Let us be the change the country needs

Virtua11y - 226

A UX Case Study - Solving the problem of plastic waste in the packaging sector of Indian bathroom products

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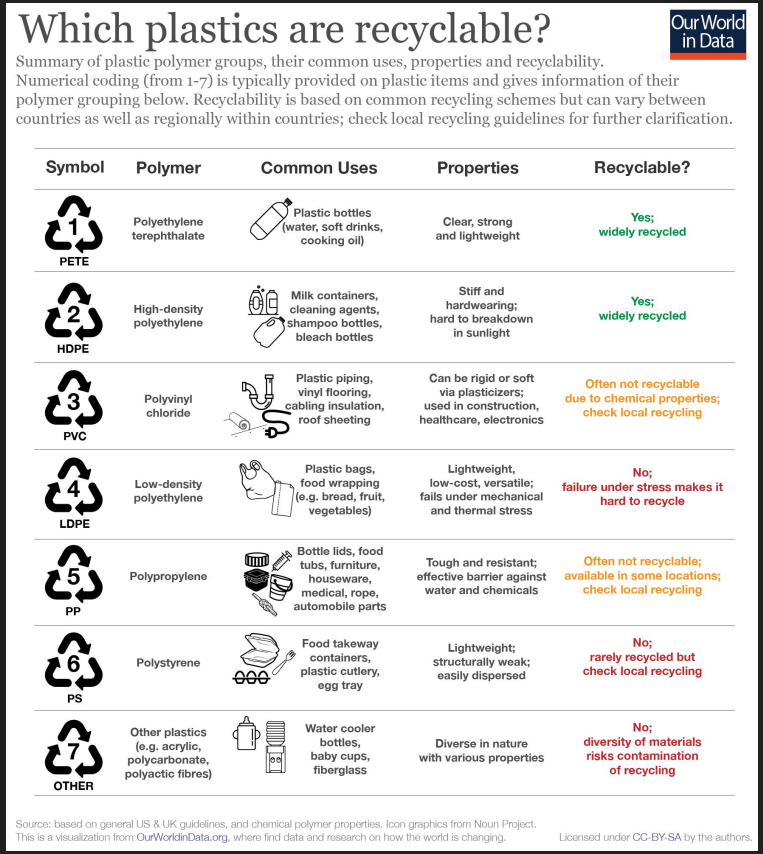
What is the problem?

- Not all plastic is easily recyclable
- Even the ones that are recyclable, can only be recycled a few times.
- Recycling wastes energy and resources and in some cases produces harmful by-products



Which plastics are recyclable?

Our World in Data

Summary of plastic polymer groups, their common uses, properties and recyclability.
Numerical coding (from 1-7) is typically provided on plastic items and gives information of their polymer grouping below. Recyclability is based on common recycling schemes but can vary between countries as well as regionally within countries; check local recycling guidelines for further clarification.

Symbol	Polymer	Common Uses	Properties	Recyclable?
1 PETE	Polyethylene terephthalate	Plastic bottles (water, soft drinks, cooking oil)	Clear, strong and lightweight	Yes; widely recycled
2 HDPE	High-density polyethylene	Milk containers, cleaning agents, shampoo bottles, bleach bottles	Stiff and hardwearing; hard to breakdown in sunlight	Yes; widely recycled
3 PVC	Polyvinyl chloride	Plastic piping, vinyl flooring, cabling insulation, roof sheeting	Can be rigid or soft via plasticizers; used in construction, healthcare, electronics	Often not recyclable due to chemical properties; check local recycling
4 LDPE	Low-density polyethylene	Plastic bags, food wrapping (e.g. bread, fruit, vegetables)	Lightweight, low-cost, versatile; fails under mechanical and thermal stress	No; failure under stress makes it hard to recycle
5 PP	Polypropylene	Bottle lids, food tubs, furniture, houseware, medical, rope, automobile parts	Tough and resistant; effective barrier against water and chemicals	Often not recyclable; available in some locations; check local recycling
6 PS	Polystyrene	Food takeway containers, plastic cutlery, egg tray	Lightweight; structurally weak; easily dispersed	No; rarely recycled but check local recycling
7 OTHER	Other plastics (e.g. acrylic, polycarbonate, polyactic fibres)	Water cooler bottles, baby cups, fiberglass	Diverse in nature with various properties	No; diversity of materials risks contamination of recycling

Source: based on general US & UK guidelines, and chemical polymer properties. Icon graphics from Noun Project.
This is a visualization from OurWorldinData.org, where find data and research on how the world is changing.

Source: OurWorldInData.org

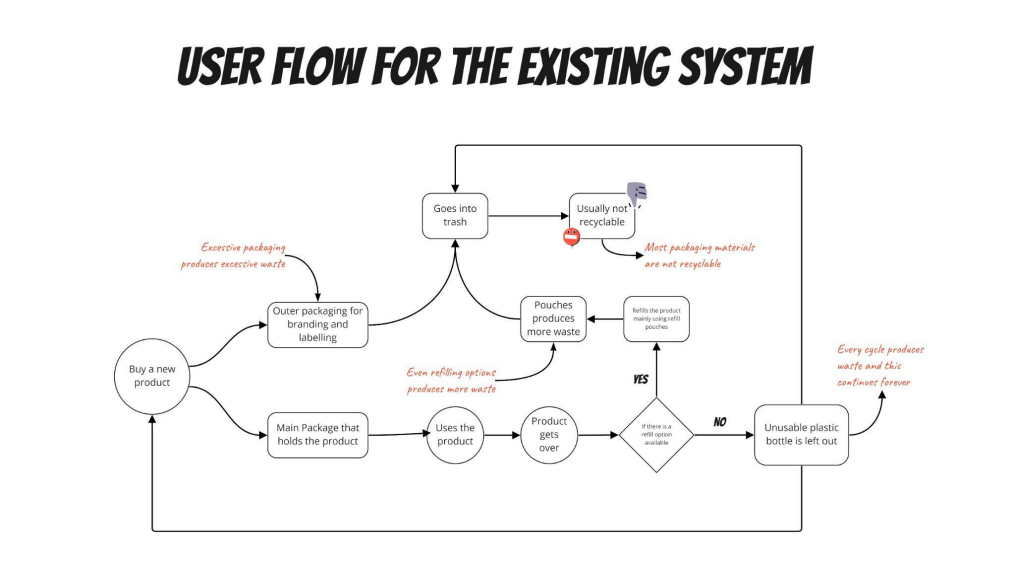
Why Bathroom Products?

- They are a daily necessity, and thus purchased in large quantities and more frequently
- Some products offer refills, but are ineffective because they contribute to the waste
- Excessive packaging for branding and advertisement purposes produces more waste

User Research Insights

- Users usually buy bathroom products in bigger quantities that last for more than a month
- Recycling plastic waste in bathroom is a very tedious process
- Users who tried refilling said it was a hassle and a very messy process

Current System



Problems:

- Plastic waste is unavoidable in our current system
- Most of the plastic waste produced in non-recyclable
- Refilling options also add to waste accumulation
- There is no current alternative to this system for most households

Our Solution - BubblePoint

- BubblePoint is an eco-friendly kiosk where people can refill their bathroom products. It encourages the use of non-plastic containers.
- It offers a wide range of choices for users, and the flexibility to purchase the quantity they actually wish to purchase, thus promoting the idea of being mindful of our shopping habits.
- The kiosk’s user-friendly interface reduces the hassle of choosing from a wide variety of products when purchasing from the shelf.

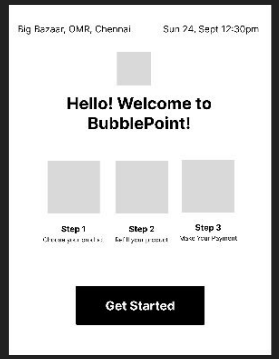
Target Audience

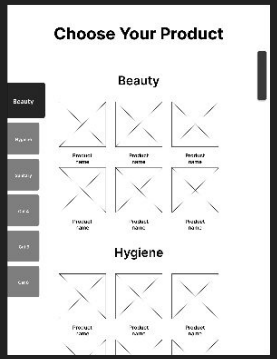
- Environmentalists and climate conscious citizens
- Financially conscious individuals
- Businesses that purchase products in bulk

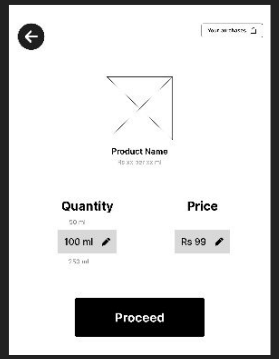
Positioning & Availability

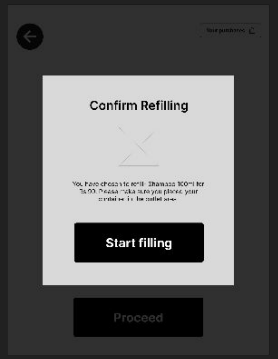
- Supermarkets and grocery shops
- Apartment, colonies and societies
- Public places with heavy footing

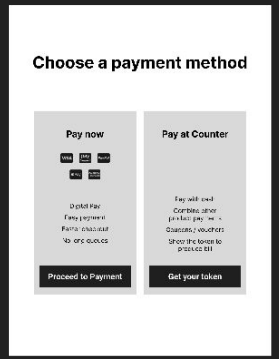
Lo-Fi Wireframes

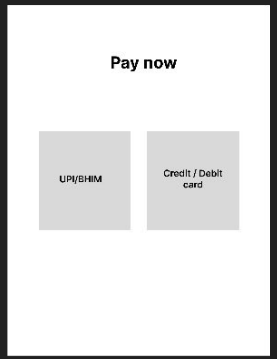


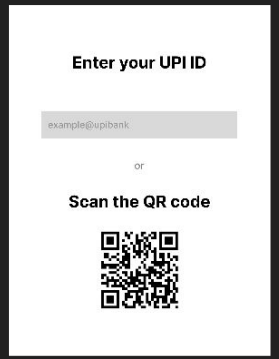


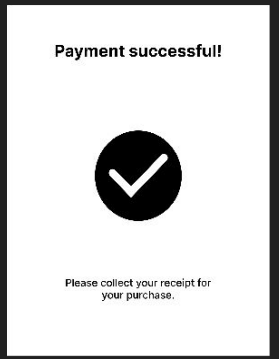


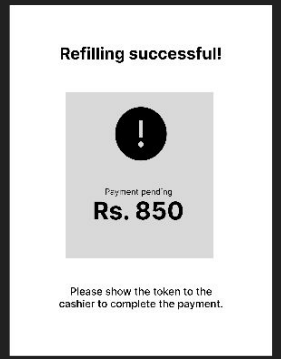












User Testing Feedback & Observation

1. The products cards didn’t look clickable. Users were confused.
2. Giving the users options to change both the quantity and the price confused them as they were unsure of the process
3. Users mainly had to rely on text to understand the process which slowed down the refilling process
4. For the pay at counter option, there were no clear instructions

P

#1 · Wireframes

Pepper 14 hours ago

These steps looks clickable. User felt like they have to click on the Step 1 to choose the product.

1 reply

P

#3 · Wireframes

Pepper 14 hours ago

The user was confused since they had the option to change both the quantity and price.

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#4 · Wireframes

Pepper 14 hours ago

Products don't look clickable

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#2 · Wireframes

Pepper 14 hours ago

The cards don't get highlighted as scrolled. User felt like all the listed products were under only one category

1 reply

P

#7 · Wireframes

Pepper 14 hours ago

Why is the entire process so binary?

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#5 · Wireframes

Pepper 14 hours ago

Too much text to read

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#6 · Wireframes

Pepper 14 hours ago

Not clear about the difference between between the types of payments

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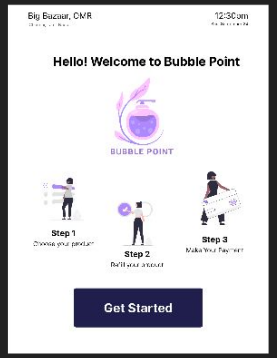
#9 · Wireframes

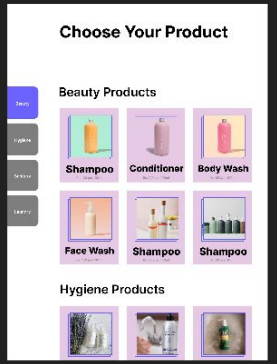
Pepper 14 hours ago

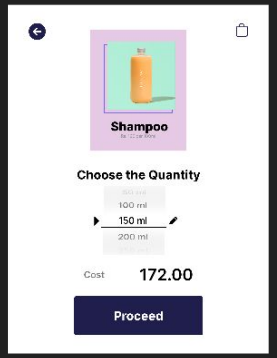
"Oh, is the process over?"

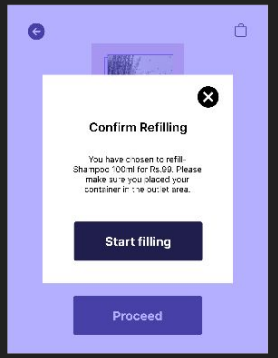
A couple of iterations later...

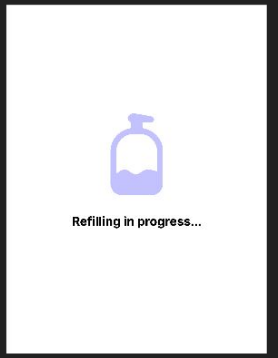
Hi-Fi Wireframes

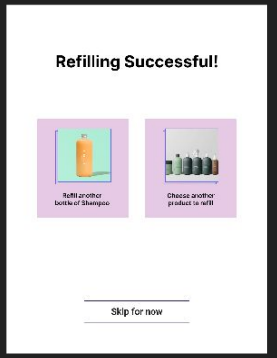


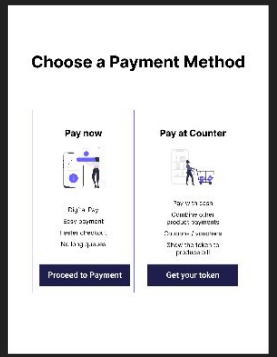


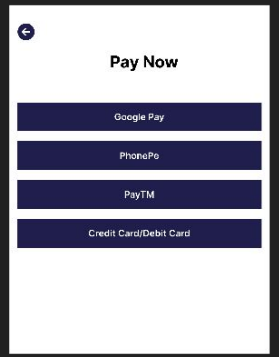


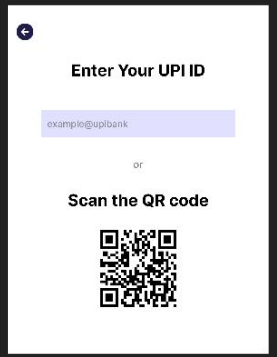


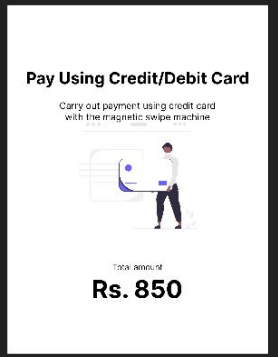


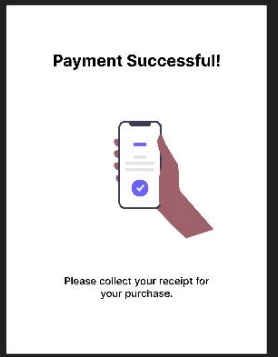


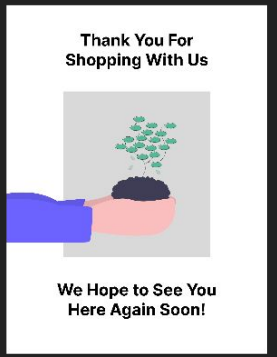












Prototype flow

Some Key Performance Indicators

- No. of new users signing up on a daily, weekly and monthly basis
- No. of successful refilling vs No. of failed refilling
- Decrease in purchasing of newly packaged products

How can we improve this further?

- Accessibility considerations
- Aim for an increased inclusivity
- A thorough user testing with wide variety of users
- More number of iterations

What are some of the cons of the solution?

- Customers need to carry their own empty bottles which might be a hassle for people on the move
- Limited no. of options available per product type