**SMART WATER FOUNTAINS**

**IoT – PHASE – 1**

**PROBLEM DEFINITION AND DESIGN THINKING**

* **Problem Definition:**

-->Overflow of water in public areas.

-->Availability.

--> Quality

-->Poor infrastructure .

* **Project(Potential solution):**

--> The project focuses on reducing the flow of water and maintain the quality as well as availability using IoT Devices and practical implementation for the same.

--> This can be done by installing IoT sensors such as [ leak detection sensor , hall effect sensor , water quality sensor , level sensor , fault detection sensor ] for maintaining quality, availability and flow of water.

--> The sensors help in alarming the public which include water level and water consumption through the webpage or an application.

* **Design thinking:**

Objectives:

--> Water Quality and Availability.

--> Efficient Usage.

--> Proper Infrastructure.

IoT sensor design:

Deployment includes -

-->Hall Effect sensor for detection of water flow.

-->Water Quality sensors for maintain quality of water.

-->Level sensor for water level detection.

-->Leak detection sensor in order to detect leakage of water.

-->Ultrasonic sensor for transmitting information wide range for the public display.

-->A database for complete log of the availability, quality will be maintenance since the installment.

* **Real-Time Transit Information Platform:**

Web or Application design:

-->A navigation bar for each attributes of the design

Attributes include:

--> Rate of flow .

--> Water availability.

--> Water quality[ ph level ].

--> Fault detection

--> Help section.

-->Each toggles to individual section where the user gets a detailed information on the particular attribute.

-->An attractive and easy to access web design for smooth surfing.

-->A feedback section for further development of the service.

* **Integration Approach:**

-->Installation of Gateways - for long-range communication.

-->Cloud Applications - converts raw data into useful information.

-->User interface - to connect Applications or webpages with the IoT devices.

-->A typical wireless communication includes:

-->Coordinator.

-->Router.

-->End-point.