Introduction

Uber and accessibility

Since June 2010 Uber, an American company that provides services related to mobility, has been growing day after day in the most diverse areas such as health, food, distribution, etc. Always aiming for compliance and commitment to users who have different types of needs and perspectives, a value already used by the company, "Great minds don't think alike: Diversity makes us stronger".

Currently, with its long history as an accessible company, Uber collects very important solutions for the market. Among them is the partnership with Communication Service for the Deaf, the largest non-profit organization led by deaf people in the United States, where several deaf or hard of hearing partners received greater support with exclusive features of the application. Another solution is Uber WAV (Wheelchair Accessible Vans) which is a type of service offered by Uber to ensure that users with reduced mobility can request trips in an inclusive way.

What is Accessibility?

Accessibility can be defined as the possibility and condition of reach, perception and understanding for use, with this we can infer the concept proposed by UN Enable of PwD what is used to apply to all individuals with disabilities, encompassing those facing enduring physical, mental, intellectual, or sensory impairments that, in combination with various attitudinal and environmental obstacles, hinder their complete and equitable involvement in society. It's essential to note, however, that this non-exhaustive list of individuals eligible for protection under the Convention does not limit or impede broader definitions of disabilities under national law, including those pertaining to individuals with temporary disabilities.

According to CDC (Centers for Disease Control and Prevention), one in four American adults has some type of disability, most of them cognitive, such as Attention Deficit Hyperactivity Disorder (ADHD), dyslexia, autism, etc. Therefore, the target audience for our solution is people with cognitive disabilities, making it possible to include these people in the application.

Our product and ideas

Based on the previous context, available data, and solutions already implemented by other companies, our team designed and developed a redesign of the Uber app's interface.

Registration Interface

We thought about the idea of "**Before We Start**", a screen that will appear when registering asking if the user wants the accessibility settings. Afterwards, a screen will appear asking what would be the best accessibility option for the user, such as "Visually Impaired", "Native Talk-Back", "Simplified Interface" and "Color Blindness". For "Color Blindness", there are all options for the 4 types of color blindness.

Standard Application Interface

According to the configured accessibility option, the interface will fulfill its function for a better user experience.

Tags

Using Uber's data algorithm, drivers will receive tags relating to their accessibility performance. You will need the driver's travel history and all data related to the user's accessibility options. For example, if you have a driver who has a good history of carrying guide dogs in his car, then he will receive a recognition tag called Pet Friendly from the Uber system.

System of Rewards by tag

For each tag, there will be a bonus for recognition, as this accessible service requires more effort from the driver.

Impacts

As mentioned in Uber's Community Guidelines, respect and user safety are essential items on the platform, as well as following the laws. Therefore, our solutions involve reinforcing these important themes both for Uber and its business and for society.

This resulted in a more accessible layout and interface, as well as the creation of an experience aimed at providing greater comfort and confidence to users with disabilities (PwD) and neurodivergent individuals when interacting with drivers in their region with the system of tags.

New interface

With a new interface, users will have a much more friendly experience by avoiding any doubts about how to perform an action. Visually impaired individuals, for example, would have the option to increase contrast.

Tag System

With the implementation of the tag system, an extension of the evaluation features between users, the ride search system would become much more precise, after all, it would only find partners that meet the requirements of the tag selected by the passenger. Then they would have much more security, comfort and reliability during your waiting and traveling time, meaning you would not experience any unpleasant situations.

Furthermore, it would be an important incentive for partners to not only strictly follow the platform's community guidelines, but also feel encouraged to adapt their vehicles.

Impacts on Uber's business

Finally, it is important to highlight how Uber will be impacted as a company with changes like this:

1. Lawsuits: With partners duly following community guidelines and strongly encouraged to follow the law, Uber would avoid lawsuits, such as the one that occurred a few years ago due to wait rates, which affected PwD and Neuro Divergent Individuals[1]. This would also prevent partners from being suspended from the platform.
2. Greater audience reach: a greater number of users would be served, increasing the number of trips and profits, also increasing the value of the company's shares.

Implementation Plan

Roadmap

To produce a beta version of the solution our version should take between 90-120 days, taking into account that it would be necessary to go through a refactoring process of the existing product and counting on the fact that the entire idea is already mapped out.

Features

- Update of software requirements (Functional Requirements, Business Rules and Non-Functional Requirements);
- Prototyping - UX/UI;
- Define and update tables and relationships that will be added to the database;
- Front-end and back-end development of screens with new interface for the visually impaired
- QA(Quality Assurance)
- Alpha round bug handling
- Front-end and back-end development of Tag System and Additional data about the partner
- QA(Quality Assurance)
- Beta round bug handling

Goals

Version 1.0 - MVP (Minimum Viable Product)

- BD update
- Screens with new interface
- Alpha round of testing (closed testing)
- Feedback
- Handle implementation issues (documenting bugs and Dev´s fixes)

Version 1.1

- Tag System and Additional data about the partner
- Beta round of testing (open test for anyone who wants)
- Feedback - Collecting opinions from drivers and users
- Increased PwD user rate
- Feedback - Collecting feedback from drivers and users about updates
- Handle implementation issues (documenting bugs and Dev´s fixes)

Scalability

Technical factors

Considering the provision of services and online storage provided to Uber by Google and Opera, the scalability of the solution would be completely possible, both in a scenario of increased users and locations, because:

1. A change in the interface would be a one-time event, which, once implemented, would not bring other operating costs to the company;
2. Tags could be stored together with each user's data, after all, they are intrinsically linked to them;
3. The data to be displayed to passengers and partners would also be linked to each user.

It is important to highlight that both tags and data require cloud storage and services, and it is necessary to ensure that the infrastructure is ready to receive this slight increase in data flow.

Factors for expansion to other markets and audiences

Our solution would also be applicable on a global scale, in each of the more than seventy countries in which Uber operates. In the case of the data to be shown, it can remain in the same way, with the aforementioned adaptations to the infrastructure to increase flow.

To change the interface, it must be translated into the languages of each country. This may have a cost initially, but this cost would cease after implementing the solution.

Data and Projection of results

Important data and information

In order to prepare a projection of the results of our product, it is essential that we gather data, information and market trends.

According to data from the Center for Disease Control and Prevention (CDC), in 2021, it was estimated that there were 65 million people living with some type of disability in the United States. However, it is crucial that we direct our attention to the target audience: people with cognitive and visual disabilities. In this category, we identified that 29 million are cognitively impaired, while 12 million are visually impaired.

1. **Uber users** - Taking the last quarter of 2021 as a reference, we found that 118 million users were active on the Uber app;
2. **Statistical Analysis** - Among the total population of 331.9 million people in the United States, 35.5% were Uber users. Based on this percentage, we can infer that approximately 23 million of the population with disabilities can be or should be Uber users;
3. **Revenue per User** - In 2021, Uber had total revenue of US$17.46 billion, which resulted in an average earnings of US$148.00 per user.

Projection of results

Although the data refers to the year 2021, it forms a solid basis for our analysis.

1. **Estimate of Users with Disabilities** - We project that there are currently 10 million users with disabilities who regularly and actively use the Uber app;
2. **Projection for the last quarter of 2023** - Based on our growth baseline, we anticipate that during the last quarter of 2023, the number of users with disabilities will increase by at least 6 million each month;
3. **Reason for Growth** - This increase is based on the fact that 72% (equivalent to 16 million) of adults with disabilities have smartphones, making them potential Uber users;
4. **Estimated Gross Revenue** - Considering this projection, the estimated gross revenue for the mentioned period would be US$888 million (calculated as 6 million users x US$148.00 per user), excluding any amount related to advertising and public opinion.

Appendix

Extra information and mockups:
https://drive.google.com/drive/folders/1C_mw1Ltin7iEOsQsorN-pVVqeWdoYQ1n?usp=sharing
Prototype:
https://www.figma.com/file/cqfuZpIzFoPa5OIzbrkCkR/protótipo-final?type=design&node-id=0%3A1&mode=design&t=QIkb2xcDjYHXdElo-1