

IC HACK 2.0

RecycleRethink



By :

Vedant Bhosale

Aditi Soni

Laxman Babu

Harshwardhan Lokhande



PROBLEM SCENARIO



The problem we are trying to solve is the growing issue of plastic waste pollution. Plastic waste is a significant environmental concern, and it's causing harm to our planet at a concerning rate.

India is one of the world's largest consumers of plastic, with over 25,000 tons generated daily. A significant portion of this plastic ends up as waste, often in landfills or the environment.

Even though recycling is something that is widely preached, recycling rates in India are relatively low - with only a fraction of plastic waste being recycled. Most plastics end up in landfills or open dumps.

When individuals have the chance to receive complimentary items in exchange for their plastic waste, it motivates them to actively engage in recycling instead of discarding plastic.

By exchanging their accumulated plastic items for recyclable goods or eco-friendly products, we incentivize responsible waste disposal. This not only reduces the amount of plastic waste entering landfills and the environment but also promotes recycling.



The Idea

- Our aim is to create a user-friendly website that acts as a platform for individuals to manage and minimize their plastic waste in a fun and easy manner - by exchanging plastic for recyclable goods.

Here's how it will work :

- **User Registration:** Users can sign up on the website by providing some basic information.
- **Plastic Inventory:** Users can input details about the plastic items they have in their homes. This could include the type of plastic, quantity, and any other relevant information.
- **Exchange System:** The website facilitates an exchange system where users can exchange their accumulated plastic items for recyclable goods or other eco-friendly products. These rewards serve as incentives for responsible waste disposal.

The Idea - Additional Features



ADDITIONAL
FEATURES

- **Educational Content:** The platform will also offer educational content about the harmful effects of plastic waste and the importance of recycling.
- **Community Building:** Users can receive updates about others who share their commitment to reducing plastic waste. This community aspect fosters a sense of belonging and encourages more people to join the movement.
- **Tracking Progress:** Users can track their progress in reducing plastic waste over time, which can be motivating and rewarding.





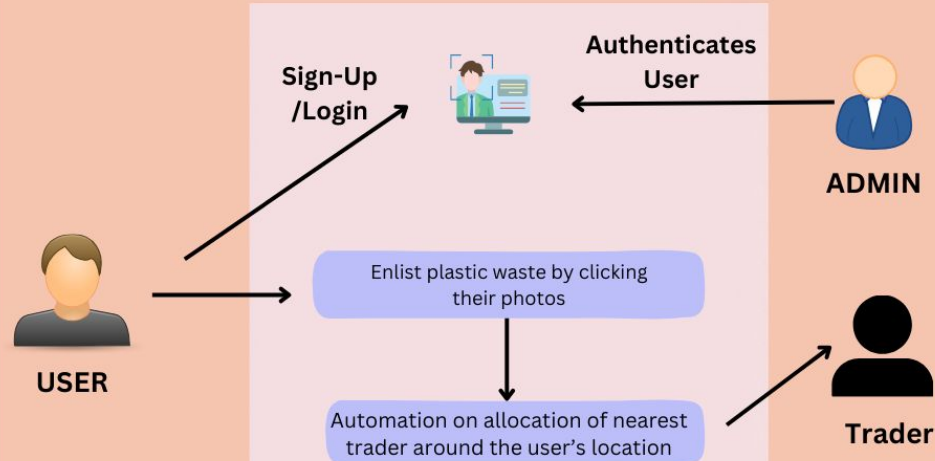
Uniqueness Of The Idea

- There are some similar platforms like 'Rebound Plastic Exchange' and 'Plastic Credit Exchange' based in places like UAE and Philippines. In India, there are some solutions like the Plastic Xchange program by Pro India. However, these platforms do not involve the people or community directly. The concept of “exchanging” plastic may be the same but the execution is very different. For starters, these platforms do not give recycled goods in exchange - instead they give “credits”.

Unique Selling Point (USP):

- **Integration:** Our platform uniquely integrates plastic waste management with community building, education, and rewards. Users can not only dispose of their plastic responsibly but also learn about its environmental impact, connect with like-minded individuals, and earn rewards for their efforts.
- We also aim to include raddiwalas and NGOs so that multiple entities can get benefitted apart from tackling on environmental issues.

Workflow of the Prototype



**An Online Platform for Plastic
Credit Exchange**



Technical Overview

- **Framework**

The platform is built using Next.js, a popular React-based framework that allows for server-rendered and statically generated web applications. This provides a fast and interactive user experience.

- **User Interface**

The frontend includes a clean and intuitive UI design for easy navigation and a seamless user experience. It incorporates HTML5, CSS3, and JavaScript for dynamic content and interactivity.

- **Database Management**

Utilizing a database system for persistent data storage, user profiles, plastic product listings, and other relevant information are securely managed.



Technical Overview

- **Form Handling and Image Upload**

The platform allows users to fill out forms with details about the plastic products they have for recycling, including type, quantity, location, and additional information. And also Users can upload images of the plastic products to provide visual context for potential vendors.

- **Matching Algorithm**

A matching algorithm processes the plastic product listings and searches for potential vendors based on criteria such as location, recycling capabilities, and preferences.

- **Scalability**

- The architecture is designed to handle potential growth by optimizing code, utilizing caching mechanisms, and employing scalable hosting solutions.



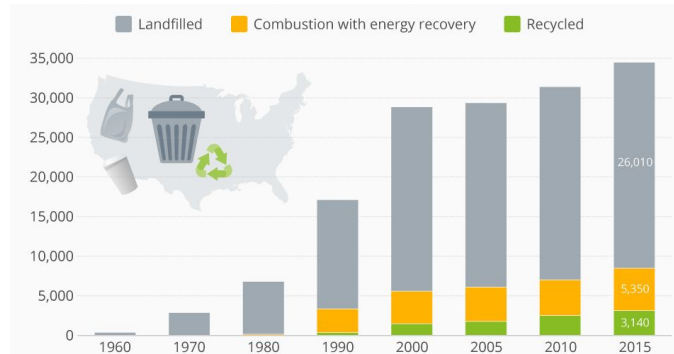
Benefit To The World

The value-add of our plastic waste management platform to the world is multi-faceted and impactful:

- **Environmental Conservation:** By motivating individuals to actively participate in recycling and reducing plastic waste, our platform contributes to a cleaner and more sustainable environment. This directly addresses the global problem of plastic pollution and its detrimental effects on ecosystems and wildlife.
- **Education and Awareness:** We empower users with knowledge about the environmental consequences of plastic waste. This educational aspect fosters a sense of responsibility and encourages sustainable behavior not only on our platform but also in users' daily lives.
- **Local Impact:** While addressing a global issue, our platform can have a significant local impact by encouraging responsible waste disposal and recycling practices in communities across India and beyond.
- **Corporate Responsibility:** By partnering with businesses and NGOs for rewards and incentives, we promote corporate social responsibility and encourage companies to support sustainability efforts.
- **Behavioral Change:** Over time, our platform can contribute to a shift in consumer behavior towards reduced plastic consumption and increased recycling rates.

Market Prospects

- India produces **3.4 million tonnes** of plastic waste in a year, only 30% of it is recycled.
- The **global plastic recycling market** was valued at US \$ **39.6 Billion** in 2021.
- It is estimated to grow at a CAGR of 7.0% from 2022 to 2031.





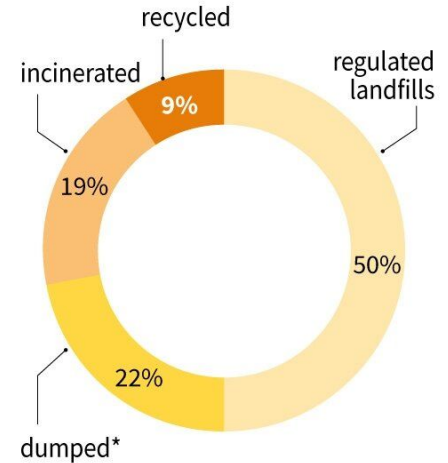
Future Scope

- Due to the growing usage of **recycled plastic in the food and beverage (F&B)** packaging industry, the waste plastic recycling market in India has been expanding steadily.
- Moreover, due to rising environmental concerns leading market players and packaging companies are focusing on **introducing recyclable packaging**.
- Forming **strategic partnerships** with recycling facilities, **waste management companies**, and **environmental organizations** can lead to mutually beneficial collaborations, expanding the platform's reach and impact.

Future Scope

- With a growing global concern about plastic waste and its impact on the environment, there is a **substantial market for platforms** that facilitate responsible plastic recycling.
- Targeting the plastic recycling niche **fills a critical gap in the waste management industry**. The increasing demand for sustainable solutions presents a substantial revenue opportunity.

353 million tonnes
produced in 2019



*in unregulated landfills, burned in open pits or leaked into the environment

Source: OECD



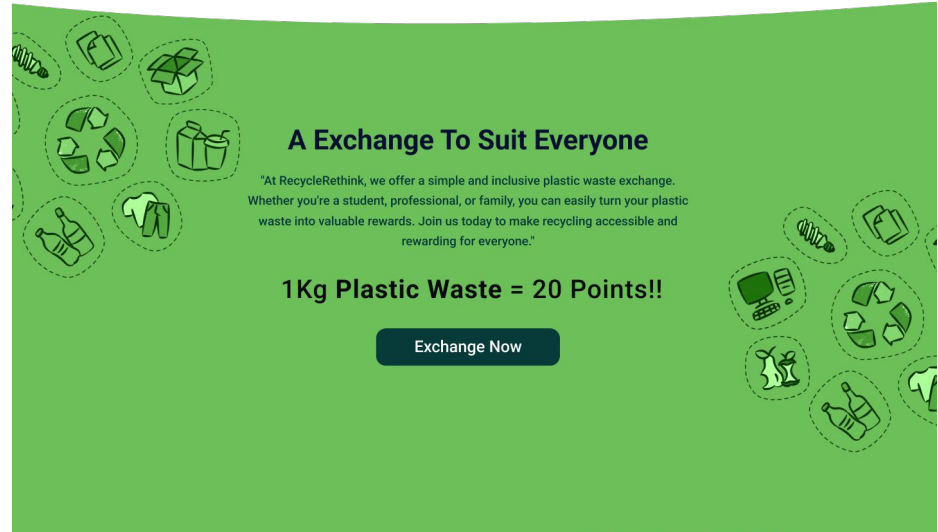
Limitations

• **Here are some challenges we may face :**

- **Limited User Base:** Initially, it may be challenging to attract a substantial user base, especially if awareness of the platform is low. The success of the idea depends on user participation.
- **Logistical Challenges:** Managing the logistics of collecting, verifying, and exchanging plastic items for rewards can be complex and require a well-organized system.
- **Sustainability of Rewards:** Offering rewards can be costly, and the sustainability of the reward system may depend on partnerships with businesses or organizations.

Despite these limitations, with careful planning and execution, these challenges can be addressed.

Glance of Prototype





Thank You

It's time to adapt a culture of sustainability

