

User Experience Research

The Sustainable Hub App

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1. Introduction

This document includes three main parts: a User Experience (UX) Competitor Analysis, Gamification research, and a Strategic Marketing Plan. The UX Competitor Analysis was done before creating the brand identity and wireframes to see what works well in other apps and what doesn't. Then, research on gamification was conducted to find ways to increase user engagement. Once the app is ready, we need to make sure it reaches the target audience. For this, we need a Strategic marketing plan. Below, you will find the key components needed for this plan.

2. UX Competitor Analysis

2.1 Introduction

A UX Competitor Analysis is used to look at the applications of competitors for different reasons.

- To discover how you can stand out in the market
- What user experiences are standard in the market
- Look for opportunities to innovate your own User Experience (*The Step-by-Step Guide to UX Competitive Analysis* – Baymard Institute, n.d.).

I did market research by seeing what others in the same field are doing. I looked at other app's to see what I liked and didn't like about the apps to use as inspiration for the UX design of the EcoLink app. This also helps us know what has already been done. We want to stand out from other apps so the consumer doesn't confuse us with another brand.

Through internet searches, we found three apps that are valuable to compare and gather information from for our own app. These apps have the same target group as us: citizens who want to do something for the environment but don't know how. These apps are places where information about sustainability is clearly gathered in one place.

The following apps are analysed below: Cataki, Twente Milieu and My Little Footprint.

3. Cataki

3.1 Introduction

Cataki is an app from Brazil that brings people together who want their waste to be recycled and collectors, who work as recyclers, in the same place. Through this app you can search and request somebody to pick up your garbage. Collectors can find 'clients' through this app. In addition you can find cooperatives, junkyards, voluntary delivery points and ecopoints (Cataki - App De Reciclagem, n.d.).



3.2 Good features

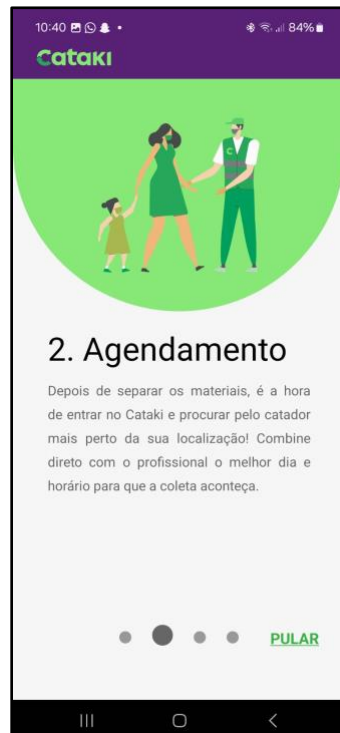
The good features of the app are analysed to see what works and if we want to implement it in our own app.

3.2.1 Introduction to the app

The introduction describes in four steps how the recycling interaction works and encourages you that you help with the environment. You have to follow the steps. This is smart because it gives information about how the app works so you don't want people to skip it. Because of the short explanation in the beginning people will find it easier to navigate through the app.



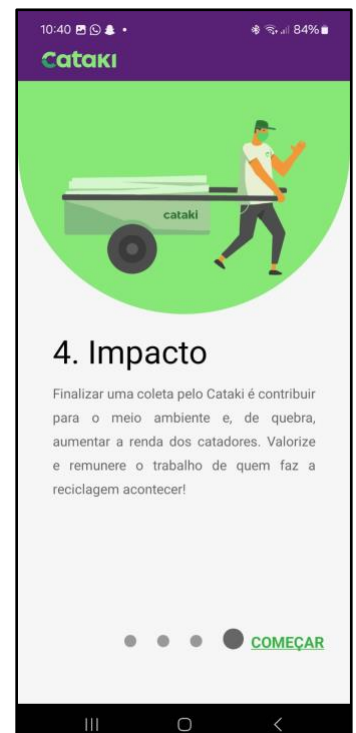
Picture 1



Picture 2



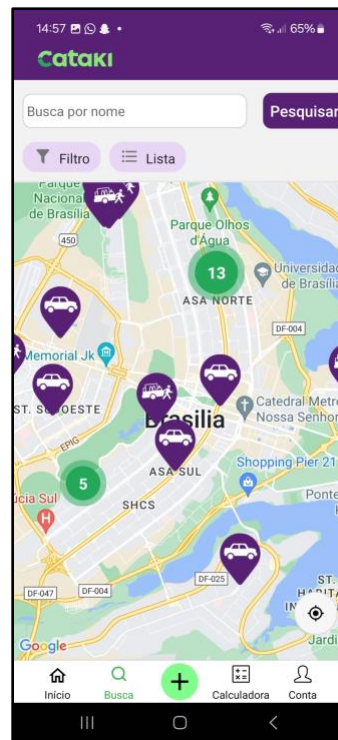
Picture 3



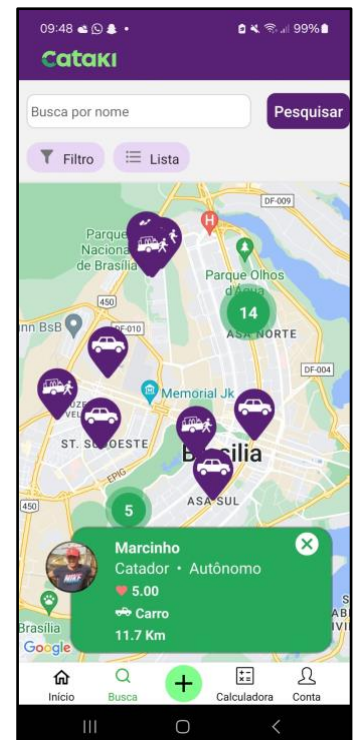
Picture 4

3.2.2 The map

To find where you can leave your waste or locate a collector nearby, the app includes a built-in map. This allows you to see what is available and how many there are in your area. Through the icons, you can identify whether it is a disposal site or a collector on foot or by car. When you press this icon, you will get more information about the collector and can contact them.



Picture 5



Picture 6

3.2.3 Illustrations/ icons

Illustrations and icons are used in various places in the app. The illustrations and icons clarify the text and ensure more interaction with the user. The icons reinforce the text and make it clearer what is meant. The illustrations are in line with Cataki's corporate identity colors.



Picture 7



Picture 8

3.3 Bad features

3.3.1 account page

The page for your account is visually very plain. There is a lot of text and this means that you have to search more to see where things are.

3.4 Menu

The menu has a clear overview, no drop-down menu, you know directly where to navigate.



Picture 9

3.5 User reviews

What do people like about the app?

- They can finally dispose the waste that is not collected by city hall. It is a new look at the community, the city and services.
- It is a good initiative.
- It has an incredible lay out.
- Well formulated idea and simple visualised.

What do people dislike about the app?

- Sometimes the collector doesn't show up, they send multiple texts to collectors but nobody comes.
- Couldn't continue in the app after registration.
- The idea is great but a lot to improve.
- The user thought you could schedule selective garbage collection, but you can't.
- Couldn't figure the app out easily.
- You can edit the profile of the collector, this shouldn't be possible.

The reviews are from Google Playstore (*Cataki - App De Reciclagem - Apps Op Google Play*, n.d.).

4. Twente Milieu

4.1 Introduction

The app Twente Milieu is an app for the citizens of the region Twente in the Netherlands. The Netherlands is one of the top countries in recycling waste, they are in the top 5 of countries who recycle the best. They recycle 56% of their waste (Puric, 2023). This is why we analyse this app to see if what works in the Netherlands can also work for the citizens of Brazil.



Why is the Netherlands good at recycling? A part of this is good communication about how you recycle. An example of this is the app Twente Milieu. In the app Twente Milieu, the citizens find information about how to recycle and when their garbage gets picked up.

4.2 Good features

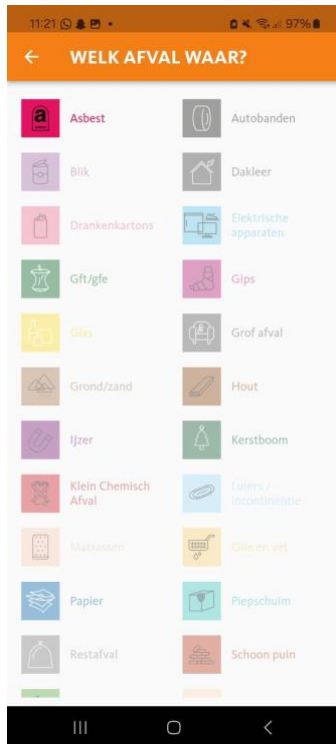
4.2.1 Information about recycling

The app offers extensive information about how to recycle certain materials (Picture 10 & 11). The materials are organised in alphabetical order so that they are easy to find. When you click on the name of the waste you want to recycle, you will receive a full explanation of the type of waste. You can easily switch between different types.

This is a clear way to provide information about many different types of waste.

4.2.2 The waste calendar

In the Netherlands, waste is collected from your street. Every week, one day a week, a truck comes by for a different type of waste. This is why the app has a built-in calendar to indicate to the user when and which waste will be collected (picture 12).



Picture 10



Picture 11



Picture 12

4.3 Bad features

4.3.1 Loading time

Sometimes it takes a long time for the app to open. You will then see a loading screen (Picture 13) or black screen, which makes you almost think that your phone has turned off. The app is intended to quickly check when your waste is being collected. If the app takes a long time to open, this can result in frustration and less use of the app.

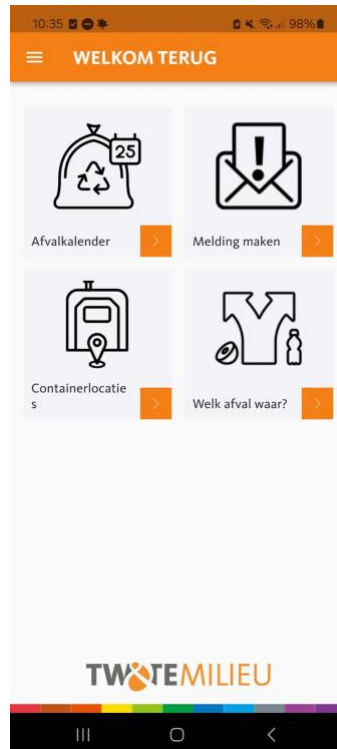
4.3.2 Navigating through the app

In some places in the app you cannot return to the previous page. You then have to go to the drop-down menu, press an option there and click through to the page you want to return to. This takes more time and can lead to frustration. It is important for the User Experience that you always have an option back.

Next to that is the home button missing, to go back to the homepage.



Picture 13



Picture 14



Picture 15

4.4 Menu

They have a drop-down menu as a menu. You will see the menu options on the home page and also in the drop-down menu with two additional options. A drop-down menu works well if you have many different options that you want to offer. But with the few options they have, it's better to have a tab menu, which allows you to navigate through an app faster (Picture 14 & 15).

4.5 User reviews

The app receives a 2.2 out of 5 stars from users (*Twente Milieu - Apps Op Google Play*, n.d.). I summarised the reviews in a few short sentences to learn from what works/ doesn't work.

What do people like about the app?

- Very useful to know which waste bin and when you can put the waste bin on the street.
- The app works well.
- That you will receive a notification one day in advance.

What do people dislike about the app?

- The waste calendar sometimes doesn't work and you don't know when the garbage truck will arrive.

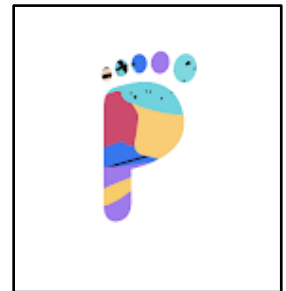
- The notifications are not always on time.
- The app loads very slowly.
- The information on the website and the app are different.

5. My Little FootPrint

5.1 Introduction

My Little Plastic Footprint (MLPF) is an app that allows you to reduce your plastic use by going on a diet. They calculate your Plastic Mass Index (PMI) and give you advice on how to use less plastic. There are different subjects, for example your bathroom, you can click on and they will give advice on how to swap your stuff for something better for the environment. You can add items on your to-do list and check them off when you have replaced them. The app will keep checking if you have reduced your PMI.

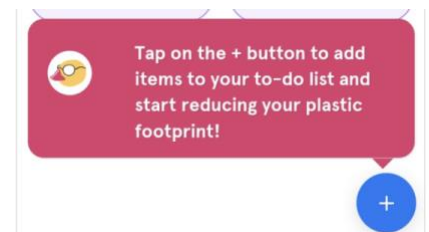
The app also provides quizzes to test your knowledge about plastic over the world. To keep you motivated it will cheer for you when you make a product swap and keep track of your achievements (Footprint, n.d.).



5.2 Good features

5.2.1 Introduction to the app

In the beginning while using the app they have textboxes with explanations of the usages of the buttons. This way, the user does not have to figure it out through trial and error, but the app can be used clearly straight away.



Picture 16

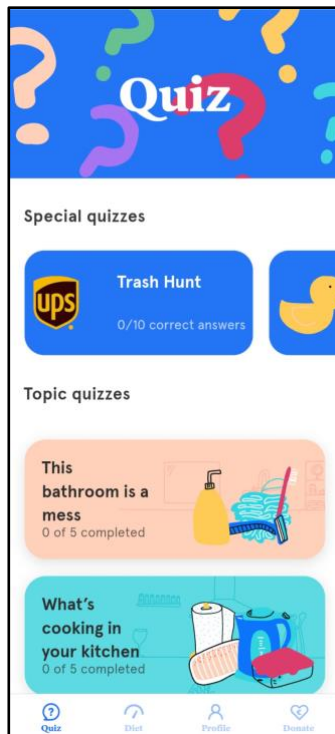
5.2.2 Quiz

To keep the user engaged with the app they have inserted quizzes about different subjects in the theme of plastic usage and the effect of it. The quizzes are short, 5 questions, so the user doesn't have to be focused for too long. For our own app we need to keep in mind that the average attention span is 8.25 seconds and the range of the attention span is from 2 seconds to over 20 minutes (Schiller, 2022). The attention span is the amount of time we can sustain that executive attention on a particular task. To keep the attention of the user the tasks shouldn't be too long and need to capture the attention within a few seconds.

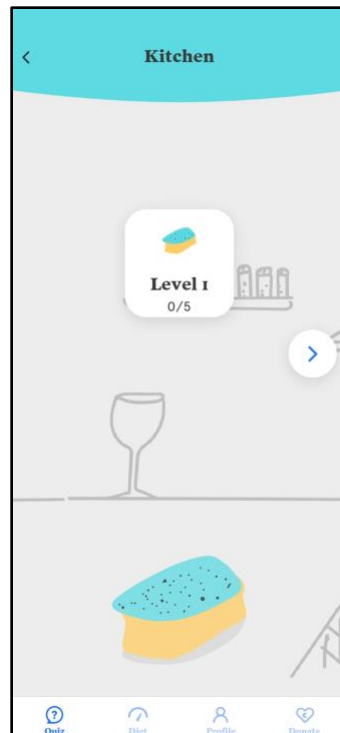
MLPF does this well by not making the quiz too long and interactive through photos and videos.

You have an overview page of all the quizzes. Every quiz has five levels and you need a score of 4 out of 5 to pass the level.

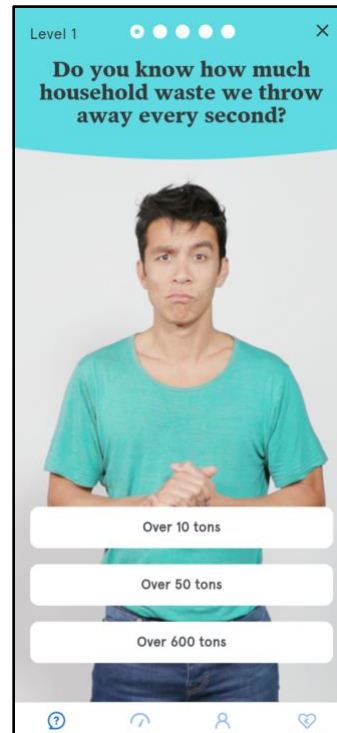
After every answer they give you a fact or more information about why it is that answer. That's how you learn more about it and remember the answers better.



Picture 17



Picture 18
Picture 20



Picture 19

5.2.3 Illustrations

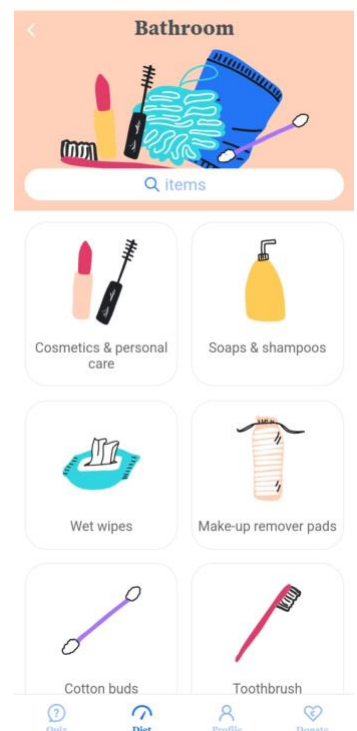
The app uses a lot of illustrations to show the different options. It makes the look of the app playful and it catches your attention.

My plastic diet



Oops, it looks like your diet is empty! Why don't you add some items?

Completed items



5.3 Bad features

5.3.1 Overall search option

In the app you don't have an overall search option. If you have a product you would like to get information about but you don't know in which category it fits, you can search for a while. This may cause irritation while using the app.

5.3.2. Gamification

In the app you find quizzes to test your knowledge about your use of plastic. This is a way to keep a person using your app. They get the feeling that they need to finish the quiz. But you don't get a reward or something else for finishing a quiz. This can lead to that the user doesn't see the value in making the quiz.

5.4 Menu

The menu has a clear overview, no drop-down menu. The app only offers four different pages so you can easily find what you need.



Picture 23

5.5 User reviews

The app gets in the Google play store an overall score of 3.8 from 5 (*My Little Plastic Footprint* - Apps Op Google Play, n.d.). I summarised the reviews in a few short sentences to learn from what works/ doesn't work.

What do people like about the app?

- The app really helps with awareness about reducing your plastic usage.
- A fun/ good design.
- Like that they can check-off what they have achieved.
- Good and useful tips.

What do people dislike about the app?

- They want more information about the reuse of plastic products instead of replacing everything.
- Pictures weren't loading.
- The find function isn't working great.
- You can't close the app easily.
- They would like to see more of the app. More depth and expansion of the app, the same questions or tasks come back.

6. Conclusion UX Competitor Analysis

Based on analysing the above apps, the following conclusions have been reached:

To ensure the app is clear to the user, it starts with an introduction after installation. This explains what you can do with the app and where to find features. This is especially useful for our app since parts like the marketplace may not be immediately clear.

For the menu, a tab menu is the clearest option when your app has only a few items. This makes it easier for the user to navigate. As seen with Twente Milieu, when a user cannot easily return to where they came from, it can lead to frustration. This is why a back option and a home button should always be visible.

All apps use illustrations or icons to make text clearer, which ensures a more enjoyable user experience. Each app uses illustrations or icons that match its own style. For our app, we also need to choose a style that suits what we want to convey and helps clarify our message.

Another important point is that loading the app must work properly. Otherwise, it will cause user frustration, leading to less or no use of the app. An overall search function in the app is also important. This way, a user can quickly and easily find what they are looking for or determine if it doesn't exist.

7. Gamification

7.1 Introduction

Gamification is the use of game mechanics and design techniques in a non-game context. For example in a mobile app, this is to increase user engagement and motivation. We will implement a form of gamification in the app EcoLink to have the user come back to our app.

The project team of semester 2023.2 did research about implementing gamification. They came up with tokens, you can get tokens by buying, selling and donating things in the app. You can use tokens to buy sustainable initiatives. Next to that the users can see how many tokens you have and are so able to see who has the most impact.

I will continue on this research and discover the options gamification has and what the best options are for the EcoLink app.

7.2 Increasing user engagement

One of the most important parts of gamification is that it ensures user engagement. Gamification has several benefits and the following are the most important for our app.

Improved user retention: Because of rewards and recognition for completing tasks, the users will come back for more.

Increased social sharing: By encouraging users to share their achievements and progress on social media, it will help with the visibility and reach of the app.

Gamification makes the user experience more enjoyable, rewarding and memorable, because of this the engagement will increase (*Play to Win: Using Gamification to Give Your App an Unbeatable Edge*, n.d.).

7.3 Types of gamification

There are different types of gamification you can use in an app. Below are some options with brief explanations. In the next chapter, we will choose the best fit for EcoLink.

- **Coins**
Coins create a sense of progress and accomplishment. By completing tasks, users are rewarded with coins. These coins can be used later for different features or rewards.
- **Achievements**
When users reach a specific milestone or complete a certain task, they earn a badge, trophy, or other reward. This encourages continued engagement.
- **Leaderboards**
A leaderboard creates a sense of competition and motivates users to keep using the app. Users can also compete against themselves by implementing different levels, with rewards at each level, encouraging them to strive for higher achievements.
- **Minigames**
Create an actual game that is relevant for your app. This way the user wants to come back to your app because they like the game. You can also choose a familiar game to spin the wheel or select a card.
- **Maps**
Including a map in your app allows users to visualise their progress and see what tasks or content are still ahead.
- **Character**
Adding an avatar helps create a personal connection with the app. The avatar doesn't

have to be a person; it can also be an animal. The avatar can support users, send reminders, and help guide them through the app.

7.4 Conclusion Gamification

There are different types of gamification on different pages we can use. Below, an advice for the gamification for the app EcoLink is described.

The first page is the marketplace. The marketplace is a place for consumers and companies to connect with each other. It also allows companies to get in touch with each other. In the marketplace, you can find stores that sell sustainable products. There is also a place to donate, you can donate in the form of materials, volunteer work and money. You can also rent out materials so that fewer people need to buy them.

In this area you can use two kinds of gamification, you can give users coins or badges, if they donate.

The first option is coins. Users can earn coins by donating money, materials, or volunteering. With a certain number of coins, they get a reward. More coins mean a bigger reward. This way, users get something in return for their actions, motivating them to donate more. The rewards can be discounts in certain sustainable stores.

The second option is badges. Users can earn badges by completing a certain number of activities. For example, they can earn a badge after donating five times or lending materials ten times. With each badge, they receive a reward, and the rewards get bigger with more badges. Users can also see other people's badges, creating a sense of competition and further motivation.

Besides coins and badges, users can set an overall goal they want to achieve. They can set a goal for how much they want to help with environmental issues. Users will see a timeline that progresses as they recycle, donate, or share initiatives. At different points on the timeline, they earn rewards for their efforts. This approach will motivate users to continue helping the environment (*Play to Win: Using Gamification to Give Your App an Unbeatable Edge*, n.d.-b).

8.Strategic Marketing Plan

8.1 Introduction

When the app is finished, you want your target audience to find it. But how will they discover your app and be convinced to use it? That's what a strategic marketing plan will help you find out. Below are the components of a marketing plan, with brief explanations. By investigating these points, you will create a successful marketing campaign.

8.2 Marketing Plan Template

- **Introduction**

You start with an introduction where you describe what the reason is you're making this marketing plan.

- **Market analysis**

To investigate whether your company has a chance in the market it is in, you must analyse the market.

To make this analysis, you make a SWOT-analysis. SWOT stands for Strengths, Weaknesses, Opportunities and Threats. To find out the Strengths & Weaknesses of your company, you conduct an internal analysis. To find out the Opportunities & Threats for your company, you conduct an external analysis.

- **Target audience**

You need to know your target audience for your campaign. You can have a primary and a secondary audience.

- **Marketing goals**

For your campaign it's essential that you know what you want to achieve.

Define these as SMART goals. SMART stands for Specific, Measurable, Attainable, Relevant and Time-bound.

- **Marketing Strategy**

For your strategy you describe your proposition.

A proposition is a statement in which you promise something to your target group.

- **Creative concept**

The creative concept packages your proposition into an idea that appeals to your target audience. To make the difference between proposition and creative concept more clear: the proposition is for yourself and your creative concept is how you bring it to the outside world.

- **Budget**

Before you decide which communication channels you will use, you have to define your budget. This differs from every company. When you think about the budget keep in mind how long you want the campaign to be (a campaign for 3 months has a different budget than one that is a year).

- **Marketing channels**

How will you reach your audience? There are a lot of channels you can use to reach your audience, a few examples below:

- Social media

- Newspaper
- Guerilla Marketing
- Flyers
- Radio

And there are many more, you have to decide what fits best with your target audience.

- **Feedback & evaluation**

It is important to provide feedback after the campaign on how the campaign went and what the results are. You can then take this with you for the next campaign.