WE CLEAN AMRITA

A project report
submitted as a part of the internal evaluation process for the course
15ENV300 ENVIRONMENTAL SCIENCE AND SUSTAINABILITY

by

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BONAFIDE CERTIFICATE

This is to certify that the project report entitled "**We Clean Amrita**" submitted by **Ashwathi Sasi (AM.EN.U4CSE17010)**, **Neelam Singh Gurjar (AM.EN.U4CSE17049)**, **Bharathi Putta (AM.EN.U4CSE17056)**, **Ayushi Sharma (AM.EN.U4CSE17112)** as a part of the internal evaluation process for the course **15ENV300 Environmental Science and Sustainability** is a bonafide record of the work carried out by them under the guidance and supervision of me at the Department of Mechanical Engineering, Amrita School of Engineering, Amrita Vishwa Vidyapeetham, Amritapuri Campus.

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DECLARATION

We, **Ashwathi Sasi (AM.EN.U4CSE17010)**, **Neelam Singh Gurjar (AM.EN.U4CSE17049)**, **P Bharthi (AM.EN.U4CSE17056)**, **Ayushi Sharma (AM.EN.U4CSE17112)** hereby declare that this project report entitled "**We Clean Amrita**" is the record of the original work done by us under the guidance of **Mr. Gevargis M Thomas**, Faculty Associate,Department of Mechanical Engineering, Amrita School of Engineering, Amritapuri.

Place: Amritapuri
Date: 14-10-2019

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Chapter 1

INTRODUCTION

The project aims at creating awareness among the local residents regarding domestic waste management i.e., solid waste management with the help of modern technology. Solid waste refers to the range of garbage arising from animal and human activities that are discarded as unwanted and useless. They can from various different sources and are of different types.

The environment provides many benefits. It heals us and helps us stay healthy. While medicines are derived from the elements of the environment and living organisms, sometimes simply being exposed to sunlight and fresh, clean air makes a difference in how we feel. Our surroundings educate. Science and technology are the products of observing, studying and using the physical, chemical and biological world around us.
The environment fulfills us when it is used to recreate, apply our sciences and practice our arts. Its natural resources and energy also serves as a unique means of capital, allowing us to run our businesses and the economy.

A new environment and economic theory is emerging that recognizes four factors.

The environment is not fully elastic. Past theories surmised that the natural system's supplying potential was infinite. The economic system was free to extract as much as possible from the natural system, which was perceived as vast with unbounded abilities to assimilate diseconomies. Man did not need to clean. Instead, dilution sufficed until it was feasible to relocate to a clean environment. When the consumer population was smaller, relative to size and the carrying capacity of the natural environmental system, this supposition was reasonable. As populations grew, the earth's limitations were more apparent and a non-traditional economic view of the natural system surfaced.The natural system is since perceived as a unique form of economic capital that must be kept clean if we are to sustain a suitable quality of life.

The environment is not an issue, it is a "value." Industrialized societies often perceived the environment as a free good—an expendable, renewable resource. The worst offenders considered the environment a resource with no value in itself. Instead, it was valued as a dumping ground or limitless sink for the diseconomies or wastes of living and industrial operations. This "dumping ground" mentality has been replaced by "green and clean."

The environment—whether natural or built—is a unique form of capital. Capital that produces income and wealth takes on four forms: financial, human, technological and environmental. Each of these is essential to business and human existence. All goods, services and human health conditions connect with the environment and its quality. Wealth is not readily created in clean space, especially in today's age of high-tech information.

The perception of sustainable development has changed. Previously, sustainable development was narrowly defined as improving the quality of life while living within the carrying capacity of supporting ecosystems. The emerging concept of "sustainability" is, however, rapidly expanding

to include environmental, economic and social equity. To this end, there is a growing recognition that these factors be considered simultaneously. The connection between each element increasingly forces changes to the traditional way consumers and businesses operate and relate to each other; how new technologies and products are developed, sold and used; how markets are structured; and how communities develop and grow.

Garbage from these places include food wastes, plastics, paper, glass, leather, cardboard, metals, yard wastes, ashes and special wastes like bulky household items like electronics, tires, batteries, old mattresses and used oil. Everyday tonnes of waste like these are disposed off at various landfill sites. These landfill sites produce foul smell if waste is not stored and treated properly. It can pollute the surrounding air and can seriously affect the health of humans, wildlife and our environment. So in order to avoid these sorts of problems due to poor solid waste management, an app has been implemented in this project to collect certain data regarding the management of solid waste and which uses this data to bring up better solutions. We chose an app as our platform to bring about this initiative as apps are handy and is easy to use.

CHAPTER 2

AIM AND SCOPE OF THE PROJECT

The aim of this project is to collect data regarding domestic waste management i.e., solid waste management with the help of modern technology. Solid waste refers to the range of garbage arising from animal and human activities that are discarded as unwanted and useless. They can from various different sources and are of different types. In this project we mainly focus on solid waste coming from residential sources, nearby small scale industries, shops and malls, etc. With the help of NGOs, we would be approaching the nearby residencies and initiate the clean-up drives. An app is an easy way to achieve this and thus our project which is an android app, helps people clean their nearby areas and also promote cleanliness.

Firstly, to get involved in such an initiative, people have to register themselves on our app and enter the details of the areas nearby where cleaning is to be done.

This will help the nearby people to collaborate and unit them for the cleaning. Here technology can greatly assist to make the environment clean.

Chapter 3

MATERIALS AND METHODS

To link technology and environment we chose to make an Android based application, as it is the most used system by all the people across the globe. This application is built on **Android Studios**. Android Studio is the official integrated development environment for Google's Android operating system. The main features which is used involves the knowledge of java. Using this instant apps can run on PCs.It is an advanced technology which cleverly understands the transmutations done in the applications and deliver it instantly without taking time to rebuild the apk and installations make. It has visual layout editor which helps to build the layout fast by adding different attributes either by hard-coded or drag and drop. The preview of the code can easily be seen on visual editor screen and changes can be made accordingly. It has a great feature of Emulator which is exactly like the android phones to test how the application will look like. It helps you to make your application development life cycle shorter and more efficient. It provides you with the intelligent and quick code editor. This will help you and guide you with the accurate code. It helps you to complete code in advance and analyse your code in advance before building.android studio builds applications for every screen size, for wear and gear devices etc. It also can stimulate the various types of features which a hardware has like GPS location tracker, multi-touch.
For the purpose of data saving we have implemented database at the backend. For the implementation of this the **Roomdb** has been used. Room provides an abstraction layer over SQLite to allow fluent database access while harnessing the full power of SQLite.
This project mainly uses Android studios and for data related assessment it uses roomdb.

When a data is entered, it will be fetched from the user interface and fed to the database. This database has all the information related to the users and the location which they proposed for clean up drive. People can see the already existing locations where the clean up drive has been proposed and can contribute to it. If the user feels that an area can be cleaned then they can also add the details and add the event to database.

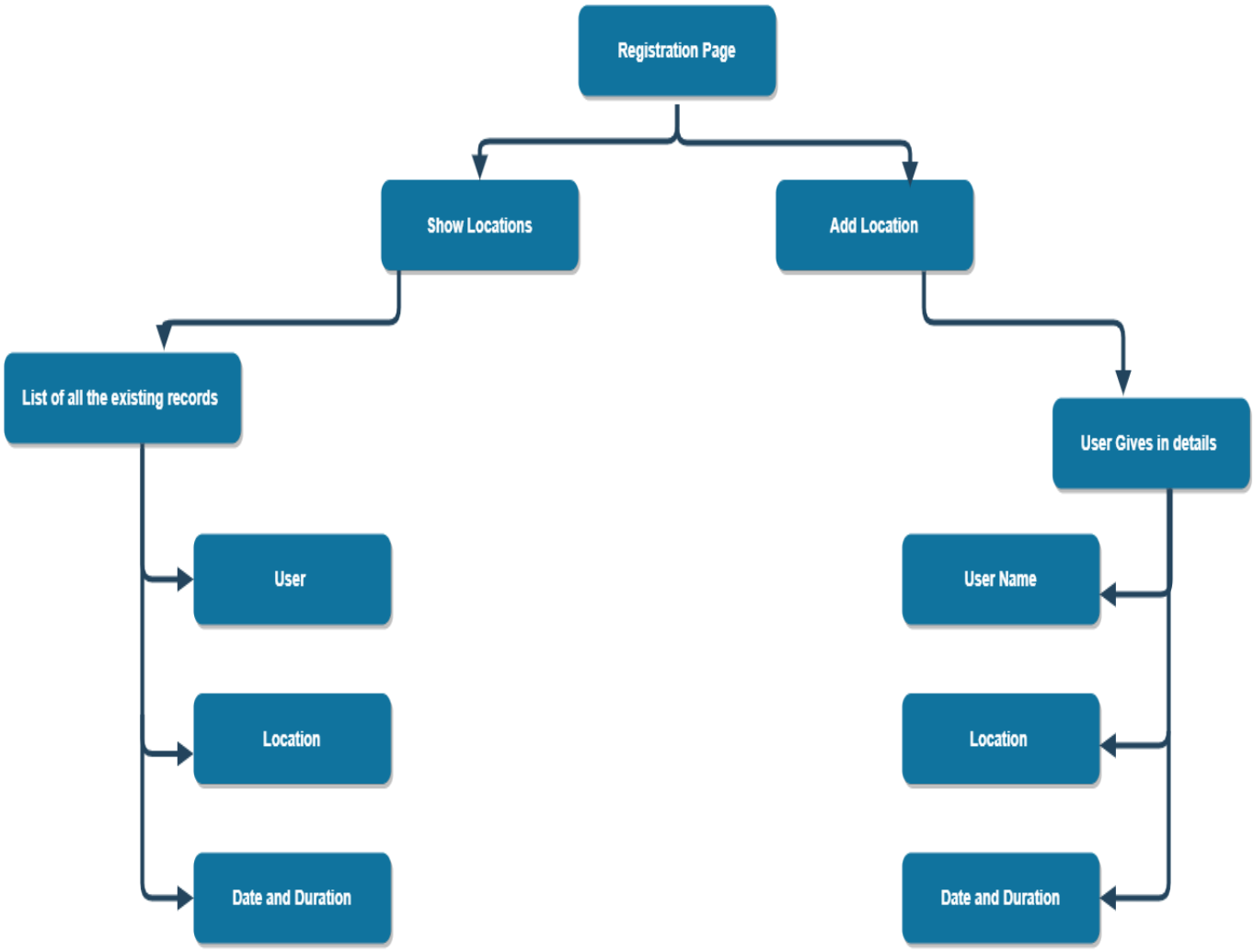
Registration Page
Show Locations
Add Location
List of all the existing records
User Gives in details
User
Location
Date and Duration
User Name
Location
Date and Duration

Figure3.1

Chapter 4

RESULT AND DISCUSSION

The main focus of the app is to involve people actively to become part of the cleanliness movement Swachh Bharat Abhiyan.

These are some snapshots of the app.

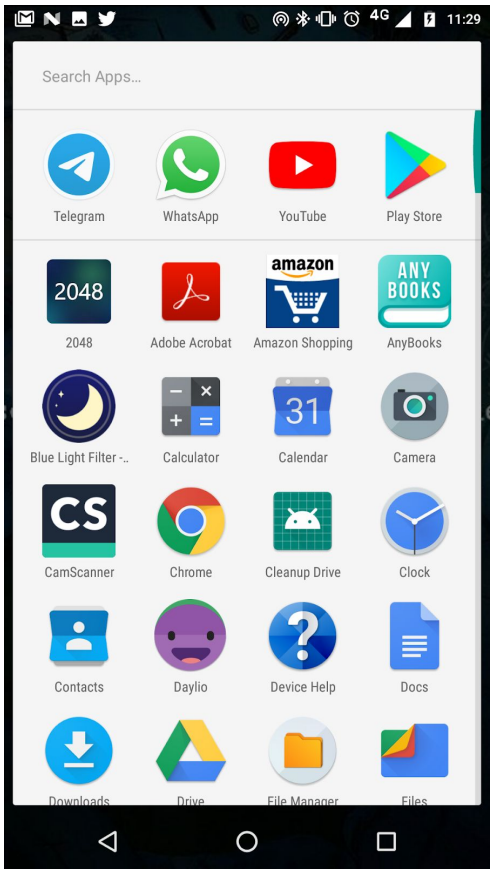

Figure 4.1

Users can login using this interface.

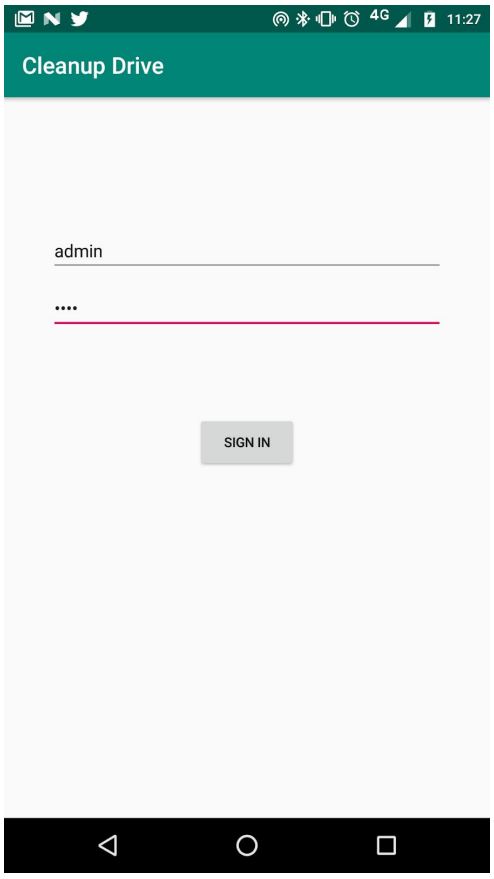

Figure 4.2

Adding new location interface.

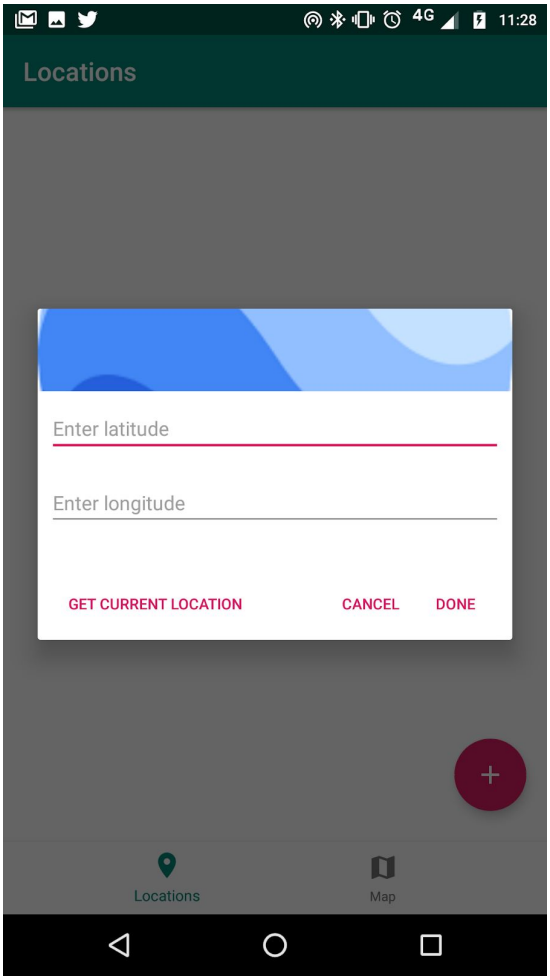

Figure 4.3

Map interface.

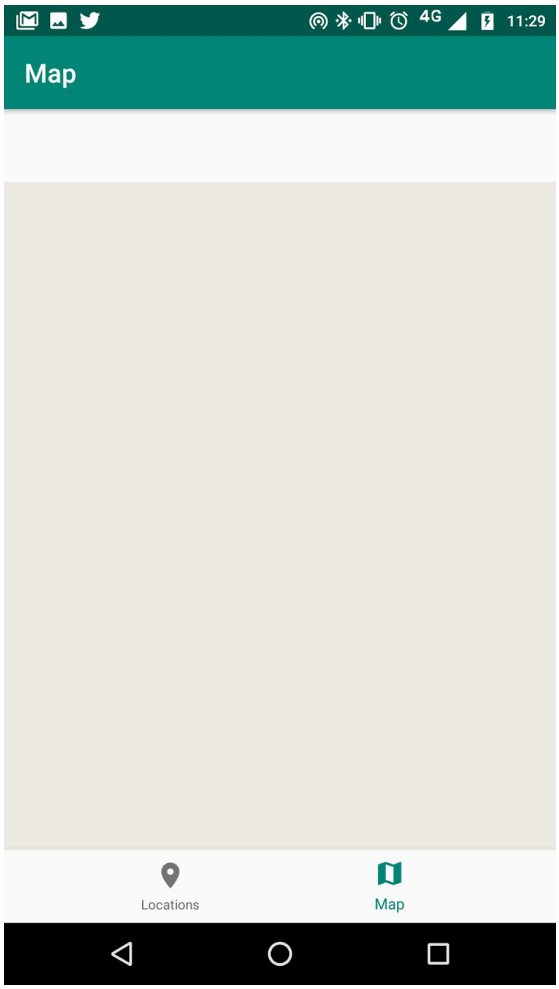

Figure 4.4

The future goals involve making it deployable in play store. Adding features to make it more user friendly. Linking the app activities to google. People will get a notification from the app reminding them of the activity that will be going to take place in the near future.

This way people can make the environment cleaner and they will also realise the importance of our land which is getting affected because of human activities.Such human activities must be stopped and strict measures must be taken for making our environment friendlier. Therefore organising cleanup drives can help our mother earth.

Chapter 5

CONCLUSION

There is a need to de-stigmatise the act of cleaning and to encourage community participation in the cleaning exercise. The “We Clean Amrita” mobile application is an attempt to achieve exactly that through the effective use of technology and social media. This application will create a platform for people to come together and keep the environment clean. With the growing influence on technology and growing trend if the methods for undergoing such activities should also be improved. Many people face the issue of managing time with there work life and social life and in between if a cleanup drive is organised then the interested people can actually contribute to it.

Technology is not just for modernisation, and making a person’s life easier. It should be used for returning back to our mother earth for all its wealth and resources.

Chapter 6

References

The following resources have been referred for the completion of this project

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https://developer.android.com/training/basics/firstapp/starting-activity
https://developer.android.com/training/data-storage/room
https://www.explainthatstuff.com/land-pollution.html
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