

Outline a current environmental, political, or social issue that requires redesign. Explain how you will solve this issue over the duration of your future design career. Underline the tools and approaches you will use and discuss how and why.

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Product Design

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Introduction

Over the years, technology has developed exponentially. However, this has been led by a hearing generation and no real thought process has been given to those with any other disabilities. An example of this would be the development of communication and the introduction of a device that transmitted speech electrically, which was produced in 1870 by founders Elisha Gray and Alexander Graham Bell (M, Bellis. 2020).

Then, in 1991, there was the introduction of a system called 'Typetalk'. This allowed Deaf people to be able to ring hearing people through a text relay service. (RNID Typetalk, 2018)

However, there are some advantages and disadvantages to the improvement of technology access for deaf people. An example of this is at all UK train stations. Previously, there would be a tannoy which announced when the train would be arriving and leaving and which destination it is heading to. This is a disadvantage for Deaf people because they may not be aware of any announcements being made and it could cause them to either miss their connecting train or get on the wrong train altogether. Another problem is when on the train, some trains would have a conductor telling you where you are or where you would be

heading and with many not able to use BSL, there would be breakdowns in communication. Some trains would announce on their radio system any announcements and again, key information could be missed. Whilst communication is still difficult, especially when having to booking train tickets through the ticket office, there is technology that has been put in place to allow better access for the Deaf community. Things such as when announcements are made over the tannoy, a live text screen is available for any updates on time changes or cancellations. (Tfw.co.uk) Apps on phones where tickets can be purchased and have live updates where people can read where and when the train will be arriving and leaving (thetrainline.com).

On the trains there are also LED screens detailing where the next stop is so more access is through visual stimuli. The advancement of technology has not always benefited the Deaf community, for example, the introduction of voice controlled devices such as Siri and Alexa or any product that requires voice controls. This is mostly because a Deaf person won't understand what the voice control is saying and the speech of Deaf person would not normally be recognised by the device, meaning minimal or no access.

This paper will aim to show that technology, despite its advances, needs to improve and be more inclusive of different communities needs - with special attention being paid to the Deaf. (ofcom.org, 2018)

My Career Aim and Objective

My career aim and objective has always been to help Deaf people and make their life easier and make the society 21st century a better world for Deaf users and other disabilities. The world needs the new Bill Gates or Elon Musk to invent products that will solve the solution for our world for disability such as the medical healthcare side, transport, home, and other things. There is always a way to solve the problem, it just needs innovation.

The main problem with A&E is mainly in the waiting area. When the doctor calls people's names for their appointment. Most deaf people tend not to hear or hear it late if the doctor can go upto them so it can self embarrass the deaf people (British Deaf Association, 2014 ,p.g. 8-1). That is a lack of deaf awareness to the doctor and surgery and other people who work in the hospital. To improve this situation, I can place a product that has a small screen or large screen then the doctor can press it then the screen will flash and make a sound to call their name on the screen. Only one problem to consider is the fact it can be annoying specially the noise keep going on and on in the waiting room so maybe better just flash light and name on the screen. Another salutation for this is a little device that has already been invented for a restaurant where it vibrates then it yours turn to meet the person who will serve the table for you. Similar product but the product vibrates then the customers know it is their turn to go and meet the doctor they are seeing.

Another product that will make Deaf people feel more safe living at home is the fire and smoke alarm. The police in Cheshire announce that it is vital to find a way to support and warn deaf people when the smoke alarm has been sent off so they can get out of the house safely before the fire burns the house down or whatever reason has happened at the house (Cheshire Fire and Rescue Service, 2018). Including the doorbells and telephone can be a real struggle for the deaf people to hear. I have come up with a solution where I can combine all the problems in one product. I can create a wireless and portable nightlight, where I can take it with me anywhere around the house. I can set the flashing light for different things through phone apps. The product will respond to flashing lights for different problems. In this case, I can have a red flashing light for warning signs for the fire alarm and smoke detector. A blue flashing light to let me know someone is at the door. A relaxing light similar LEDs where I can control the light anytime I like throughout the day. This product will make life a lot easier for many deaf people, but also people can use them if they wish to use it.

Design issues and how they can be improved

One of the issues that will be focused upon is the access for Deaf people to public transport. It has been developed over the years but not enough has been done about it, or it could have been improved better and more efficiently. The airport industry already has “accessibility provider partners with SigncodeUk to enhance airport assistance for deaf and hard of hearing passengers”, which is a video translator service (Sarsby. S, 2019). This isn’t enough support for Deaf or hard of hearing people because when there is an announcement such as “Delayed”, “Go to gate B2”, or any other announcement, a Deaf person wouldn’t be able to hear it at all or miss out on information. On the aeroplanes, there are no subtitles or an interpreter to provide sign language for safety advice if anything happens on the aeroplane, which is demonstrated by the stewards before it takes off. Simple designs like vibrator devices which vibrate and deliver announcements via subtitles showing what is happening with the flight, instead of having to ask someone about the announcement or reading off the big screen, which could be missed if the person is asleep or has a fear of asking others what has been said.

Another product that needs redesign is TV subtitles. This is because when subtitles are on, it has multiple languages from English to Arabic which is great, but for Deaf people, their language - British Sign Language - has been omitted. So for many Deaf people who watch TV, it is a struggle to watch the subtitles because long or difficult English words can be hard to understand. So to redesign the subtitle service would be better and is basically simple design just add the BSL language into it, so the option of a BSL interpreter on screen. In addition, when in the cinema they have subtitled movies but it is still in English so can be difficult for some deaf people as well. To redesign this better, similar to 3D glasses but glasses where the BSL interpreter can be seen whilst watching a movie which does not affect the viewing performance of other people.

Another problem is when Deaf people go to A&E in hospital and they are in a waiting area. The doctor normally calls or shouted people's name when it is their turn. But Deaf people won't hear anything so could miss out their allotted space. (Welton. G, 2014, pp 7-11). That is a lack of Deaf awareness as most of the time Deaf people either have to bring one of their family members or friend to come for communication support. This could be easily improved by the offering of a screen when a person's name is called just like in GP surgeries, alternatively, just like the airport suggestion, a device which vibrates when the Deaf person is called would enable them to acknowledge the call of their name.

What has been done to improve access?

Dr Robert Gravelle and the Manager for Transport for Wales (Trainline) company are the first trainline company in Wales that has launched an app where people can access interpreting support for the Deaf in BSL. The app, called 'interpreter now' uses a QR scan code in which a BSL interpreter details the time of arrival at the next destination and where the train will go, and any problems with the train such as delay's or stoppages. (Transport for Wales, 2020).

The original idea of interpreter apps for trains was from the Scottish Rail network and it has been hugely successful so it was brought to Wales.(Scotrail, 2019) Hopefully, this will be released worldwide to allow access for all Deaf people from all backgrounds to have equal access to their hearing counterparts.

An American company has developed an app called 'MotionSavvy' where it can translate sign language to voice over for hearing people. The app then translates the voice over in text and sign language. It then translates sign language into written text and speech. This device is only available in America currently, so only recognises ASL not BSL or others, but it can be a game changer if the company sells it world-wide as the device is a good way of communicating between Deaf and hearing people more effectively. (Rao, V. 2014)

Another technology that has seen a huge impact for Deaf and blind people are text-to-braille systems. Haben Girma is a Deafblind woman who went to Harvard University doing law and succeeded it and now is a world famous woman as she was the first DeafBlind woman to conquer Law in Harvard. She did this by dedication, working hard and using the technology called text-braille devices she has developed to help her with communication this is now a prospect technology for the future for other Deafblind people. Haben Girma “defines disability as an opportunity for innovation”. This implies that there is always a way to innovate design products that will help and link to disabled people. Haben Girma communicates by her assistant support called Arianne who is a hearing translator, it translates the language throughout the special computer that precisely sends information wirelessly through the braille computer devices where Herban Girma then responded through speech that she has been practising for years. In her future plans she wanted to discuss that “society must work harder to embrace people with disabilities” (Girma, H. 2019).

Conclusion

In conclusion, it is clear that technology has improved with the evolution of hearing aids and cochlear implants over the years. Going from ear trumpets to hearing aids and cochlear implants is a different way to process hearing sounds. Since the BSL (British Sign Language) became an official language in 2003, the deaf community and language of BSL has been growing as a language for a number of years as stated by Miles, D. 1988, pp 28-29.

This was accelerated by the UK government's recognition of BSL as an official language in 2003 which meant that it could be taught to hearing populations as well.

Despite this, technology can be improved and become more efficient. An example of this is in America, where they have an American Sign Language (ASL) app on all subway and train services. It has English and ASL translation at the same time, however, in Britain it only has

BSL without the English translation. Realistically, the world should be progressing at a similar pace, not one country being the leaders in accessibility and access and others taking 5-10 years to catch up. This is because in the future there will be more and more Deaf and other disability people around the world, so if the technology is not in place there may be more problems in the future.

Overall, it is very apparent that the world needs to be more aware, receptive and inclusive to people who require additional needs or have disabilities and the access issues they face, this can be no clearer when stated by Rogers, F.(2003)

“Part of the problem with the word 'disabilities' is that it immediately suggests an inability to see or hear or walk or do other things that many of us take for granted. But what of people who can't feel? Or talk about their feelings? Or manage their feelings in constructive ways? What of people who aren't able to form close and strong relationships? And people who cannot find fulfillment in their lives, or those who have lost hope, who live in disappointment and bitterness and find in life no joy, no love? These, it seems to me, are the real disabilities.” (Rogers, F. 2003)

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