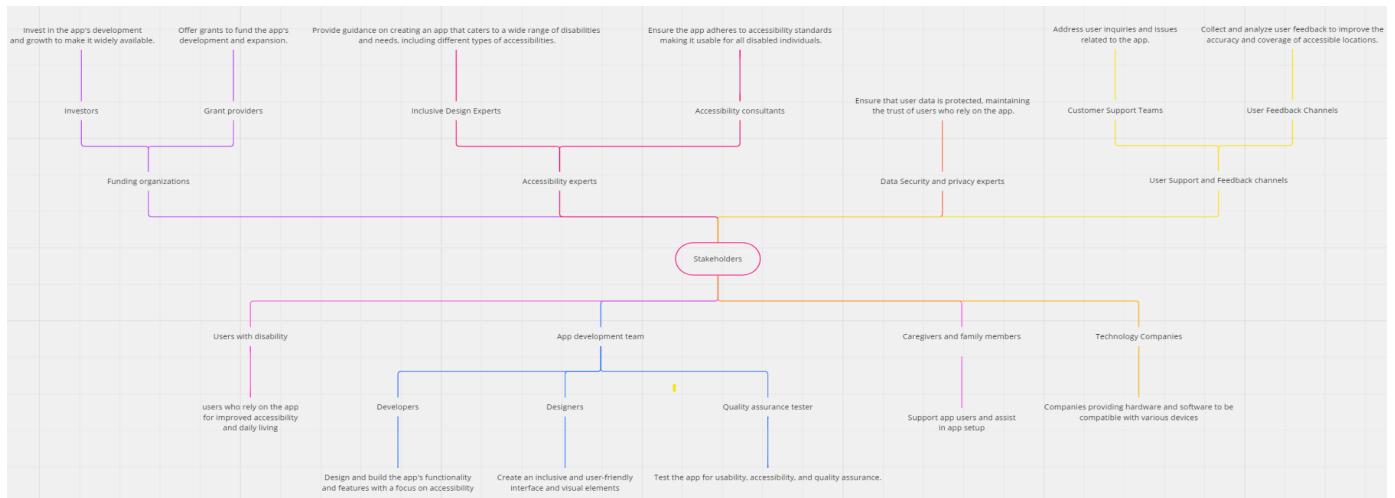
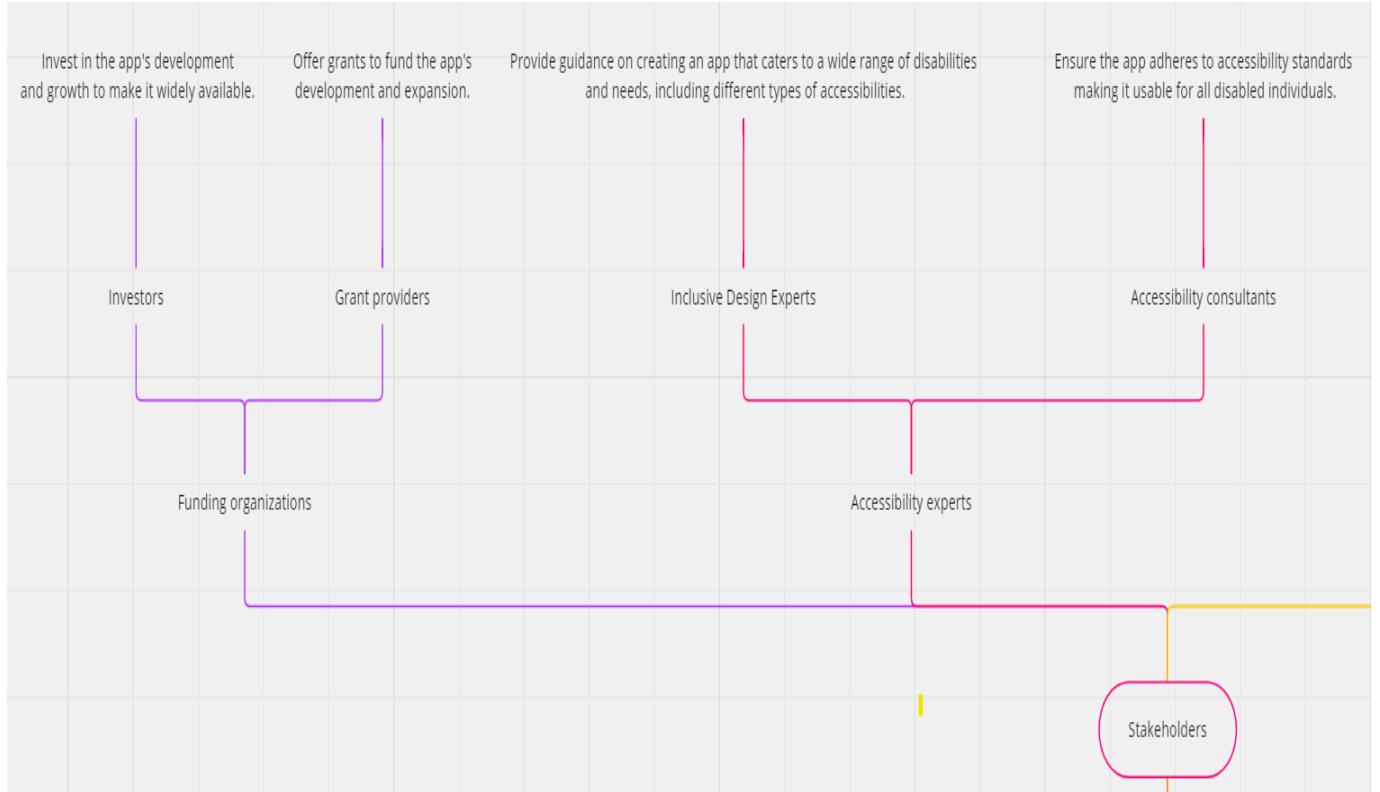


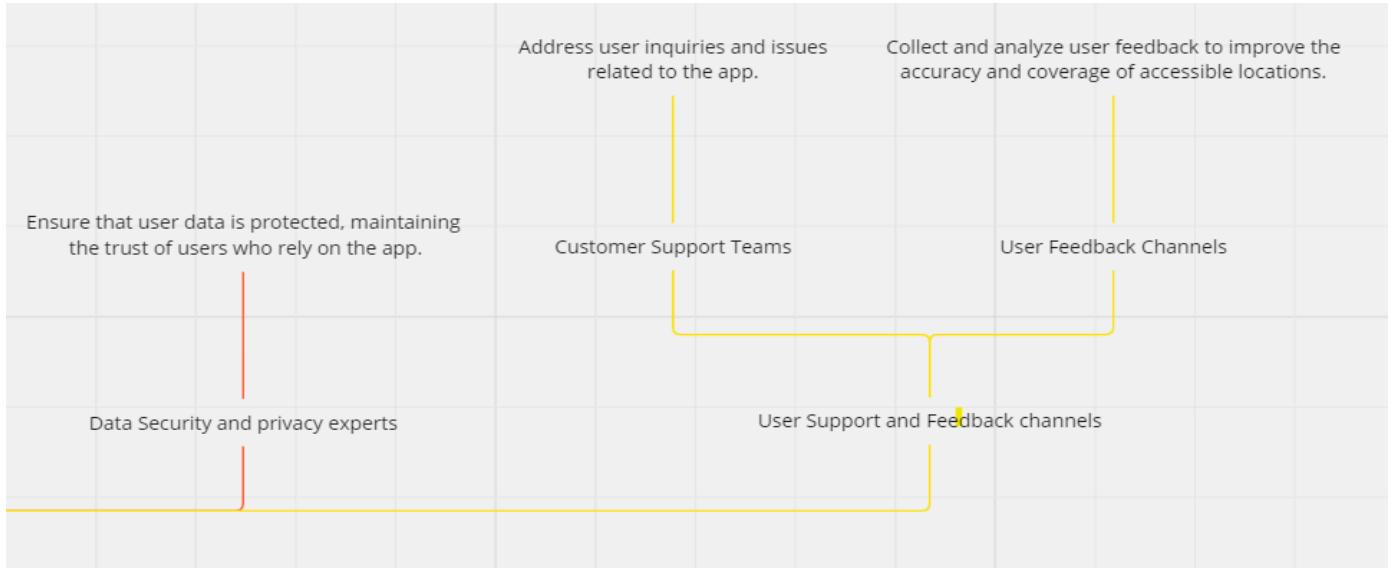
Requirement Gathering:



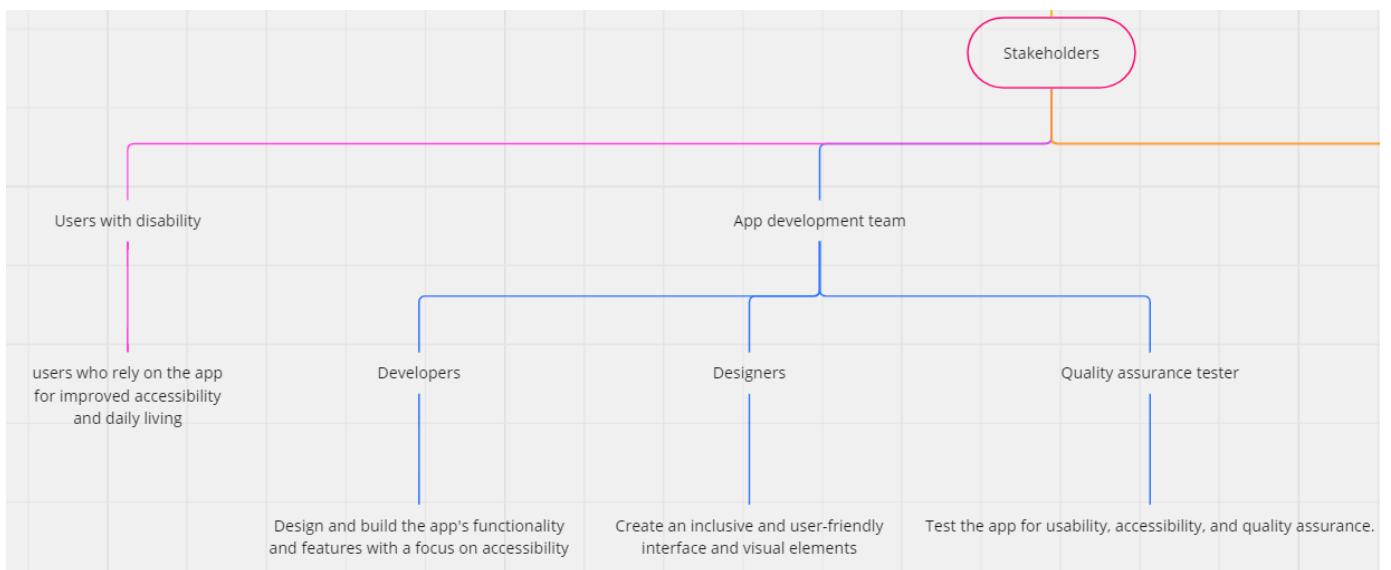
- 1) Accessibility Experts: Include Accessibility consultants and Inclusive Design Experts
- 2) Funding Organizations: Include Investors and Grant Providers



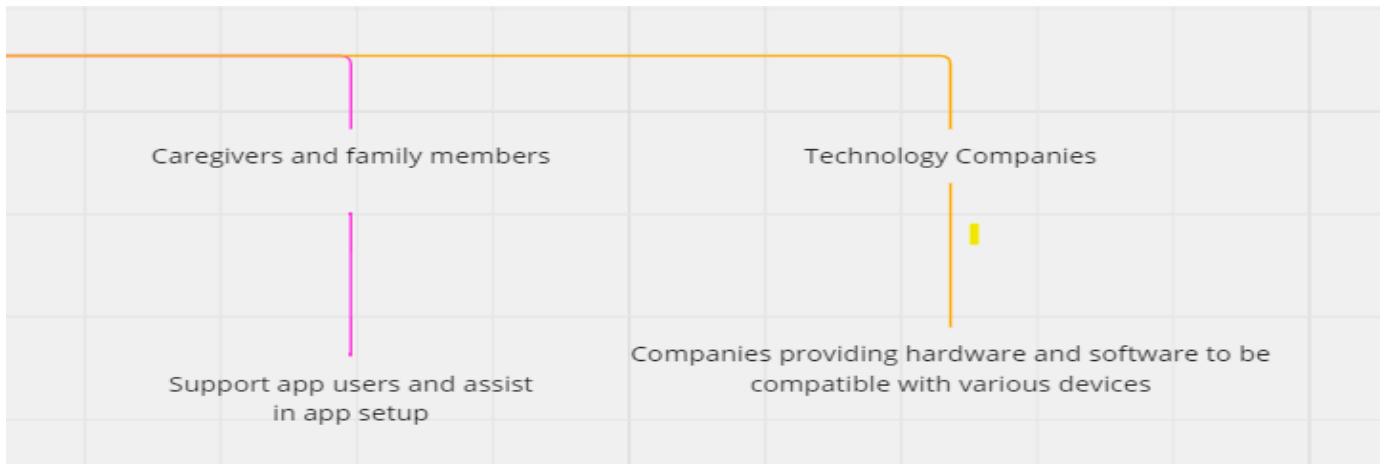
- 3) Data Security and Privacy Experts
- 4) User Support and Feedback Channels



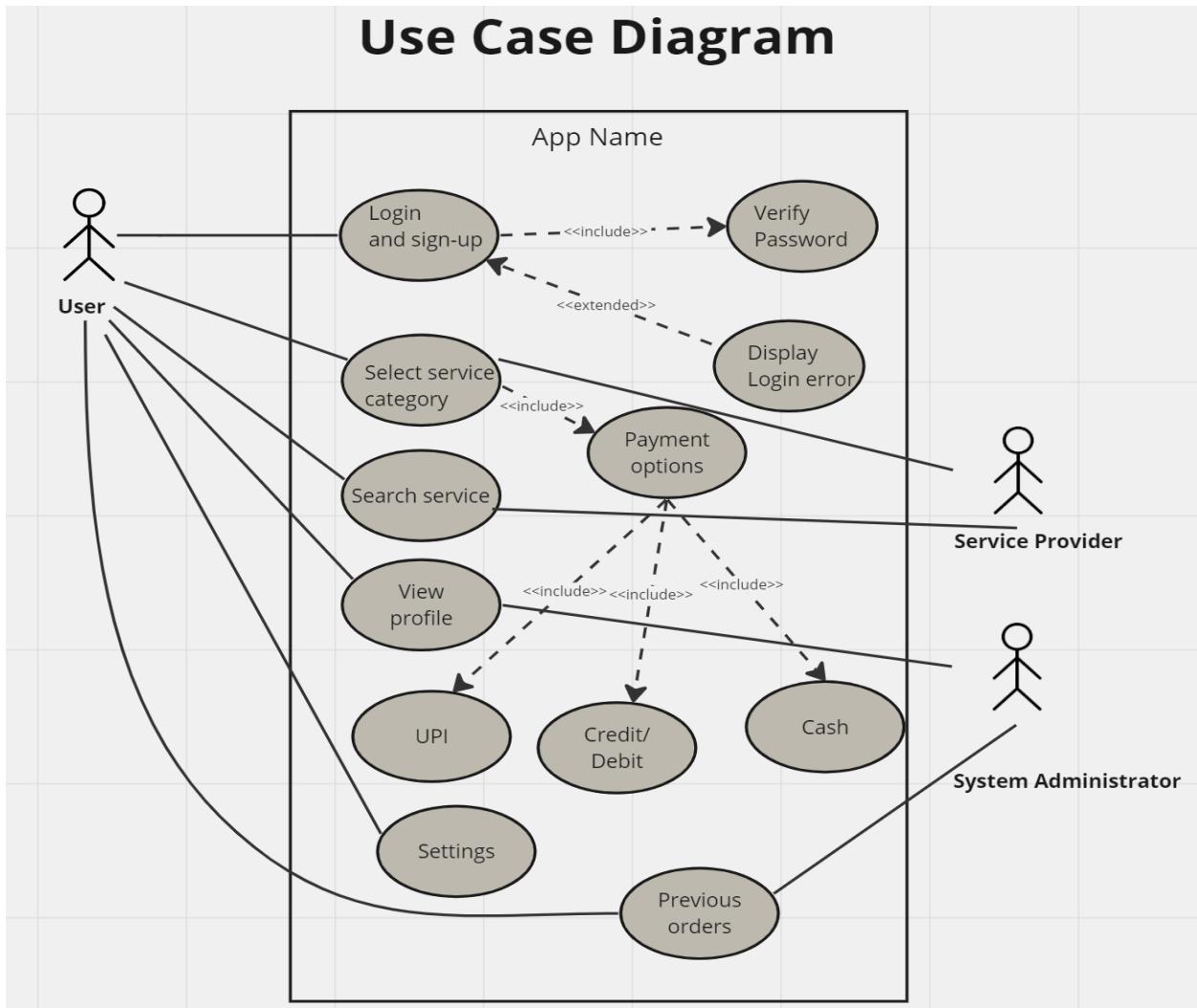
- 5) App Development Team: Include Developers, Designers, and Quality Assurance Tester
- 6) Users with Disabilities



- 7) Caregivers and Family members
- 8) Technology Companies



USE-CASE DIAGRAM:



Personas and Scenarios:

Personas

Energetic Ishan

Gender Male

Age 30

Location Bahadurgarh, Haryana

Marital Status Married

Education BCA



"In a world filled with noise, silence is a powerful statement."

About
Ishan is a dedicated office professional. He lives in Bahadurgarh with his parents and wife. He belongs to the middle class, so he works hard in order to be able to go up in life. He loves playing football with his friends and is also a curious individual. He does not let his hearing impairment come in the way of his work. His daily commute is a mix of cab rides and public transportation.

Goals

- He hopes for improved accessibility in public transport by including visual aids for his assistance.
- He strives to overcome communication barriers, especially during his commute.
- He aspires for public spaces to be more hearing aid friendly.

Frustrations

- Public transportation is challenging as it lacks accommodation for individuals with hearing impairments.
- He often faces communication barriers when in a cab, especially when cab driver does not know of his hearing impairment.
- Noisy public spaces often restrict his ability to move around effectively.

Resolute Rohan

Gender Male

Age 20

Location Mumbai, Maharashtra

Marital Status Unmarried

Education 2nd year B Tech



"Nothing can hold back a determined spirit."

About

Rohan is a determined college student living in Mumbai. He lives with his parents and sister. He loves to watch and play cricket. Despite being in a wheelchair, he leads an active and ambitious life. He uses public transport to travel to his college. His college years aren't just about education; they are a testament to his indomitable spirit, proving that disability cannot deter dreams.

Goals

- Aryan dreams of a Mumbai with universally accessible transport.
- He wants to be able to find wheelchair accessible places easily.
- He wants to promote inclusivity and awareness about disability, fostering a more empathetic and supportive public transportation environment.

Frustrations

- Unpredictable public transport schedules can lead to missed classes.
- He feels that it is hard to locate places that are wheelchair accessible.
- Insensitive fellow passengers and transit staff can be disheartening, as he encounters a lack of understanding and assistance.

Mrs. Gupta

Gender Female

Age 64

Location Delhi

Marital Status Married

Education High school graduate



"Age is no barrier to independence."

About

Mrs. Gupta, a senior citizen, lives in Delhi with her husband. Her children live in another state because of their work. She relies on the public transportation system to accomplish her daily chores like buying groceries and to meet her friends and family. Having lived here for decades, she has become an integral part of the community and her life revolves around navigating the complex Delhi transport network.

Goals

- Accessibility - She wants to see improvement in station accessibility with ramps and seating options for the elderly.
- Safety - Her ultimate goal is to feel safe and secure during her travels
- Comfortable commute - She hopes for a more efficient and less congested public transportation system.

Frustrations

- Overcrowded buses and trains - She finds public transport excessively crowded, leading to discomfort and anxiety.
- Safety concerns - She worries about safety issues on public transport, especially during evening journeys.
- Inadequate accessibility - Stations and buses lack senior-friendly facilities, making it difficult for her to board and alight.

Scenarios

1) Mrs. Gupta's Journey of Using the HandiMap App.

Mrs. Gupta is a well-respected senior citizen residing in the city of Delhi and, just like many other old people like her, has spent a lifetime walking through the intricacies of the city's public transportation system. She has gone through most of the hardship during all these years using public transport. Sadly, the journey is filled with frustrations and obstacles.

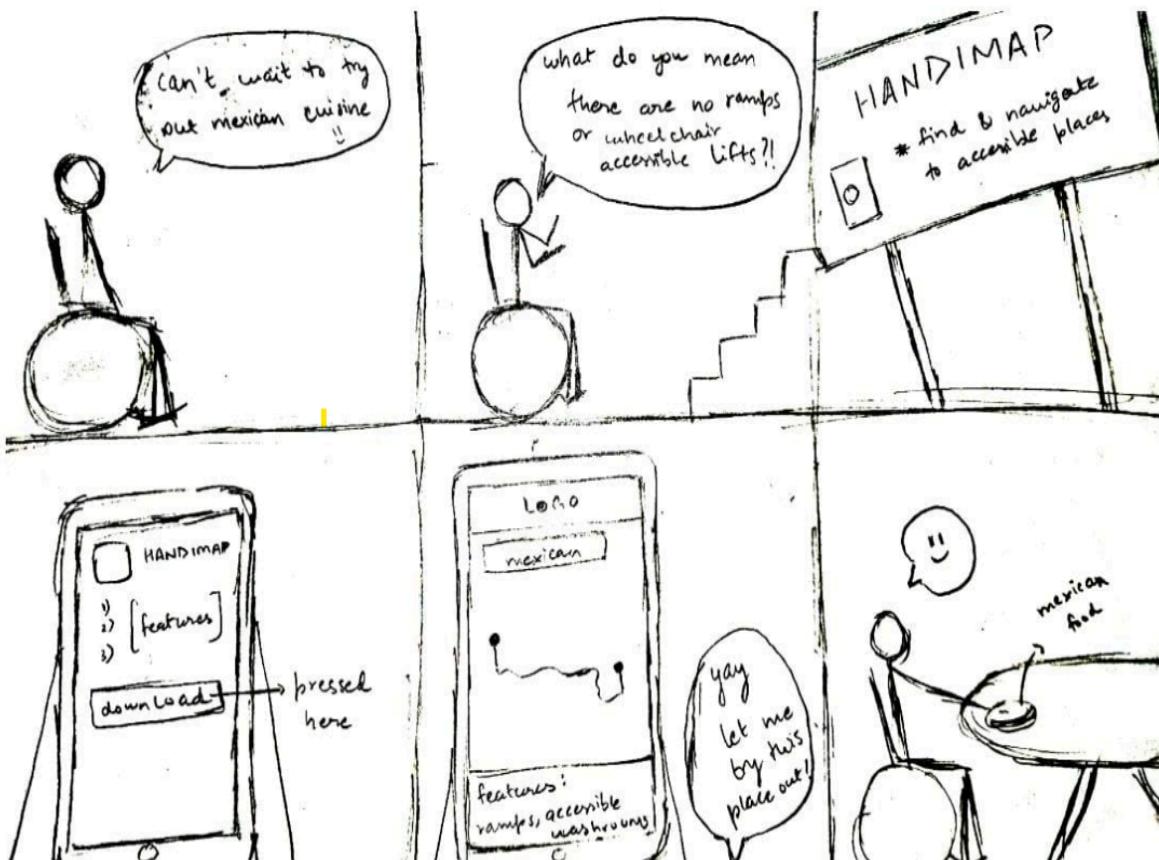
Mrs. Gupta, at 64, has seen Delhi evolve and change over the years. She is an integral part of her local community, as she was born and raised here. She and her husband have lived together since their child moved to another state. But still, her heart swells with pride for this city today, and Delhi's public transport system has constantly changed. The HandiMap app has become a beacon of hope for her, helping her achieve her goals of accessibility, safety, and a comfortable commute.

Like most people, One of Mrs. Gupta's primary consents was improved station accessibility. People like her suffer from physical limitations at her age, and ramps and seating options at stations have been vital to her. The HandiMap app has been a game changer as it provides people like her with detailed information about the accessibility of different public transportation stations, including the presence of ramps and seating options, making her feel confident to plan a journey. She can choose the most suitable stations, significantly reducing the physical strain she used to endure in the past. As she always undertakes evening journeys to meet people, safety concerns are there as she worries about her well-being on public transportation. For that, the app's "The Emergency Services " feature has provided her with a new sense of security. The app has become a lifeline for people like her as they no longer feel vulnerable during their evening journeys and can freely explore the city, spending time with their loved ones without needing someone to accompany them all the time. The app has also helped her in eliminating overcrowded public transport. The app's route planning feature has changed how she used to travel as It provides directions and suggests routes optimized for accessibility and comfort. Now, she can choose less congested roads from the information available on the app.

In summary, Mrs. Gupta's life has seen a positive change by using the HandiMap app in more ways than others. She feels more comfortable planning road trips, walking, and public transport. The app has empowered her to make decisions based on her choice, has empowered her to make informed decisions about her travel, and has instilled confidence and security. Her daily life has been more accessible than ever, and she feels more connected to her community. As for the future, we can only imagine the continued positive changes the app will have on senior citizens like Mrs. Gupta, ensuring they can continue enjoying their city and all it has to offer.

2) Rahul, a physically handicapped person's scenario of using HandiMap:

Scenario



1) Rahul, who hasn't ever tried out Mexican cuisine, was very excited as he made his way to a known Mexican restaurant.

2) But he reached there only to find out they have no ramps, accessible lifts or any other such facilities.

3) As he was going back home disappointed, he saw a billboard of the app HandiMap which has features to help find accessible places and businesses.

4) He decides to download the app HandiMap.

5) He used the app's navigation features to find directions to a nearby Mexican restaurant which has all facilities that he requires.

6) He used the app's specially abled cab calling features to reach the restaurant and was happy to finally try out the food.

Problem Understanding

Our app, HandiMap, aims to provide support to disabled individuals, which helps them become more independent and more likely to participate in various social activities. We have designed an app that helps find accessible businesses such as hotels, restaurants, public restrooms, etc. The problem it tackles is two-fold: first, the challenge of locating disability-friendly spaces in a world where such amenities are often scarce. Second, it aims to alleviate the mental and emotional burdens borne by disabled individuals due to societal exclusion, limited accessibility, and the reluctance to seek help. The app recognizes the diverse needs of its users and is motivated by the desire to provide a comprehensive solution to these challenges. HandiMap seeks to bridge the gap between disabled individuals and the welcoming, accessible world they deserve.

Not being able to find such businesses that have support and facilities for disabled folks is, unfortunately, a common problem amongst the community. We hope our app helps them overcome this issue to a certain extent.

Moreover, we have features such as text-to-speech, image-to-speech, etc. which is something many disabled people require on a day-to-day basis. With extra features such as an emergency medical help button and cab services for wheelchair users, we have attempted to design an app that would be a suitable companion for the disabled community.

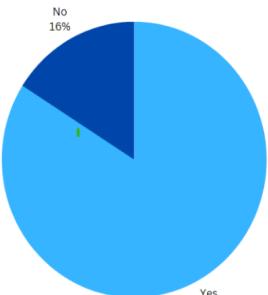
Target users and stakeholders: Our app's target user base is the disabled community. However, our stakeholders also include various other groups, such as medical experts, accessible business owners, cab services, etc. As shown above, in the requirement gathering, our app would include features that not only cater to the needs of disabled folks but also ensure all stakeholders are satisfied. Medical professionals and experts serve as invaluable contributors to the HandiMap application. Their involvement ensures that the app is well-informed about the specific medical and accessibility needs of individuals with disabilities. They provide insights into the unique requirements of different conditions, enabling the app to recommend the most suitable places and accommodations.

Cab service workers are crucial partners in HandiMap's mission. They play a pivotal role in facilitating transportation for individuals with disabilities. By collaborating with cab services, HandiMap can provide real-time access to accessible transportation options, ensuring that users can easily reach the recommended disability-friendly locations. This partnership enhances the overall mobility and convenience of the app's users, further reinforcing its commitment to improving the lives of those with disabilities.

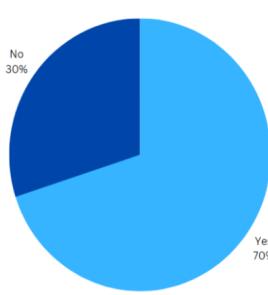
Low-Fidelity Designs



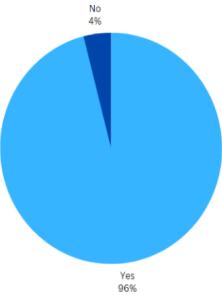
Low-Fidelity Testing and Testing Methodology



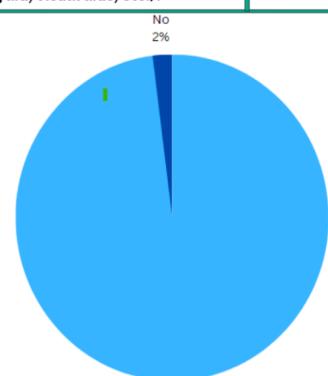
Do you use an aid(wheelchair, hearing aid, visual aids, etc.)?



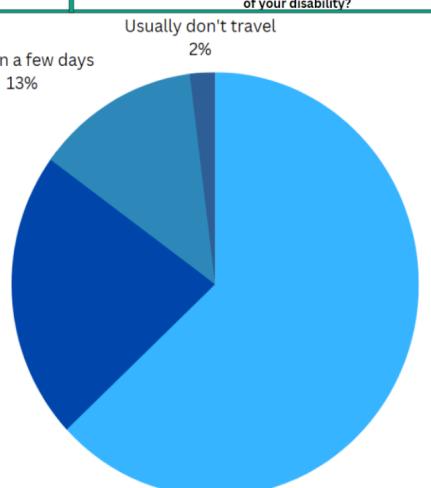
Are you able to use your aid yourself without external help?



Do you find it challenging to locate places near you that are friendly/convenient for you in terms of your disability?



Would you use an app that provides you with a list of accessible and handicap/disability-friendly zones/places near you?



How frequently do you travel outside?

Visual disability(Dyslexia, Permanent Blindness, Cataract, Diabetic retinopathy, Macular degeneration, Glaucoma)

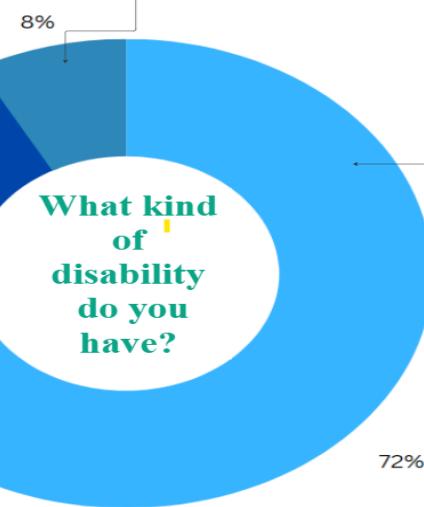
Auditory disability

20%

What kind of disability do you have?

Limb impairment/ Physical Handicap/ Poor motor skills

72%



Surveys:

Hey everyone! Welcome to our survey. This survey is for our project on our app named - "HandiMap". Please fill out this form to share your experiences and opinions on HandiMap.

Problem Statement:
Disabled people need a way to find accessible and handicap friendly zones around them, especially public areas such as washrooms, parking spots, restaurants etc. because it is frustrating and irritating to spend a lot of time looking for zones/areas catering to their needs, which can cause disheartenment and dispiritedness.

Background and Motivation:
Disabled people have different needs and requirements such as ramps, wheelchairs, braille, parkings, accessible restrooms guides, text-to-speech features, cab-services. Unfortunately, not a lot of public

Low-Fi Prototype Survey for HandiMap

The rating will be on a scale of 1-5:

1 : Poor
2 : Bad/ Below Average
3 : Average
4 : Good/ Above Average
5 : Very good/ Amazing

akshat23060@iiitd.ac.in [Switch account](#)

Not shared

* Indicates required question

services. Unfortunately, not a lot of public spaces offer such accessible sections, hence, it gets difficult to locate these spaces using only search engines, asking people, etc. To tackle this, our app helps the user to locate various such places and provide the users with a database of recommended places and a multitude of other features including text-to-speech, image-to-speech, other visual-audio aids, etc.

Our team decided on this specific userbase because we realized that disabled people deserve to have the same sort-of facilities that abled-people do. Societal exclusion and isolation leads to a path of low self-esteem, dangerously impacting their mental health and well-being. Transportation issues, communication barriers, limited accessibility, all sum up to disabled people not wanting to ask others for help and needing a tool to navigate through life's challenges and hardships. A tool which we provide in the form of our app.

The HandiMap app aims to address the pressing issue of accessibility for individuals with disabilities, with a focus on improving their daily lives by providing a list of accessible and disability-friendly places nearby. This summary discusses the key findings from a survey conducted to gauge the need for such an app and the motivation behind its development.

Survey Findings:

Google Form – <https://forms.gle/UAfyenEB8FwpELEW6>

Use of Aids: The survey began by assessing whether respondents used aids like wheelchairs, hearing aids, or visual aids. An overwhelming 84% of respondents indicated that they did rely on these aids in their daily lives, while 16% did not require any aids. This statistic emphasizes the prevalence of disabilities in the surveyed population.

Independence with aids: Of those who used aids, 70% reported that they could use their aids without external assistance, highlighting a degree of self-sufficiency. However, 30% still needed help to use their aids effectively, emphasizing the continued need for assistance in some cases.

Accessibility Challenges: A staggering 96% of respondents expressed difficulty in finding places near them that catered to their specific disability needs, such as accessible restrooms, parking spots, and restaurants. This underscores the critical issue of accessibility in public spaces and the frustrations experienced by disabled individuals when seeking these facilities.

Interest in Accessibility App: An astounding 98% of respondents indicated their willingness to use an app like HandiMap that provides a list of accessible and disability-friendly places nearby. This near-unanimous interest highlights the strong demand for technology-based solutions to address accessibility challenges in daily life.

Frequency of Travel: The survey also inquired about respondents' travel habits. The majority (63%) reported traveling outside their homes once a day, while 22% did so twice or more daily. This data indicates that individuals with disabilities frequently engage with the outside world and thus need accessible and friendly spaces during their daily travels.

Conclusion:

The HandiMap app survey findings underscore the critical need for accessibility solutions for disabled individuals. The overwhelming interest in an app that simplifies the process of finding disability-friendly places demonstrates the pressing demand for such technology. The app's development is grounded in the noble mission of empowering individuals with disabilities, improving their quality of life, and promoting inclusivity in public spaces. HandiMap has the potential to be a game-changer for those who have long struggled to find accessible and friendly places, offering a much-needed beacon of hope and assistance in their daily lives.

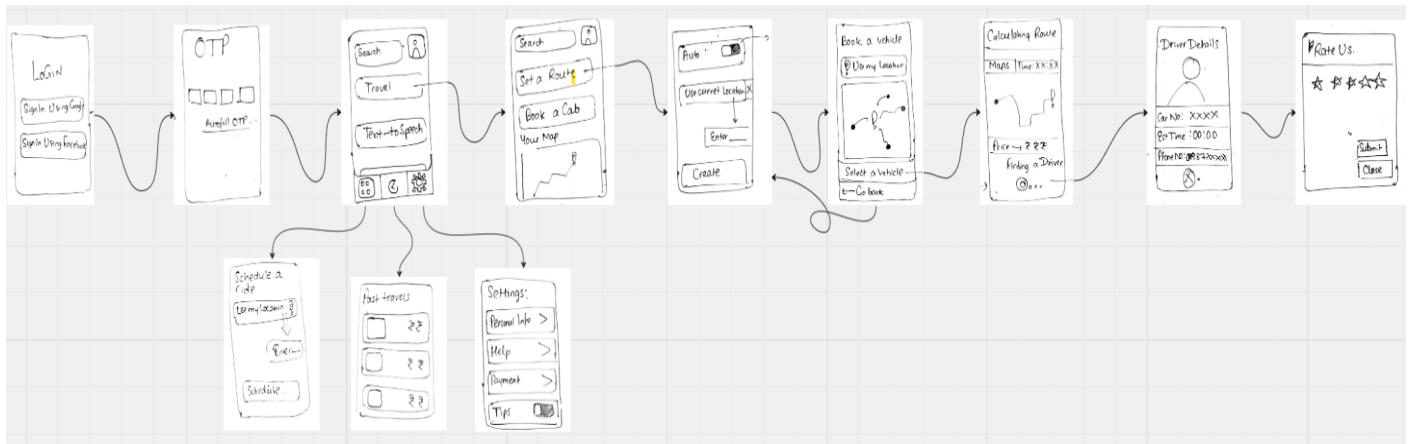
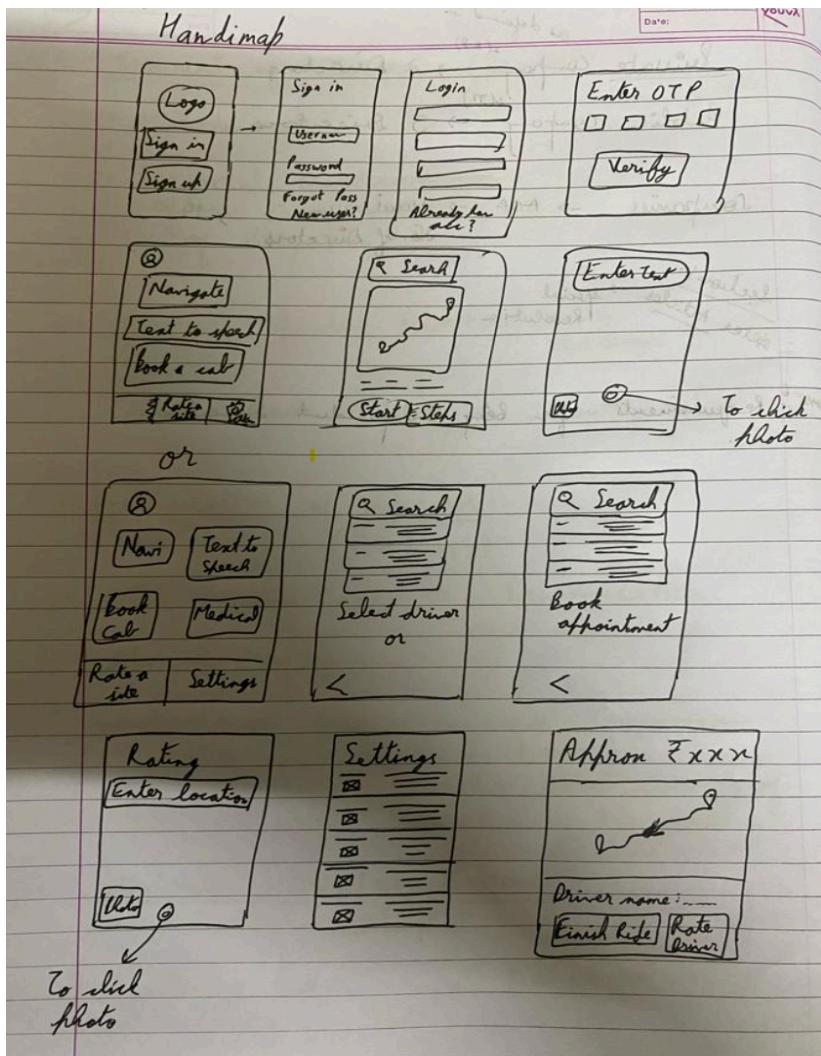
In conclusion, the HandiMap app stands as a beacon of hope, a technological marvel with the power to illuminate the path of inclusivity and accessibility. Its creation embodies a profound commitment to improving the lives of those with disabilities, offering them a brighter, more inclusive future.

We took another Google Form survey to find the most suitable Low-Fi Prototype for our app.

<https://forms.gle/dKA7KG8LKz5dsMYY7>

The findings and the survey made us conclude our Prototype as the one mentioned above in Low-Fi Designs.

Alternate Designs



Alternate Logos:



Contributions

Requirement Gathering:

- 1) Mindmap by **Aditya**
- 2) Use-Case Diagram by **Aakash**

Personas: By **Abhinav**

Scenarios: By **Aman** and **Anouska**

Problem Understanding: By **Anouska** and **Akshat**

Low-Fi Designs: By **Anouska**

Low-Fidelity Testing and Testing Methodology: By **Akshat**

Surveys and Survey Findings: By **Akshat**

Observation, Summary and Conclusion: By **Akshat**

Alternate Design: By **Abhinav** and **Aman**

Logo and Alternate Logos: By **Akshat**

Compiling and Editing: By **Akshat** and **Anouska**