DTIL PROJECT REPORT

ON

HOUSEHOLD WASTE MANAGEMENT SYSTEM

Submitted by:

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(F.Y.BTech CSE (Computer Science &Engineering))

Guide

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Prof. Pravin Chokakkar

In the academic year 2024-25

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CERTIFICATE

This is to certify that

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(F.Y. BTech CSE (Computer Science &Engineering))

Have successfully completed their DTIL project report

on

HOUSEHOLD WASTE MANAGEMENT SYSTEM

Towards the partial fulfilment of Bachelor's Degree

In Computer Science Engineering

During the academic year 2024-25

Prof. Pravin Chokakkar Dr. Ajit Muzumdar

ACKNOWLEDGEMENT

We as a group would like to thank Dr. Ajit Muzumdar & Prof. Pravin Chokakkar our mentor for their help and guidance in completing our project on the topic ‘Household Waste Management System’. You have always taught us and guided us to understand things that we should know while studying the topic and also in producing good project work.

You took deep interest in correcting the minor mistakes and guided us through our journey.

We would like to take this opportunity to express my heartfelt

gratitude to all my group members. Without their cooperation and understanding of the subject matter, we would not have been able to complete this project.

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SDG Topic Selection

First of all, there were 20 topics of SDG (Sustainable Development Goals) and we need to choose one topic from that 20 topics.

After seeing the Topics our team decided to choose

"HOUSEHOLD WASTE MANAGEMENT SYSTEM"

as the topic of our project.

As we all know that in our daily lives there are many problems of management of waste so after choosing the topic we decided to make an app for spreading awareness amongst the people.

We are focusing our household waste management system project in every metropolitan city, as we envision a future where waste processing plants will be installed underground in residential areas.

MINDMAP

A mind map for a household waste management system centers on key branches: types of waste (organic, recyclable, hazardous), waste management practices (composting, recycling, reducing), challenges (lack of awareness, limited space), and disposal methods. It also explores environmental impacts (landfill overuse, pollution) and waste reduction strategies (reducing single-use items, reusing, and supporting zero-waste initiatives). This structure helps visualize the components and their connections within an effective waste management system.

Types of Waste :-

- Waste Management Practice
- Challenge
- Waste Disposal Method
- Environmental Impacts
- Waste Reduction Strategies

JOURNEY MAP

In our project, we created a journey map to track the user's experience with the app. We measured their excitement level at key events: opening the app, exploring its features, encountering a dustbin icon, and playing a puzzle game. The excitement level will be recorded at each step, helping us understand the user's emotional response and improve the app' s experience.

5W1H ACTIVITY

In class, we studied the 5W1H framework

Who

What

When

Where

Why

How

Questions:-

- WHO collects the trash?
- WHAT is E-waste?
- WHEN is the recycling day?
- WHERE is the nearest compost bin?
- WHY do we separate the waste?
- HOW to compost kitchen waste?

THEORY OF PRIOTORIZATION

First, we need to identify the main problems related to our topic and list them on paper. We found 18 problems so far. Next, we will assign weight categories, such as 1000g, 100g, and 10g, to indicate the importance or impact of each problem.

Each team member will then rate each problem according to these weights. After that, we'll total up the ratings for each problem, the problem with the highest total score will be our top priority on the list. Finally, we'll choose this highest-priority problem to focus on and develop a clear problem statement around it.

PROBLEM STATEMENT

The Household Waste Management System aims to improve waste segregation, collection, and recycling at the household level to reduce environmental impact, promote sustainability, and enhance the efficiency of waste disposal processes.

SCAMPER

Scamper tools for our project

1. combine (for integrating technology & waste management)

What to combine: combine waste sorting bins with technology (like sensors or smart features) that automatically sort and track recyclables and organic waste.

• Why! By combining sorting & smart monitoring, you can make the waste management system more efficient, encouraging better recycling habits at home.

2. Adapt: To Making Waste Management Lens More Use-Friendly

• What :- Adapt Existing Compositing of organic Waste Disposal Technologies (Such Worm Compositing Or Home Compost Bins) To Be More User- friendly For Households

• Why: This Make Compositing More Accessible & Convenient For Homeowners, Turning Food Waste Into Valuable Compost For Gardens.

3. Eliminate (for reducing waste generation at the source).

What to eliminate: Eliminate unnecessary packaging from household products through direct manufacture to consumer packaging

END USER PERSONA

What is Persona Sheet?

1. Background

The background section describes the persona's life context, including demographic information

2.Challenges

This section outlines the problems or pain points the persona regularly faces, especially those that the product or service can help solve.

3. Motivations

Motivations explain why the persona is driven to take certain actions, such as purchasing a product or adopting a new tool or service.

4. Doubts/Fears

This section covers the persona's uncertainties, fears, or hesitations.

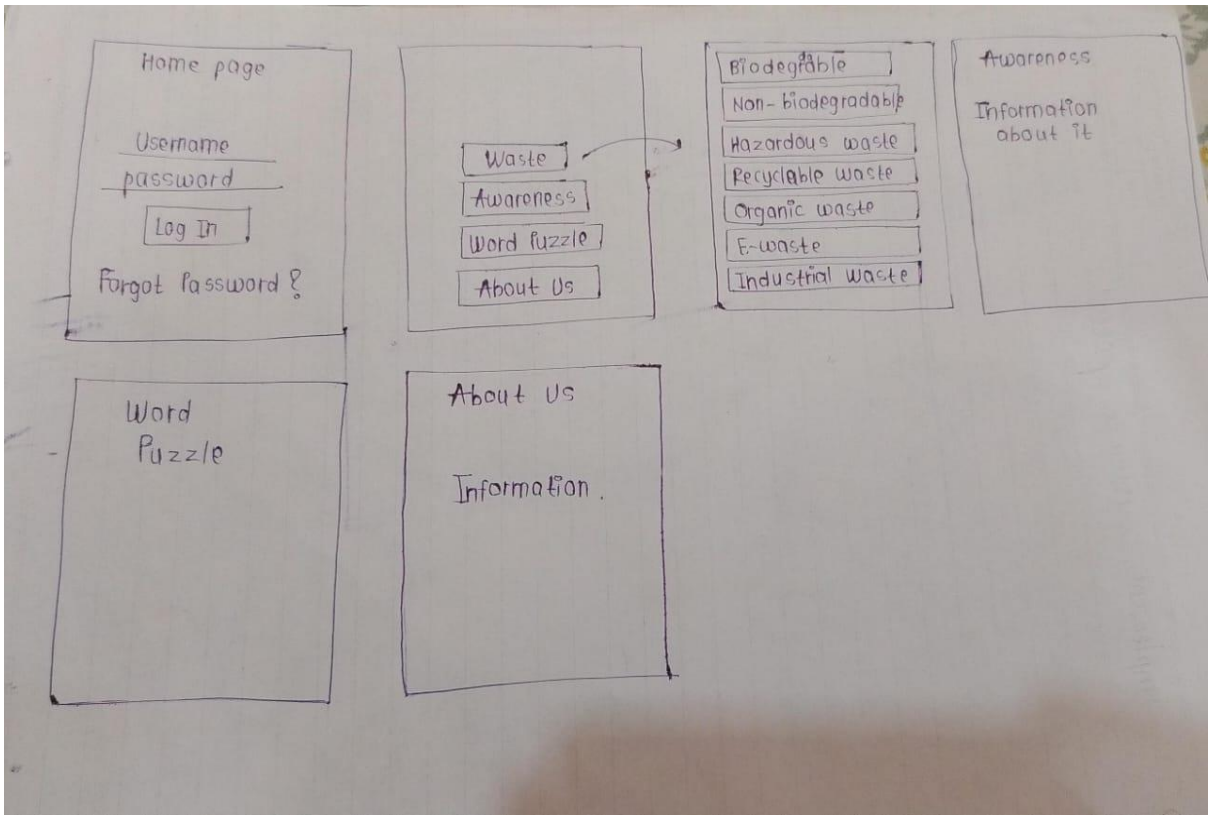
5. Aspirations

Aspirations reflect the long-term goals or desires the persona wants to achieve.

6. Summary

The summary ties all elements together into a concise narrative that gives an overall picture of the persona.

PROTOTYPE OF APP



APP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72%
GLASS
PLASTIC
PAPER
arohi
Log In
Forgot password?


07:49
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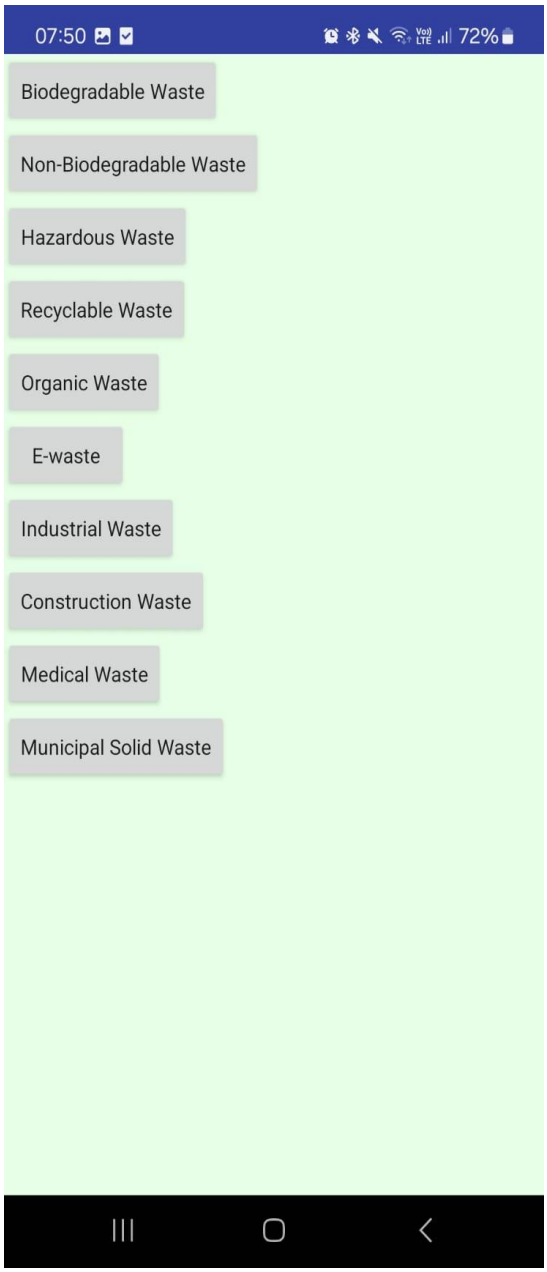
Waste
Awareness
Word Puzzle
About Us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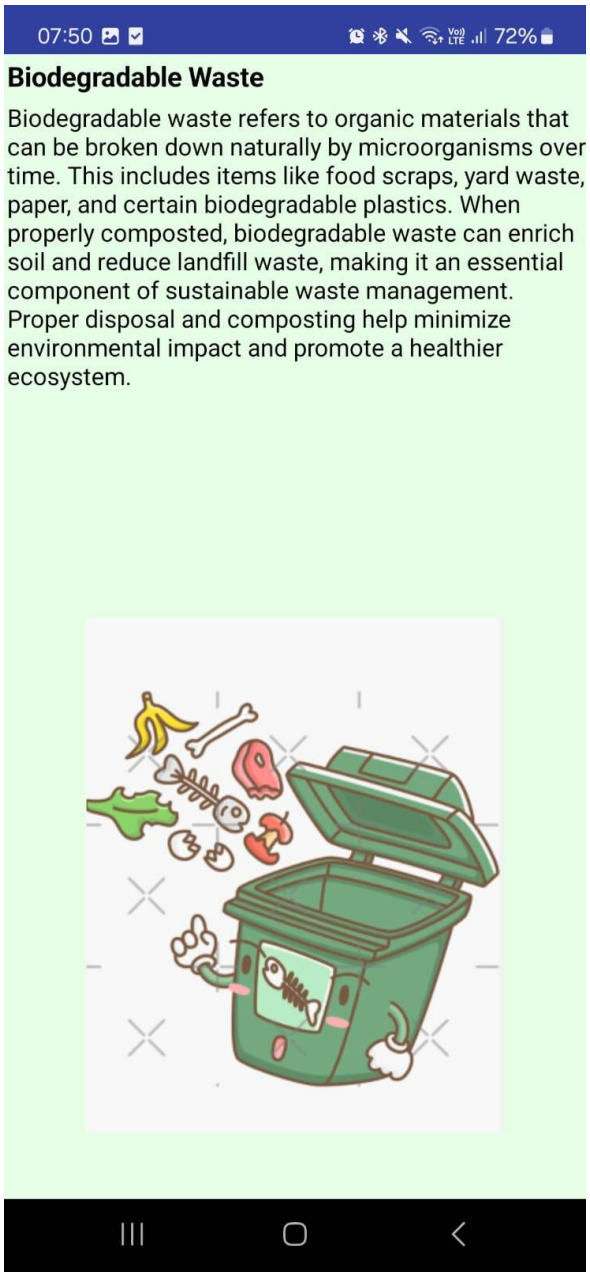
Biodegradable Waste
Non-Biodegradable Waste
Hazardous Waste
Recyclable Waste
Organic Waste
E-waste
Industrial Waste
Construction Waste
Medical Waste
Municipal Solid Waste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Biodegradable Waste
Biodegradable waste refers to organic materials that can be broken down naturally by microorganisms over time. This includes items like food scraps, yard waste, paper, and certain biodegradable plastics. When properly composted, biodegradable waste can enrich soil and reduce landfill waste, making it an essential component of sustainable waste management. Proper disposal and composting help minimize environmental impact and promote a healthier ecosystem.

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Organic Waste

Organic waste refers to any waste that comes from living things, like plants and animals, and can break down naturally over time. This type of waste is biodegradable, meaning it can decompose and turn into compost that can enrich the soil. Common examples of organic waste include food scraps (like fruit peels, vegetable trimmings, and leftover food), garden waste (such as grass, leaves, and branches), and even certain paper products like napkins or tissues. Organic waste can be composted to create nutrient-rich soil, which helps reduce the amount of waste sent to landfills and benefits the environment. Recycling organic waste into compost helps support

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Medical Waste

Medical waste refers to the waste generated from healthcare activities like hospitals, clinics, and doctor's offices. This type of waste includes items such as used needles, bandages, gloves, expired medicines, and surgical instruments. Some medical waste can be hazardous, especially if it's contaminated with blood or other bodily fluids, as it can spread infections or diseases. Proper disposal of medical waste is very important to prevent harm to people and the environment. This waste is usually treated with special methods, like incineration or sterilization, before being safely disposed of or recycled.

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Proper household waste management is crucial for a sustainable future. Here are some key practices:

Segregate Waste:

Separate recyclables, organics, and general waste.

Reduce:

Minimize waste by choosing products with less packaging.

Reuse:

Find new uses for used items.

Recycle:

Participate in local recycling programs.

Compost:

Turn kitchen scraps into nutrient-rich compost.

07:50 72%

Rules for Word Puzzle Game:

1.Use the 26 letters on the screen to form words.

2.Enter words related to waste management, like "recycling," "compost," "trash," etc.

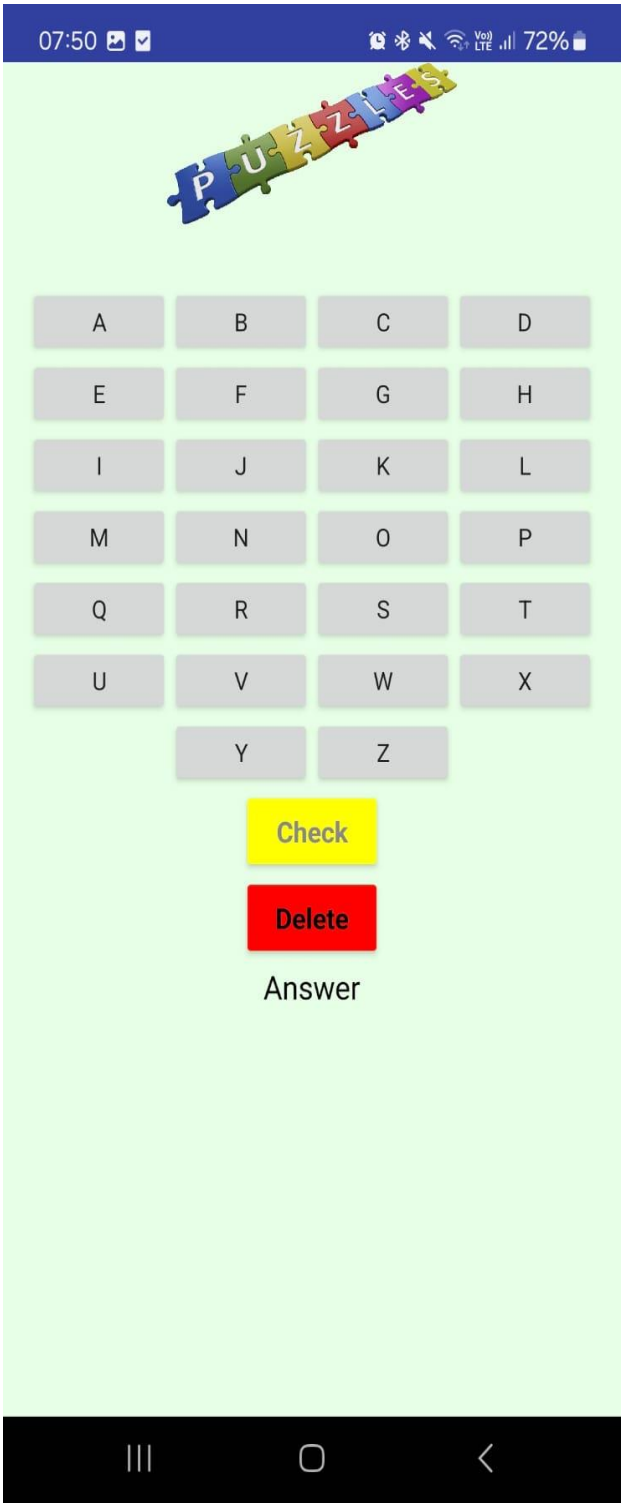
3.If the word is correct, it will show as "Correct."

4.If the word is unrelated to waste management, it will show as "Wrong."

5.No repeating words.

6.Goal: Enter as many correct words as possible.

START WORD PUZZLE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PUZZLES
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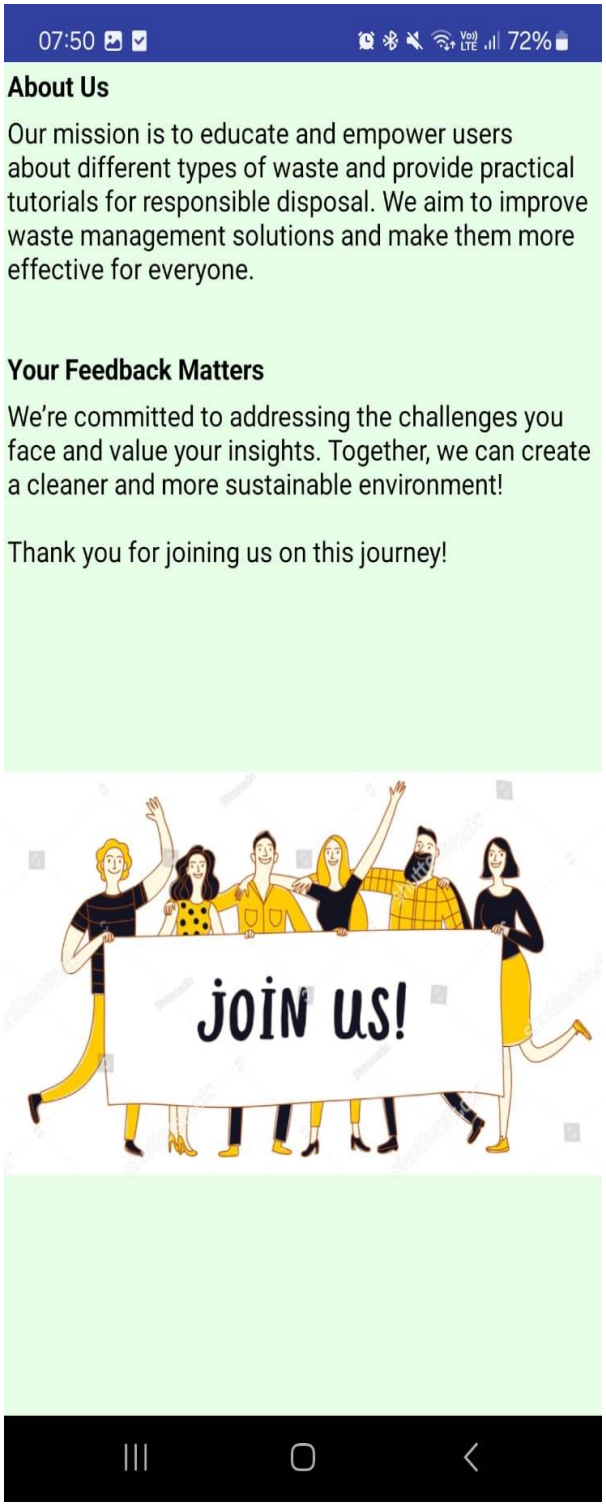
Check
Delete
Answer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About Us
Our mission is to educate and empower users about different types of waste and provide practical tutorials for responsible disposal. We aim to improve waste management solutions and make them more effective for everyone.
Your Feedback Matters
We're committed to addressing the challenges you face and value your insights. Together, we can create a cleaner and more sustainable environment!
Thank you for joining us on this journey!
JOIN US!