

# Habitat - Case study

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# Project overview



## The product:

Habitat is an app that tracks pollution levels and the environmental disasters that take place in my hometown of Filiasi, Romania.



## Project duration:

November - December 2021



# Project overview



## The problem:

As cities develop the pollution levels increase. Combined with unfortunate events such as fires this will lead to us living in unsafe conditions without us not even knowing that the air we breathe or the water we drink might be contaminated.



## The goal:

The goal of the project is for the habitants of my hometown of Filiasi, Romania to be able to track the quality of the air and water in the area. Additionally, they will be able to report any environmental issues such as fires.

# Project overview



## My role:

UX Designer leading the app and responsive website design from conception to delivery.



## Responsibilities:

Conducting interviews, paper and digital wireframing, low and high fidelity prototyping, conducting usability studies, accounting for accessibility, iterating on designs, determining information architecture, and responsive design.

# Understanding the user

- User research
- Personas
- Problem statements
- Competitive audit
- Ideation

# User research: summary

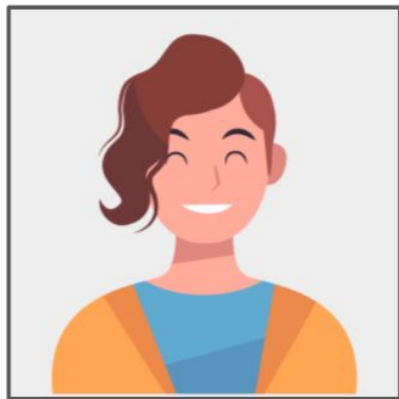


The research made very clear that users want to know how safe the environment they live in is and are willing to report environmental disasters if they had access to an easy-to-use tool to help guide them.

# Persona 1: Maria Ion

## Problem statement:

Maria Ion is a Nurse who needs a way to check the air quality of where she lives because she wants to make sure she will raise her child in a clean environment.



**Maria Ion**

**Age:** 29

**Education:** Degree in Arts

**Hometown:** Craiova, Romania

**Family:** Married, a child

**Occupation:** Nurse

*"I want my child to grow in a clean environment and be healthy."*

## Goals

- Make healthier choices when it comes to food and drinks
- Live in an area with clean air

## Frustrations

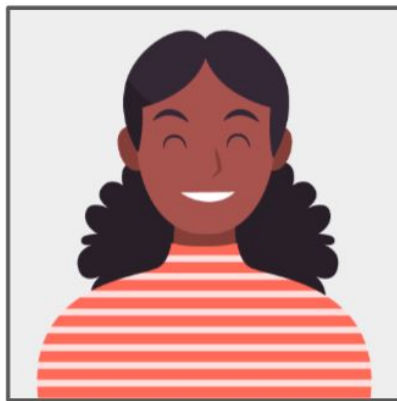
Maria is worried the air might be polluted because of the local plant and has no way of measuring the air quality.

Maria Ion is a nurse at the local hospital in their hometown Craiova, Romania. Since their first child has been born, she and her husband have been more careful with their choices when it comes to what they eat and drink. They are considering moving to a rural area to avoid for cleaner air.

## Persona 2: Name

### Problem statement:

Laura Johnson is Conservation Assistant who needs a way to get accurate real time data about the environment quality because this is the best way to prevent or contain any environment disaster that might occur.



Laura Johnson

**Age:** 28  
**Education:** College  
**Hometown:** Craiova, Romania  
**Family:** Parents  
**Occupation:** Conservation Asstn

*"We can't be everywhere all the time. We need to find a way to connect with the people and get information in real time."*

### Goals

- Laura wants to protect the environment
- Laura wants to find a way to get real time data from all over the country

### Frustrations

Laura is unhappy with the accuracy and reach of the current environment monitoring system.

Laura Johnson is a conservation assistant at the local branch of the Romanian Environment Ministry. Her job is to monitor and prevent any environment disasters that might occur. The biggest challenge she is facing at her job is being unable to collect accurate real time data from the field.



# Competitive audit

An audit of a few competitor's products provided direction on gaps and opportunities to address with the Habitat website.

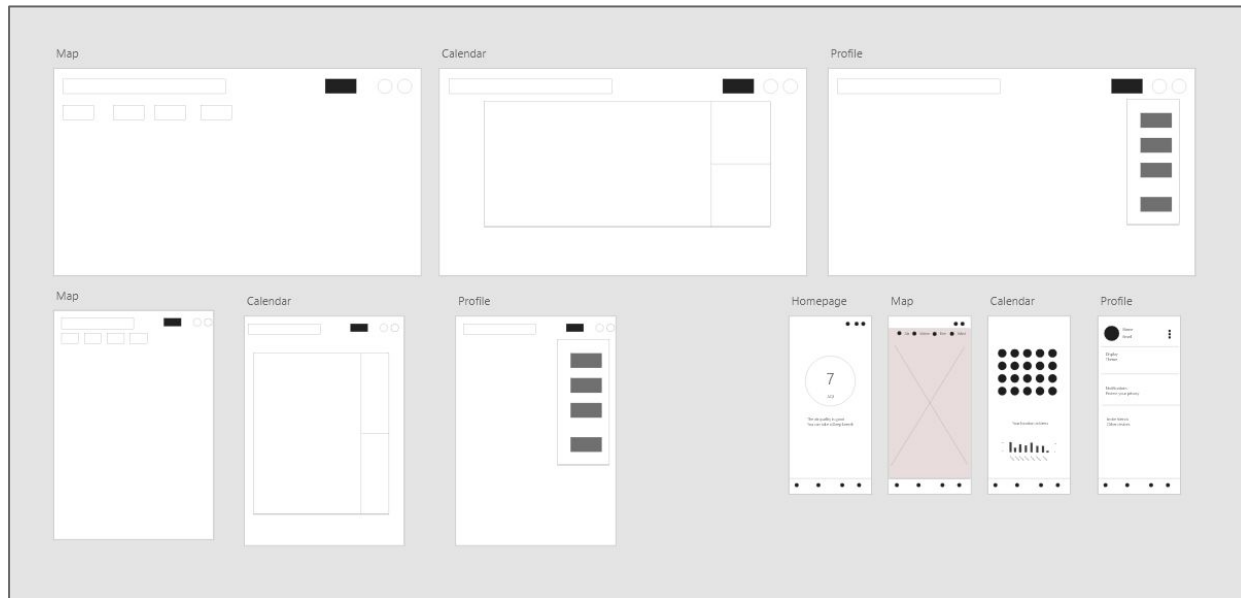
Competitive audit									
Competitive audit goal: Identify and understand the effectiveness of products and features currently used to track pollution levels and environmental disasters.									
	General information								First impressions
	Competitor type (direct or indirect)	Location(s)	Product offering	Price (\$ - \$\$\$)	Website (URL)	Business size (small, medium, large)	Target audience	Unique value proposition	<div>Desktop website experience</div> <div>App or mobile website experience</div>
Waqi	Direct	Web app	Website that tracks the Air Quality Index across the world in real time	\$	https://www.waqi.info	Small	Adults	"World's Air Pollution in real time"	<div><b>Needs work</b></div> <ul style="list-style-type: none"> <li>Detailed information about the air quality</li> <li>Lack of white space makes everything seem crowded</li> <li>Outdated design</li> </ul> <div><b>Okay</b></div> <ul style="list-style-type: none"> <li>Easy to navigate</li> <li>Lack of white space makes everything seem crowded</li> <li>Outdated design</li> </ul>
Pollution.org	Direct	Web app	Website that tracks air pollution, lead pollution and contaminated sites in real time	\$	https://www.pollution.org/	Medium	Polymakers and public alike	"It is time to put pollution on the map."	<div><b>Outstanding</b></div> <ul style="list-style-type: none"> <li>Detailed map with toggle buttons for various types of pollution</li> <li>Clear indication of clickable elements</li> <li>Clean design</li> </ul> <div><b>Good</b></div> <ul style="list-style-type: none"> <li>Responsive</li> <li>Mobile experience not as clean as desktop</li> </ul>
AirNow	Indirect	Web app	Website that tracks air pollution in the US	\$	https://www.airnow.gov/	Medium	Residents of the US	"Get air quality data where you live."	<div><b>Outstanding</b></div> <ul style="list-style-type: none"> <li>Easy to navigate</li> <li>Clean and simple design</li> </ul> <div><b>Outstanding</b></div> <ul style="list-style-type: none"> <li>Easy to use</li> <li>Fully responsive</li> </ul>

UX (rated: needs work, okay, good, or outstanding)				
Interaction				Visual design
Features	Accessibility	User flow	Navigation	Brand identity
<b>Outstanding</b> + Detailed information about air quality + Weather forecast + Multiple languages	<b>Okay</b> + Great use of visuals - Not equipped for screen reader tech	<b>Good</b> + Easy and intuitive use of the map + Mobile experience as good as desktop	<b>Needs work</b> + Simple menu - Lack of white space makes navigating the website difficult	<b>Needs work</b> + Use of many high quality images - Outdated design
<b>Outstanding</b> + Lead pollution indicator + Air pollution indicator + Pollution deaths + Contaminated sites + Google Translate integration	<b>Good</b> + Strong color contrast - Not equipped for screen reader tech	<b>Good</b> + Easy and intuitive use of the map	<b>Outstanding</b> + Straightforward navigation + Clear indication of clickable elements	<b>Outstanding</b> + Consistent brand design
<b>Okay</b> + Ability to check air quality, fires + Can sign up for email notifications - Is limited to the US	<b>Good</b> + Meets accessibility standards - Not equipped for screen reader tech	<b>Good</b> + Primary user flow is clear	<b>Good</b> + Clear navigation menu - Robust navigation menu might feel overwhelming	<b>Good</b> + Consistent brand design + Good use of visuals - Design is outdated

Click here to view the full [competitive audit](#) and [audit report](#).

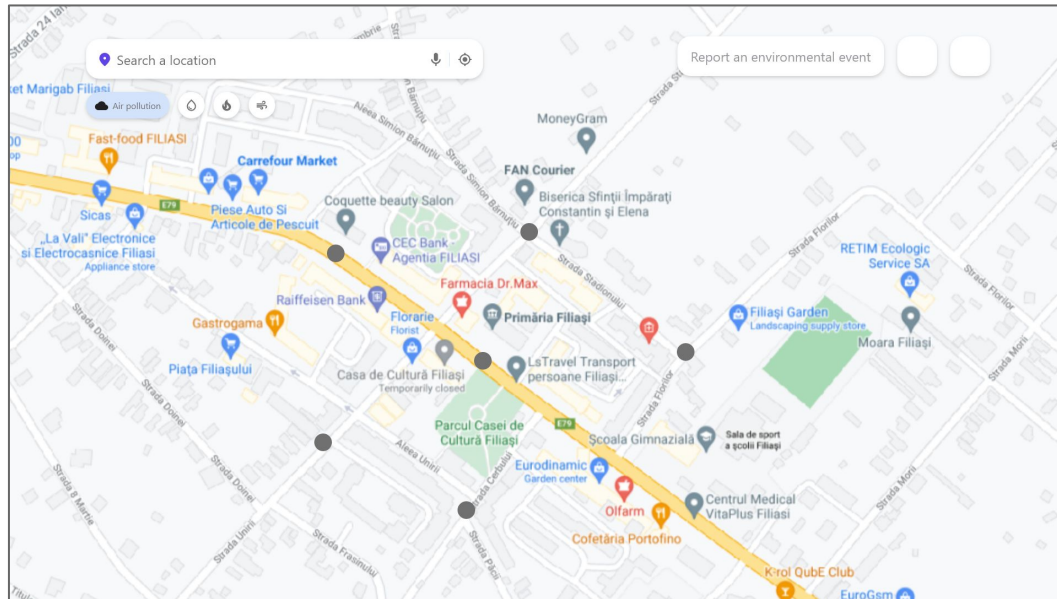
# Ideation

I did a quick ideation exercise to come up with ideas for how to address gaps identified in the competitive audit. My focus was specifically on an interactive map.



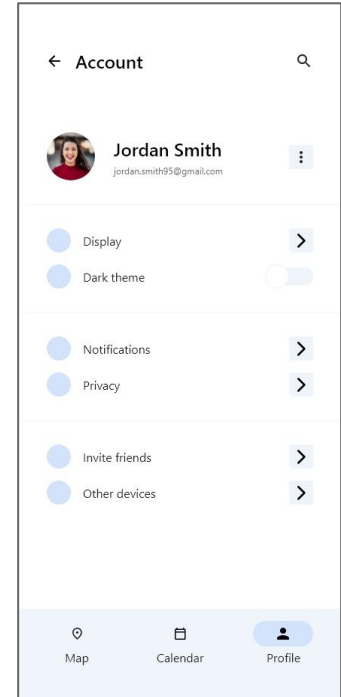
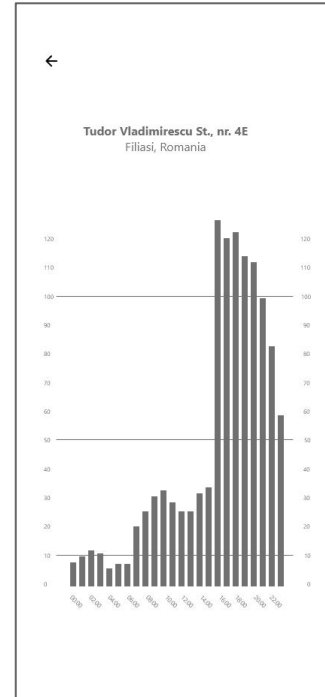
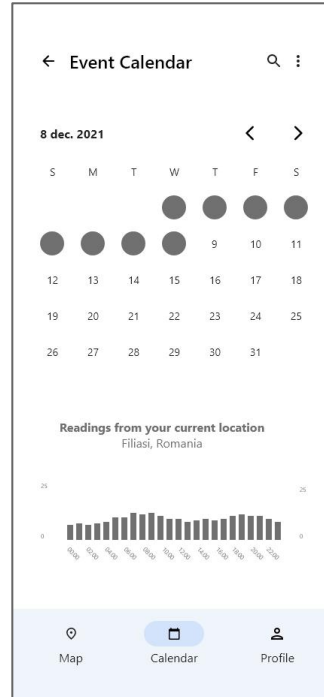
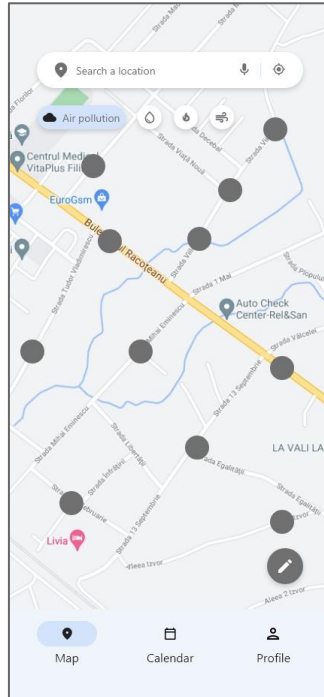


After ideating I created the initial designs for the Habitat app. These designs focused on delivering a way to filter the data and avoid overwhelming the users.



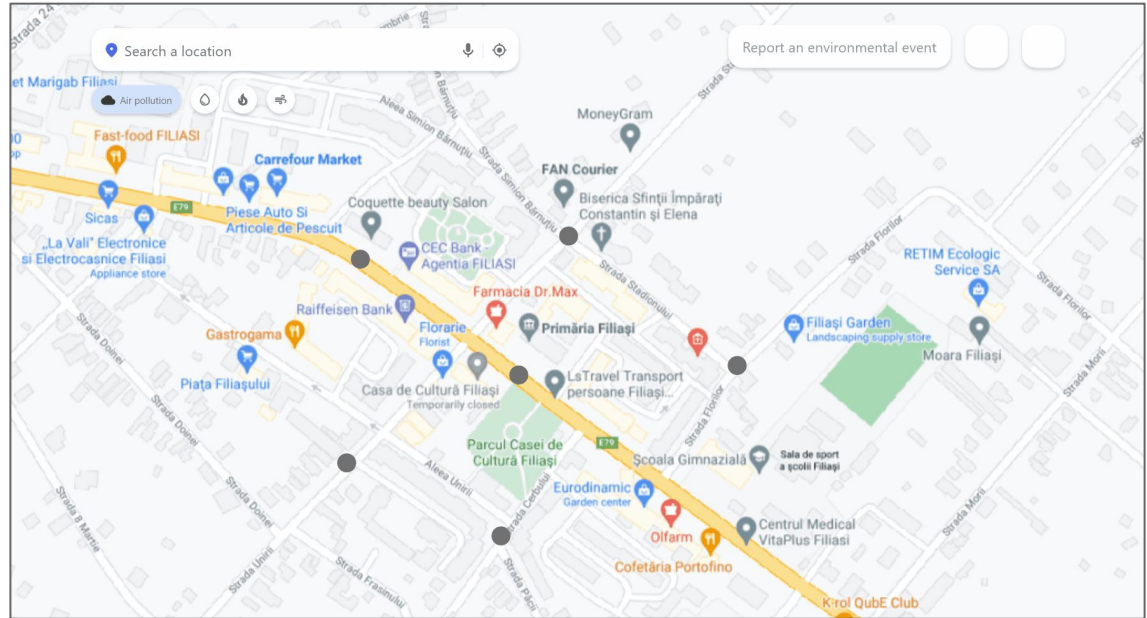
# Digital wireframes for the dedicated mobile app

The mobile app displays the same information as the desktop app, but with an interface more suitable for the smaller screen size.



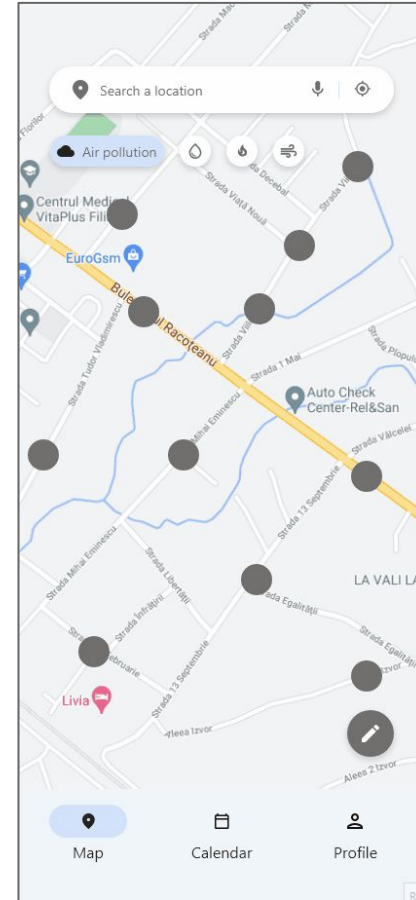
# Low-fidelity prototype

To prepare for usability testing, I created a low-fidelity prototype that displayed the overlays for the calendar and account.



# Low-fidelity prototype of the dedicated mobile app

The low-fidelity prototype of the dedicated mobile app displays the pollution data on the map. The calendar page displays a more detailed overview of the pollution levels.



# Usability study: parameters



## **Study type:**

Unmoderated usability study



## **Location:**

Wordwide, remote



## **Participants:**

7 participants



## **Length:**

30-60 minutes



# Usability study: findings

These were the main findings uncovered by the usability study:

1

## Finding

People want and easy way to find information about their current location.

2

## Finding

People preferred clear indication of how dangerous the pollution index is.

3

## Finding

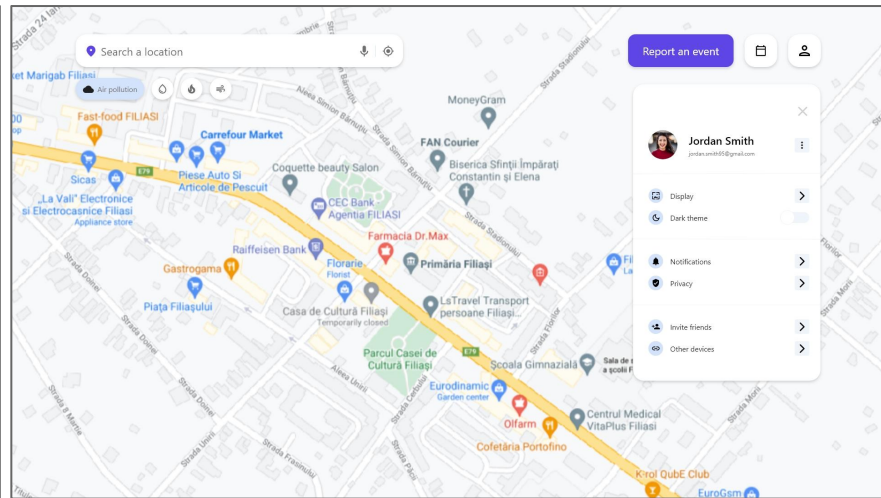
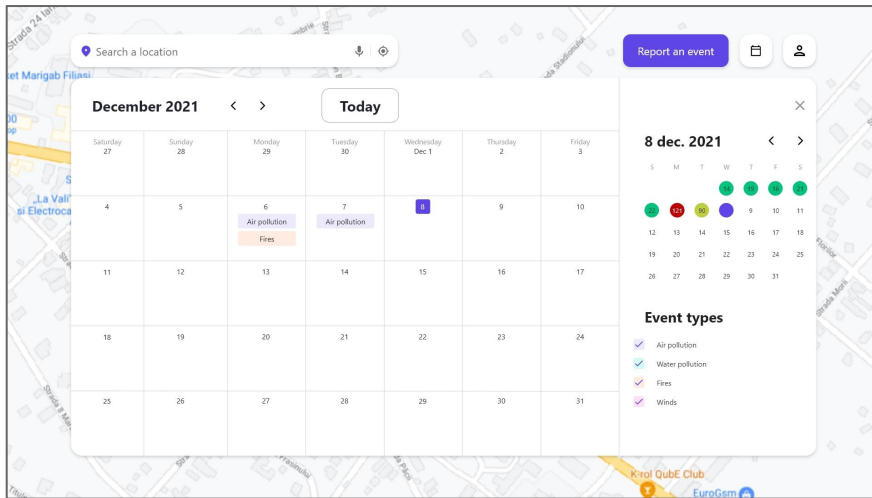
People preferred shorter type on the CTA.

## Refining the design

- Mockups
- High-fidelity prototypes
- Accessibility

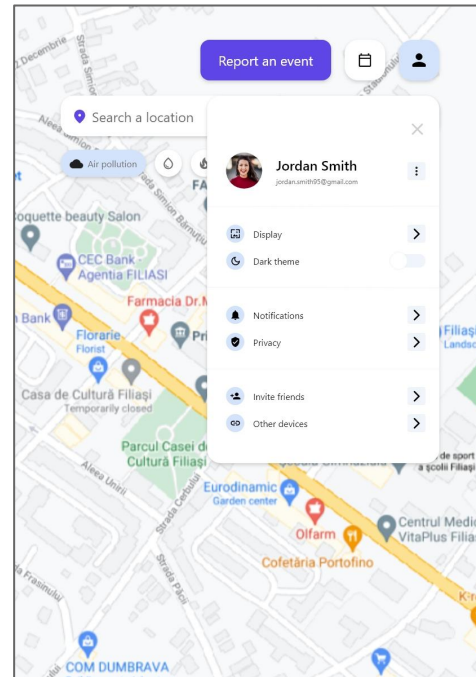
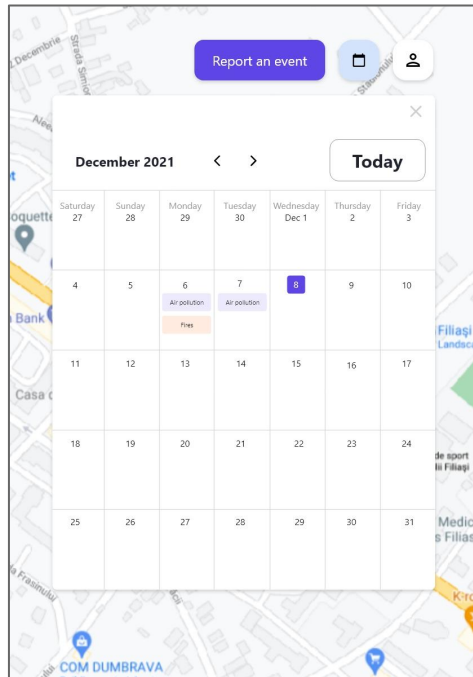
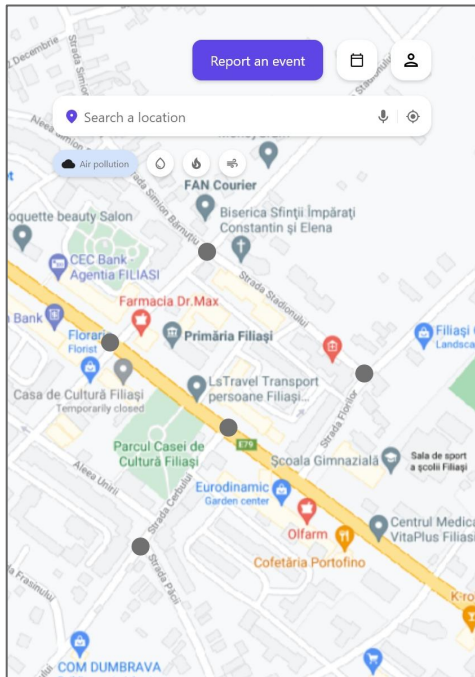
# Mockups

## Responsive desktop



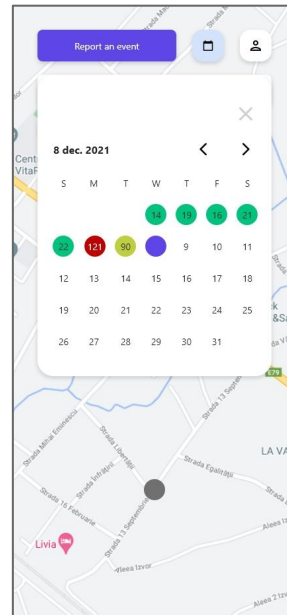
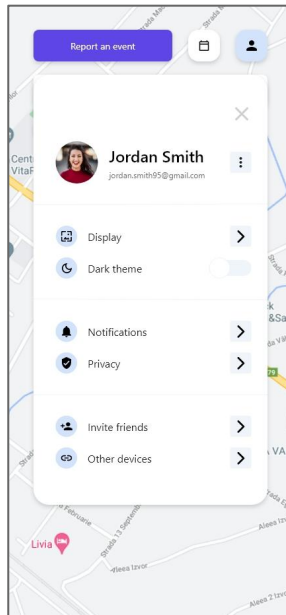
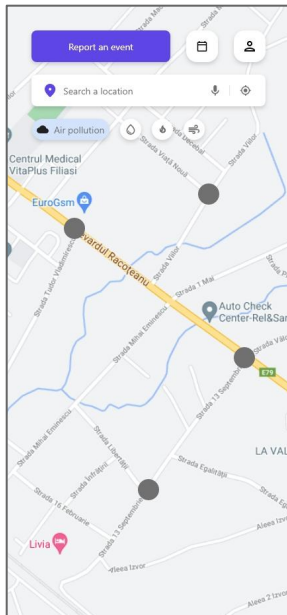
# Mockups

## Responsive tablet



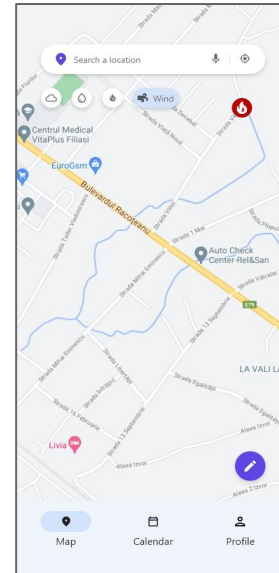
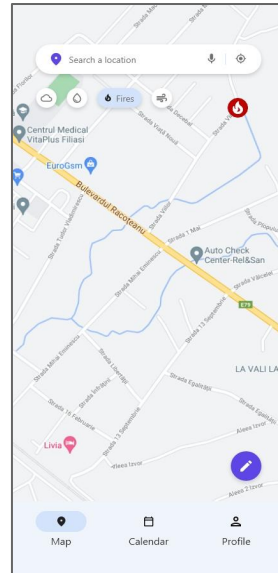
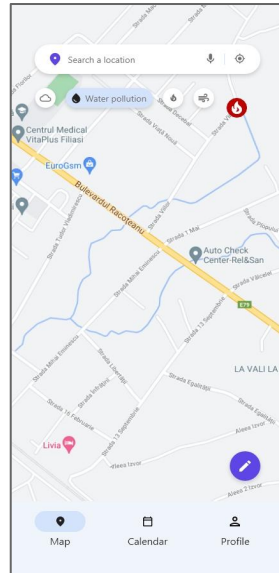
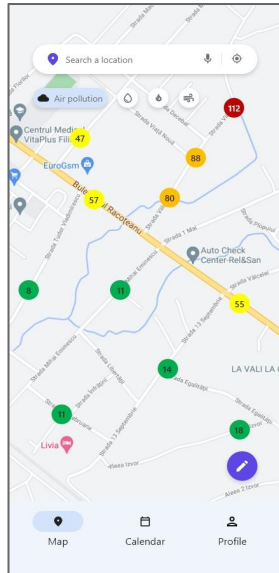
# Mockups

## Responsive mobile



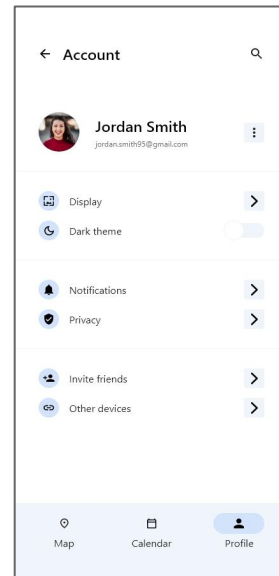
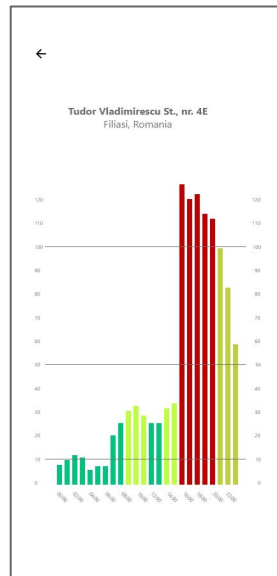
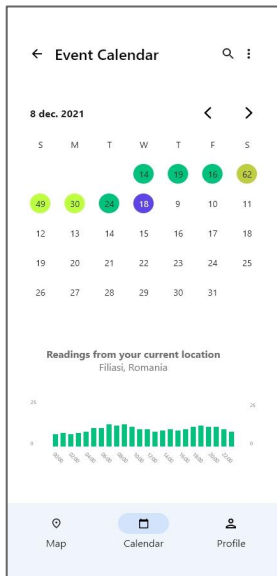
# Mockups

## Dedicated mobile app - Light mode



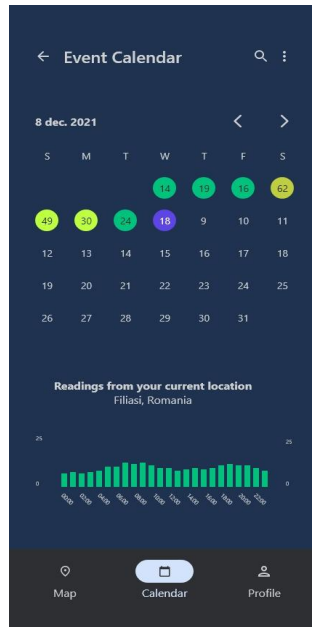
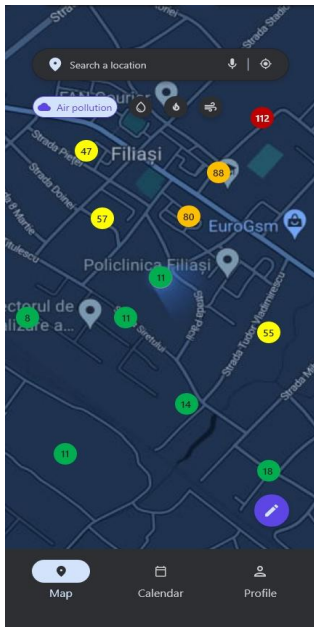
# Mockups

## Dedicated mobile app - Light mode



# Mockups

Dedicated mobile app - Dark mode

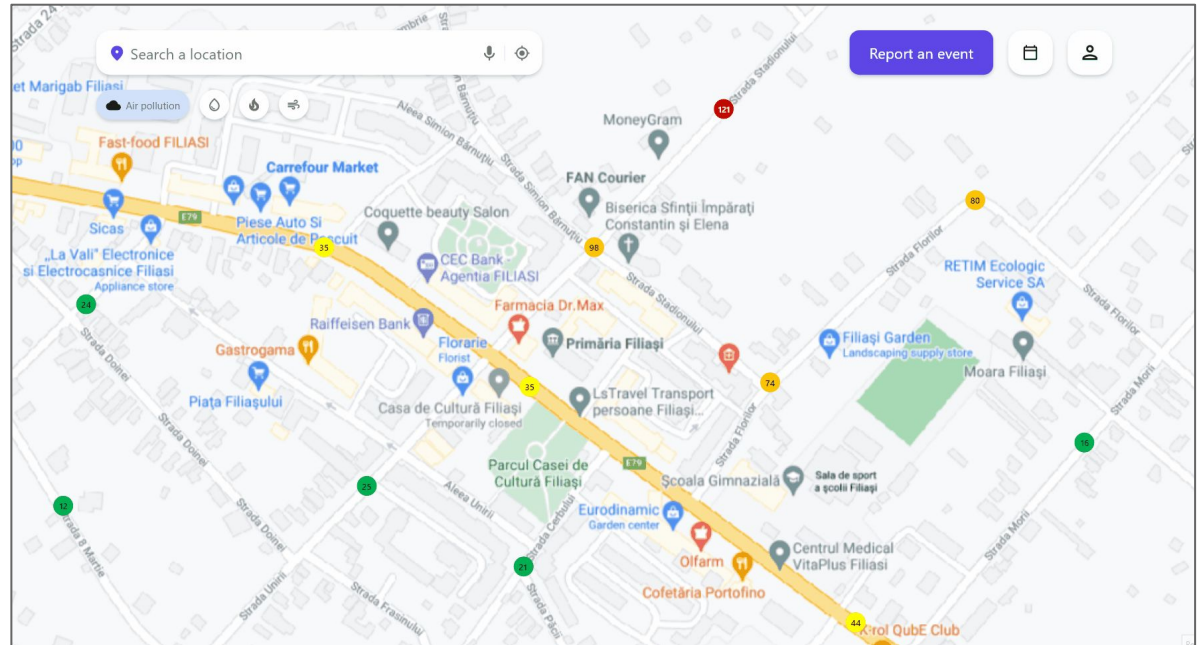




# High-fidelity Prototype of the Desktop app

The users can filter the types of pollution showed on the map, view the calendar for a more detailed overview of the events or change their settings in the account's overlay.

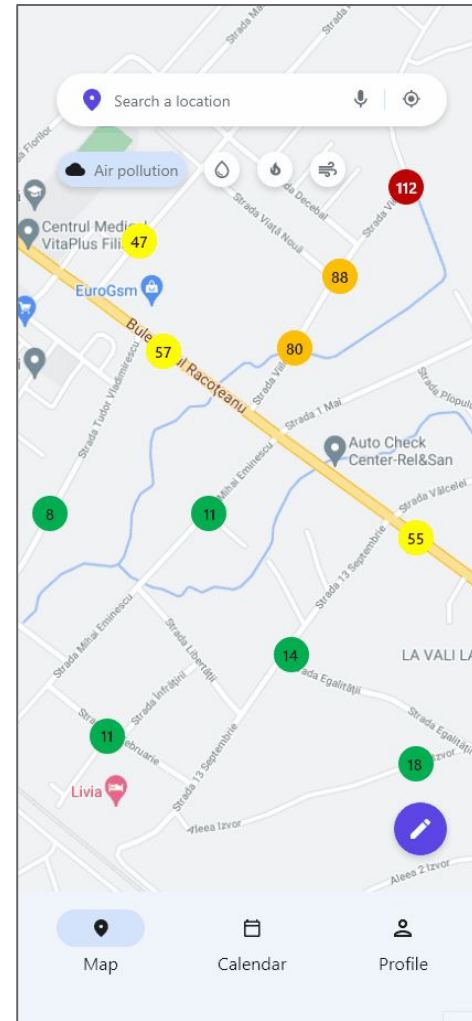
View the prototype [here](#).



# High-fidelity Prototype of the dedicated mobile app

The high-fidelity prototype of the dedicated app displays the pollution data on the map. The calendar page displays a more detailed overview of the pollution levels.

To view the prototype click [here](#).



# Accessibility considerations

1

Clear labels for interactive elements that can be read by screen readers.

2

The focus on the home screen help define the primary task or action for the user.

3

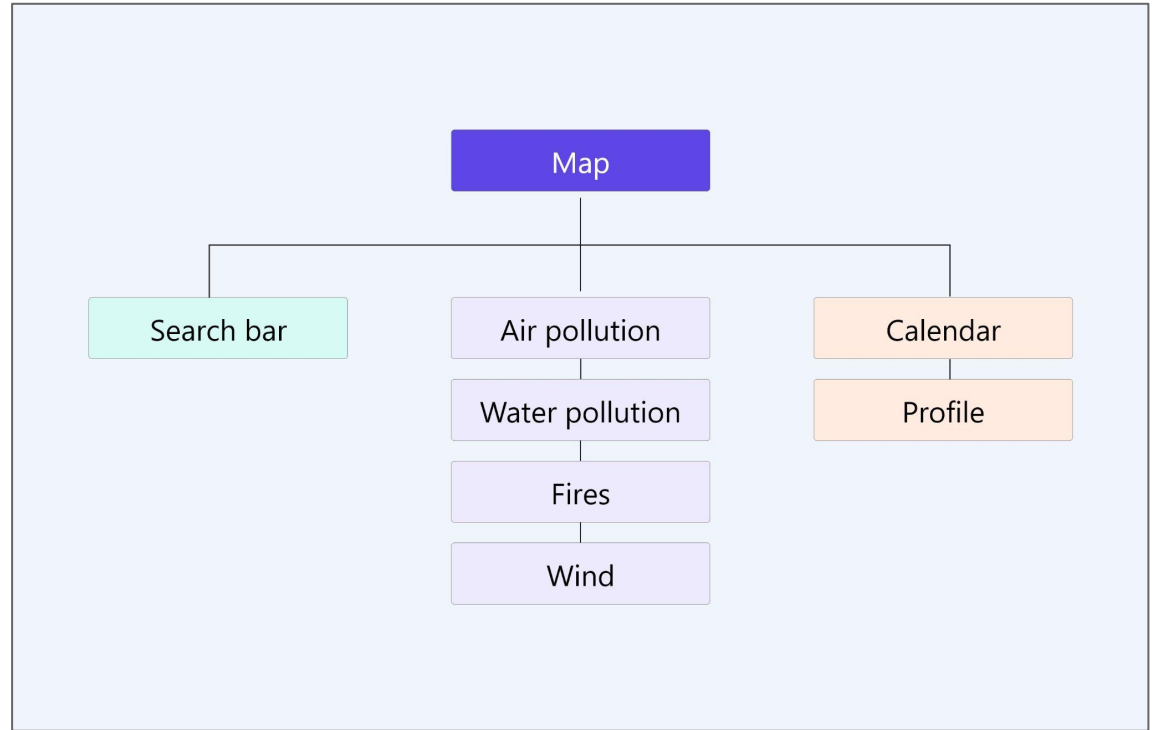
The speech-to-text feature allows users that can't use a standard keyboard fully use the functions of the search box.

# Responsive Design

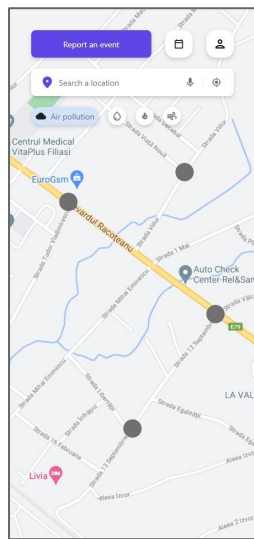
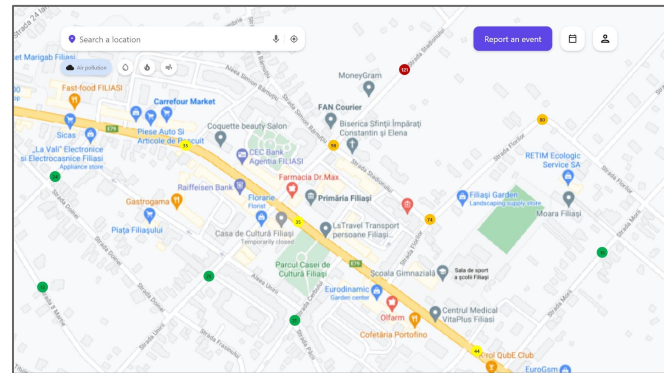
- Information architecture
- Responsive design

# Sitemap

I used the Habitat  
sitemap to guide the  
organizational structure  
of each screen's design  
to ensure a cohesive  
and consistent  
experience across  
devices.



# Responsive designs



## Going forward

- Takeaways
- Next steps

# Takeaways



## Impact:

Users shared that the app helped them better understand the health dangers they might be facing due to high pollution levels.



## What I learned:

I learned that even though the problem I was trying to solve was a big one, diligently going through each step of the design process and aligning with specific user needs helped me come up with solutions that were both feasible and useful.



# Next steps

1

Conduct research in how successful the app is in reaching the goal to keep the population informed about the pollution levels.

2

Add educational resources for users to learn how we can protect the environment.

3

Provide incentives and rewards to users for successfully reporting a potential environmental disaster.

# Let's connect!



Thank you for your time reviewing my work on the Habitat app! If you would like to see more or would like to get in touch, my contact information is provided below.