

# **FLOOD MONITORING SYSTEM**

## **Team Members:**

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**PROJECT TITTLE:** Flood Monitoring System

## **PROJECT STEPS**

### **PHASE 1:** Project Definition and Design Thinking

In this part you will need to understand the problem statement and create a document on what have you understood and how will you proceed ahead with solving the problem. Please think on a design and present in form of a document.

### **PROJECT DEFINITION**

The project involves deploying IoT sensors near water bodies and flood-prone areas to monitor water levels and provide early flood warnings through a public platform. The objective is to enhance flood preparedness and response by issuing timely warnings to both the public and emergency response teams. This project includes defining objectives, designing the IoT sensor network, developing the warning platform, and integrating them using IoT technology and Python.

### **DESIGN THINKING**

**Project Objectives:** Define objectives such as real-time flood monitoring, early warning issuance, public safety, and emergency response coordination.

**IoT Sensor Network Design:** Plan the deployment of IoT sensors to monitor water levels in flood-prone areas.

**Early Warning Platform:** Design a web-based platform to display real-time water level data and issue flood warnings.

**Integration Approach:** Determine how IoT sensors will send data to the early warning platform.

## **PHASE 2: Innovation**

A smart computer system for the exploitation of hydrometeorological and weather data captured to generate warnings and notifications for events that may involve a flood risk situation.

## **PHASE 3: Development Part 1**

Flood Monitoring System

## **PHASE 4: Development Part 2**

Floods are the most frequent type of natural disaster and occur when an overflow of water submerges land that is usually dry. Floods are often caused by heavy rainfall, rapid snowmelt or a storm surge from a tropical cyclone or tsunami in coastal areas.

## **PHASE 5: Project Documentation & Submission**

### **DOCUMENTATION**

- ❖ Loss of livelihoods, reduction in purchasing power and loss of land value in the floodplains can leave communities economically vulnerable.
- ❖ Floods can damage vital infrastructure, overwhelm emergency services, destroy ecosystems and lead to a loss of human life.
- ❖ The real time flood monitoring and warning system include liquid level sensors, meteorological sensors, communication equipment, and data acquisition, archiving, processing, and management software designed for flood warning.

### **SUBMISSION**

- ❖ The project contributes towards economy and the citizens. It envisions a safe, prepared and less casualty
- ❖ Community before, during and after typhoon devastation. The model also promotes the use of realtime
- ❖ Monitoring system through the developed web-based application and SMS notification system as an
- ❖ Easy medium in disseminating information particularly in the remote areas. By allowing the system in
- ❖ Two-way communication, it gives more flexibility in providing important information to the community.

## **CONCLUSION**

Floods may be frightening , but it is up to us to make sure they do not interfere with our daily life. Pools, ponds, and other reservoirs should all be kept in good condition. Floods can be prevented if soil conditions improve, allowing for easier water absorption. FWMS has been developed to decrease the rate of property destructions and deaths due to flood disaster. The system is able to call and send warning SMS to the user and Fire and Rescue Department when the flood water level has reached warning and danger levels.

**THANK YOU**