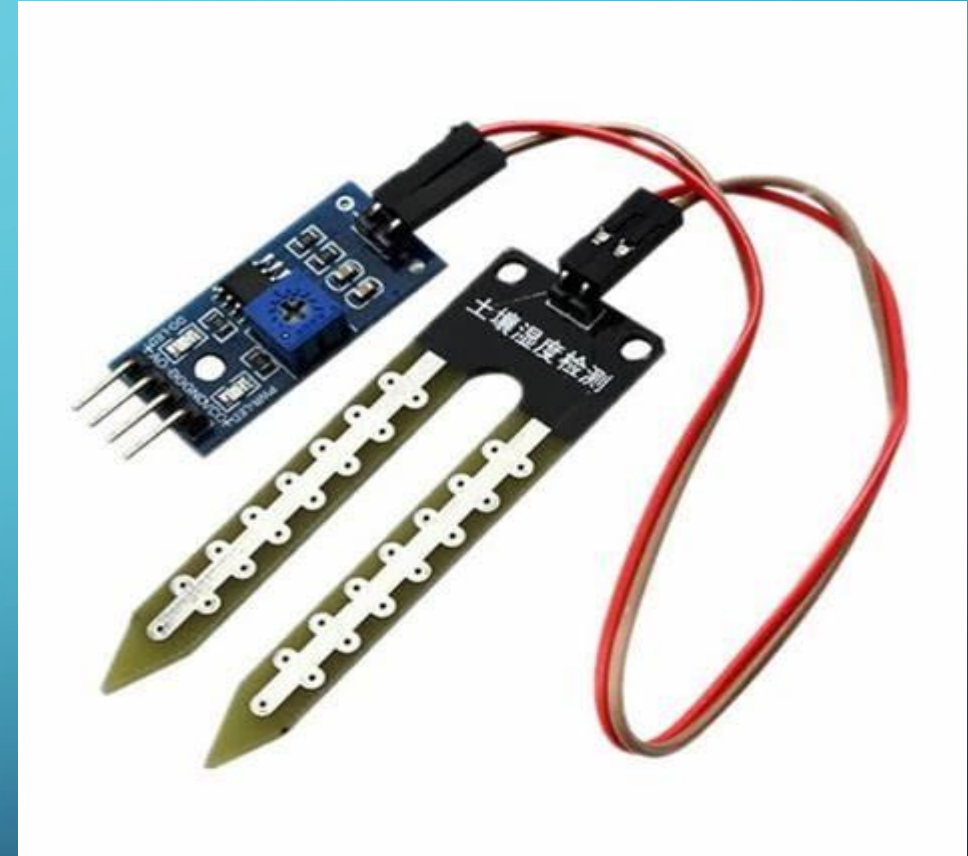
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ARDUINO UNO



SOIL MOISTURE SENSOR



SERVO MOTOR



BUZZER



Impacts of Floods on Bridges

ABSTRACT

FLOODS LEAD TO A VAST LOSS OF LIFE AND PROPERTY IN MANY COUNTRIES. BUT IN DEVELOPING COUNTRIES THE LACK OF PROPER TECHNOLOGY LEADS TO MORE LOSS OF LIFE AND PROPERTY DUE TO FLOOD. BRIDGES ARE IMPORTANT IN MODERN WORLD. BRIDGES ADD BEAUTY TO THE ROADS. BRIDGE FAILURES ARE ONE OF THE MOST INFRASTRUCTURE PROBLEMS IN THE WORLD. IT OFTEN LEADS TO THE CATASTROPHIC CONSEQUENCES, LOSS OF LIFE, RESTRICTED COMMERCE. WHENEVER THERE IS A DISASTER THERE IS LOSS OF LIVES, DAMAGE TO THE PUBLIC PROPERTY. THE OBJECTIVE OF THIS PROJECT IS TO MONITOR THE FLOOD SITUATION LIFT THE BRIDGE IN CASE OF DANGER IN THE FORM OF BUZZER SOUND. A SMART BRIDGE IS ONE THAT SENSES SOME SIGNIFICANT CONDITION OF ITSENVIRONMENT OR BEHAVIOUR AND THEN AUTOMATICALLY REACTS TO THAT CONDITION.

KEYWORDS: ARDUINO, SOIL MOISTURE SENSOR, SERVO MOTOR .

WORKING

1.BUILD THE BRIDGE: CONSTRUCT THE BRIDGE USING APPROPRIATE MATERIALS AND MAKE SURE IT CAN MOVE UP AND DOWN BASED ON THE INPUT FROM THE SERVO MOTOR.

2.INSTALL THE SERVO MOTOR: INSTALL THE SERVO MOTOR ON THE BRIDGE AND CONNECT IT TO THE ARDUINO.

3.CONNECT THE MOISTURE SENSOR: CONNECT THE MOISTURE SENSOR TO THE ARDUINO AND POSITION IT NEAR THE WATER TO DETECT CHANGES IN WATER LEVEL.

- 4. Write the code: Write a program for the Arduino that will read the moisture sensor data and control the servomotor to adjust the height of the bridge accordingly.
- 5. Test the system: Test the system by increasing the water level and making sure that the bridge adjusts its height automatically. The basic idea is that the moisture sensor will detect when the water level increases, and the Arduino will control the servo motor to adjust the height of the bridge. As the water level decreases, the bridge will move back down to its original position. Note that the specifics of the project will depend on the size and design of the bridge, as well as the type of servo motor and moisture sensor used. It is also important to consider safety measures, such as waterproofing the components to protect them from water damage.

thank
you