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EMPOWER

Empowering Persons with Disabilities
Through Effective Disaster Management

PODCAST 2

Services, applications and technologies to communicate even if I have a visual or hearing impairment

Summary

In this podcast Ozlem and Emine discuss what applications and new accessible technologies exist to facilitate communication for the visually and hearing impaired. They provide numerous resources both online and offline!

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EMPOWER PROJECT

Empowering people with disabilities through effective disaster management

The project partners are:

The Governorship of Istanbul (from Türkiye)

Institute for Vocational Education and Guidance (from Greece)

Institute for Promotion of Development and Training (from Spain)

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Hello, this is an IFSS podcast from EMPOWER Project.

I am Özlem who is one of the managers of this Project.

Today there are over 1 billion people – about 15% of the global population

currently experience disability and this number is increasing due in part to population ageing and

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an increase in the prevalence of non-communicable diseases.

This number has been increasing based on ageing and environmental factors day by day.

Many people try to struggle to give care to people with disabilities

professionally or non-professionally.

Except for professional caregivers, many of those are the

relatives of the disabled people….. parents, children or partners etc. In providing care,

these people need specific training on how to respond to dangerous situations.

Today we are here to talk about accessible services, applications and technologies

for visually or hearing impaired people can use in daily life and in case of emergencies.

To elaborate on the topic, we are together with Ms Emine ÜZÜM TAN

who is one of the managers of this project and also family and social service expert. First,

we are going to talk about services that visually impaired people can use.

Welcome Ms. TAN, can you give us examples of a visually impaired person

or person with a sight loss can use in daily life?

(Expert) Hello Özlem, firstly, I would like to talk about navigation applications.

As you know, navigation is an essential part of every person’s life.

People navigate for work, education, shopping, and other countless reasons.

Vision plays a critical role in navigation since it facilitates

the movement from one spot to another.

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Being blind or visually impaired does not mean losing the independence of getting to and from places.

However, one of the biggest challenges for people who are visually impaired is safe and efficient navigation. Besides to reach the destination safely, pit in-front of the path, hanging obstacles, stairs, traffic junctions, signposts on the pavement also might be challenging in navigation.

We can mention some applications to overcome this difficulty.

3-D Sound Maps: For a sighted person, walking along the street can mean taking in every detail that surrounds them.

Microsoft Soundscape replicates that behavior by building a detailed audio map that relates what's taking place around a person with visual impairment.

It creates layers of context and detail by drawing on location data, sound beacons and synthesized 3-D stereo sound to build a constantly updating 3-D sound map of the surrounding world.

Another app for navigating is Beacons of change.

Bluetooth beacons, such as those being used by the company Foresight Augmented Reality, act like highly precise, personalized guides for people who are blind or partially sighted.

While basic GPS technology can take users to a location, beacons mounted in a store, restaurant or public building can guide them to the entrance of the building in question.

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And when the user is inside, other beacons can direct them to the bathroom

or other important facilities.There is also Ariadne GPS that

allows visually impaired users to navigate directions using talking maps

and an innovative interface. Ariadne works anywhere accessible by Google Maps.

Besides the apps, there are also Electronic Mobility Aids that might be useful for navigating.

These Electronic mobility aids are devices that use ultrasonic waves to reflect off

obstacles in front of the individual to tell them what is coming in front of them.Some examples include:

-Ray Electronic Mobility Aid: This small device can help users detects

obstacles up to 9.35 feet away. When an object is detected users get an audio signal.

Another aid is-UltraCane. The UltraCane is a combination of an electronic mobility aid and a long cane.

The cane itself emits ultrasonic waves so that the user can

detect objects in front of them and at head level.

(INTERVIEWER) These sound really useful, what about the apps that can help describe the object

for visually impaired persons, is there any you can recommend?

(EXPERT) Sure, there are two most convenient ones. The first one is TapTapSee.

TapTapSee is designed to help the blind and

visually impaired identify objects they encounter in their daily lives. Simply double tap the screen

and take a photo of anything, at any angle.

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You'll hear the app speak the identification back to you.

And the second one is Aipoly Vision. Aipoly Vision utilizes

artificial intelligence to help low-vision people

better understand what's around them. Users point the app

at an object and simply press a recognition button.

(INTERVIEWER) As far as I understand, these technologies and applications can be used both in daily life

and in case of an emergency, after a disaster visually impaired person

can use them finding their ways and describing the object near them.

Can you also give us information on assistive technologies

that can be used by people with hearing impairment?

(EXPERT) Of course. Assistive technology includes a broad range of hardware

and software tools to transmit information to an individual in the manner most

accessible to them. Such technologies for deaf individuals can include

hearing aids, cochlear implants, FM systems, loop systems,

accessible telephones/videophones, visual alert systems, and much more.

there are some devices available to help individuals alert to sound using visual support.

Specially designed alarm clocks, smoke detectors, doorbells, timers,

baby monitors, and phone alerting equipment are available to provide typically audible

information in visual or vibratory ways.

Another option is a captioned telephone. Similar to the captions displayed

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on TV, captioned telephones show word-for-word text

of everything a caller says. Whether on a mobile phone or on a traditional household telephone,

individuals can rely on the captions to help catch every word over the phone.

There are two useful apps for transcription.

First is Ava. Ava is 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.

And the other one is Google Live Transcribe. Google's recent release

Live Transcribe uses ASR technology

to offer real-time transcription of speech into text. There is also Braci Sound Alert.

Braci Sound Alert app lets you record the sounds in your environment and

then gives you visual and vibrational alerts on your smartphone

when it recognises them. For example, it can alert you when an alarm

goes off or when a doorbell rings.

(INTERVIEWER) Thank you for your detailed explanations. In disasters

in case of losing communication between caregivers and PwDs (persons with disabilities),

or the disabled person experienced the disaster alone in an area

it will be more difficult to determine where the disabled person

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is and intervene immediately to meet his or her needs.

Considering that the person with a disability should manage this process on their own,

having alternative communication systems can be helpful for them.

Could you inform us what kind of tools can be used in such a situation?

(EXPERT) First of all, you need to agree on how you will contact each other

-especially with caregivers- during a disaster. In disasters,

we should consider that probably our cell phones,

the internet and other online communication systems do not work. That is why

we cannot count on our electric devices all the time.

At this point, we need to create an alternative way to

communicate like choosing a signal for help that you both understand.

The signals can be shouting, knocking on the wall or using a whistle.

Also, visual signals could include hanging a sheet outside your window etc.

On the other hand, the more system you have available to you, the more likely it is

that you will be able to contact other people who you need in disasters.

These systems could be: A standard telephone that does not need

electricity -Cell phone and text messaging

-Low-cost two-way radio: radio is one of the most used tools to get information during disasters

that is why in a disaster, the radio maybe is your prime source of information.

Portable radio and batteries. -Pagers -Social media is another great way to stay informed.

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Follow beneficial accounts about disasters around your area on Facebook and Twitter

for up to the minute information. -In addition, some applications that can be used in such a

situation could also be useful.

(INTERVIEWER) Could you give examples of the applications which can help them to communicate?

(EXPERT) Sure. I can categorize these services under two-unit.

One of them is offline communication services, and the other one is calling

for help services. Firstly, we must be ready for the possibility of line and internet interruptions

during a disaster. For this reason, it is important to search

for applications that we can communicate with without

requiring an internet connection and to install them on our phones.

At this point, I would like to talk about a few communication applications

that can be used offline that I think will be useful. For example,

The Serval Mesh, Signal Offline Messenger, Bridgefy and Life 360 are stand out applications.

One of the most important common features of these apps is that they allow offline messaging

that lets you communicate with friends and family when you don’t have access to the Internet.

Secondly, in an emergency, it is necessary to call for help and make a sound like a whistle.

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For example, there are many different whistle applications.

One of the prominent ones is the Whistle S.O.S application.

By downloading this very simple application to your phone,

you can get real whistle sounds when you need help.

In addition, there are applications developed to call for help in

disasters with more advanced features.

For instance, The Red Panic Button application is designed to improve

to save people's lives in case of an accident, disaster or other issues.

Just pushing the red button lets your family members or your friends know

where you are and that you need immediate care. The app will immediately

send an SMS and an E-MAIL containing your GPS coordinates in

Google Maps link to all your emergency contacts.

Also, it supplies that in case your medical emergency doesn't allow you to speak to

an ambulance operator, you can use the widget to take a picture

or record a short video and send it.

Another app I want to introduce is called "SOS EU ALP".

This application reads your position (coordinates) from your smartphone

and in case of an emergency, this position

will be used to inform the appropriate rescue coordination centre.

(INTERVIEWER) Ms. TAN thank you for your time, contribution and effort.

We hope this podcast will be a roadmap for visually or hearing impaired people.Anytime.

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