Smart Public Restroom

Project Steps

Phase 1: Project Definition and Design Thinking.

Project Definition:

The project aims to enhance public restroom management by installing IoT sensors to monitor occupancy and maintenance needs. The goal is to provide real-time data on restroom availability and cleanliness to the public through a platform or mobile app. This project includes defining objectives, designing the IoT sensor system, developing the restroom information platform, and integrating them using IoT technology and Python.

Design Thinking:

Project Objectives:

Define objectives such as real-time restroom availability information, cleanliness monitoring, improved user experience, and efficient restroom.

IoT Sensor Design:

Plan the deployment of IoT sensors (e.g., occupancy sensors, cleanliness sensors) in public restrooms.

Real-Time Transit Information Platform:

Design a web-based platform and mobile app to display real-time restroom availability and cleanliness data.

Integration Approach:

Determine how IoT sensors will send data to the restroom information platform.

Phase 2: Innovation

Consider incorporating predictive maintenance algorithms to anticipate maintenance needs based on sensor data.

Phase 3: Development Part 1

Begin building the IoT-enabled Smart Public Restrooms system.

Phase 4: Development Part 2

Continue building the project by developing the restroom information platform and mobile app.

Phase 5: Project Documentation & Submission

Document the Smart Public Restrooms project and prepare it for submission.

Documentation

- Describe the project's objectives, IoT sensor setup, mobile app development, Raspberry Pi integration, and code implementation.
- Include diagrams, schematics, and screenshots of the IoT sensors, restroom information platform, and mobile app interfaces.
- Explain how the real-time restroom information system can enhance user experience and restroom management.

Submission

- Share the GitHub repository link containing the project's code and files.
- Provide instructions on how to replicate the project, deploy IoT sensors, develop the transit information platform, and integrate them using Python.
- Include example outputs of Raspberry Pi data transmission and mobile app UI.
- A blended learning platform for IT students and professionals looking to take the next steps in their career.

Project by:

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