Swachh Desi

The Service-Learning App

**CAPSTONE PROJECT PROPOSAL**

**Group 9**

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* **The Executive Summary**

The Objective of this project is to provide a Service-learning (Wikipedia defines **Service-learning** as an educational approach that combines learning objectives with community service to provide a pragmatic, progressive learning experience while meeting societal needs) application to Indians who are interested in keeping their city clean.

In our day-to-day life we find several places in our communities which are unorganized/unclean, hence they require special attention from the government. But our government may not be able to address all the issues/concerns all by itself, hence our idea is to build an application where people own these problems and try to find solutions to these generic problems.

* **The Project Background**

This application offers service to two parties,

1. Swachh Citizen - In our use case these are the reporters of a problem. If any responsible citizen finds any place not clean whether it can be a place, building, government property like railway station etc. can report the problem by creating a new incident with details like description of the problem, place of the problem, directions to the place, pictures of the place, number of people the service needs to fix it and the cost it may involve. Additionally, they can fix a date to resolve the issue and list down the details of tools/resources needed to fix the problem. Once the problem is solved, they may want to upload the latest photos after providing the service and close the incident.

2. Swachh Volunteer - These are the responders to a reported problem. Any interested/registered volunteers can see current Incidents by entering the location and see the details of it. If they are interested, they can sign up for it and provide what kind of help they can provide to fix it.

* **Aims and Objectives**

1. We are planning to have a registered account for each user to create and respond to an incident.

2. To register an account there will be few mandatory fields, without which account creation is not possible.

3. Any registered user can create or respond to an incident.

4. Creator of the incident must provide enough details about the incident,

A. At least one picture of the problem,

B. Description of the problem,

C. Directions to the specified place

D. Proposed solution to the problem

E. Resources/Tools needed to fix the problem.

F. Number of people need to fix the problem.

G. Total amount to fix the problem.

H. Total time to fix the problem.

I. Proposed future date and time to fix the problem.

5. Any registered user should be able to get a list of all the incidents (and their details) of a specified area

6. Any registered user can respond to any incident by signing up for it and providing the list of resources/tools he/she can bring with them.

7. Once the incident is resolved, the creator can upload the latest picture and resolve the incident.

8. Any registered user can always go and check the list of incidents created and responded to.

* **Relevance and Resources required.**

This project is relevant to our certificate program as:

1. It involves building a web application to work on both web browser and mobile browser. We learnt web application development in our course, and we are planning to use ReactJS to build it.

2. It involves building a back-end REST API to respond to facilitate the web application. We are planning to use the Django framework for it as we learned the framework as part of this course.

3. It involves creating DBs to store the details of the incidents in a database, we are going to use a database which we learnt in the program.

4. We are going to create different micro-services of each independent module (web app, rest api server.etc.) we are going to create for this project as we learnt micro-services in this program.

5. We are going to implement CI CD pipelines for this project as we have learnt in this program.

6. We are going to use Dockers and K8s to deploy our entire application.

* **Extensions and Risks**

1. Amount Donation - Now we may not be able to allow donations from unregistered users or responders, but we will try to consider it if time permits.

2. Star Ratings - We might bring the star rating of the users to each registered user based on their individual activity.

3. Content Moderation - Currently we are planning to allow only creators to moderate the content but if time permits, we will allow moderator accounts to restrict a few actions.