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Assisting Deaf and Hard-of-Hearing People in Critical Situations: Alleviating Stress and Enhancing Safety

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Abstract

Individuals who are deaf or hard of hearing encounter many difficulties in their daily lives, especially when it comes to receiving important information during emergencies or disasters. Relying on others for updates can create a dependency that may hinder their ability to respond independently and effectively in critical situations. To address this problem, it is crucial to have a warning system that can provide timely alerts directly to deaf and hard-of-hearing individuals, reducing their reliance on family members, tutors, or caregivers during emergencies. Our team has developed a mobile application that can notify individuals of unavoidable events like earthquakes or fires. We used App Inventor, a user-friendly development platform, to create the app, which can be installed on wearable devices for easy accessibility. By utilizing wearable technology and mobile connectivity, our app aims to bridge the communication gap that deaf and hard-of-hearing individuals experience during emergencies. It includes several essential features to enhance its effectiveness, such as customized alert settings based on individual preferences, such as the type of alerts, urgency level, and notification formats (visual or vibration). The app also offers real-time location tracking, which can provide personalized localized alerts, giving deaf and hard-of-hearing individuals crucial information about their immediate surroundings. Furthermore, the app has multilingual support to cater to



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diverse deaf and hard-of-hearing communities, ensuring that signals and information are conveyed in their preferred languages.

Keywords: emergencies, assistance systems, safety alerts, hard of hearing encounter, warning systems

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