
1 Project Planning

Project Title: ReCircle – The Waste Reduction App

Objective:

To develop a smart, user-friendly web application that minimizes waste and supports vulnerable communities by connecting donors (restaurants and households) with recipients (charities, NGOs, and individuals) efficiently using technology.

Project Phases & Timeline:

1. Research & Analysis (Week 1–2)

- Understand the waste management problem and community needs.
- Identify target users: donors, recipients, volunteers.
- Study existing apps to identify gaps and opportunities for innovation.

2. Visual Identity (Week 3)

- Design logo, color palette, and typography reflecting sustainability and community.
- Finalize brand identity to maintain consistency across designs.

3. Main Designs (Week 4)

- Create promotional poster introducing the app's purpose and features.
- Prepare presentation visuals for outreach and stakeholder communication.

4. Complementary Products (Week 5)

- Develop social media templates, infographics, and brochures.
- Increase awareness and engagement with potential users.

5. Development & Integration (Week 6–8)

- **Frontend (Sarah Shaban):** Build responsive web interface with React.
- **Backend (Mai Mahmoud):** Create server, database, and API integration.
- **UI/UX Design (Salma Waleed):** Create and refine mockups for user flow.
- **Testing & Deployment (Norhan Ashry):** Ensure quality, security, and smooth deployment on platforms like Vercel/Netlify.

6. Review & Finalization (Week 9)

- Team review of all materials and features.
- Make necessary revisions and improvements.

7. Final Presentation (Week 10)

- Present concept, development process, and impact to instructors and peers.
- Demonstrate working prototype and summarize KPIs achieved.

Tools & Technologies:

- **Frontend:** React.js, HTML, CSS
- **Backend:** Node.js, Express.js
- **Database:** MongoDB / MySQL
- **Design:** Figma, Canva, Adobe Illustrator
- **Hosting:** Vercel / Netlify
- **Version Control:** GitHub

Success Metrics (KPIs):

- 100% core feature completion.
- $\geq 99\%$ uptime.
- Response time < 3 seconds.
- ≥ 50 active pilot users.
- ≥ 100 donation items processed.
- User satisfaction $\geq 4/5$.

Stakeholder Analysis

| Stakeholder | Role / Interest | Responsibilities / Expectations | Impact on Project |
|--|-----------------------------------|--|--|
| Team Members (pentaRae) | | | |
| <ul style="list-style-type: none">• Sarah Shaban• Mai Mahmoud• Salma Waleed• Norhan Ashry | Project creators and implementers | Plan, design, develop, test, and present the ReCircle app. | High – directly responsible for project success. |

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|--|---|---|---|
| Instructor (Eng. Hesham Mohamed) | Academic supervisor and evaluator | Provide guidance, review progress, and evaluate final outcomes. | High – provides feedback and assessment. |
| Donors (Restaurants & Households) | Provide surplus food and clothing | Use the app to list donations efficiently and safely. | High – main source of donations; app's success depends on adoption. |
| Recipients (Charities, NGOs, Individuals in Need) | Receive donated items | Register, request, and track received donations. | High – primary beneficiaries of the platform. |
| Volunteers | Support logistics and delivery | Help collect and deliver donations to recipients. | Medium – improve efficiency and outreach. |
| Developers & Designers (Future) | Future maintainers and contributors | Ensure scalability, code quality, and design continuity. | Medium – sustain project beyond initial phase. |
| Community / Society | Indirect beneficiaries | Benefit from reduced waste and improved resource distribution. | Medium – social and environmental impact. |
| Hosting & Tech Providers (e.g., GitHub, Vercel) | Provide development and deployment infrastructure | Ensure smooth hosting, integration, and uptime. | Low – support technical reliability. |

UI/UX Design

Figma Link

<https://www.figma.com/design/g64uFZ6aG2K5fls9slG0MT/Recircle?node-id=12-11&t=35A6sJHnnFMOyb07-1>