

# Reverse Brief

## Challenges to Face In A Waste Management App

1. Recycling and the Environment
2. Complying with Local Rules
3. Low User Interest/Organisation
4. Data + Tech Accuracy
5. Cost (Garbage Trucks, Workers)

### 1. Recycling and the Environment

- This means the environmental impact our app's services would have, relating to cars creating gas and noise pollution (especially late at night or early in the morning).
- It's a challenge because we aim for successful waste management without impacting the lives of other residents or local wildlife, whom it most affects by possibly creating disturbances in the peace and negatively influencing the eating and sleeping patterns of animals.
- We must solve this by ensuring our trucks do not disrupt day-to-day life of individuals in any way (quieter trucks, automation etc). Through the app, we can also promote more environmentally friendly solutions to waste management.

### 2. Complying with Local Rules

- This means the fact that councils, cities and even whole countries vary in their rules about recycling, and the process is usually very regulated.
- It's a challenge because it means that the app cannot just have one main service for picking rubbish up at the exact same time.
- This mainly affects local government's abilities to organise waste management properly, and the app and its services may also be temporarily closed or even shut down if we are caught breaking rules.
- This would affect our efforts to produce a decent alternative to the

government system, and we will have to check local laws constantly to ensure we are not violating any rules in order to mitigate the issue. A copy of the latest laws ought to be present on the website for developers and users of the system to refer to.

### 3. Low User Interest/Organisation

- Most people, unless they live in countries like Japan and are educated on waste segregation, do not usually do so and are more used to dumping their rubbish. Interest can also be lost as users may download our app and simply forget about it due to the hassle layer on.
- Our waste management system cannot manage waste effectively if it is incorrectly sorted, and can lead to organisational problems (not to mention contamination) affecting waste management facilities and plants if the wrong kind of rubbish is transported to them.
- This problem is increasingly up to the user to solve for themselves, on both a physical and technological level, but education and the occasional reminder should be given by the app to encourage user organisation.

### 4. Data and Technology Accuracy

- This means the reality that a great deal of technical effort must go into the app's systems. Garbage trucks used by the system should have effective trackers (so users can know when to expect them), optimised routes to save on fuel as well as a system for handling missed pickups and delay messages.
- This can be an issue when these systems fail- the problem might be the user entering flawed information that leads to mix-ups as well as sensors that might malfunction and produce false information themselves, among other things.
- This problem can be solved in the physical world by frequently checking and fixing infrastructure important to the system. Digitally, the app should be capable of gathering and organising information from more than one source to improve reliability.

### 5. Cost (Garbage Trucks, Workers)

- This means that there is, of course, always a cost inherent in starting and running any system. A budget must be allocated for app maintenance, the salary of drivers and workers in the system, the hire of trucks and fuel for our use, and installation of sensors and other mechanisms that make our system work effectively.

- This is a problem because start-ups like these require a cost of both money and time to get up and running, resources of which a new company and app often lacks. This problem mainly affects said company and can be its downfall if the app does not make money fast enough.
- To gather money, advertisements and subscriptions should be considered (but prices must not be too high, or the user may lose interest). In the real world, partnerships and cooperation with local organisations about recycling programs and other issues should be looked into.

## **List the Objectives of the UX design**

1. To make an app that is labelled, consistent and clear to all users.
  - This means that the app should be usable and not confusing, both to those who are experienced and new to app technology.
  - This will help us gather universal appeal with different kinds of users.
2. To make an app that is worth using as an alternative to the government waste management system (this is where the automation and sensors come in)
  - People will have no reason to use our app if it is the same or worse than the government system used by the general public.
  - We must prove that we are the efficient, modern choice to potential users, to help our app and system in its early stages.
3. To make an app that can accommodate the influx of users and data.
  - The app will have to deal with an increase of users if it is successful. The server should be designed so the app will not crash if more than 10 people are using it at the same time.
  - Improvements to the server will ensure the app gathers a good reputation as fast and may draw in fresh users.
4. To make a cost-effective app that avoids expensive and time consuming redesigns after the app has launched.
  - In all aspects of the app, money and growth should be optimised without taking too much from users (see 5. Cost). The app should be well-designed from the start so it does not require major renovations later on.
  - Better app design will also help with user engagement.

## **Write about the approach you are taking to solve. Some potential approaches are listed below (similarly, write your own)**

User Research

Social Integration

Feedback and Iteration

Promotion and Outreach

### **User research**

*What is User Research? How will we apply this?*

User Research is the process of understanding users' needs, behaviours, and attitudes to inform the design and development of products or services. We start by finding a group of people that is our target audience - the 'type' of people that we are aiming to appeal to.

Based on this, we survey the target audience to understand their needs, wants, preferences, and behaviours.

### **Social Integration**

*What is social integration? How can it be applied?*

- Social integration is a process where various groups are combined to make a unified society. In this app, social integration would be highly beneficial, helping users feel less alone and more motivated to exercise. By allowing people to see other people's progress, some users may feel more determined to increase their score. However, some might feel uncomfortable with sharing their progress. Therefore, there is a setting to keep their scores and progress private. With different groups of people facing different struggles at various points in their progress, there can be a more unified sense of community, helping people feel more motivated to start their exercise journey or continue their fitness routines.

### **Feedback and Iteration**

*What is feedback? What is iteration? Why are they important?*

- Feedback is where insight can be provided for how the app can be fixed or improved. It can also show which other features can be added, depending on user preferences, and how satisfactory the overall user experience was. This is important so the product can match users' preferences as closely as possible, leaving them satisfied.
- Iteration is an approach to continuously improving a concept, design, or product. This can be seen across multiple areas of the design process. Constantly gathering feedback before moving on to the next big step is crucial so that no backtracking is necessary and the process can continue smoothly, with each step at its best.
- Feedback can accumulate both qualitative and quantitative data.

*How can we gain feedback?*

- We can gain feedback from target audiences by sending out surveys with carefully designed questions that aren't just yes or no answers. This way, more detailed feedback can be gained from potential users. However, if our target audience has a busy work life, we can provide easier questions, such as True/False, Yes/No, or a 1-10 ranking.

### **Promotion and Outreach**

*How do we plan on promoting this app?*

- Users can share their activities, progress, or marketplace products on a larger social media platform such as Instagram, Snapchat, or Twitter, which can help provide more visibility to the app. This can boost the person's motivation to exercise by sharing it with other friends, as well as increase the app's popularity.
- Advertisements can be made and posted via social media platforms such as TikTok and Instagram. More subtle advertisements can be created featuring influencers using the app while showcasing their workout routines and progress.