GROUP 17

DTIL PROJECT

ON

"Household Waste Management System"

Submitted By:

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Under The Guidance Of:

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(F.Y.Btech)

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CERTIFICATE

This is to certify that,

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(F.Y.BTech CSE)

Have successfully completed their DTIL project report on

“Household Waste Management System”

ACKNOWLEDGEMENT

We would like to thank our teachers, **Dr. Ajit Muzumdar Sir** and **Prof. Pravin Chokakkar sir**, with all our heart, for the wonderful guidance, support, and mentorship that each of us has received in the journey on this Design Thinking and Idea Lab course.

Working on the project, "**Household Waste Management System**" has been an extremely enlightening experience. This could not have occurred without the invaluable expertise and encouragement from professors. Their positive feedback, critical thinking, and steady push motivated us to sharpen our ideas and convert them into a meaningful solution.

We are grateful for the opportunity to apply various design thinking tools and methodologies such as Persona, Theory of Prioritization, Mind mapping, Scamper, Journey Map and 5W1H which have deepened our understanding of the user experience.

Lastly, we would like to thank all the faculty and technical staff of the department for providing us with the necessary resources and assistance, ensuring the smooth progress of our work.

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REPORT

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Topic Selection

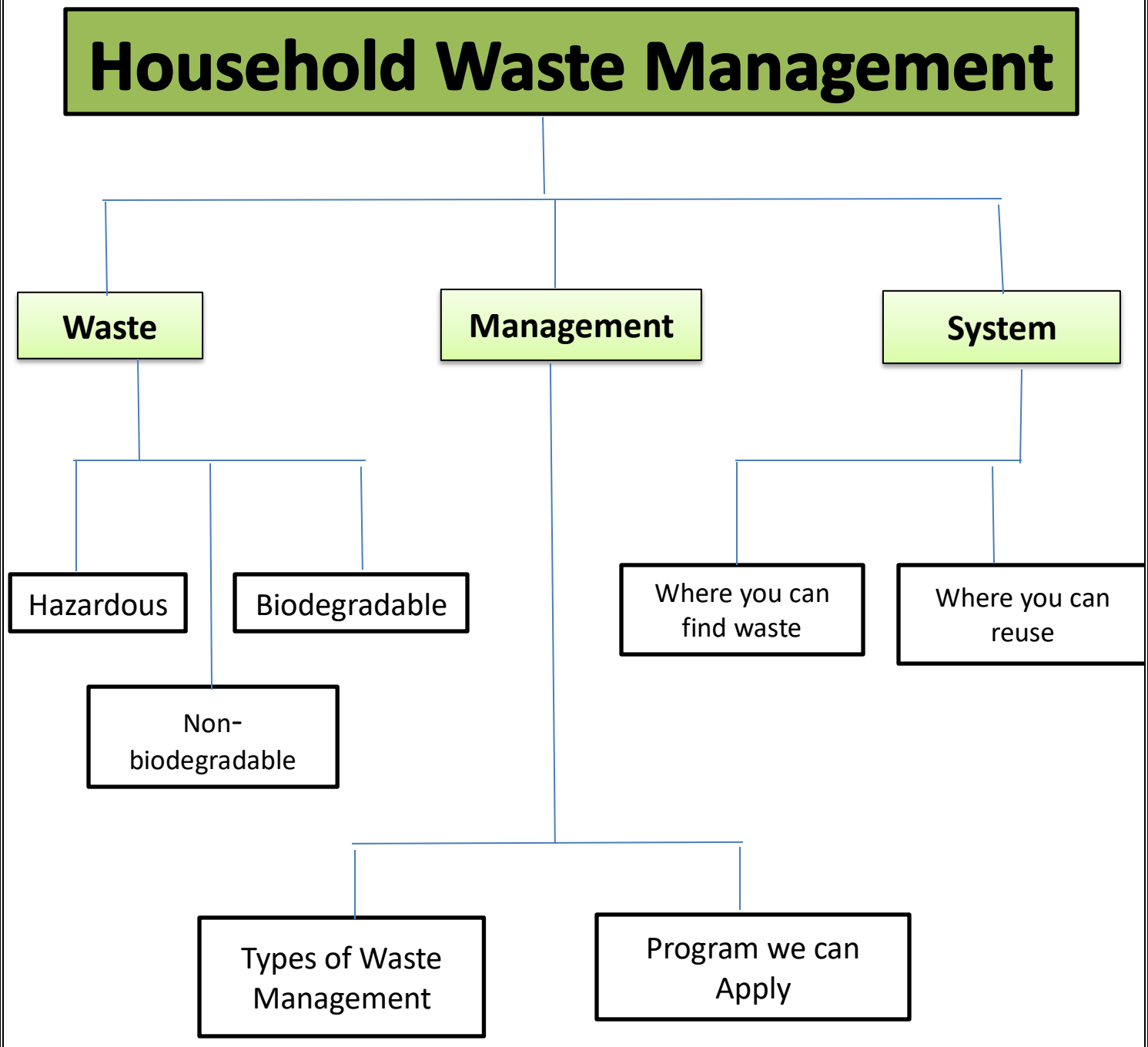
We chose a Household Waste Management System as our project since it addresses the major environmental issues affecting the health and well-being of those around us. Effective waste management is significant for preventing pollution, reducing gases that contribute to the greenhouse effect, and promoting sustainable development. Therefore, by developing a system to enable efficient segregation, collection, and waste disposal, we hope to positively impact our community in making this area cleaner, healthier, and more productive. This is, therefore, a true opportunity to solve the real problem of real life using technical skills and knowledge, making it a meaningful and rewarding experience.

Problem Statement

Lack Of Awareness about Proper Waste Segregation

Awareness of the proper segregation of waste is not properly understood in daily life because it leads to contamination, pollution, and health risks. It exposes improperly segregated waste to landfills, oceans, and air that cause environmental degradation and health hazards for humans. It also wastes valuable resources that could have been recycled or reused. Moreover, inadequate waste segregation attracts pests, thus promoting unsanitary conditions and diseases

Mindmap



Using mind mapping, we categorized the key areas into 3 main branches and each branch have specific elements crucial for Waste Management system.

Persona

Persona 1:Family Member(Kavita)

Background: The Age of Kavita is Around 35yrs. His occupation is working professional.

Challenges Faced : Difficulty keeping track of what can and cannot be recycled.Limited storage space for recyclable.

Motivation: Reduce household waste and contribute to a sustainable future.Teach children about sustainability and responsibility.

Doubts: Will the system is easy to use. Will it take up too much space in the home.

Aspiration: To reduce her household environmentally impact. Aspire to eliminate waste entirely.

Summary: Kavita is a busy working mom who wants to do her part for the environment she's tried to implement recycling habits at Home But it's hard to keep track of what plan and cannot be recycled she's worried at her children.

Persona 2:Recycling facility Member(Ryan)

Background: Ryan Age around 40. he is an retired Recycling member

Challenges Faced: Physical limitations make it difficult to take out heavy trash bags. Confusion about what can be recycled

Motivation: Simply household task and reduce effort.Save money on waste management costs

Doubts: Will the system be easy to use with limited mobility. Will it be affordable and cost effective.

Aspiration: To maintain his independence and ability to manage his household. To reduce his environmental impact and contribute towards a sustainable future.

Summary: Ryan has Retired A man who values his independence he'll struggle with taking out the trash and recycling due to physical limitation. He is worried that he will have to rely on the others to help him with household tasks, His dreams of a simple and easy to use System.

5W1H

WHO : Who sorts The Recyclables?
WHAT: What are The Benefits of Recycling?
WHERE: Where do we Dispose the Batteries?

WHEN: When does the problem arise?

WHY: Why is solving this important?

HOW: How will your solution address?

Theory Of Prioritization

By theory of prioritization we have identified 5 major problems :

1. **Lack Of Awareness about proper waste Segregation:**

Points Alloted are 6000

2. **Insufficient recycling facilities:**

Points Alloted are 5900

3. **Limited Public education on waste Management:**

Points Alloted are 4800

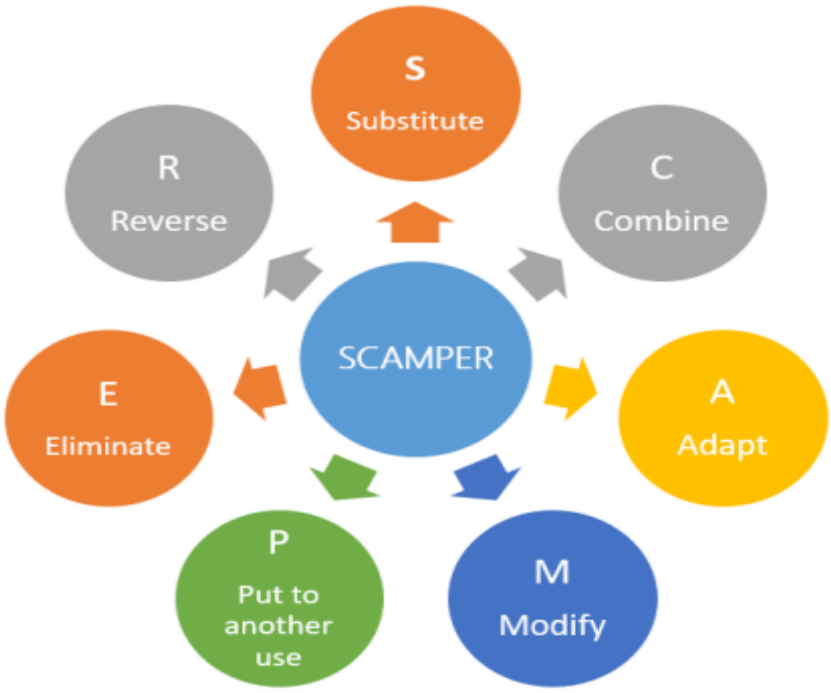
4. **Ineffective waste reduction policies:**

Points Alloted are 4800

5. Lack of Individual Responsibility:

Points Alloted are 3700

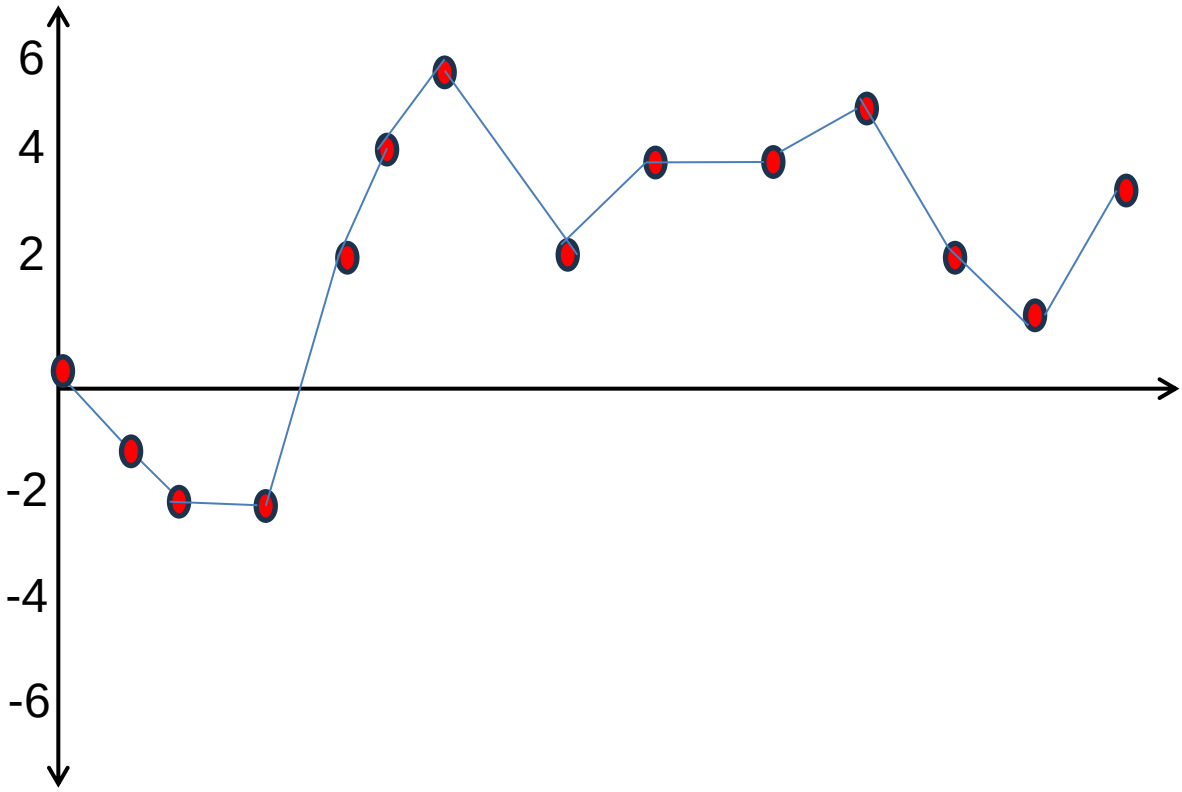
Scamper

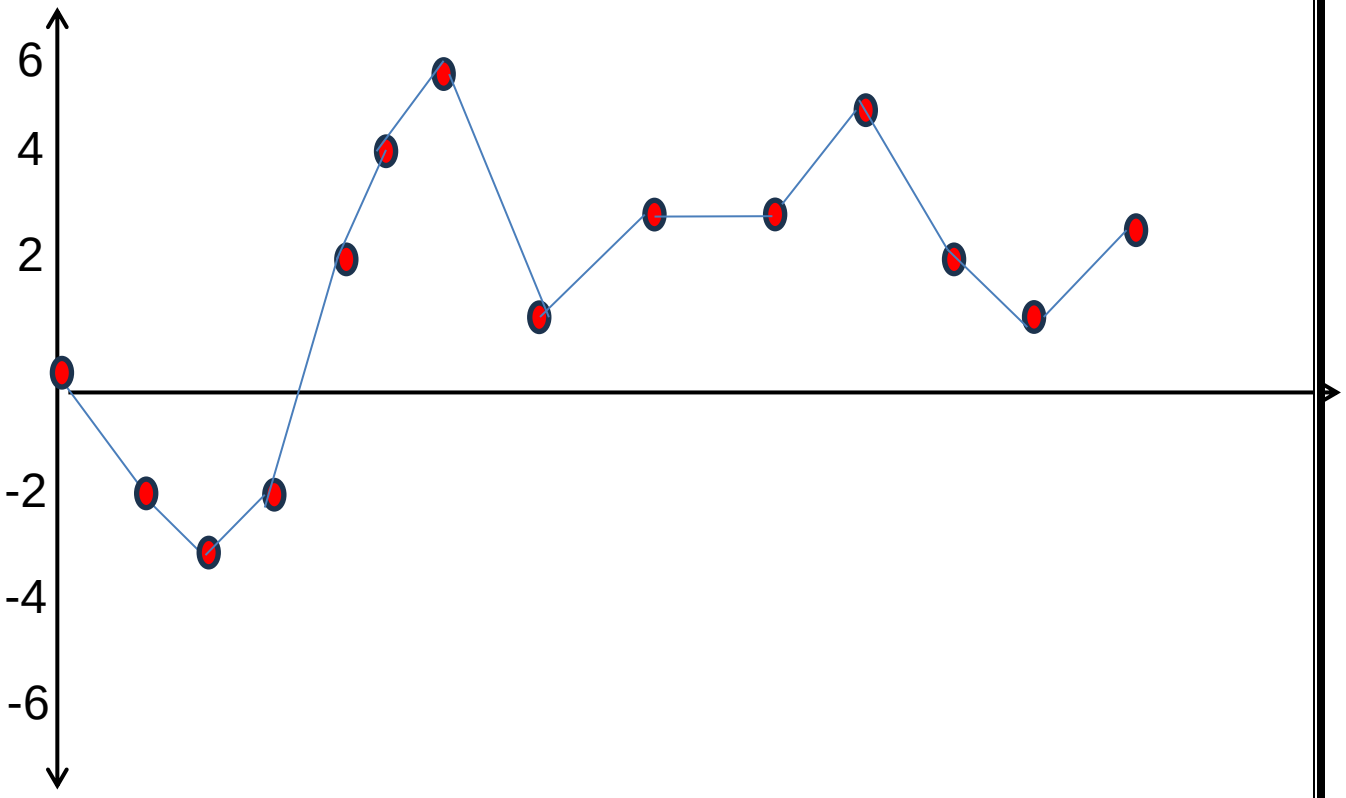


Using the "Combine" SCAMPER strategy, this platform unites a website and mobile app to educate all ages on waste management through engaging resources.

Journey Map

A Common Man=Abhi

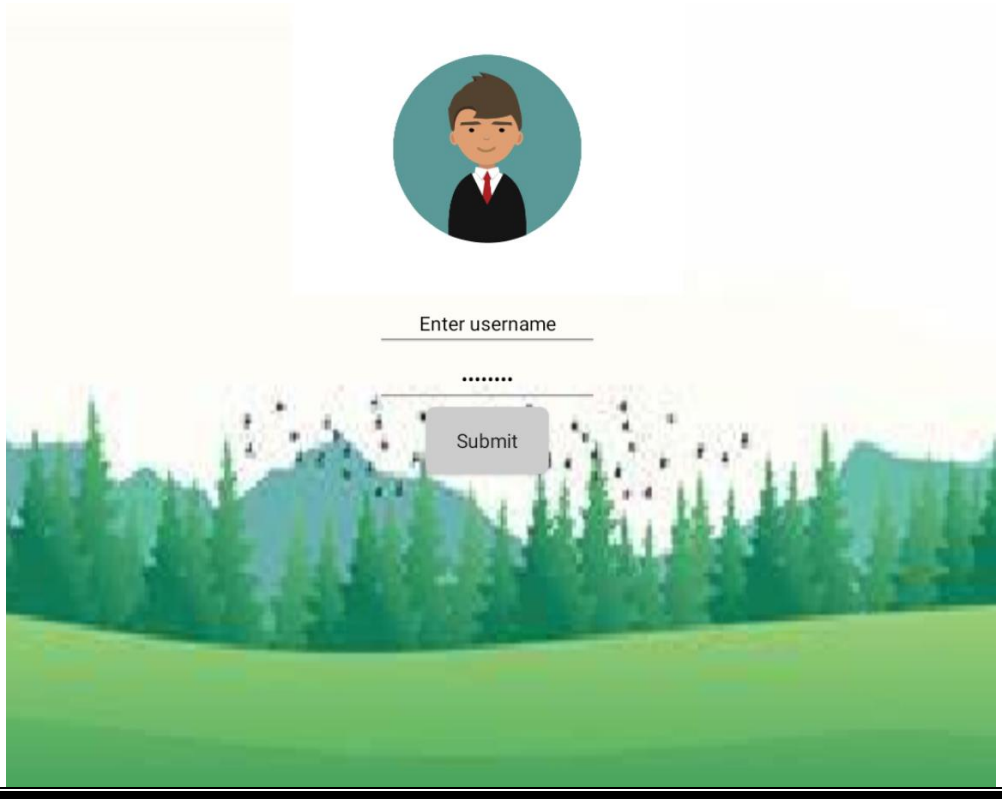




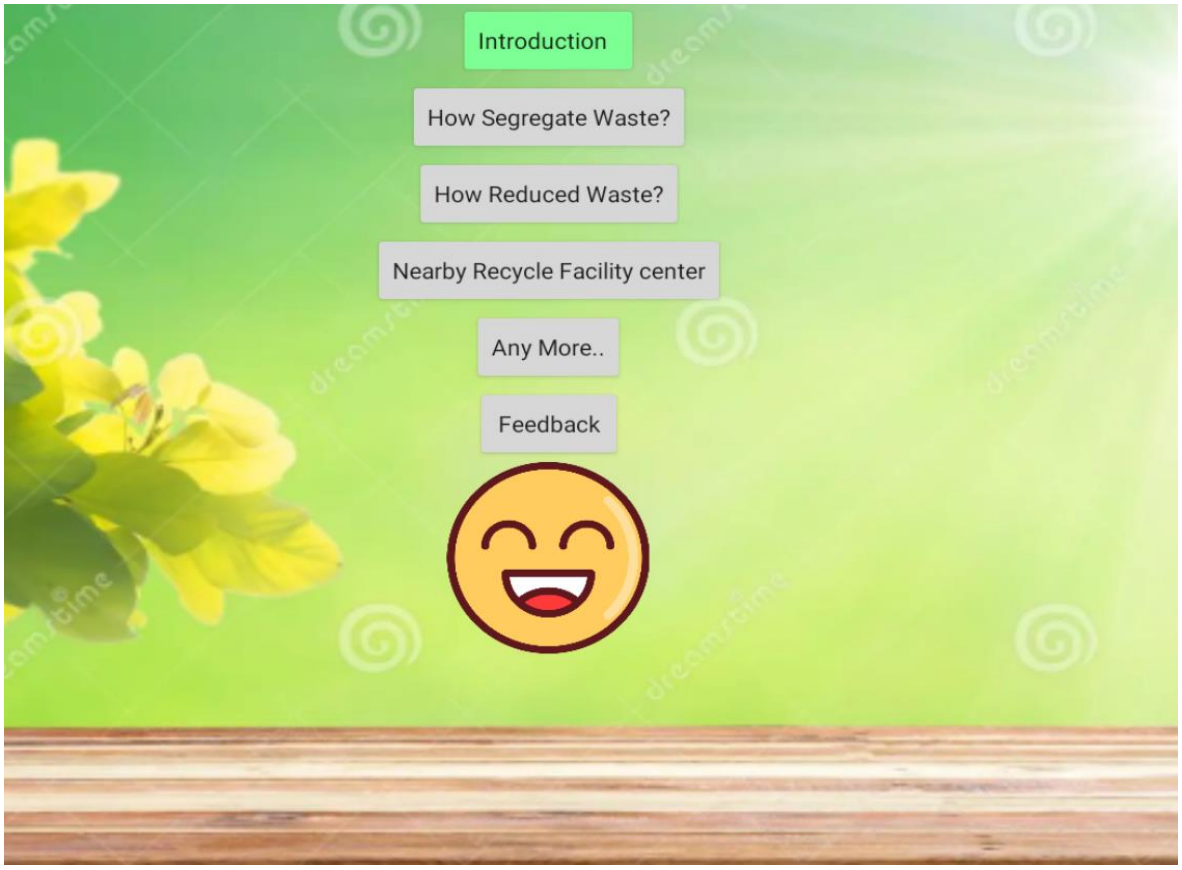
Waste Collection Member=Sunil

App Prototype

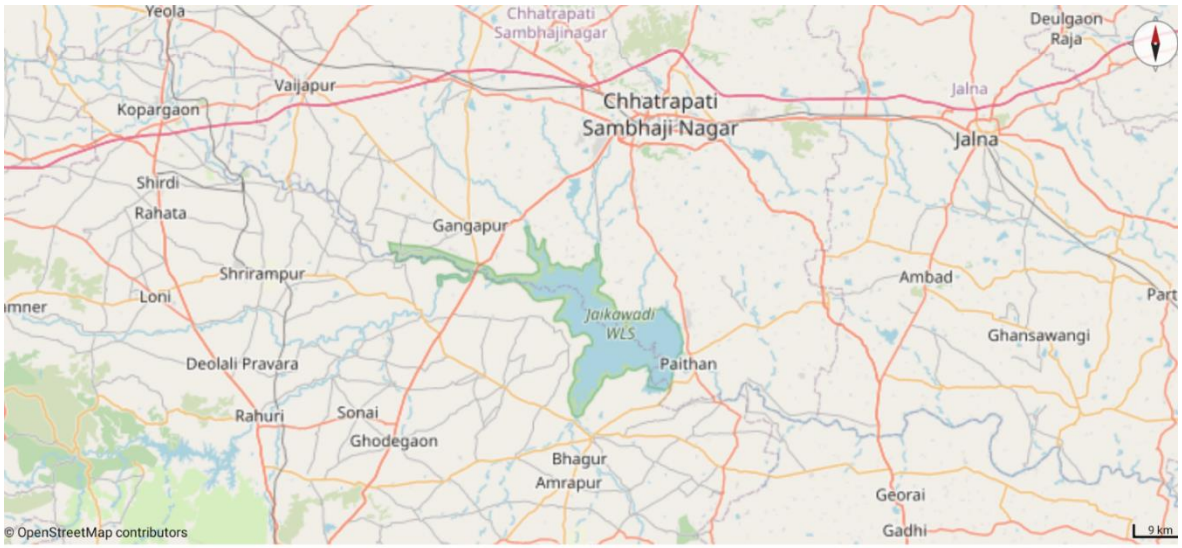
Welcome Page



Home Page



Nearby Recycling Facilities



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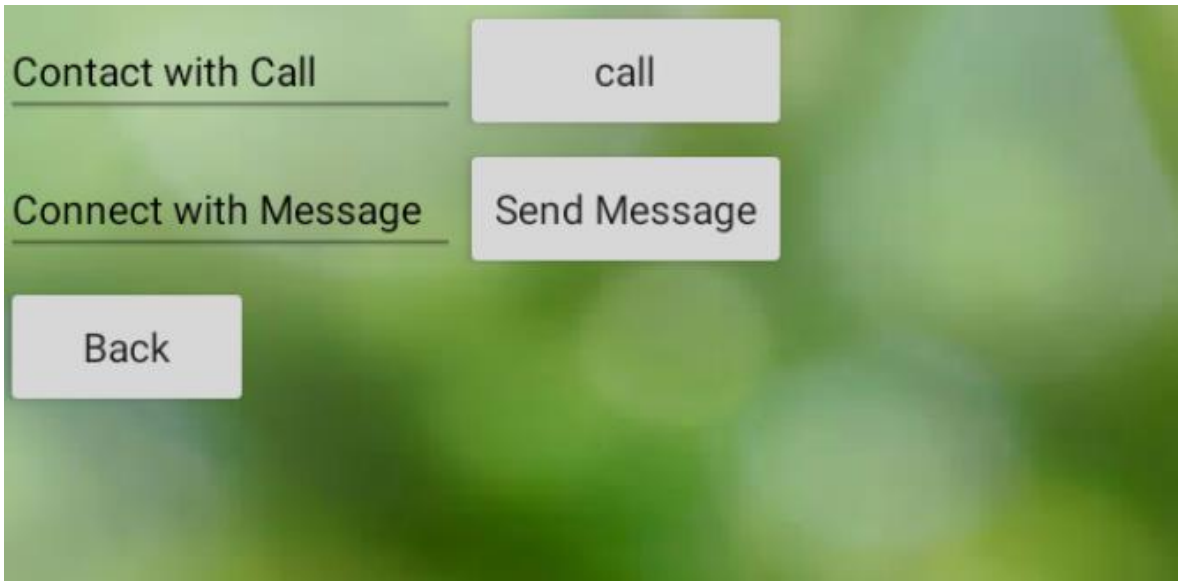
Contact With us



Feedback

Give Your Opinion How We can Improve

Enter your Opinion

Sumbit

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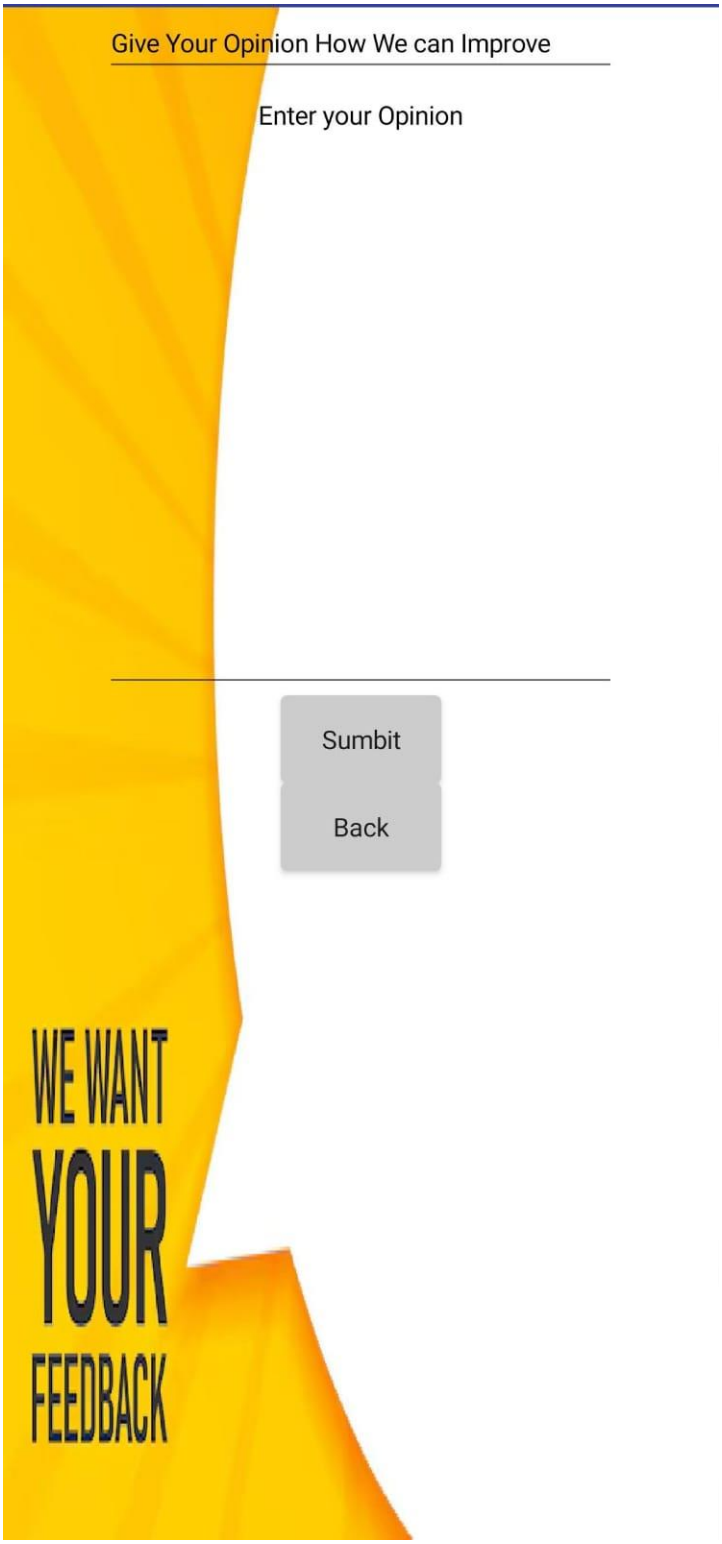

Conclusion

In conclusion, Effective management of domestic waste can only be achieved for a healthy environment, resource conservation, and community well-being. Proper segregation, recycling, and disposal practices will contribute to less pollution and sustainability, hence bringing a cleaner and greener future to generations. Awareness and education are the answers to positive change.

THANK YOU !!