**GOVERNMENT COLLEGE OF TEHNOLOGY,**

**COIMBATORE-13**

DEPARTMENT OF ECE

**SMART WATER FOUNTAINS**

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SMART WATER FOUNTAINS

**PROJECT OVERVIEW:**

The project aims to enhance public water fountains by implementing IoT sensors to control water flow and detect malfunctions. The primary objective is to provide real-time information about water fountain status to residents through a public platform. This project includes defining objectives, designing the IoT sensor system, developing the water fountain status platform, and integrating them using IoT technology and Python.

**DESIGN THINKING:**

1. Project Objectives: Define objectives such as real-time water fountain monitoring, efficient water usage, malfunction detection, and resident awareness.
2. IoT Sensor Design: Plan the deployment of IoT sensors (e.g., flow rate sensors, pressure sensors) in public water fountains.
3. Real-Time Transit Information Platform: Design a mobile app interface that displays real-time parking availability to users.
4. Integration Approach:Determine how IoT sensors will send data to the water fountain status platform.

**PROJECT OBJECTIVES:**

I) OBJECTIVES**:**

1. Real-time Water Fountain Monitoring: Implement IoT sensors to monitor water flow and usage in public fountains.

2. Efficient Water Usage: Optimize water flow based on demand and usage patterns.

3. Malfunction Detection: Use sensors to identify and report issues in real-time.

4. Resident Awareness: Develop a user-friendly platform for residents to access real-time fountain status information.

II) IOT SENSOR DESIGN

1. Choose suitable sensors like flow rate sensors and pressure sensors.

2. Determine the optimal placement of sensors in each water fountain.

3. Ensure sensors are durable and weather-resistant for outdoor use.

III) REAL-TIME TRANSIT INFORMATION PLATFORM

1. Design a mobile app interface that’s intuitive and user-friendly.

2. Include features like a map displaying fountain locations, real-time status updates, and alerts for malfunctions.

3. Make the app accessible on both Android and iOS platforms.

IV) INTEGRATION APPROACH

1. Develop a backend system to collect data from IoT sensors securely.

2. Use Python for data processing and analysis.

3. Implement a cloud-based solution for data storage and accessibility.

4. Create APIs for the mobile app to fetch real-time data from the backend.

V) USER ENGAGEMENT

1. Promote the mobile app to residents and educate them on its benefits.

2. Consider adding gamification elements or rewards to encourage responsible water usage.

3. Collect feedback from users to continually improve the platform.

VI) MAINTENANCE AND SUPPORT

1. Establish a maintenance plan for regular sensor calibration and replacements.

2. Provide customer support channels for residents to report issues and seek assistance.

3. Stay up-to-date with IoT technology advancements to ensure the system’s longevity.

VII) SUSTAINABILITY

1. Ensure the project aligns with sustainability goals, such as reducing water wastage.

2. Monitor water conservation metrics to measure the project’s impact on the environment.

CONCLUSION:

By following these steps and focusing on user-centric design, efficient data integration, and sustainability, your project can effectively enhance public water fountains and provide valuable real-time information to residents.