



By JARS with an E



Introduction

Sustainable Development Goal (SDG)

Aims to make the world a better place by implementing 17 goals:

- End poverty
- Ensure prosperity
- Protect the planet

Our project talks about:

- Waste Management



SUSTAINABLE DEVELOPMENT GOALS



Waste Management

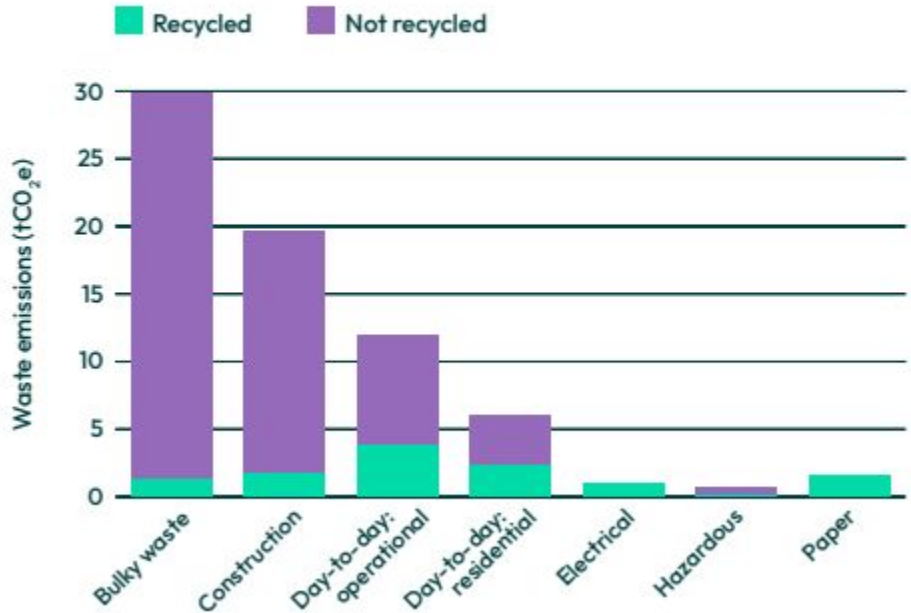
- Falls under the 12th goal of the SDG: Responsible Consumption and Production
- Reduce the amount of waste that goes into landfill. Instead, rubbish should be seen as a valuable resource.
- The goal is to make more use out of an item once it has done its purpose, by recycling it and reusing it.



What is the Problem with Waste Management?

- As of 2019, only 9% of global plastic waste was recycled.
- Global waste generation expected to increase by 70% by 2050.
- Over 50% of the world lacks access to waste collection services

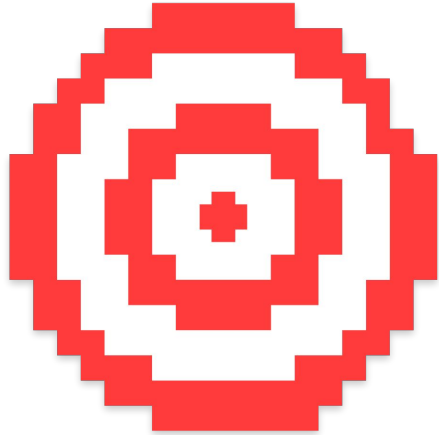
2022/23 waste emissions (tCO₂e) for Streatham, St Luke's and Penryn campuses by waste group, split by treatment type:



Napoleon's Adventure

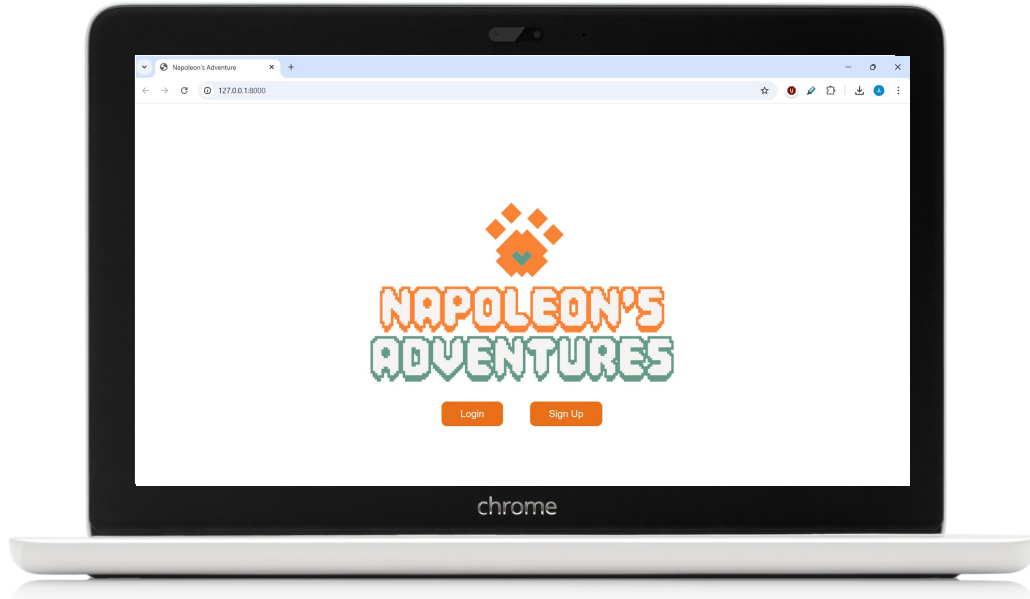


Project Scope



- Develop a Web Application
- Follow GDPR guidelines
- Use location-based engagement in the form of QR codes
- Create a variety of educational minigames to implement gamification and provide education

Development of a Web Application



- Build a web application using the Django framework
- Provide user registration and login functionality, allowing users to create and update profiles.

Location-Based Engagement

- QR codes placed next to different trash bins across the campus
- User will scan these QR code to access the games



Gamification Features

- Design recycling-related games
- Leaderboard tracking players scores



GDPR compliance (Privacy Policy)

- Privacy will be protected in accordance with the compliance
- We allow users to update their profile, delete their account
- Users will also be able to reset their password
- Passwords are securely stored using hash
- We do not collect any data apart from what is necessary for login, sign up and location Services (QR codes)
 - This includes - email, username and password

we used a privacy policy template from "termly.io"

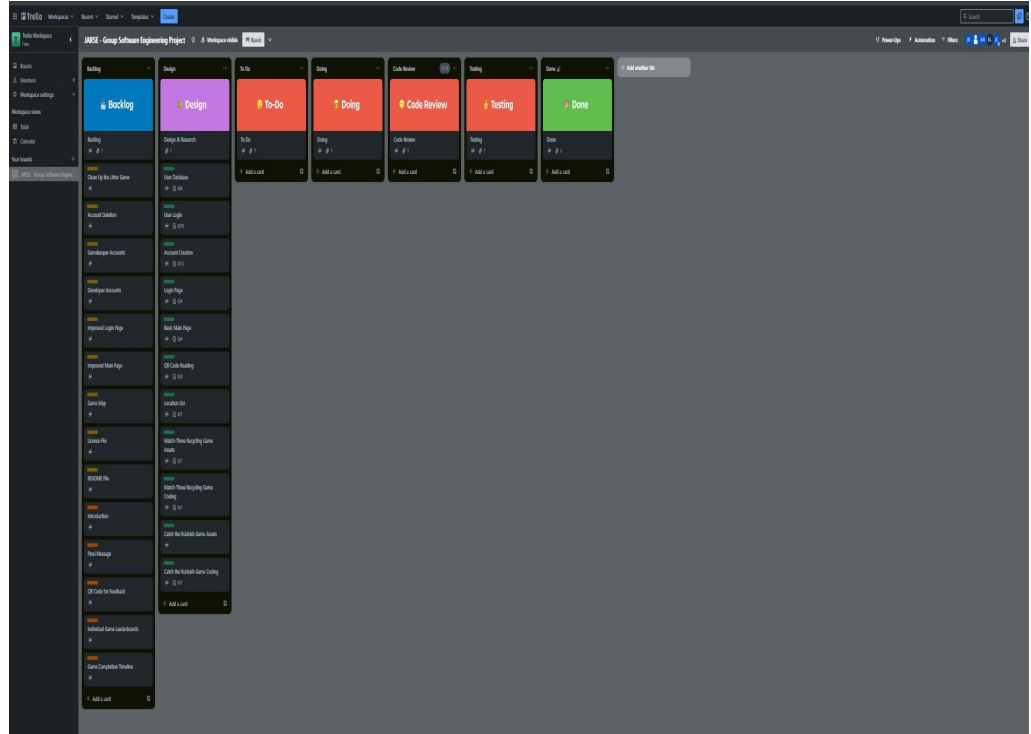


The Process

Project Kickoff & Planning Week 1

Meeting Notes:

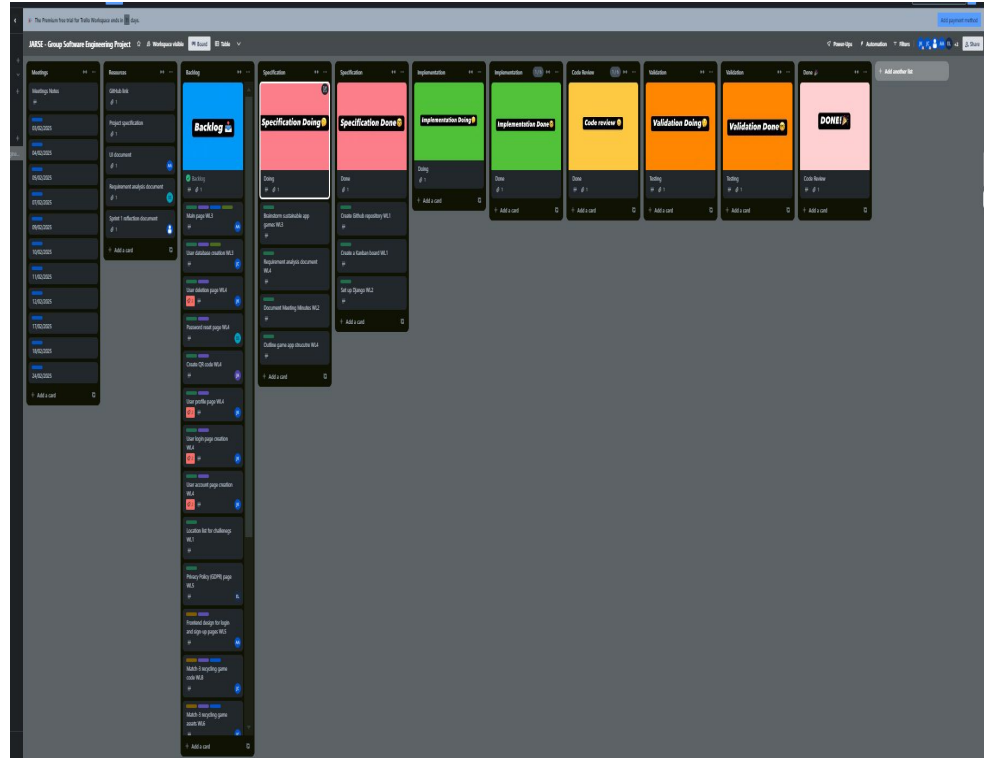
- Brainstorming ideas
- Reviewed the idea and specification compliance
- Gathered requirements
- Github repository
- Set Django framework
- Set up Kanban board



Initial Development Week 2

Meeting notes:

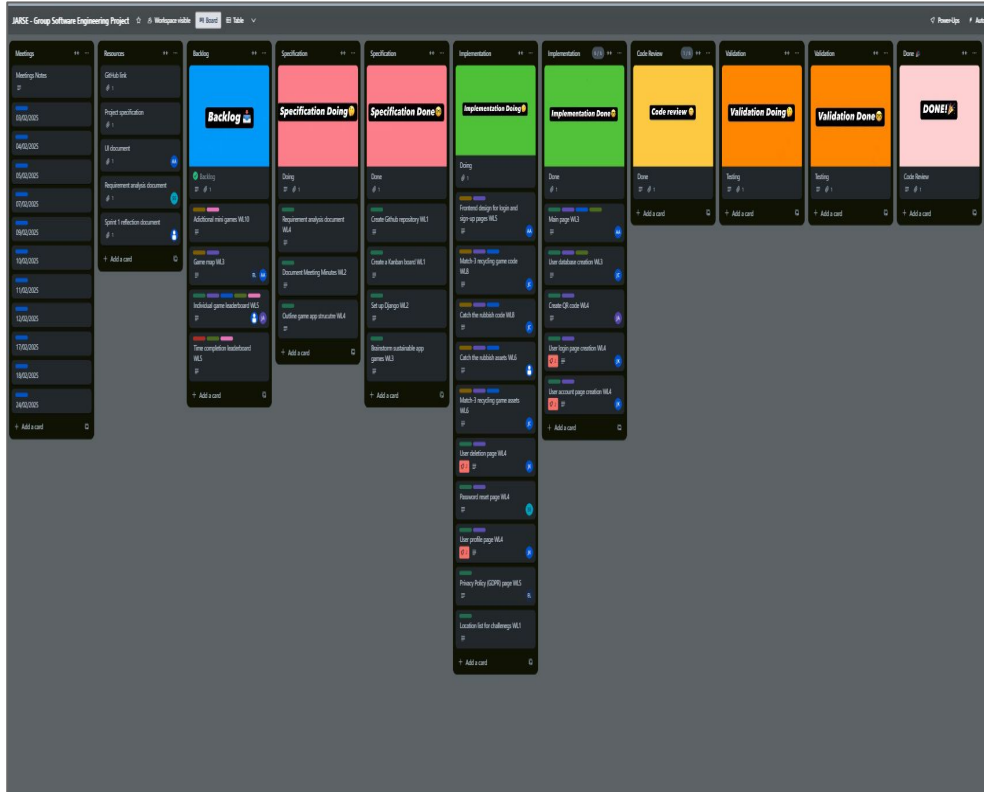
- Divided tasks
- Assigned roles
- Started user authentication system
- Wireframe and UI design



Development Progress Week 3

Meeting notes:

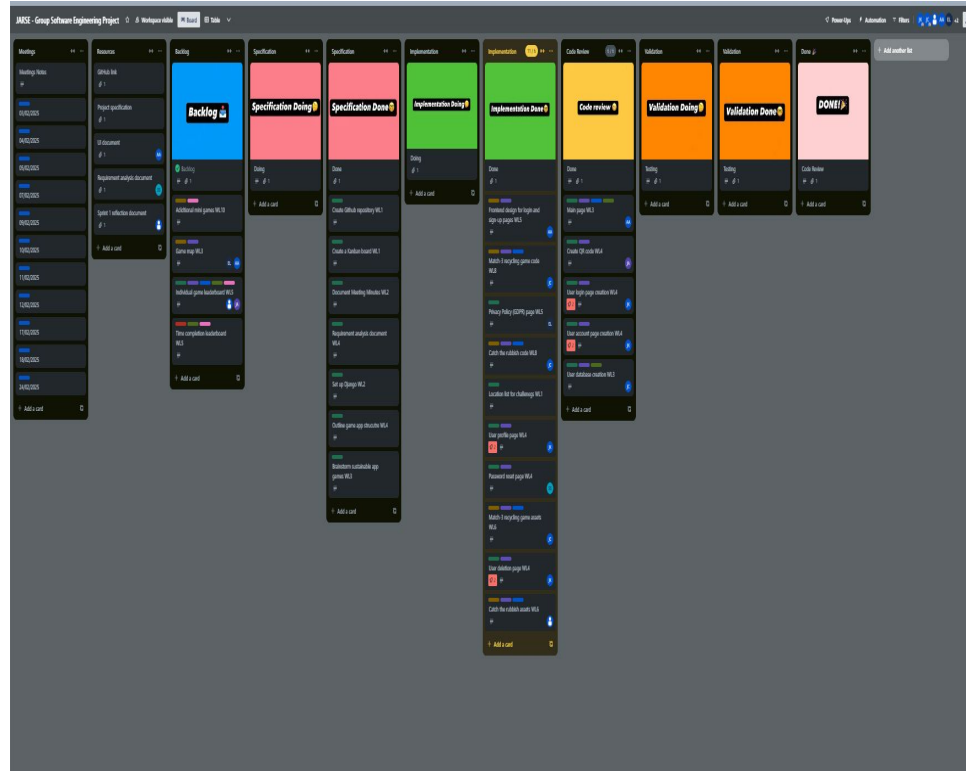
- Progress check-in
- Started frontend development
- Worked on mini-games
- QR Code placement
- Privacy Policy/GDPR



Sprint 1 Wrap-Up

Meeting notes:

- Reviewed overall progress
- Finalized two mini-game
- Completed user authentication
- Planned for Sprint 2



Github

youhanaR / GroupSoftDevProject

Type to search

<> Code

Issues

Pull requests 1

Actions

Projects

Security

Insights

GroupSoftDevProject Private

Watch 1

Fork 0

Star 0

main 5 Branches 0 Tags

Go to file

Add file

<> Code

ameeraarfaa Update README.md 3aadf2b · 3 days ago 97 Commits

process-documents	Add files via upload	3 days ago
product-documents	AA: Add UI Mockup	3 days ago
technical-documents	Update README.md	3 days ago
.gitignore	Initial Django project setup	2 weeks ago
Privacy policy.html	Restructured document, and deleted superfluous files	3 days ago
README.md	Update README.md	3 days ago

README

GroupSoftDevProject

Group - JARS with an E

About

No description, website, or topics provided.

Readme

Activity

0 stars

1 watching

0 forks

Releases

No releases published

[Create a new release](#)

Packages

No packages published

[Publish your first package](#)

Contributors 7

Challenges Faced



- Bug in mini-game "Recycle Rush"
- Missing email confirmation for Account Registration
- Password Reset Emails going to junk inbox
- Games could not be implemented on the web app - consider using Javascript

Areas for Improvement

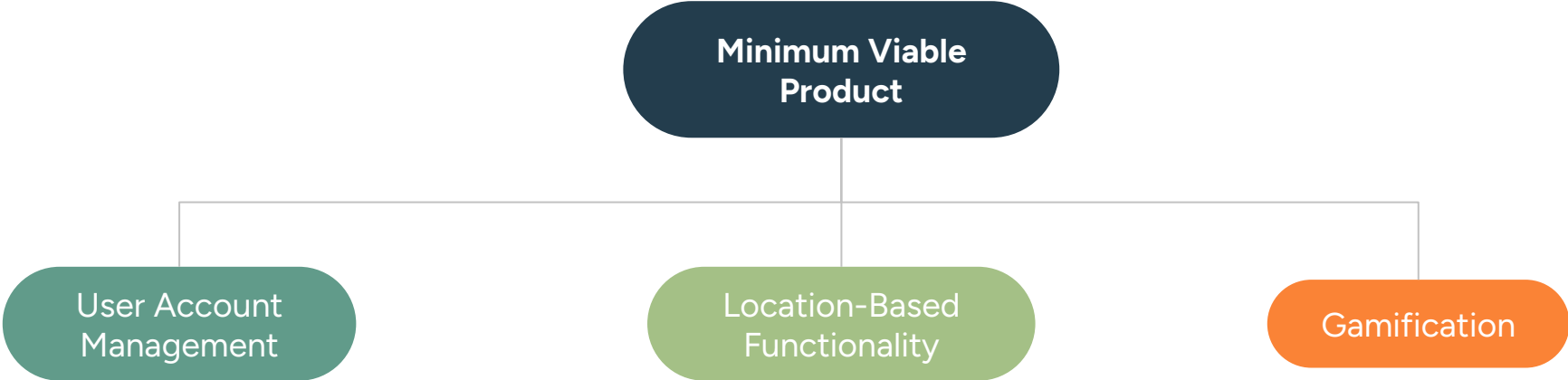


- Improve Website Design & Visuals
- Better University Map Display
- More Games Needed
- Profile Picture Feature
- GitHub: Branch Per Feature, Not Per Person



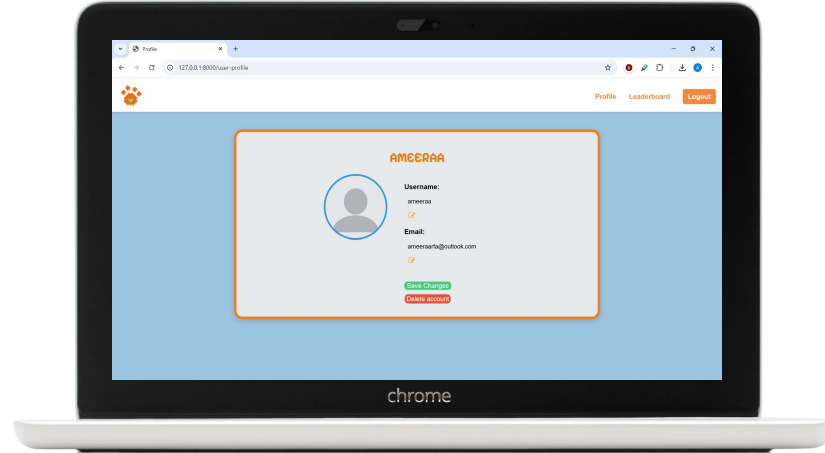
Results & Impact

Results



Results: User Account Management

Account Creation



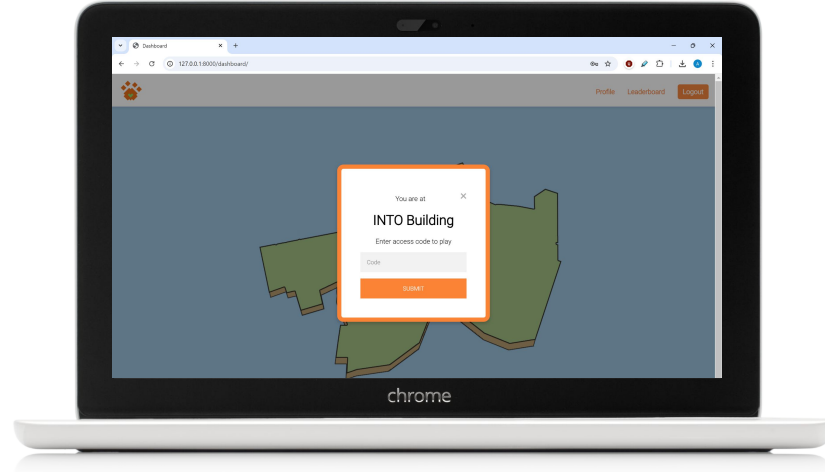
Password Management

Profile Management

Account Deletion

Results: Location-Based Functionality

QR codes at
certain locations
on campus



Strategically
Chosen Locations

Encourage users
to explore the
campus



Results: Engagement with Sustainability



- Location: INTO
- Why? → Most INTO students are international and may be unfamiliar with UK recycling policies.
- 'Recycle Rush' mini game teaches users types of recycling bin and which items should go into it.

Impact



Aims to Integrate circular principles into all aspects of university life to eliminate avoidable waste

Impact: On Users



Engagement & Interactivity

Turns routine
campus navigation
into an interactive
treasure hunt



Holistic Educational Approach

Comprehensive
nature of the
minigames educates
users on all facets of
waste management



Grassroots Engagement

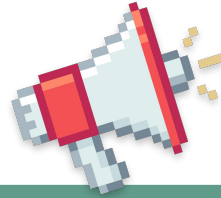
Fosters a
community-driven
culture of
environmental
responsibility

Impact: On University



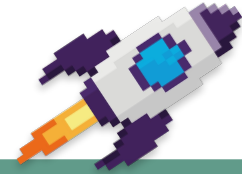
Supporting Strategic Goals

Aligns with the University of Exeter's Circular Economy and Sustainable Resource Strategy



Enhanced Awareness & Education

Strategically placed QR codes extends learning beyond the games



Long-Term Cultural Shift

Grassroots engagement can lead to a broader cultural shift on campus



Live Demo



Questions?