



**VELAMMAL**  
INSTITUTE OF TECHNOLOGY

Approved by AICTE - New Delhi  
Affiliated to Anna University - Chennai  
Accredited by NBA & NAAC

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PROJECT NAME: SMART PUBLIC RESTROOM

TEAM NAME: proj\_224780\_Team\_4

TEAM MEMBERS:

ABINAYA.P(113321104001)

ABHIRAMI.T(113321104002)

ALAGANENI SUMI(113321104003)

GEETHA.S.V

# PROJECT DEFINITION:

- ❖ The aim of Smart public restroom is to maintain a less waste and manage the odour concentration level with ammonia sensor.
- ❖ To create technologically advanced, efficient, and user-friendly public restrooms .
- ❖ That enhance the overall restroom experience while promoting hygiene, sustainability, and accessibility.
- ❖ Here's a project definition for such an initiative
- ❖ Enhance the convenience, comfort, and overall satisfaction of restroom users.

# OBJECTIVES:

## ❖ **Hygiene and Sanitation:**

Promote cleanliness and hygiene through advanced cleaning and disinfection methods.

## ❖ **Sustainability:**

Implement eco-friendly solutions to reduce water and energy consumption and minimize environmental impact now a days.

## ❖ **Accessibility:**

Ensure that the restroom is accessible to individuals with disabilities and compliant with relevant accessibility standards.

❖ **Smart Technology Integration:**

Incorporate cutting-edge technologies to provide innovative restroom features and services.

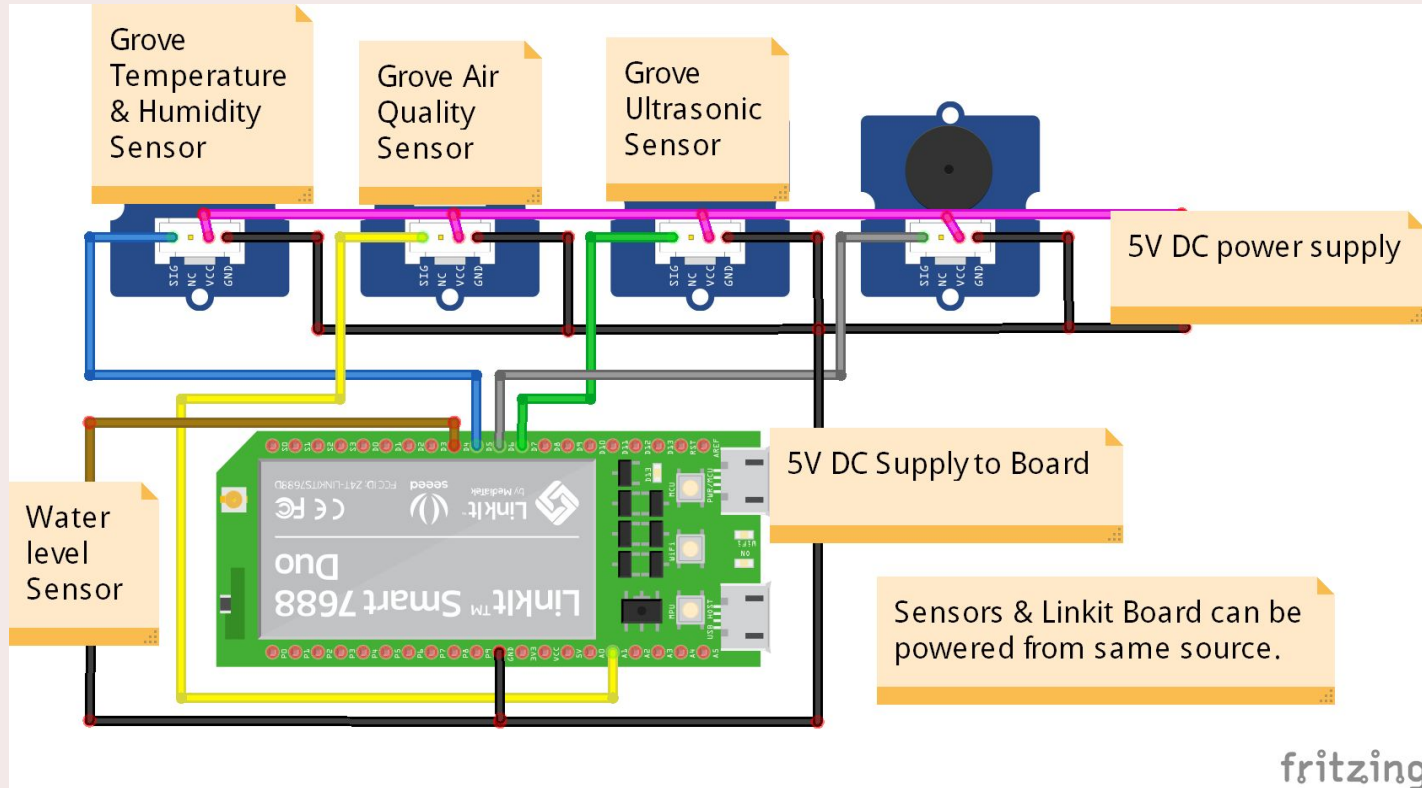
❖ **Real-Time Monitoring:**

Enable remote monitoring of restroom conditions and performance to facilitate maintenance and cleanliness.

❖ **Improved User Experience:**

Enhance the convenience, comfort, and overall satisfaction of restroom users.

# IOT SENSOR DESIGN:



# IOT SENSOR DESIGN:

Designing IOT sensor systems for smart public restrooms involves integrating various sensors and technologies to enhance hygiene, user experience and resource efficiency. Here's sensor design for a smart public restroom:

- ❑ **Occupancy Sensors**
- ❑ **Touchless Fixtures**
- ❑ **Toilet Usage Sensors**
- ❑ **Water Quality Sensors**
- ❑ **Air Quality Sensors**

# REAL-TIME TRANSIT INFORMATION PLATFORM:

Integrating a smart public restroom into a real-time transit information Platform can provide added convenience and accessibility for travelers. Here's how you might design such a system:

- ☐ **Location Integration**
- ☐ **Real-Time Transit Information**
- ☐ **Occupancy Sensors**
- ☐ **Accessibility Features**
- ☐ **Hygiene And Sanitation**
- ☐ **IOT Sensors**
- ☐ **Privacy And Security**
- ☐ **Emergency Services Integration**

# INTEGRATION APPROACH:

Integrating a smart public restroom into various urban environments and systems requires a systematic approach to ensure successful implementation. Here's a step-by-step integration approach :

- ❑ **Define Integration Goals**
- ❑ **Identify Suitable Locations**
- ❑ **Engage Stakeholders**
- ❑ **Design Smart Restroom Features**
- ❑ **Technology Selection**
- ❑ **Accessibility Compliance**
- ❑ **Construction And Installation**
- ❑ **Data Monitoring And Maintenance**



- ❑ **User Feedback Mechanism**
- ❑ **Continuous Improvement**
- ❑ **Evaluation and Reporting**
- ❑ **Scalability And Future Expansion**

By following this structured approach you can effectively integrate a smart public restroom into urban environments.

- ❑ While ensuring that it meets the needs of users and contributes positively to the community.
- ❑ Implement a user feedback system, such as digital kiosks or mobile app features, to collect input and suggestion for improvements.
- ❑ Establish a system for monitoring restroom conditions and technology

**THANK YOU**