TrashTag

If you can't take it, TAG IT!

Feasibility Presentation

CS 410 Fall 2025 Team Iron

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Background

- Every year, thousands of pounds of trash is cleaned from public recreation areas by volunteer organizations, individuals, and local municipalities.
- Frequent dumping of large items, such as old mattresses and tires, creates challenges for individuals lacking proper equipment to haul and dispose of them properly.

Background (cont)

- Bulk dumping and large piles of trash are too much for people to handle, especially if they are only visiting the area for recreational purposes.
- While most individuals and cleaning crews do what they can with picking up small amount of litter, they are ill-equipped to handle larger items and excessive amounts of trash.

Team Bio

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Problem Statement

Independent organizations and local governments struggle to efficiently locate and resolve the large amount of litter dumping in outdoor recreational areas such as parks, rivers, lakes, and beaches. Unfortunately, organizations spend more time looking for areas to clean up rather than proactively resolving the issue and removing the litter from the environment. There is a major communication disconnect between these organizations and the public.

Who is Affected?

Natural areas can be delicate ecosystems, and trash and litter is directly harmful to the plants and wildlife. Additionally, some trash can be dangerous to those using natural areas. Sharp glass and metal have injured many people. Fast removal of this trash benefits those that swim or recreate near it and the flora and fauna that live in and around it. Environmental organizations and local governments are most interested in saving time and money with their clean up efforts. There are also homeowners with property throughout these areas that do not wish the trash dumped in their literal backyard for both aesthetic and property value reasons.

Problem Characteristics

- **Ineffectiveness:** Independent organizations and local governments lack the time and resources to efficiently identify locations where trash is being dumped on their own.
- **Inattentiveness:** People fail to pick up their own litter in recreational and community areas allowing it to accumulate over time.
- **Ignorance:** Many people do not know just how harmful littering is for both themselves and the local ecosystem.
- **Idealism:** People think that it's only them doing it; therefore, it is not something they should care about
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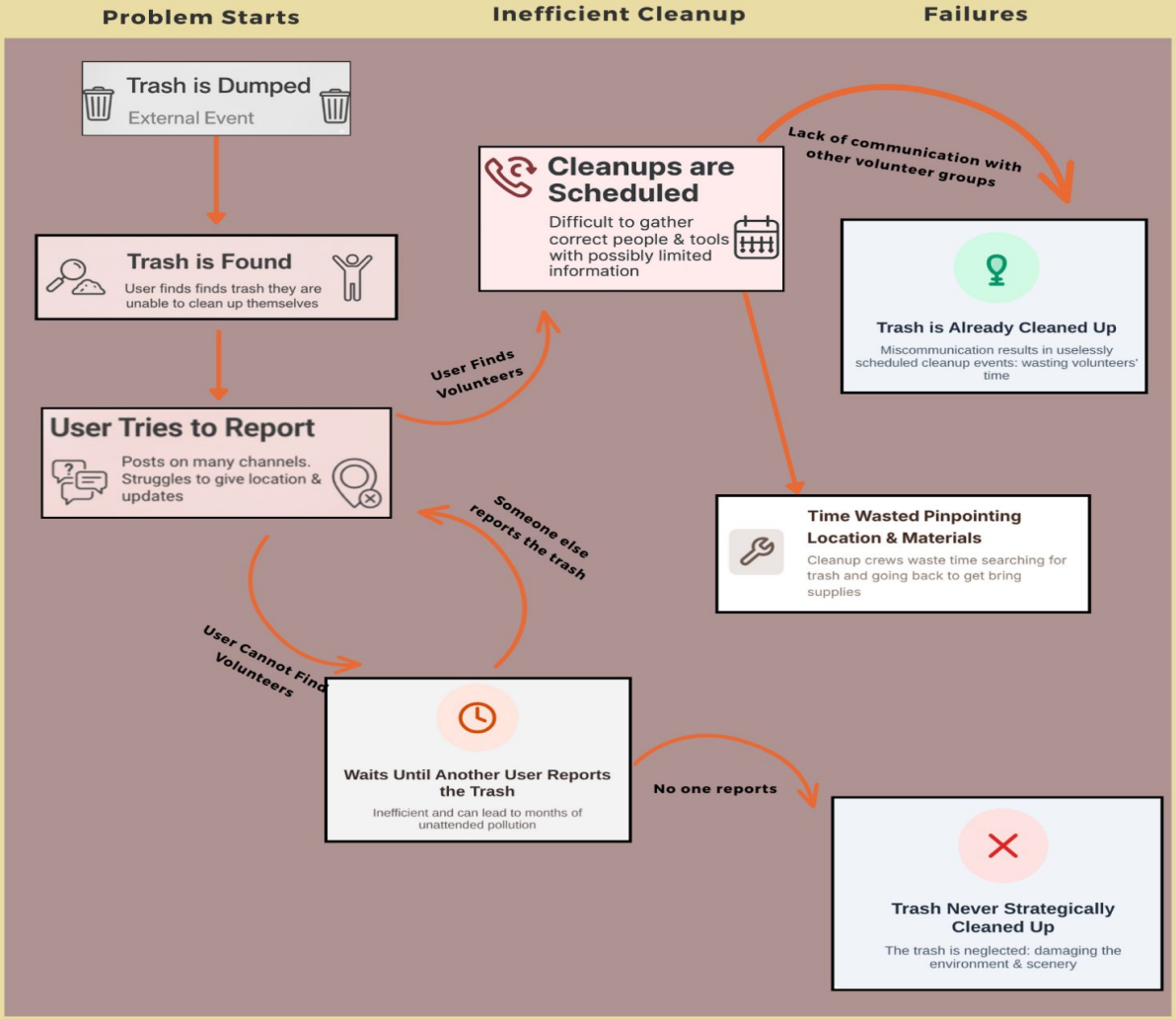
Current Process Flow



HOW LITTER DETECTION/CLEANING WAS BEFORE TRASHTAG

Solution Statement

TrashTag is a mobile-first platform designed to empower the public to report litter and illegal dumping in outdoor areas. It works by allowing users to upload quick, geotagged photos of the littering along with a short description. By transforming everyday park-goers into environmental reporters, TrashTag bridges the communication gap between the people who encounter trash and the organizations equipped to remove it.

The platform enables users to capture and share the scope and location of debris, creating a real-time, visual map of problem areas. This helps cleanup crews, local governments, and environmental organizations plan more efficient, targeted efforts - saving time, money, and resources.

Solution Characteristics

- **Live Reporting and Mapping:** Users simply snap a picture of the litter, allowing the platform's geotagging feature to instantly upload the location to a live interactive map for cleanup organizations.
- **Visual Scope Analysis:** The images provide organizations with a visual understanding of the amount of trash present at the site, allowing them to adequately prepare the appropriate resources.
- **"Litter Hero!":** A reward system acknowledging users who successfully clear litter locations from the interactive map platform.

Competition Matrix

Features	**TrashTag**	**Clean Something For Nothing**	**Pirika**
Upload Geotagged photos of trash	✓	✓	✓
Interactive map of trash	✓		✓
Size Indicator for trash	✓		
Reward System	✓	✓	

Tools and Technologies

Development Environment - VS Code

Version Control - GitHub

Continuous Integration & Continuous Deployment (CI/CD) - GitHub

Backend Language(s) - TBD

Frontend Language(s) - TBD

Testing Framework(s) - TBD

Documentation Tools - TBD

Risk Assessment & Mitigation

TBD

Appendix

TBD

References

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2. Fawaz, Maya. “Hundreds of Volunteers will fan out on San Marcos waterways Saturday to clean up trash.” *Kut News*, 3 Mar. 2023, https://www.kut.org/energy-environment/2023-03-03/hundreds-of-volunteers-will-fan-out-on-san-marcos-waterways-saturday-to-clean-up-trash
3. “54th San Marcos River Rendezvous Clean Up.” *Texas Rivers Protection Association*, https://txrivers.org/texas-river-blog/54th-san-marcos-river-rendezvous-clean-up/. Accessed 23 Sept. 2025.
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