FLOOD MONITORING AND EARLY WARNING SYSTEM (PROJECT 3)

INTERNET of THINGS (GROUP 2)

PROBLEM STATEMENT:

Flood is one of the natural disasters that occurs every year in Malaysia and also worldwide. It destroys the infrastructure and causes fatalities. Flood monitoring system can monitor the flood level and warn people upon the danger of the flood. Existing flood monitoring techniques include multi-satellite analysis, image classifications and wireless sensor networks. Unlike the existing systems, this project intends to develop a more robust and durable system which can withstand the wet weather condition. It aims to monitor the water level and alert the authorities as well as notifying victims. In order to do this, the system needs to have the basic information such as water conditions, water level and precipitation level to detect the increase of water level during flood.

OBJECTIVES:

To read the temperature and humidity of the environment continuously
To warn the people through SMS system using web API
To detect the level of water in real time

DESIGN THINKING:

Design thinking is a user-centric, iterative problem-solving approach that can be applied to the process of product sales analysis to ensure that the analysis addresses the specific needs of your business and its customers.

Step1 Empathize:

- Understand the needs and experiences of communities vulnerable to flooding.
- Conduct interviews, surveys, and observations to gather insights.

Step2 Define :

- Clearly define the problem and its scope, considering the gathered insights.
- Identify the specific areas for improvement in flood monitoring and early warning system.

Step3 Ideate:

- Brainstorm creative solutions to address the defined problem.
- Encourage diverse perspectives to generate a wide range of ideas.

STEP 4 Prototype:

- Create tangible representations or mock-ups of potential solutions, considering both technological and human aspects.
- Use the prototypes to gather feedback and refine the concepts.

STEP 5 Test:

- Conduct trials and simulations to evaluate the effectiveness and usability of the prototypes
- Gather feedback from end-users and stakeholders to identify areas for improvement.

STEP 6 Implement:

- Develop the finalized flood monitoring and early warning system based on the tested prototypes.
- Collaborate with relevant authorities and communities for a successful implementation.

STEP 7 Iterate:

- Continuously collect feedback and data from the implemented system.
- Use this information to make iterative improvements, enhancing the system's efficiency and responsiveness to future floods.

STEP 8 Evaluate And Refine:

- Continuously collect feedback and data from the implemented system.
- Use this information to make iterative improvements, enhancing the system's efficiency and responsiveness to future floods.