

User Experience Design (UXD) Project Specification

Project Title: Community Waste Management & Sustainability Platform for a Local Community

Overview

This project involves designing a community-focused digital platform to help local community members understand, monitor, and improve waste management practices. The system enables residents to engage with waste-related data, participate in sustainability initiatives, and make informed decisions about recycling and waste reduction.

Year 9 Computing Technology students will act as user experience designers, investigating the needs of local users and designing an intuitive, accessible solution using UX design principles and audience segmentation (behavioural, demographic, psychometric, and geographic).

Students will work in groups of **three** to:

- Research community user needs
- Submit a reverse brief (MS Word) and a presentation (PowerPoint) explaining their design decisions
- Design a UX solution using Adobe XD

Target Audience

Primary Users: Local Community Members

Demographic

- Residents living within the local community
- Mixed age groups including teenagers, adults, and older residents
- Varied educational backgrounds and levels of digital literacy

Behavioural

- Different levels of engagement with recycling and waste reduction
- Some users are actively involved in sustainability initiatives, others require encouragement
- Varied confidence using digital systems and mobile applications

Psychometric

- Users motivated by environmental responsibility or community wellbeing
- Preference for simple, clear, and practical information
- Varying attitudes towards behaviour change and sustainability practices

Geographic

- Users located in urban, regional, or remote Australian communities
 - System designed to support users with limited or unreliable internet access
 - Localised content based on community waste services and facilities
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Project Goals

1. Community Awareness

Increase awareness of local waste management issues, including recycling contamination, landfill use, and littering.

2. Accessibility & Inclusion

Ensure the system is easy to use for community members with varying levels of digital confidence and access to technology.

3. Engagement & Participation

Encourage community involvement through interactive features, challenges, and local initiatives.

4. Data-Informed Decision Making

Present waste-related data in clear, meaningful ways to help users understand the impact of their actions.

5. Sustainable Behaviour Change

Support gradual and achievable changes in waste habits through guidance, feedback, and motivation.

Core Features Expected:

1. Community User Dashboard

- Personalised based on user behaviour and preferences.
- Displays:
 1. Local waste and recycling information
 2. Collection schedules and guidelines
 3. Community challenges and progress updates

2. Waste Reporting & Data Collection Tools

- Simple tools for residents to:
 - Report waste issues (e.g. overflowing bins, contamination)
 - Record household recycling habits

- Designed for quick input and ease of use
- Supports offline data entry where required

3. Data Representation & Visualisation

- Clear graphs and charts showing:
 1. Community recycling trends
 2. Waste reduction progress over time
- Visual explanations suitable for non-technical users
- Location-based comparisons where appropriate

4. Problem-Solving & Awareness Modules

- Scenario-based activities explaining:
 1. Common waste management problems
 2. The impact of incorrect waste disposal
- Step-by-step guidance to help users make better waste-related decisions.

5. Gamification & Community Incentives

- Points or recognition for participation
- Community-wide milestones (e.g. waste reduction goals)
- Badges or acknowledgements for consistent positive behaviour

6. Communication & Community Engagement Tools

- Community noticeboard for local updates
- Feedback channels for suggestions or concerns
- Optional discussion spaces for sharing ideas and initiatives

7. Offline Mode

- Downloadable guides and posters
- Printable waste sorting information
- Access to previously viewed content without internet connectivity

8. Council or Administrator View (Conceptual)

- Overview of community engagement trends
- Aggregated data insights.

- Ability to post updates or announcements.

Deliverables

1. Reverse Brief (MS Word)

- Description of the community problem
- Analysis of target users
- Justification of UX and design decisions

2. Adobe XD Design File

- Wireframes and interactive prototypes
- Clear navigation and accessibility considerations

3. Presentation (PowerPoint)

- Explanation of the waste management issue
- Key UX features and user journeys
- How the design meets community needs

Success Criteria

- Design clearly targets **local community members**, not students
- Strong application of **UX design principles**
- Evidence of **user-centred design thinking**
- Logical, accessible, and realistic solution
- Clear links to **Computing Technology concepts**