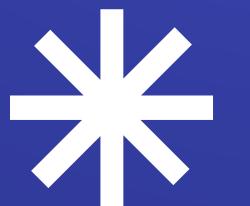
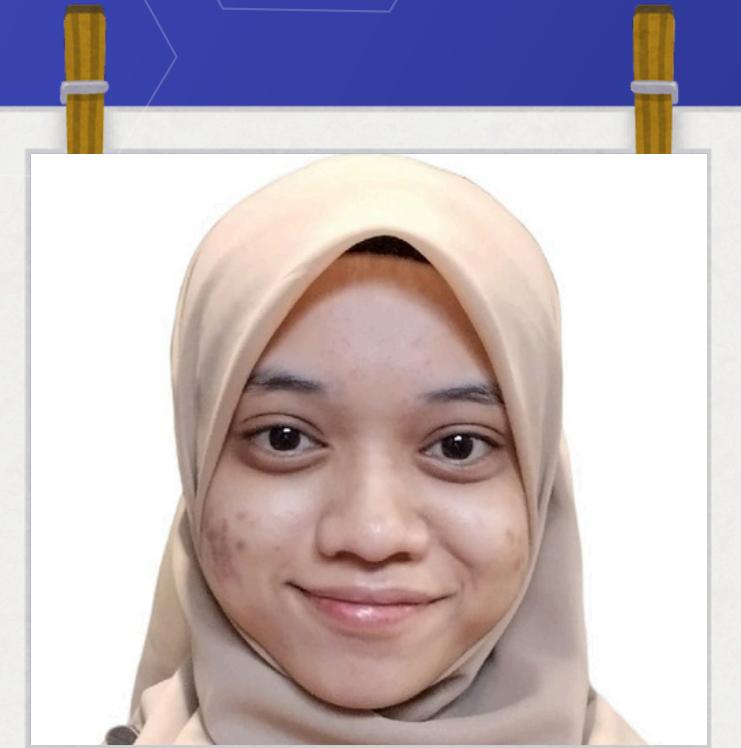


DESIGN THINKING REPORT

BY GROUP 7



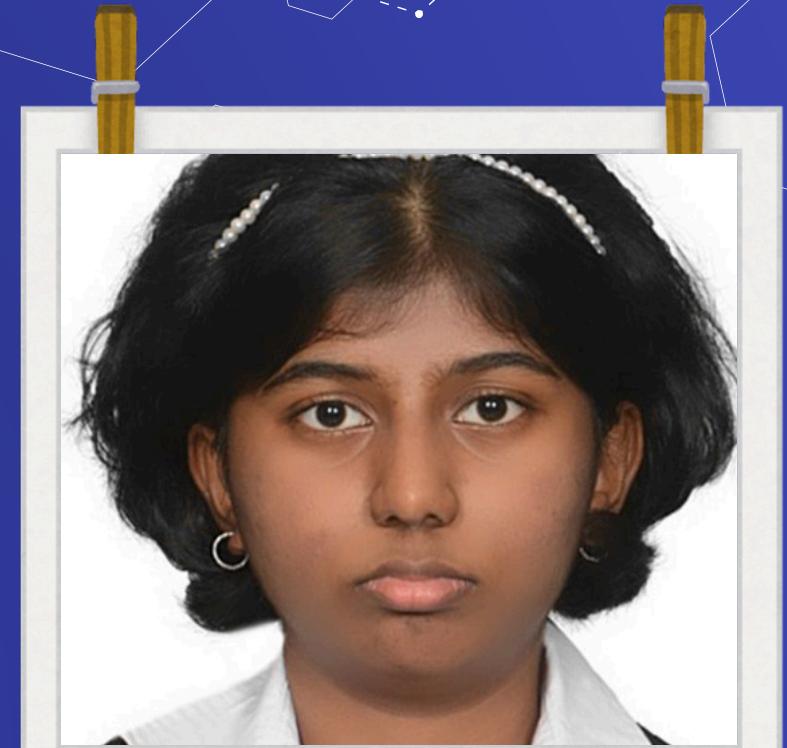
OUR TEAM



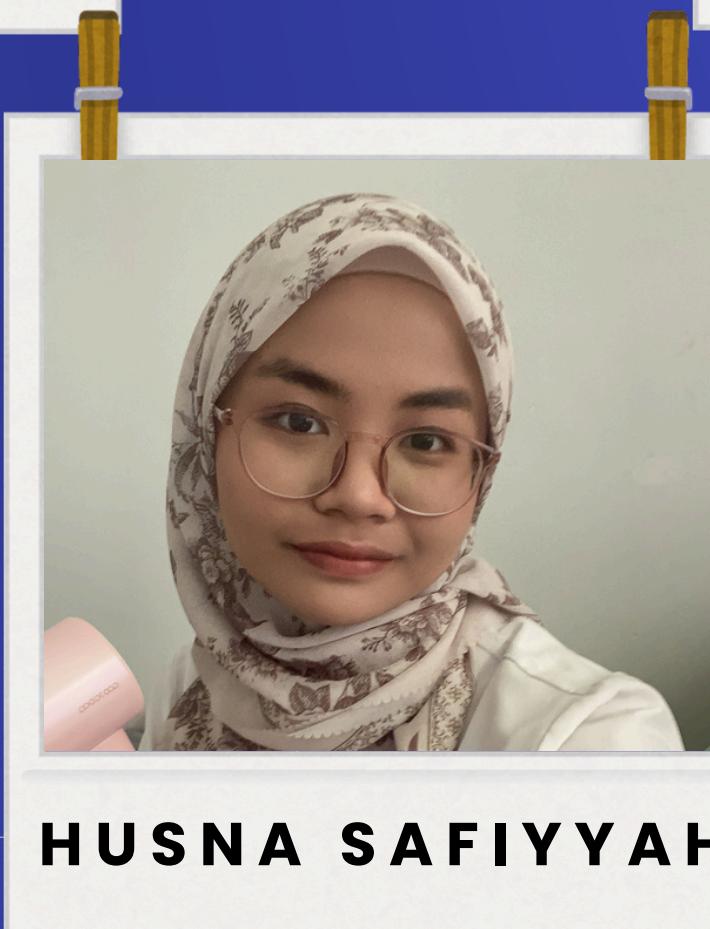
HANISA IKHSAN



NAJIHAH



YAASWINY



HUSNA SAFIYYAH



SEAH ZHANG JIAN

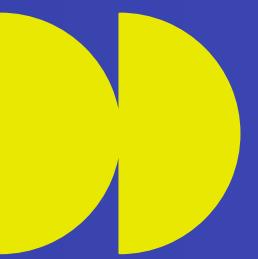
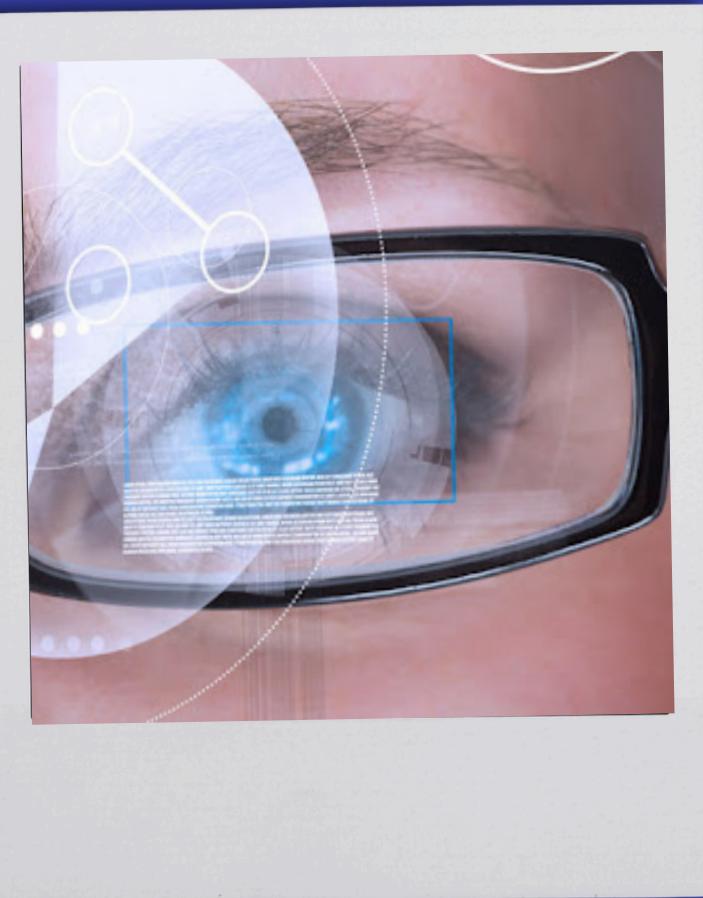
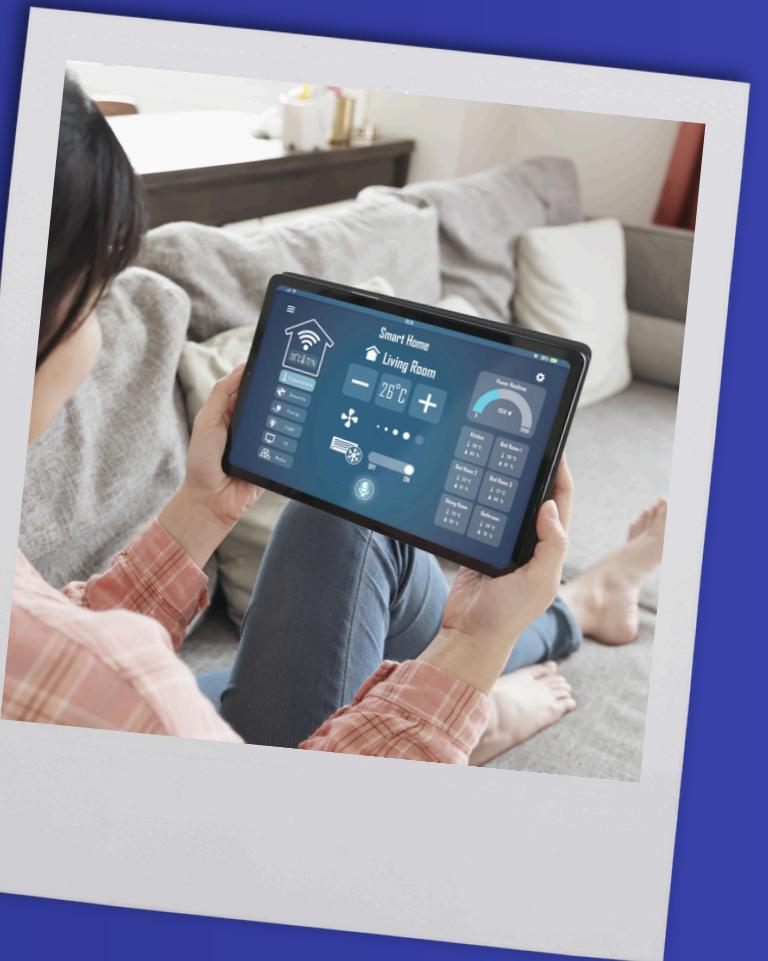


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INTRODUCTION

Imagine facing constant barriers in communication and access to information. For the deaf community, this is a daily reality that impacts their independence and inclusion. Through design thinking, a user-focused approach, we aim to solve these challenges. By following its five stages—empathize, define, ideate, prototype, and test—we can deeply understand user needs and create impactful solutions. Key challenges for the deaf include real-time communication struggles, limited access to emergency services, and barriers in social and professional interactions. These issues often arise from a lack of accessible resources, such as sign language interpreters and captions. Our solutions focus on leveraging technology to bridge these gaps. This includes AI-powered tools, real-time translation apps, and wearable devices. By collaborating closely with the deaf community, we strive to develop tools that break barriers and foster greater inclusion.



PHASES

Empathy

We aims to understand the challenges of the deaf community in overcoming communication barriers through innovative technology.

Define

We aims to highlight core issues and craft a focused problem statement based on insights from the empathy phase.

Ideate

This phase focused on designing smart glasses to bridge communication gaps and Improve the quality life for the Deaf community.

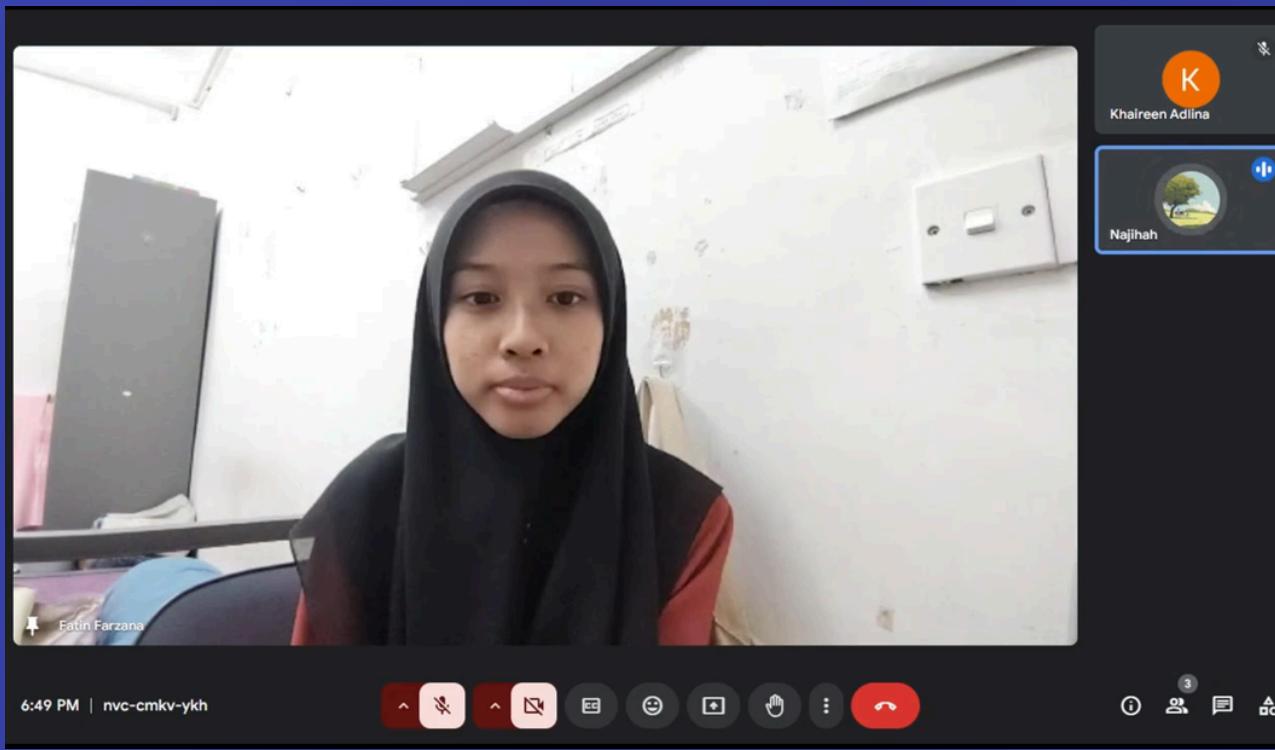
Prototype

We brought our ideas to life with digital and physical prototypes, focusing on core features like real-time speech-to-text. Using Figma, we created interactive simulations, user flows, and design diagrams to visualize and test functionalities.

Testing

We make sure the prototype works well and meets user needs. Feedback from users, collected through Google Forms to helps us improve the design through multiple rounds of testing and updates.

EMPATHY



User Profile:-

- Fatin Farzana, a 24 years old student form Asia Pacific University (APU)
- Currently taking Computer Science majoring in software engineering



User Profile:-

- Sarah, a 27 years old interpreter who is working as an interpreter.



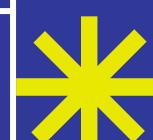
DEFINE

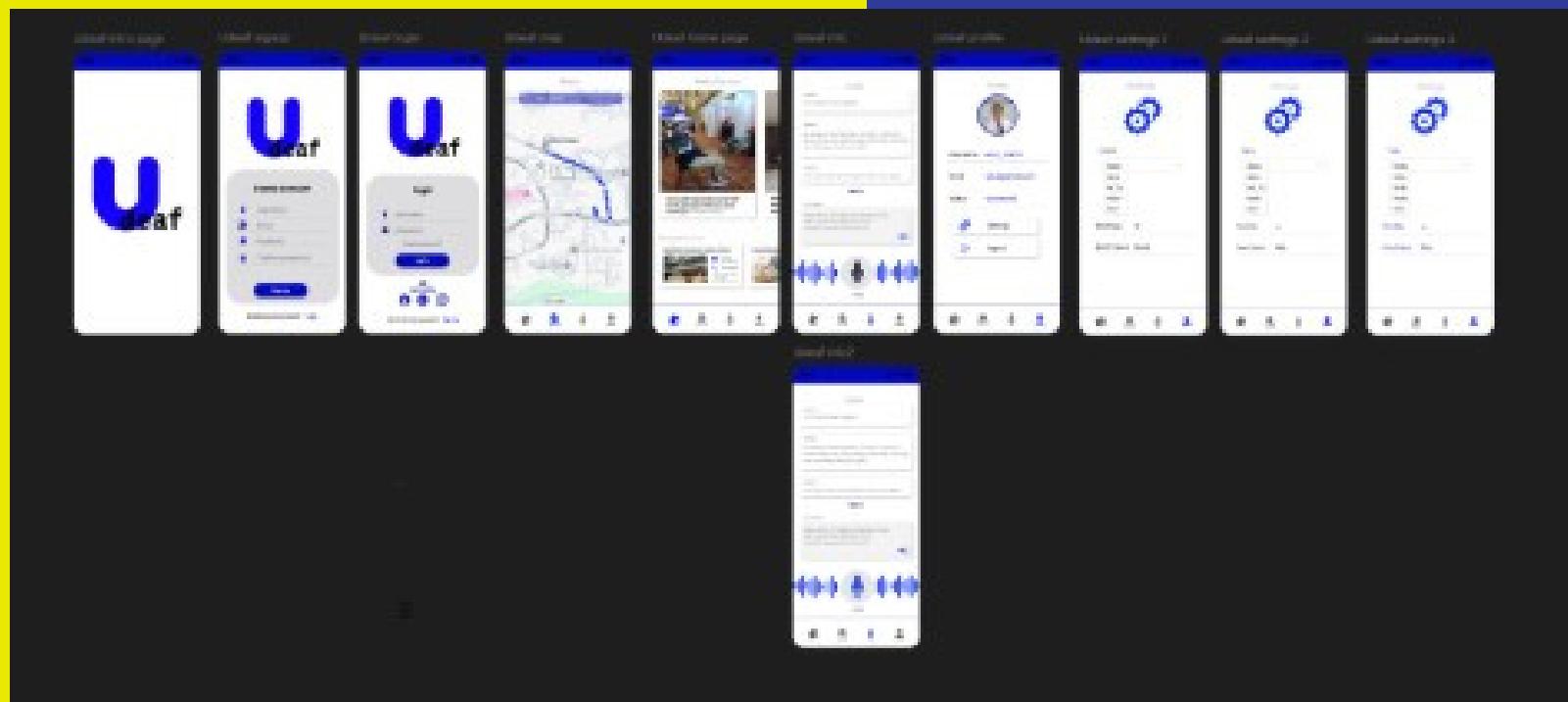
Problem	Reasons/Description
Challenges following conversations with the speakers	It can be difficult to understand the individual voices, leading to miss the important announcements
Limited social interaction due to communication barriers	Difficulty in understanding speech can lead to social isolation and missed opportunities for social interaction
Lack of access to real-time information in noisy environments	Deaf individuals may miss important announcements, instructions, and conversations using the older devices.
Very dependent to other to go anywhere without any guidelines or directions	Deaf people is unfamiliar to environment, and difficult to plan routes without the help from others



IDEATE

Idea Phases	Ideas	Reason
First Phase	Create an app "Udeaf"	<ul style="list-style-type: none">1. Will be very helpful for the deaf individual to control interface on smartphone devices2. Use clear and concise visual language throughout the app to easier user using the app
Second Phase	Create Captioning System with robust AI chip	<ul style="list-style-type: none">1. Implement real-time speech-to-text captioning with high accuracy and low latency.2. Support multiple languages for captioning
Third Phase	Add GPS Navigation System	<ul style="list-style-type: none">1. Will be very accurate using user's live location based on the satellite2. Can help deaf individuals navigate unfamiliar environments, find destinations, and plan routes independently
Fourth Phase	Set up accessibility features	<ul style="list-style-type: none">1. Enable screen reader compatibility for users with visual impairments2. Allow users to customize the captioning style, font size, and other preferences

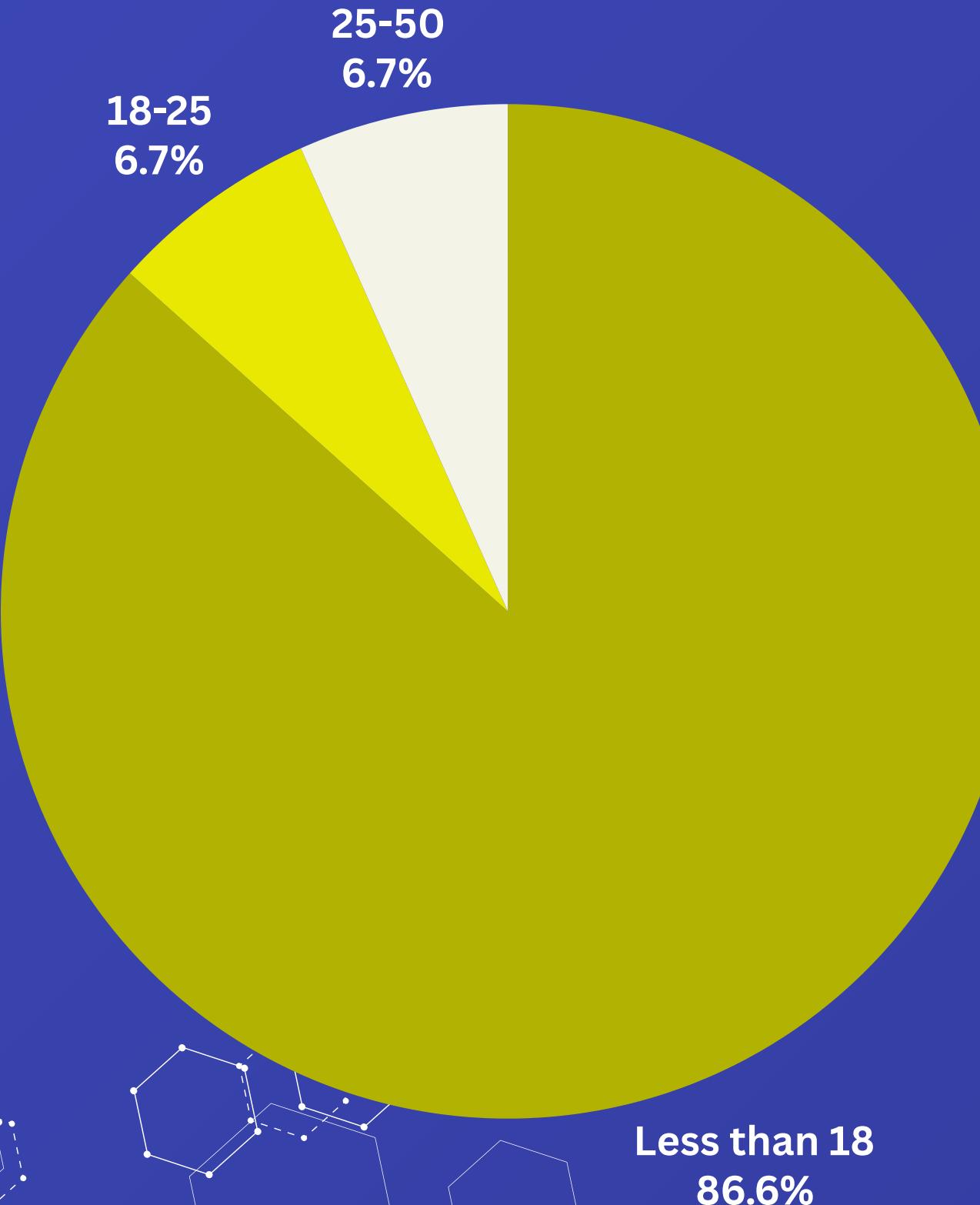




PROTOTYPE

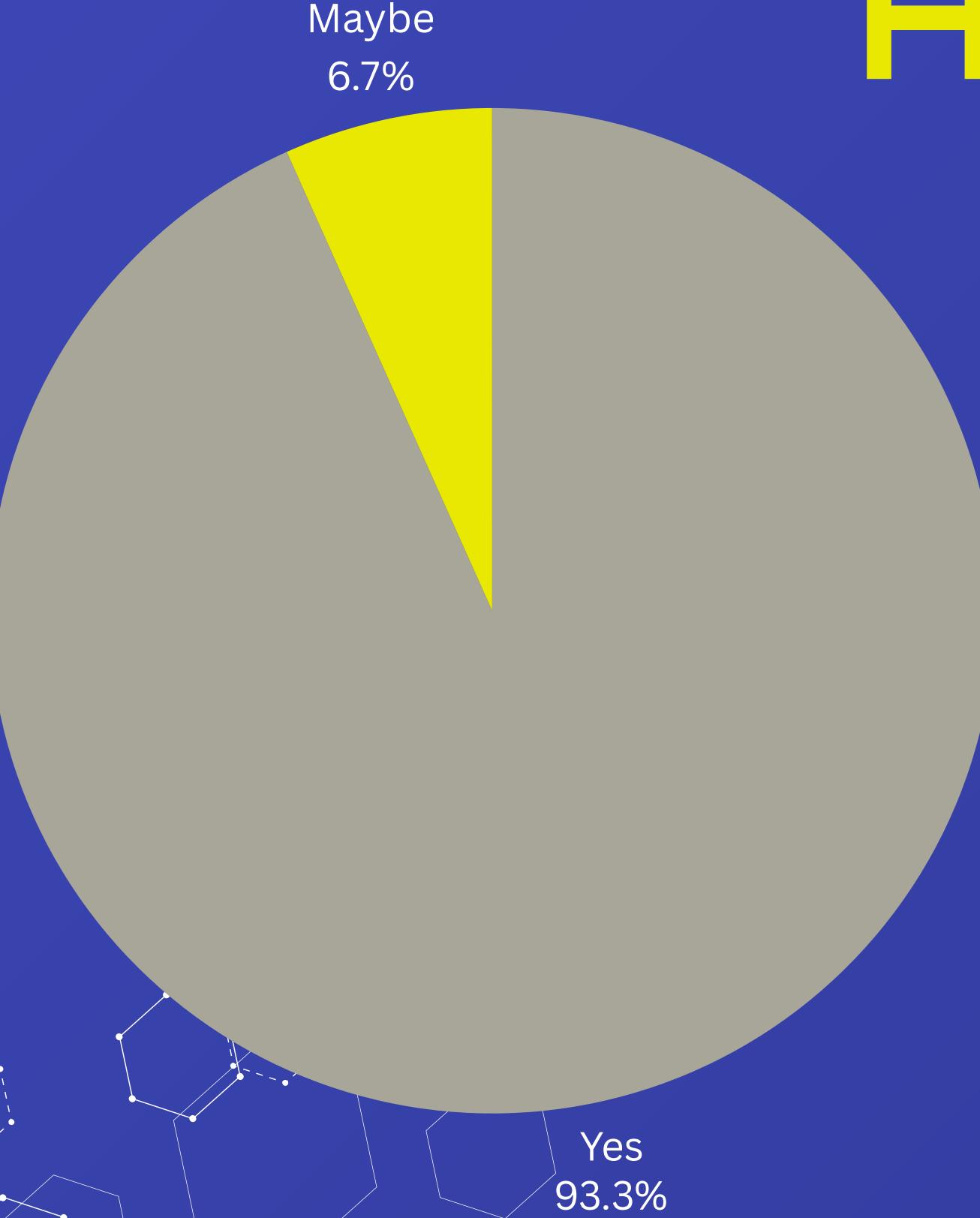
[https://www.figma.com/designer/1IDTUV4NMME0BXGTBP4JD/TIS-UDEAF-\(COPY\)?node-id=0-1&t=XWHVN5U4FTAMVZBU-1](https://www.figma.com/designer/1IDTUV4NMME0BXGTBP4JD/TIS-UDEAF-(COPY)?node-id=0-1&t=XWHVN5U4FTAMVZBU-1)

FEEDBACK



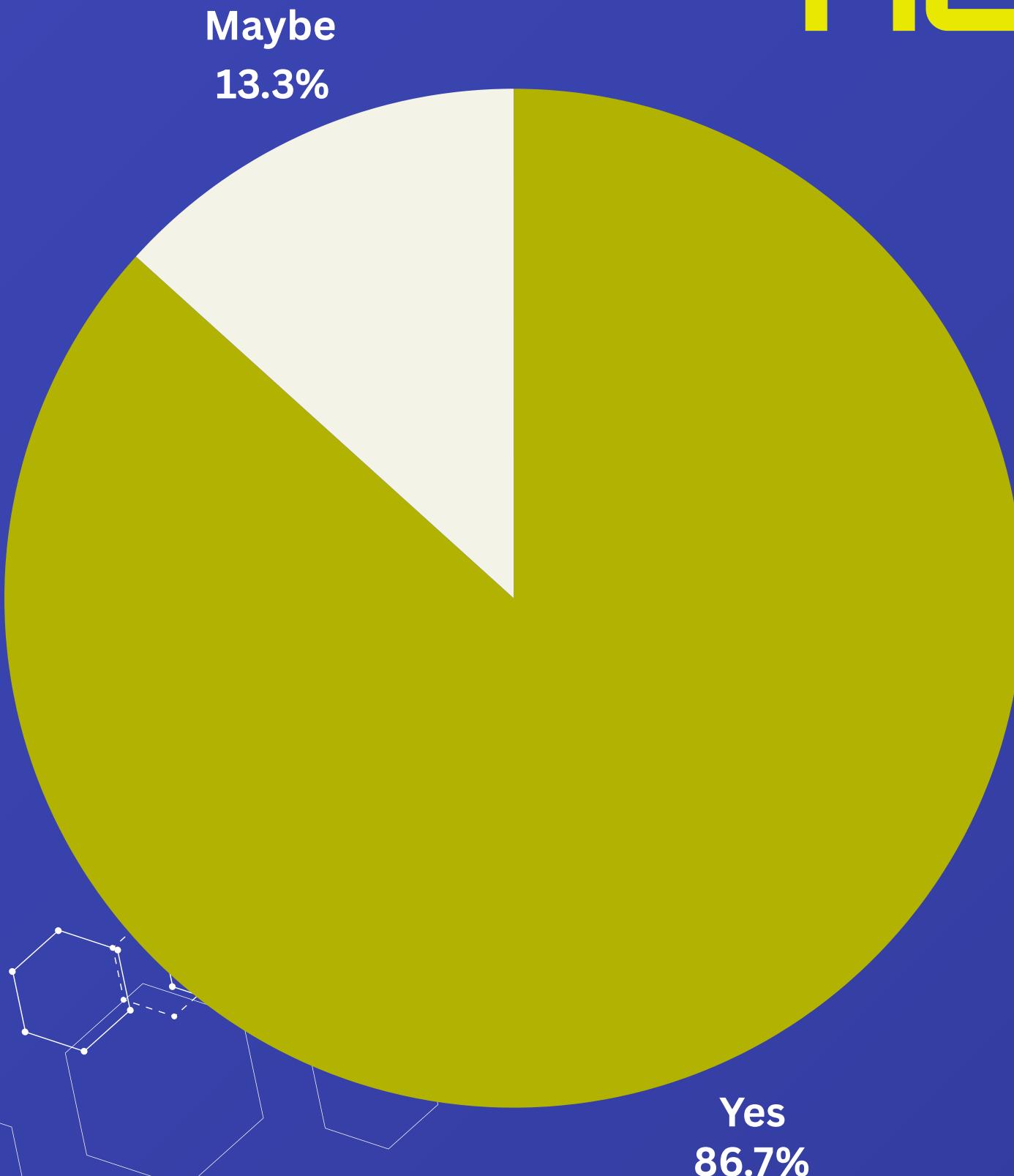
We created a Google Form to gather user feedback regarding the glasses, allowing us to better understand their experiences and perspectives. Through this approach, we successfully received responses from 15 individuals. The majority of respondents fall within the age group of 18-25.

IS THE GLASSES HELPFUL



The most critical aspect we assessed was whether users found the glasses helpful in improving their daily lives. 93.3% of respondents reported that the glasses positively impacted their lives, highlighting their effectiveness and enhancing overall quality of life.

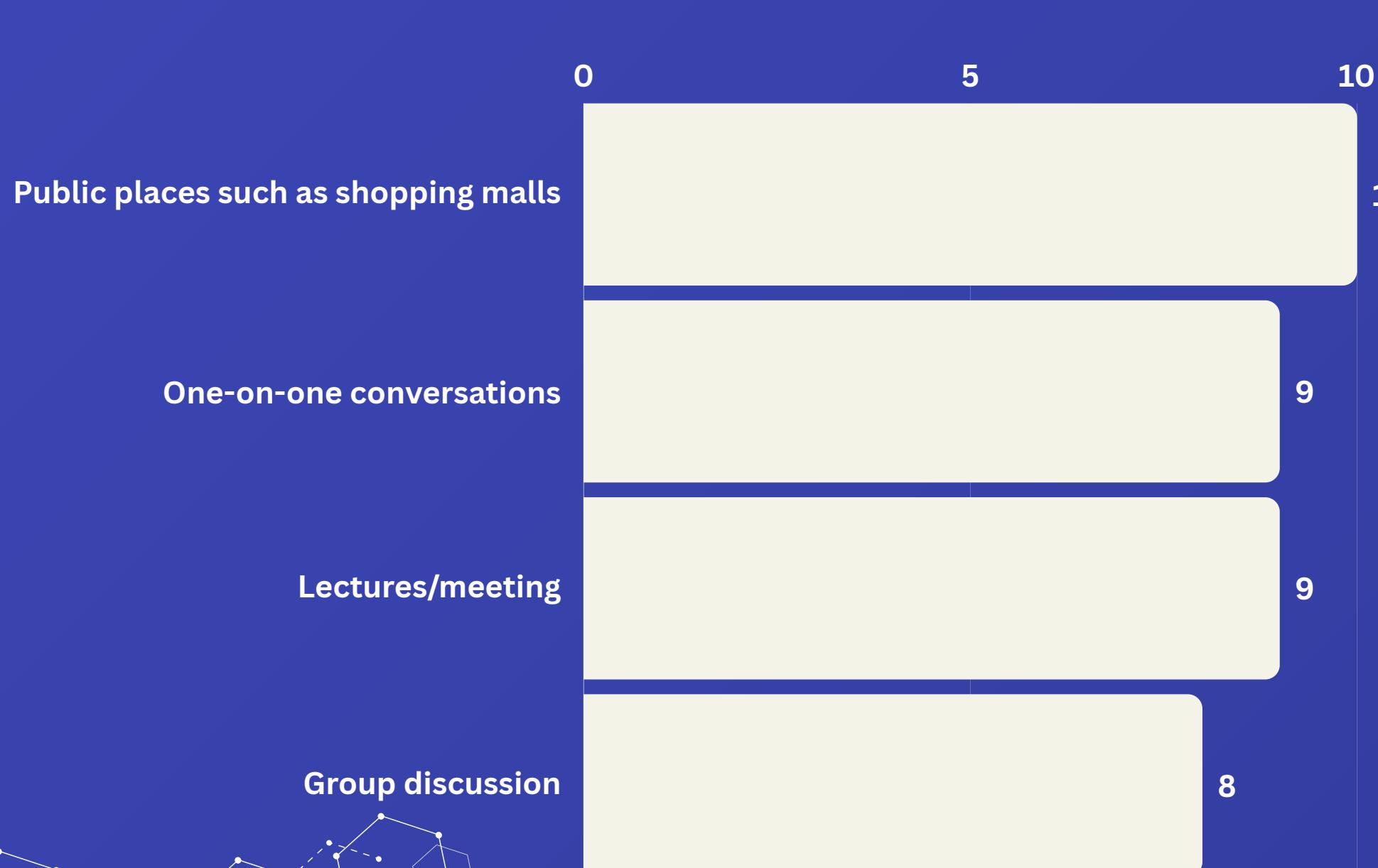
REAL-TIME CAPTION ACCURACY



We also asked users about the accuracy of the real-time captions. 86% of respondents found the captions helpful and accurate, highlighting their effectiveness in providing clear and timely information. However, 13% noted that the captions might occasionally lack accuracy, suggesting that adjustments could be made to further enhance reliability and overall user experience.



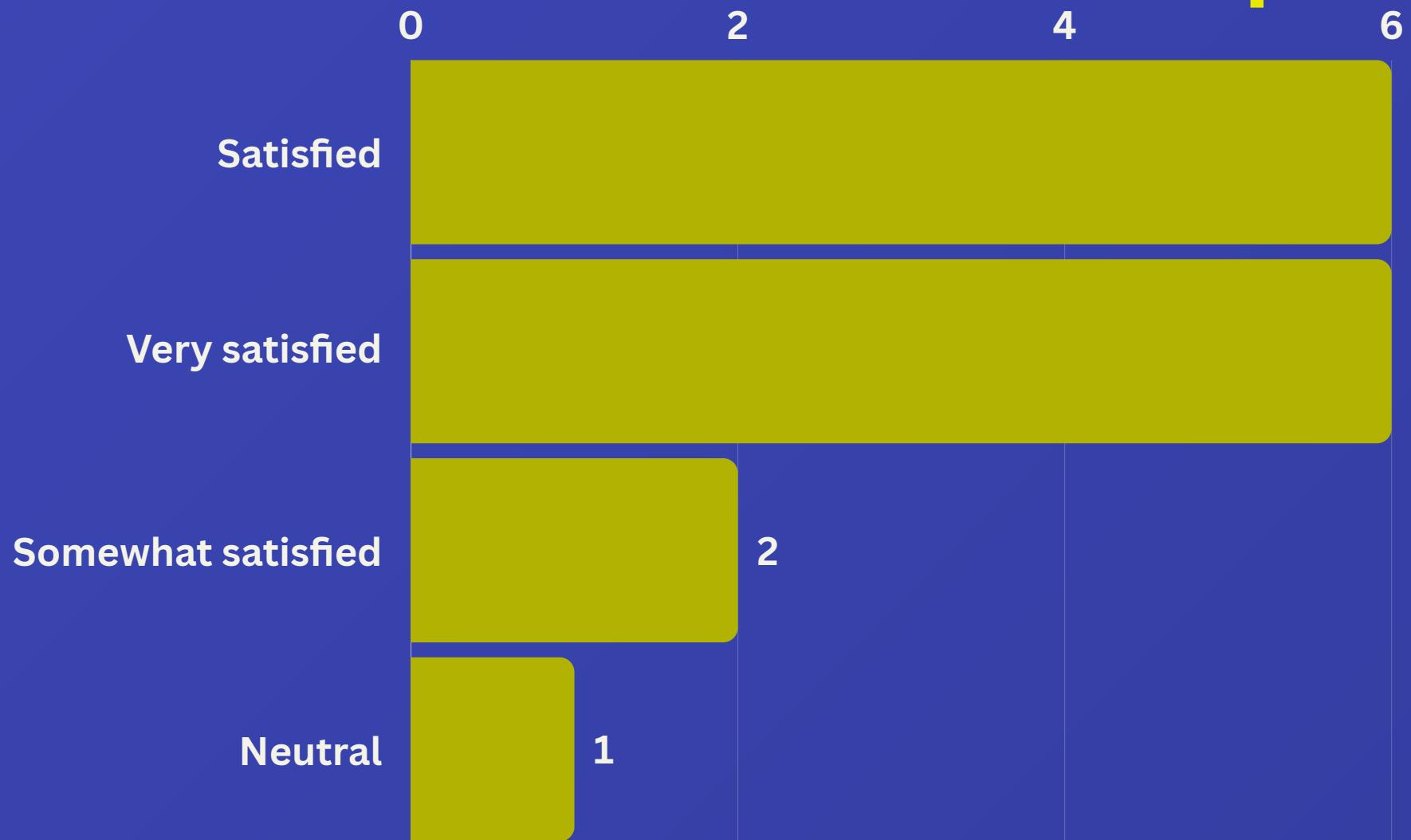
SITUATIONS THAT GLASSES MOST HELPFUL



The question focused on identifying situations where users find the glasses most useful. The majority of respondents indicated that public places, such as shopping malls, are where the glasses are most beneficial. This suggests that the glasses are particularly valued in environments where it works best in noisy environment.



USER'S COMFORT

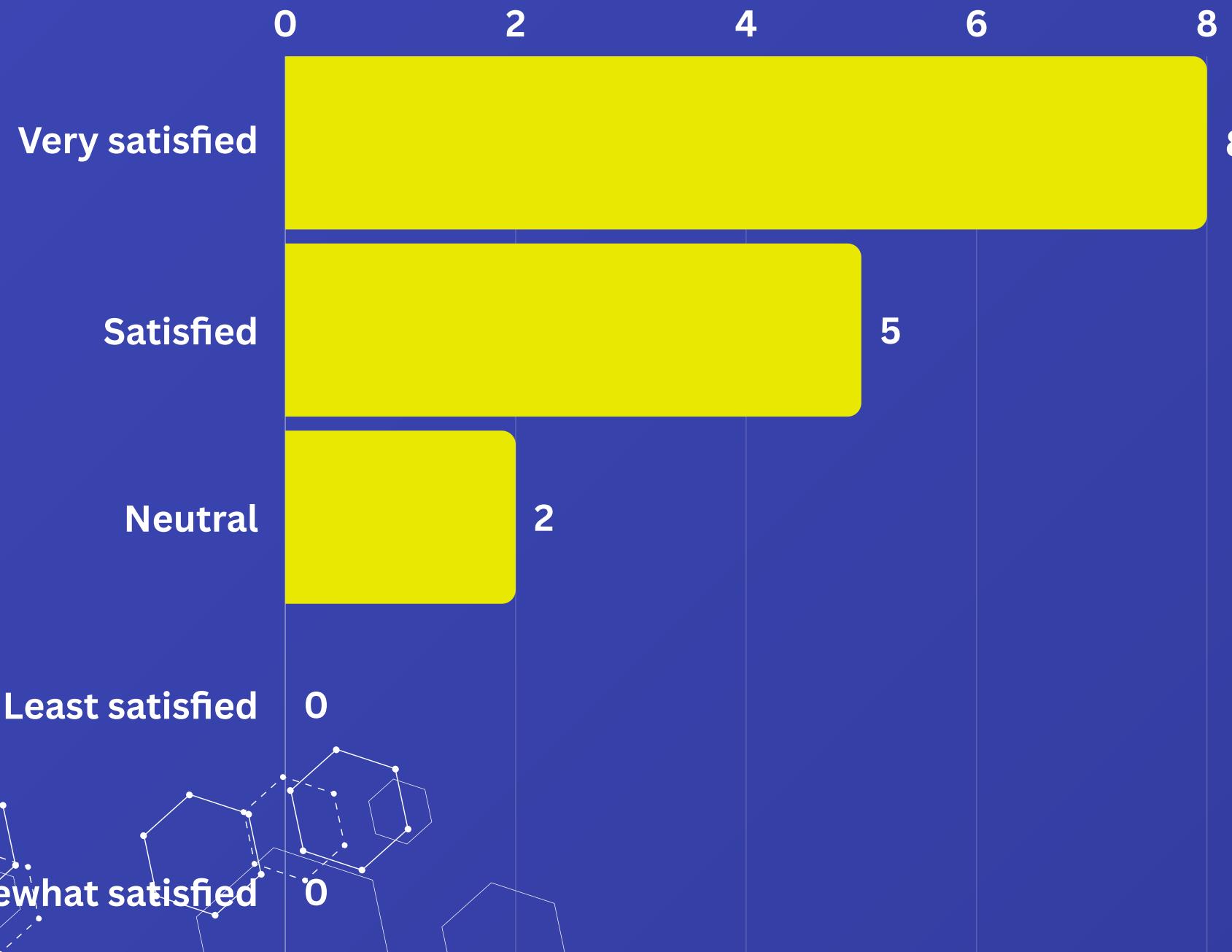


We also inquired whether the users feel comfortable wearing the glasses for extended periods, as their comfort is our top priority. Most users reported being satisfied with the comfort and fit of the glasses during prolonged use.





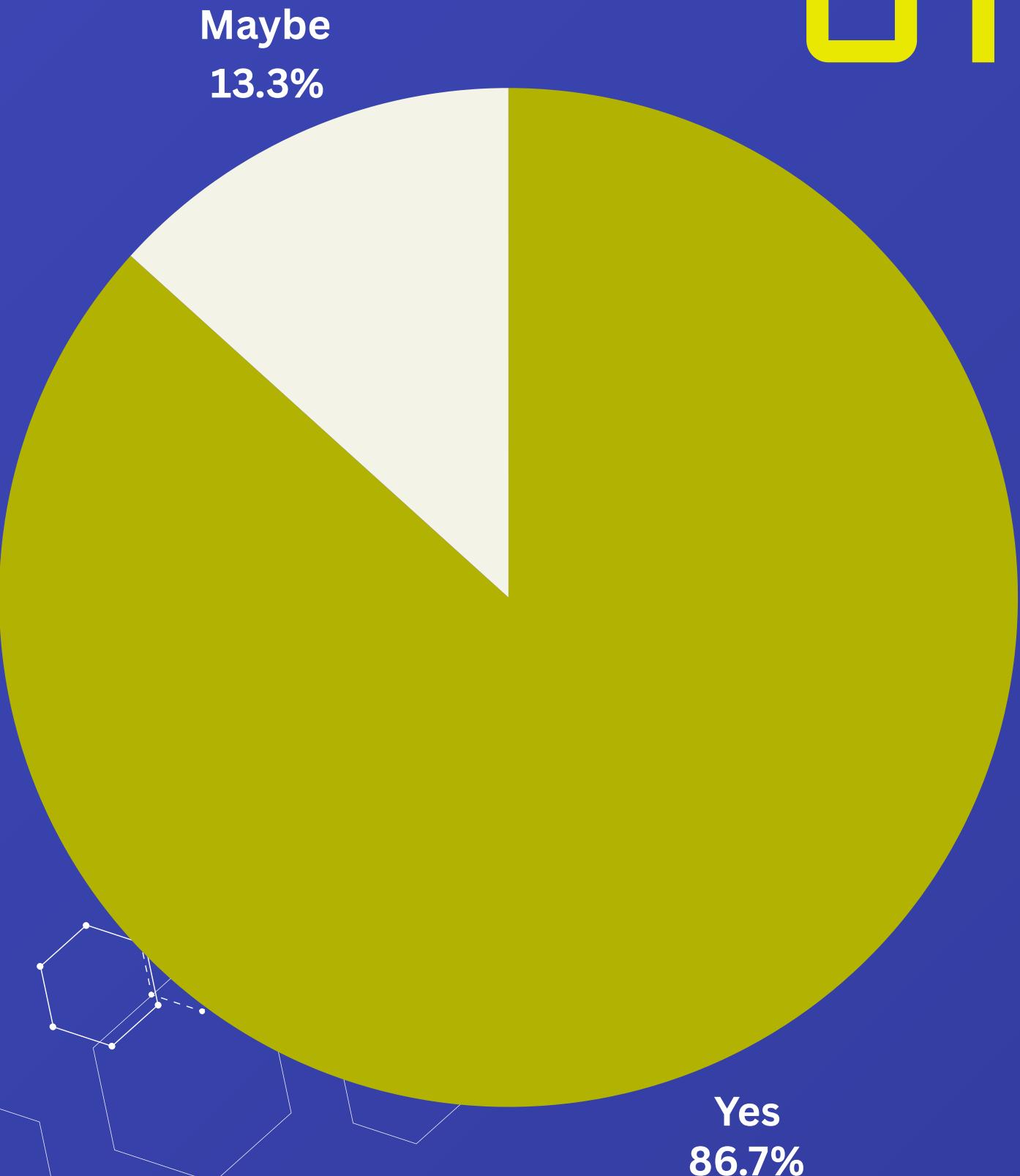
GLASSES INTERFACE & SETTING



Users also found the glasses interface and settings is easy to navigate, with many appreciating its user-friendly design. While most respondents were satisfied with the simplicity, a few provided neutral feedback, suggesting room for improvement in for different user preferences. Overall, the feedback reflects a largely positive experience in terms of usability, indicating that the glasses are accessible to a broad range of users.

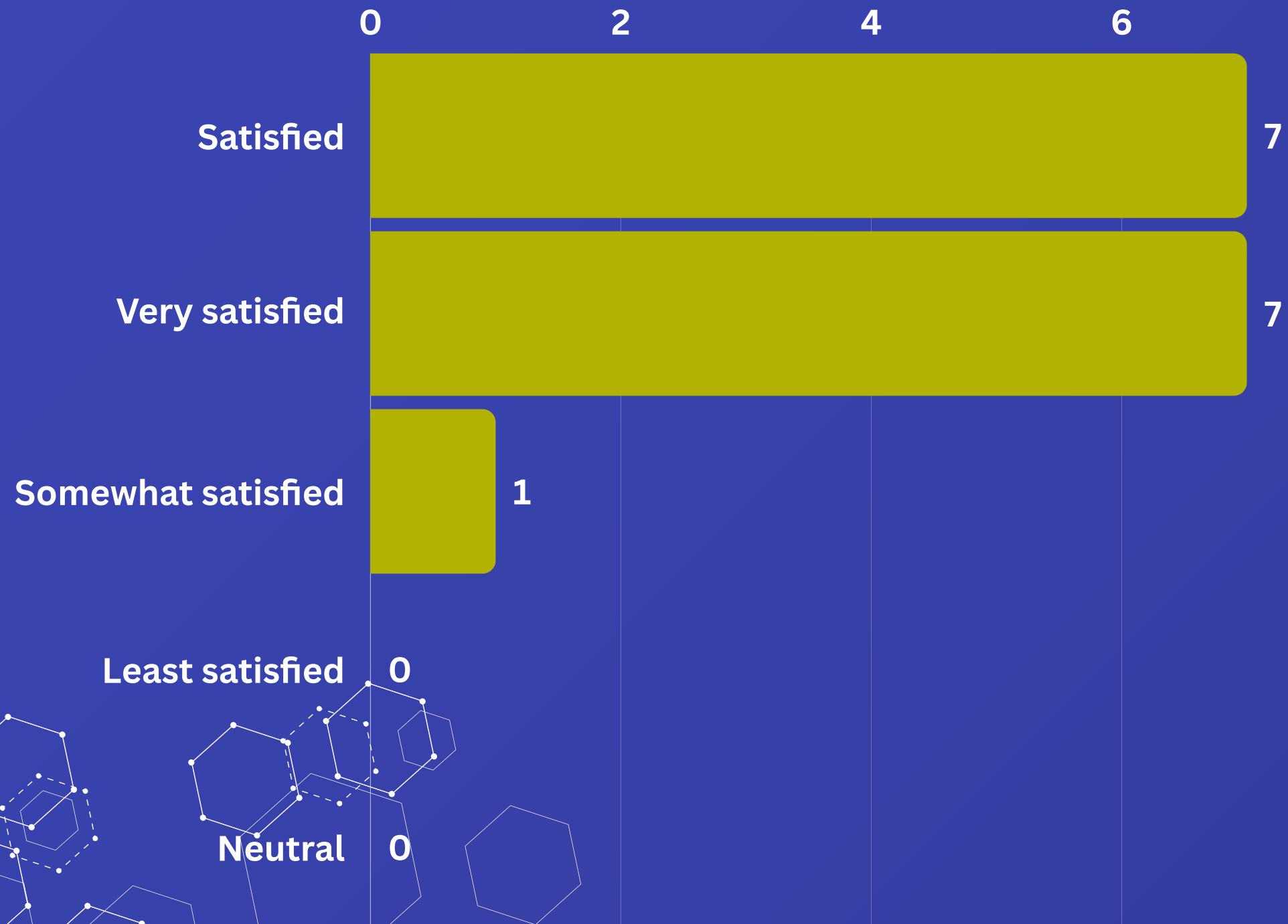


RECOMMENDATION TO OTHERS



* Most users expressed that they would recommend the glasses to others facing similar difficulties. This demonstrates the potential of the glasses to address common challenges effectively and provide meaningful solutions for those in need.

OVERALL EXPERIENCE



Regarding the overall experience, we received highly positive feedback from users, with many expressing satisfaction with the glasses. Their responses emphasize the product in meeting their needs, showcasing its success in delivering a user-friendly and impactful solution.



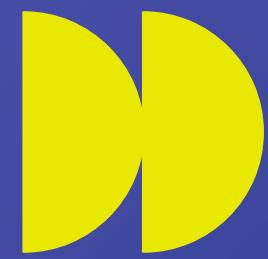
LOOKING BACK, WE ARE PROUD OF THE WORK WE
ACCOMPLISHED AS A TEAM

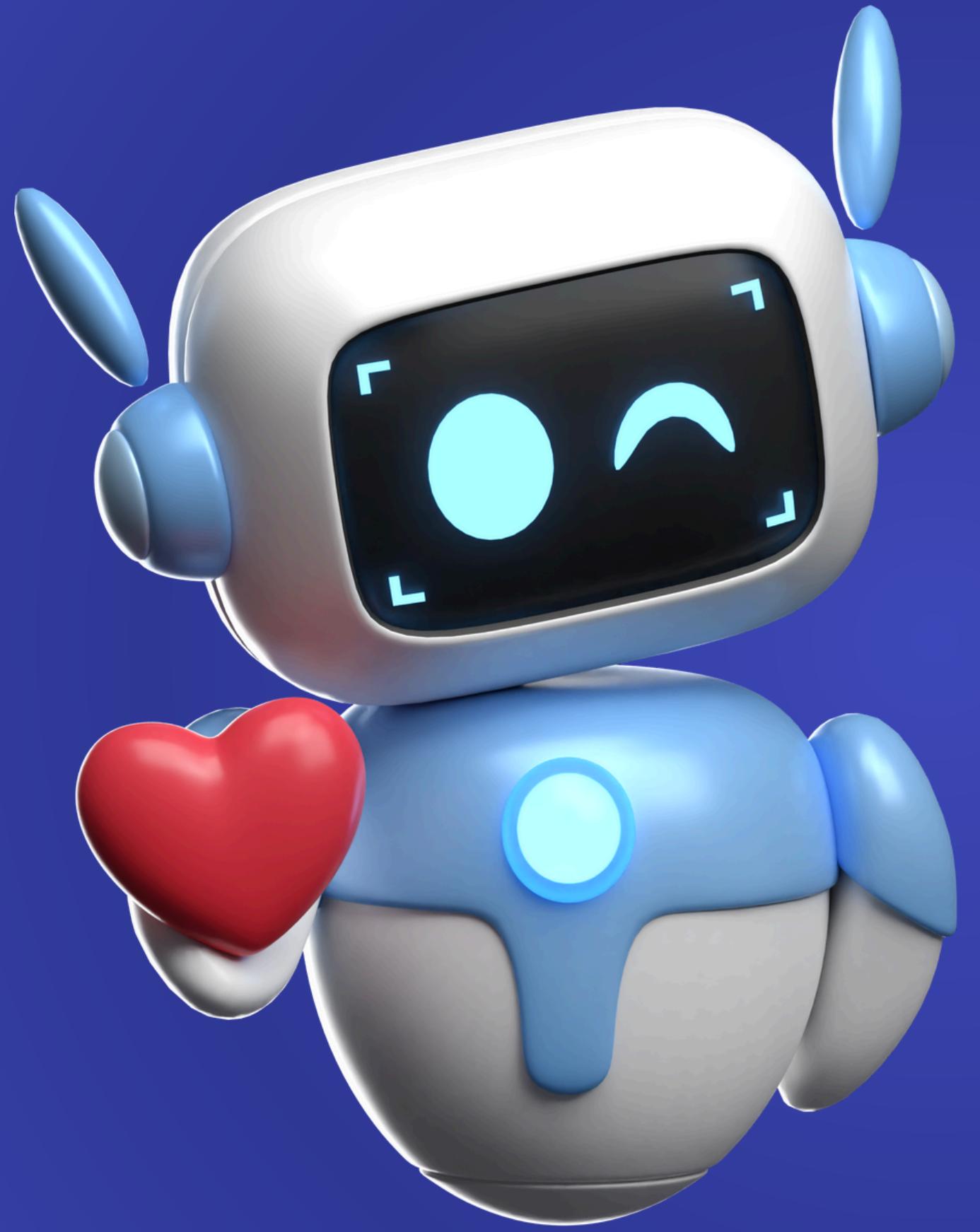
CONCLUSION



This project has been a journey of learning and growth for our team. Through dedicated effort and a collaborative spirit, we were able to overcome the challenges and achieve our goals.

Our project has highlighted the power of technology to break down communication barriers and enhance the quality of life for deaf individuals. By providing real-time captioning directly through smart glasses, we aim to empower users with greater independence, facilitate social interaction, and improve access to information and opportunities.





THANK
YOU *

