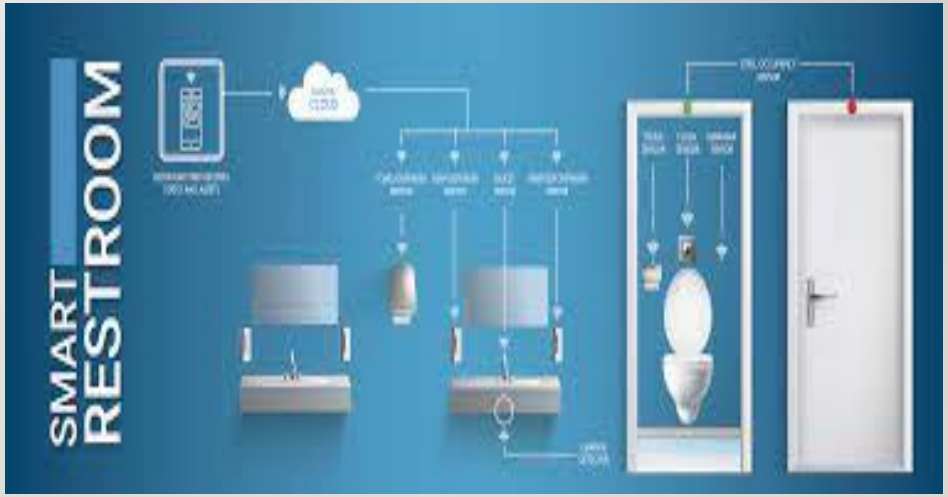
SMART PUBLIC RESTROOM

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 senor system, developing the restroom information platform, and integrating them using IoT technology and python.

PROJECT OBJECTIVE:

- Real-Time restroom availability information.
- Cleanliness monitoring.
- Improved user experience.
- Efficient restroom.



REAL-TIME RESTROOM AVAILABILITY INFORMATION.

- Real-time restroom availability information in smart public restrooms can significantly improve user satisfaction, reduce wait times, and enhance restroom management efficiency. It can also be a valuable feature in smart cities and public spaces where providing a high level of convenience to residents and visitors is a priority.

CLEANLINESS MONITORING.

- Cleanliness monitoring in smart public restrooms not only helps maintain a clean and hygienic environment but also contributes to cost efficiency by optimizing cleaning schedules and resource allocation. It enhances the overall user experience and public health, making it an essential feature in modern public facilities

IMPROVED USER EXPERIENCE.

Real-time availability information, cleanliness monitoring, touchless features , hand hygiene stations, accessibility features, baby changing station, multilingual signage , amenities and comfort, privacy considerations, emergency feature , maintenance alerts, queue management feedback mechanism , energy efficiency, security , smart notifications, hygiene supplies, green feature , regular maintenance, user education By focusing on these aspects, public restrooms can become more user-friendly and contribute to a positive overall experience, which is especially important in busy public spaces, transportation hubs, shopping centers, and smart city initiatives.

EFFICIENT RESTROOM

- Efficiency in smart public restrooms not only benefits users but also helps organizations save resources and reduce environmental impact. By integrating smart technologies, data analytics, and sustainable practices, smart public restrooms can provide a more streamlined and eco-friendly experience for the public.

IOT SENSOR DESIGN.

- Select the appropriate sensors for the parameters you want to monitor. Common sensor types for smart restrooms include:Occupancy sensors (infrared, ultrasonic, or weight sensors) to detect user presence.
- Environmental sensors (temperature, humidity, air quality) for monitoring comfort and cleanliness.
- Fluid level sensors for soap, water, and sanitizer dispensers.
- Image sensors or cameras for cleanliness assessment and occupancy tracking.
- Acoustic sensors for measuring noise levels and detecting issues.
- RFID or NFC sensors for tracking restroom supplies and equipment.

REAL-TIME TRANSIT INFORMATION PLATFORM

- Creating a real-time transit information platform in a smart public restroom can be a valuable service for users, especially in busy transportation hubs. This platform can provide up-to-date information about public transportation options, schedules, delays, and nearby services.

INTEGRATION APPROACH.

- Integration is a key component of a smart public restroom, as it allows various systems and technologies to work together seamlessly to provide a comprehensive and efficient user experience.

- These are the topics of phase 1 in smart public restroom.

THANK YOU