

BRAINSTORMING IDEAS

Idea 1

The first idea was to create a simple app in the emergency sector, which would help in arranging people in the Emergency using the logic of Priority Queue (Abstract Data-type). This would arrange them in the queue based on factors like how much pain they are experiencing, how serious their symptoms are etc. so that people who are in the stage of dying can get immediate help from the doctor with transparency. *"Almost half of adults across Canada's 10 provinces had difficulty accessing health care in 2020 and 2021, while close to 15 percent said they didn't receive all the care they needed, according to [a 2021 survey from Statistics Canada](https://www.cbc.ca/news/health/canada-er-pressure-health-care-system-solutions-1.6885257)."*(Courtesy: <https://www.cbc.ca/news/health/canada-er-pressure-health-care-system-solutions-1.6885257>)

Idea 2

Our first idea was to develop an app which would make it more accessible for users in an emergency, since we know, how hard it is to get an appointment here in Canada, we thought of developing an app with different user profiles, in which users can input the symptoms and the app would provide remedies on spot for the speculated disease. The app would automatically book the closest appointment (if the user consents), book a taxi if the user doesn't have a vehicle, and call for an emergency with just one click. Not only that, the app can also help in improving health by providing medication reminders, providing health advice which can improve quality of life with push notifications and a generated routine.

Final idea

Our final idea is aimed to make hearing more accessible for people who have difficulty hearing, therefore, we have a hearing aid model which mainly focuses on integrating AI into the normal hearing aids

making it special from others. AI integrated into the hearing aid helps in only hearing the voices of the people which are of at most importance while cancelling out the others, and the primary feature is that it focuses more on the people in closer proximity and amplifies their voices. We also want to make it a verbal chatbot so that people who are feeling lonely or want the answers to any general questions, can get them by talking to their hearing aids like we do it with our mobile phone's assistants. More features include location tracking via GPS, etc.

LITERATURE REVIEW

- One of the major issues users of hearing aids find is in its battery, an average user needs to replace a battery 25-50 times a year, and the disposed of batteries affect the environment badly, When the battery is low, the user experiences a loss of hearing, lastly, the battery replacement is not at all easy as the hearing aid is too small and requires high technical skills to replace them.(Passerini et.al,2000)
- It can argued that hearing aids can lead to low esteem in them and create a social stigma in them which leads them to not even wear them when it is highly required. *"only 20–50% of those who would benefit from the use of hearing aids use them"*(Ruusuvuori,2021).
- According to a study by Google, almost 29% of people use voice commands to do different things in their daily lives (Rohlfing et.al, 2021) but people with Dysphonia(is a disorder of voice which leads to poor voice quality with no apparent reason) experience issues in voice recognition (Rohlfing et.al, 2021)

Works cited:

- S. Passerini, B.B. Owens, F. Coustier, Lithium-ion batteries for hearing aid applications: I. Design and performance, *Journal of Power Sources*, Volume 89, Issue 1, 2000, Pages 29-39, ISSN 0378-7753, [https://doi.org/10.1016/S0378-7753\(00\)00378-5](https://doi.org/10.1016/S0378-7753(00)00378-5).
- Johanna Elisabeth Ruusuvuori, Tarja Aaltonen, Inka Koskela, Juha Rant, Eila Lonka, Inkeri Salmenlinna & Minna Laakso (2021) Studies on stigma regarding hearing impairment and hearing aid use among adults of working age: a scoping review, *Disability and Rehabilitation*, 43:3, 436-446, DOI: [10.1080/09638288.2019.1622798](https://doi.org/10.1080/09638288.2019.1622798)
- Rohlfing, M. L., Buckley, D. P., Piraquive, J., Stepp, C. E., & Tracy, L. F. (2021). Hey Siri: How Effective are Common Voice Recognition Systems at Recognizing Dysphonic Voices? *The Laryngoscope.*, 131(7), 1599–1607. <https://doi.org/10.1002/lary.29082>