

TOMS SE PROJECT

SE Project Group 9

[Github Link](#)

Group Members (Group 9)

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Abstract

'TOMS', a smart toilet cleaning management system ANDROID APP that monitors the hygiene within the toilet and generate alerts or alarms for the staff members if the toilet requires any attention.

The toilet will be equipped with turbidity and gas sensors that monitor water quality and smell respectively. The turbidity sensor is measured in Nephelometric Turbidity unit (NTU) where high NTU value indicates the water is dirty, whereas the gas sensor (MQ2) detects the foul smell with high output voltage, and later sends a signal to the system to compare with the hygiene threshold and accordingly send the message/ email to the staff regarding the toilet being unhygienic and require immediate cleaning.

Objective

- ❑ To provide admin an easy interface to manage the toilets.
- ❑ To allow building owners and Facility Management(FM) and cleaning companies to manage usage across restrooms.
- ❑ To maintain a log file for each action taken along with the timestamp.

Technology Used

- ❑ Android Operating System
- ❑ Android 5.0.1 or above
- ❑ Android Studio
- ❑ Firebase
- ❑ VS Code

There won't be any hardware requirements as we are dealing solely with tech at present.

Use Case Diagram:

Use Case Diagram

Class Diagram:

Class Diagram

SRS Documentation:

SRS Documentation

SDS Documentation:

SDS Documentation

Traceability Matrix:

Traceability Matrix

Code:

Code Files

Working

- ❑ The staff members are first asked to configure the settings for value of turbidity and gas sensors.
- ❑ After that, staff member will initiate the system button and live status of both the values will appear on the screen.

- ❑ When the value of turbidity or gas sensor will go high than the entered values, staff members will receive a notification regarding the same.
- ❑ Admin can see all the details of the staff members and will be able to add or remove them.

Demo Video:

[SE Group 9 - Youtube](#)

Submission

The complete project submission contain the following:

SRS, SDS, Traceability matrix, PPT, Demo video, APK file

All the source code should necessary to compile and execute.

Specific Technology: Dart, Flutter

Project Tasks: Use Case Analysis

Design: Class Diagram, Use Case Diagram, Traceability Matrix and Implementation, User-Interface (GUI)

Thank You!