

GROUP MEMBERS	Shreya Shetty (2019140059) Manan Savla (2019140055) Akshay Tarde (2018130055)
BATCH	B
COURSE CODE	OECS5
EXPERIMENT NO.	9
NAME OF THE EXPERIMENT	UI for differently abled person

Aim:

Design UI for any differently abled users.

Theory:

1. Analysis of behavior of people in that domain eg their preferences, interests etc.

Auditory processing disorder (APD) is where you have difficulty understanding sounds, including spoken words. There are things you can do that can help. Following are some of the people who have auditory disability:

- Deafness— severe or profound hearing loss
- Hard of hearing — mild or moderate hearing loss
- High-frequency hearing loss — difficulty in understanding high voices
- Hyperacusis — sensitivity to certain frequencies/volumes
- Loud environments — can't listen to audio
- Low-frequency hearing loss — difficulty in understanding low voices
- Tinnitus —a ringing or hissing noise that can be permanent
- And more...

Hearing-impaired users require physical or visual communication alternatives to audio. They will look for transcripts, volume controls, subtitles, or sign language while engaging with media content. These will be expected to be in simple language especially for those who aren't fluent. Contacting a business' phone number is their least preferred method and potentially not possible as a means to communicate so these users prefer online chats and email.

Problems faced by auditory disabled people:

Inaccurate, missing captions and transcripts, low-quality and quiet audio are all barriers for them. A lot of the time subtitles are not up to scratch, for example, using AI to auto-caption content can be a terrible experience due to speech nuances and slang resulting in its accuracy rating of below the standard 99%. We have all laughed at a

caption that doesn't translate correctly or is out of sync with the video. Some users won't be fluent in their respective language either, so can be frustrated with complex subtitle text.

2. What kind of interfaces will they like and why?

For audios & videos following should be included in the interface:

- Text-based equivalents for audio files on the same page via transcripts (videos, podcasts, etc.)
- Captions and subtitles on videos, preferably generated by humans, not AI/bots
- Should convey who is talking in subtitles, transcripts, etc.
- We should provide sign language on videos (sign language expert, recording it, and video editing)
- Should use simple plain language for those who may not be fluent (deaf from birth, second language, etc.)
- Ensure audio is loud and clear by following these standards (use the correct decibel levels)
- Ensure audio is of high quality by avoiding poor mics, unclear or explosive sounds, floor/desk vibrations, wind noise, and more...
- Clearly distinguish foreground noise by removing or reducing any background noises
- Make sure content has volume controls including the ability to mute/unmute etc.

For notification sounds following should be included in the interface:

- Providing alternatives to audio-only notifications/alerts (using physical or visual alternatives)

In Contact methods / Communication, we should providing multiple forms of communication (not just phone)

3. Existing apps - analyse (Good elements/UI and Bad elements/UI) and rate them

Ava :

- An instant transcription app that transcribes in live the words of a group of people.
- Each participant installs the application on its smartphone and using the microphone the conversations are transcribed.
- This app allows people who are deaf or hard of hearing to distinctly follow a conversation within a group without having to lip-read.

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- Useful for iPhone users who don't have access to the famous instant transcription native functionality from Google during your consultation meetings. It is available on iOS and Android.

RogerVoice:

- The world famous French application created in 2013 by Olivier Jeannel offers two options.
- The first is the live transcription of telephone conversations in more than 100 languages as well as the possibility of answering by voice synthesis. People who are deaf and those who have hearing loss, or someone who has difficulty speaking can use the phone to have a conversation with someone, and receive a typed text of what the other person is saying.
- The application goes further by offering to make calls thanks to the help of qualified LSF Interpreters graduates and Graduated LPC coders (in France only). A free version offers up to one hour of call by video interpreter assistance.
- An useful app for deaf or hard of hearing people who want to request information about your venue from a distance. It is available on iOS and Android.

Sound Amplifier:

- The Sound Amplifier app for Android is the equivalent of the Live Listen option included in basic iPhone settings. However, it offers more advanced functions in terms of sound volume adjustments and eliminates background noise.
- The Sound Amplifier app improves the audio quality of Android devices when using headphones, to provide a more comfortable and natural listening experience. The Sound Amplifier app enhances and amplifies sounds from the real world.
- This application can be very useful if your venue has a poor sound environment. It is available on Android. Sound Amplifier application is part of the native settings of Google Pixel phones.

4. What will be your choice of screen elements? Write down your own Design Goals which you want to furnish while making the website.

We will to make the app simple and easy to understand. We will add the feature of subtitles as well as visual sign language to podcasts and entertainment for the auditory disabled people.

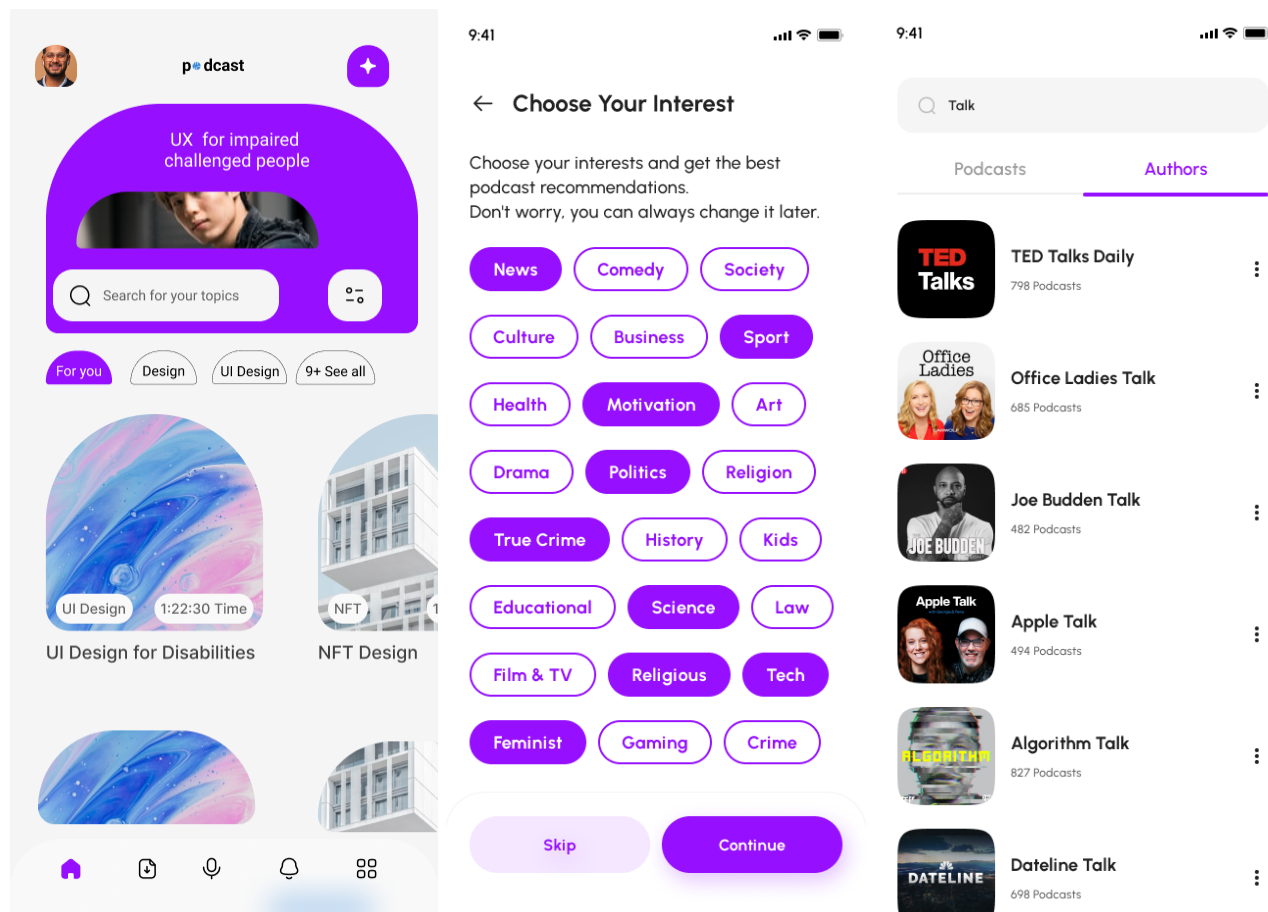
Procedure:

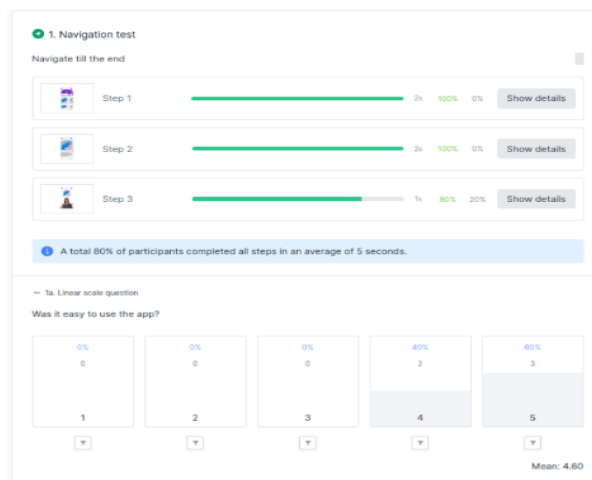
1. Research about the problem statement i.e. App for auditory disabled people
2. Open a new file and create a mobile frame
3. Decide the color scheme and font for the design
4. Decide the number of pages to be designed
5. Design the navigation bar and the footer and once done, convert them into a component
6. Make a basic wireframe for all the web pages and add the components navbar and footer on all pages
7. Designing individual components for every web page and add images wherever required related to the problem statement and check the alignment of components
8. Add interactions on button and flowing connections on all the pages wherever required
9. After prototyping, preview the design and fix if any uniformity errors or alignment issues

Implementation:

Figma URL:

<https://www.figma.com/proto/MJtAfx0hfhda8J6Ei3DXWs/Exp9---Differently-Abled?node-id=10%3A2&scaling=min-zoom&page-id=0%3A1>





Conclusion:

We successfully designed a podcast entertainment app for auditory disabled people which helps them to enjoy podcasts.