

DTIL PROJECT REPORT
ON
WASTE MANAGEMENT SYSTEM

Submitted By,

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|-----------------------------------|------------------|
| 1.Miss. Shelke Prachi Suhas. | PRN:2124UCEF1002 |
| 2.Miss. Thorat Shweta Kiran. | PRN:2124UCEF1042 |
| 3.Miss. Thombare Gayatri Namdev. | PRN:2124UCEF1063 |
| 4.Miss. Gadhave Sakshi Dattatray. | PRN:2124UCEF1059 |
| 5.Mr. Shelke Uday Sanjay. | PRN:2124UCEM1031 |
| 6.Mr. Dusane Yash Narendra. | PRN:2124UCEM1077 |

(F.Y. B.TECH CSE)

Guide

Dr. Ajit Muzumdar
Prof. Pravin Chokakkar



In the academic year 2024-25

Department of Computer Science and Engineering.

Sanjivani University

Kopargaon – 423 603.

Sanjivani University, Kopergaon

CERTIFICATE

This is to certify that

1.Miss. Shelke Prachi Suhas.	PRN:2124UCEF1002
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(F.Y. B.TECH CSE)

Have Successfully completed their DTIL project report

On

Waste Management System

Towards the partial fulfilment of Bachelor's Degree

In Computer Science Engineering

During the academic year 2024-25

Dr. Ajit Muzumdar.

Prof. Pravin Chokakkar.

ACKNOWLEDGEMENT

The whole session of Design Thinking and Idea Lab completion phase so far was a great experience give us great insight and innovation into thinking about design as a process to solve users day to day life problems by starting with some methods like empathy and understanding, then working on that project with team and user to build a product or system that fulfil users need.

Successful Completion of any work is not possible without the cooperation of many people involved in project. First of all we would like to thank our respected Design Thinking and Idea lab guide Dr. Ajit Muzumdar and Prof.Pravin Chokakkar a constant source of knowledge and inspiration. They encouraged us to think creatively and motivated us to think on problem present around us and try to provide possible solution for that problem. Their guidance helps us to take our project forward. The way they took our presentation increases our confidence level and make us enough confident to present our idea clearly.

We are also very thankful of Dr. Mahendra Gawali Head of Dept. of Computer Science and Engineering for the valuable guidance and providing necessary facilities and we Express deep gratitude to all the faculty members and our department's technical Staff for providing us needed help.

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REPORT

1. SDG Topic Selection.
2. End-User Persona.
3. Mind Map.
4. 5w1H Question Activity.
5. Theory of Prioritization.
6. Problem Statement.
7. SCAMPER Activity.
8. Model Prototype or Design.
9. Journey Map.
10. Working of the model.
11. Discussion on the usability of the model.
12. Conclusion.

1. SDG Topic Selection:

In this activity we have selected one topic from 17 SDG goals that is Waste Management System, which is our topic for Design Thinking and Idea Lab. Our main objective behind taking this topic is the increasing amount of waste formation by vulnerable populations with limited waste management resources is contributing to environmental degradation, public health and economic development.

2. End-User Persona :

For persona construction we have studied end users and made persona on them. There are many end users of our project from that we have selected 2 end users Hotel owner and Management Staff and prepare persona on them.

Persona GROUP NO : 05

End user - Management Staff

Background

- They are highly organized & calm under pressure
- They have excellent project management and organizational skills.
- They have to co-ordinate with the team.
- They have done Bachelors degree in Hospitality Management.

Family background, education, childhood

Challenges faced

- Balancing guest expectations with operational realities.
- Managing staff schedule.
- Ensuring adequate coverage during peak times.
- Staying updated with industry trends and implementing best practices.

Challenges faced by the person in dealing with his stakeholders

Motivation

- Team work
- Keeping the hotel clean & well managed.
- Treating the guest in best way.

What motivates the individual

Doubts / Fears

- Fear of push back from staff and management.
- Doubt about measurable impact.
- Worry about negative guest feedback.
- Worry about external challenges.

What are the doubts / fears faced by the individual

Aspirations

- Becoming a leader in Sustainable Hospitality.
- Enhancing guest experience through sustainability.
- Becoming a Mentor in Sustainability.
- Partnering with local communities and business.

What this individual aspires to be / vision

Construct a story while explaining the persona to your peers and document the insights

They have done their Bachelors degree in Hospitality Management. They work with their management team. They with their team has to balance guest expectations and has to stay updated with industry trends. They have to treat guest in best way & are worry about negative guest feedback and external challenges.

Waste & Sustainability Management in hotel End User = Hotel owner. **Persona** Group NO=5

Background

- Hotel owners handle everything in hotel so he need to manage waste as well as sustainability also.
- He have enough knowledge about bussiness.
- He have rights to make changes in hotel system.
- He can start different project to make waste management.

Challenges faced

- The new changes made by hotel owner will accepted by stakeholder like management staff, guest or customers to reduce waste from hotel or management of waste.
- He need to manage money for project.

Motivation

- Mess or waste form in hotel.
- Imagination of clean hotel.
- Want to increase sustainability in hotel.

Doubts / Fears

- The new project for waste management & sustainability will work or not.
- Will everyone accept new implementation of project in hotel.

Aspirations

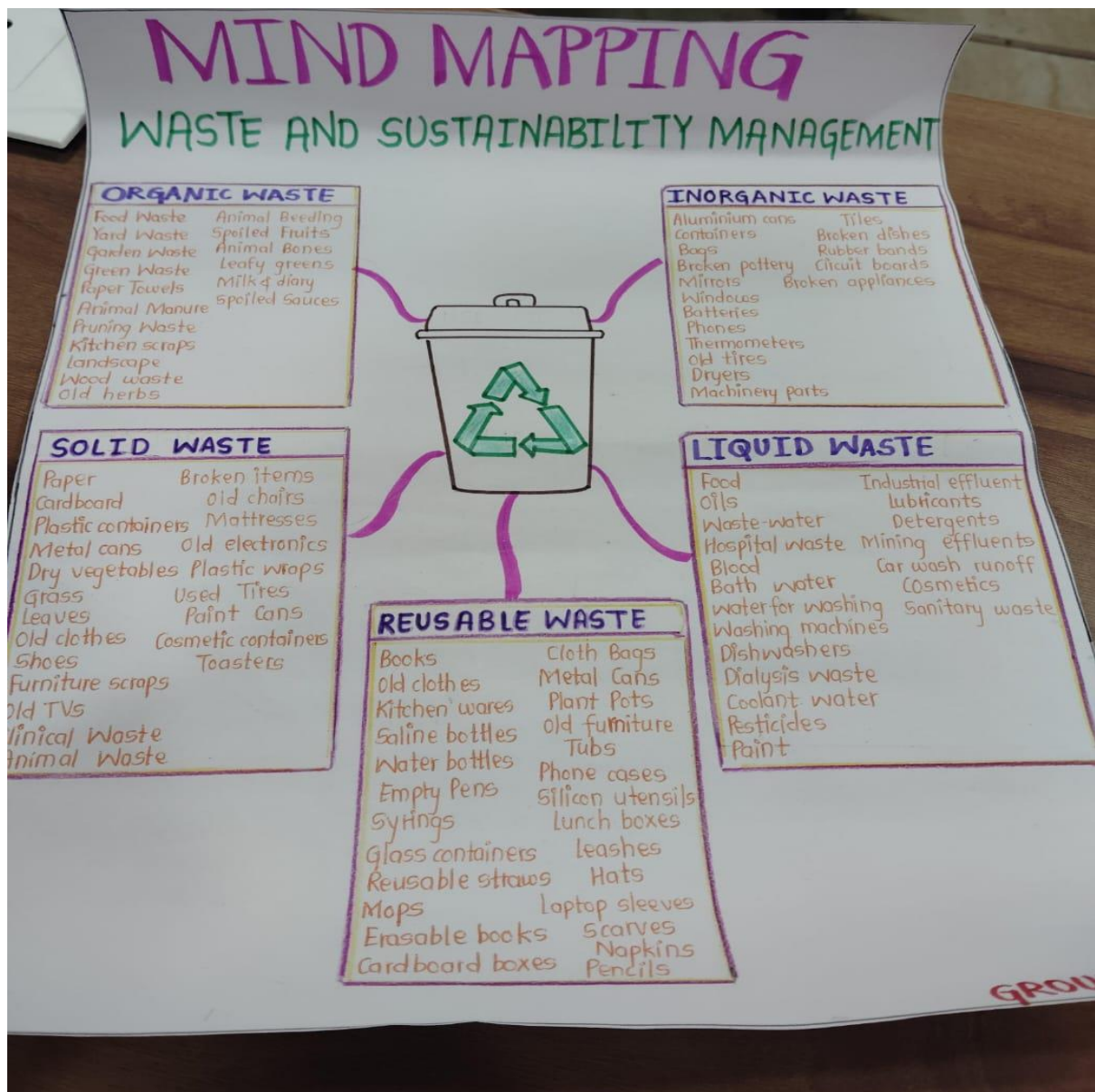
- His hotel will be clean & Fresh.
- Many things in hotel will be reuse or waste gets decreased.

Construct a story while explaining the persona to your peers and document the insights ...

By Waste management & sustainability management the hotel owner get affected he needs to implement new project which may accepted or not by management team or guests of hotel. By this project waste will reduce in hotel & hotel will be more clean.

3. Mind map :

By using mind maps, we can enhance our critical thinking, creativity and productivity, leading to better understanding, organization and communication. Mind map help to organize and prioritize information, clarifying tasks , goal and allowing for exploration of different ideas.



4. 5W1H Question Activity :

In this activity we wrote question on each topic which is mention in mind map. At least 5W and 1 H question on each topic, we have made 60 questions with answer and write it on chart. Which help us to know deeply about each topic related with our project.

5. Theory of Prioritization :

From 5W1H question activity he got many problems related with our project like almost 30 problems we got and further in Theory of Prioritization all members of our team rated the problems and we got our highest rated problem that is Lack of Awareness. By using this Problem we defined our problem statement.

Theory of Prioritization - GROUP NO:05							
PRIORITY LIST	Shweta	Prachi	Yash	Uday	Gayatri	Sakshi	Total
1 Lack of Awareness	1000g	1000g	1000g	1000g	1000g	1000g	6000g
2 Lack of Recycling	1000g	1000g	1000g	100g	100g	1000g	4200g
3 Improper Disposal	100g	1000g	1000g	100g	100g	100g	2400g
4 Inadequate waste collection	100g	100g	1000g	100g	1000g	100g	3300g
5 Climatic Change	100g	100g	10g	10g	10g	100g	330g
6 Technological Limitations	100g	10g	10g	100g	100g	100g	420g
7 limited Funding	100g	100g	10g	100g	100g	1000g	1410g
8 Lack of efficient sorting	100g	100g	100g	100g	100g	100g	600g
9 lack of networking	1000g	1000g	1000g	1000g	1000g	100g	5100g
10 lack of support from locality	1000g	1000g	100g	1000g	100g	1000g	4200g
11 Insufficient waste treatment	1000g	100g	10g	100g	10g	100g	1320g
12 Improper Infrastructure	10g	100g	100g	10g	10g	100g	330g
13 Insufficient waste-to-energy systems	100g	100g	10g	10g	100g	10g	320g
14 Poor waste transport system	1000g	100g	100g	10g	100g	100g	1410g
15 lack of access to sanitation facilities	10g	100g	10g	10g	10g	100g	240g
16 Regulatory Challenges	100g	100g	10g	100g	10g	100g	420g
17 Environmental Impact	10g	100g	10g	100g	10g	100g	330g
18 E-Waste Management	100g	100g	10g	100g	100g	100g	510g
19 Problem in Dumping process	100g	100g	100g	100g	10g	100g	510g
20 lack of Recycling Facilities	1000g	1000g	100g	100g	100g	100g	2400g

Problem Statement :
 Lack of Awareness : The lack of awareness and understanding among the general public regarding proper waste management practices is significantly contributing to improper waste management, environmental degradation, health risks and economic losses.

6. Problem Statement :

Due to lack of awareness and understanding among the general public regarding proper waste management practices is

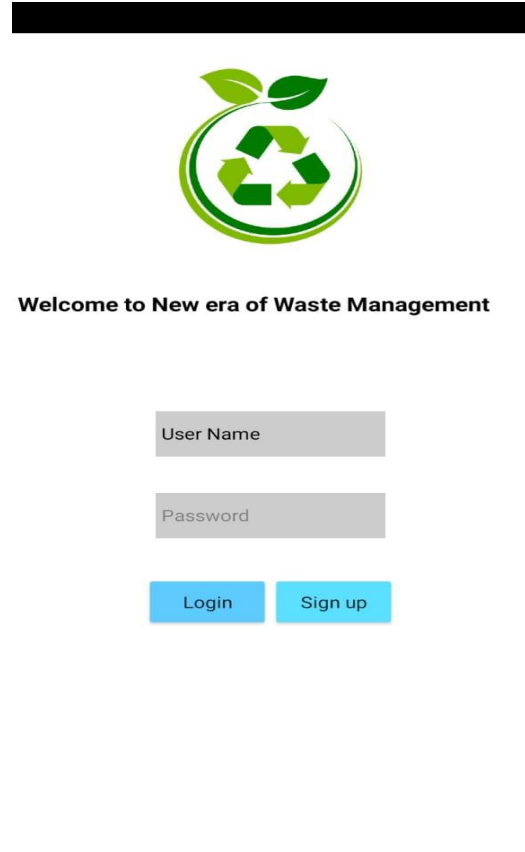
significantly contributing to improper waste management, environmental degradation, health risks and economic losses.

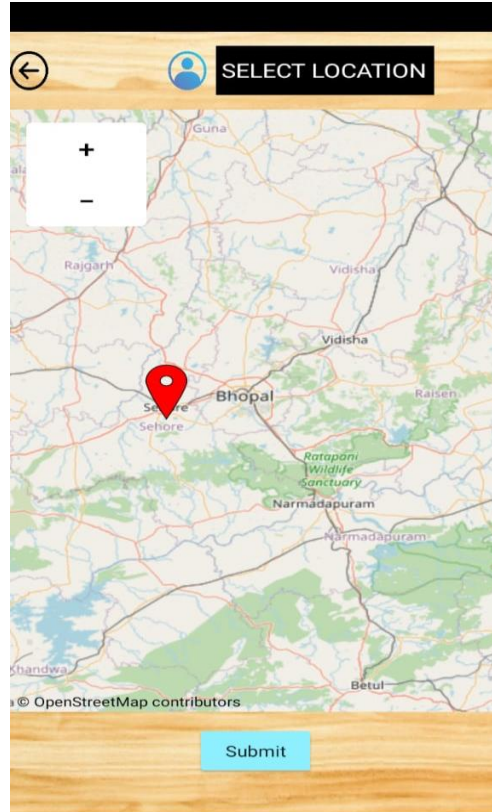
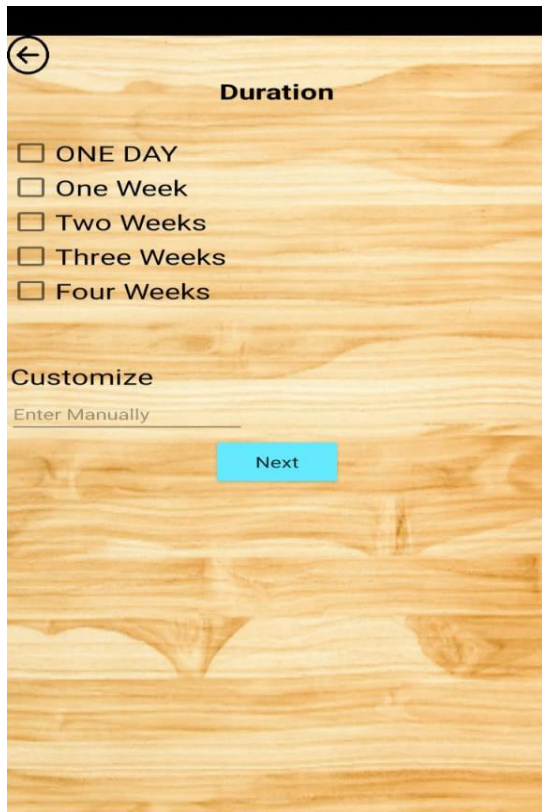
7. SCAMPER Activity :

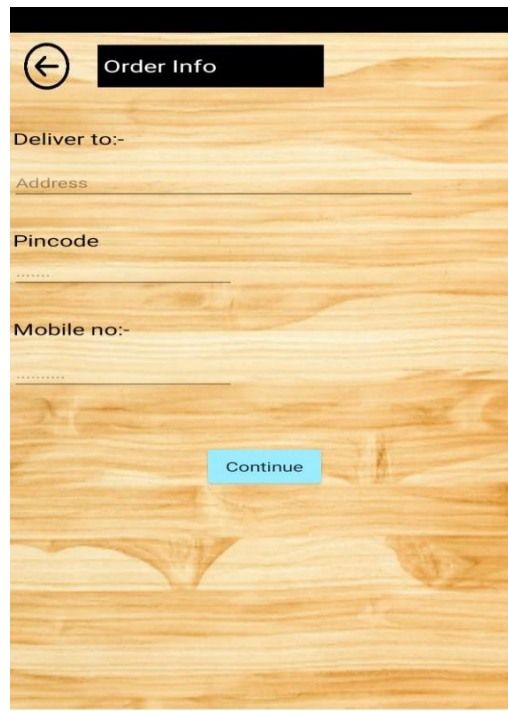
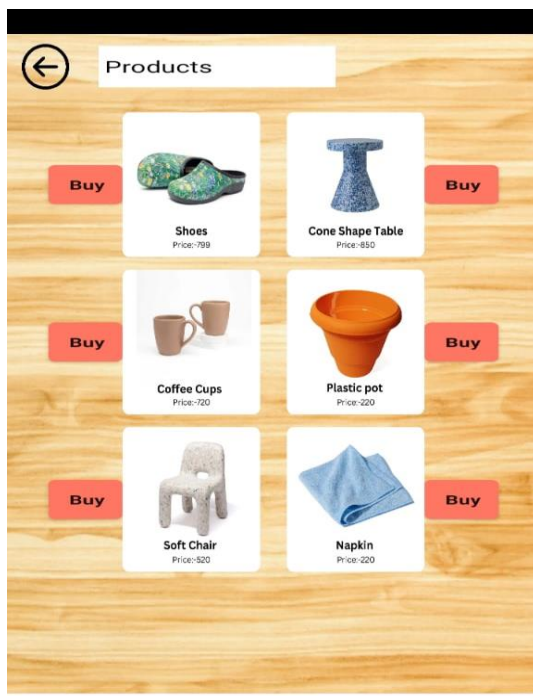
In SCAMPER activity we came to know about all SCAMPER tool that is Substitute, Combine, Adapt, Modify, Put to another use, Eliminate, Rearrange. First we discussed about all tool and then selected some tool which is useful for our project. From above SCAMPER tools we have selected Adapt, Modify, Put to another use, Eliminate tool for our project Waste Management System.

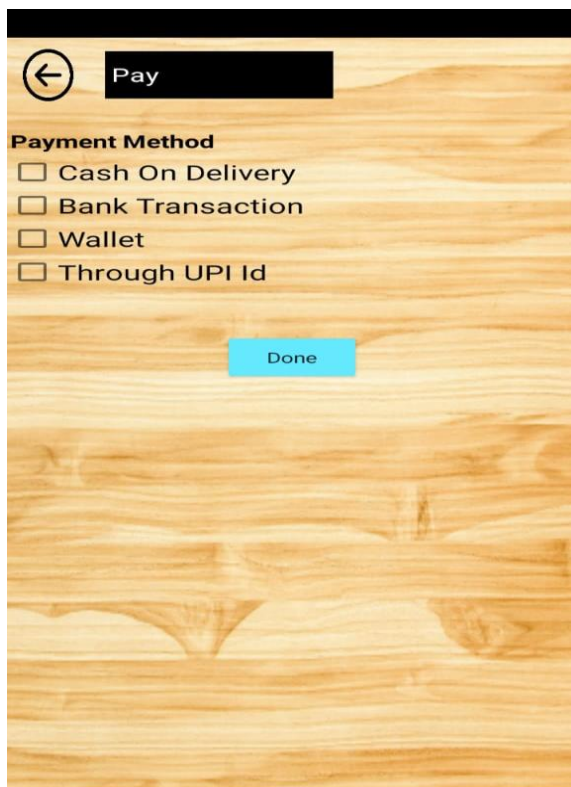
8. Prototype(App) :

After performing all above activities we came on the main task that is to give solution to this problem. We found an app is suitable solution that we can give on this problem so we have made Prototype of our app after a lot of discussion in team.









9. Journey Map :

In Journey Map we have made graph of how the expression of user or excitement level of users got change after each event they perform in our app, which helps us to improve our app feathers so the user will be satisfied by our app. We have prepared 2 Journey Map of 2 different end users.

10. Working of Model :

The model is very useful for all end users. The working of model helps us to reduce the amount of waste and degrade the waste properly so it will not harmful for human being, animals or environment.

11. Conclusion :

The Design Thinking and Idea Lab gives us new vision to look after the world. It taught us how we can solve our problem by thinking critically or innovative on that problem. It also increases our quality of working in team.

Our topic is waste management system all the above activities helps us to think on each end users problem like by Persona Creation we know deep about end users problem, by Mind-map and 5W1H question activity we construct all possible question about every problem, by Theory of Prioritization we define our problem statement, by SCAMPER activity we use some tools which increase the performance of our project an then by studying on our Problem Statement we have proposed prototype of an application as solution for that problem. It is

very interesting journey from selection of topic and then Formation of Prototype of an app and then continued to creation of Journey Map.