Wikipedia for Visually Impaired: Picture Description

(Sudhir, Nischal, Sarthak, Anmol)

Problem Analysis: To make an efficient and a reliable screen reader, when sighted user tries to read image, screen reader must tell information about the image (image is about what).

Proposed Solution: This is where our team steps in to address the problem with an automated and optimised approach. The main purpose of Wikipedia for Visually Impaired: Picture Description at a user level is when sighted user encounters an image while surfing the internet, our project helps to interpret the image for the user which is further converted to audio format, screen reader must tell information about the image. It can be an alternate text about image or image title (if it clearly describes the image) or most appropriate information about the image from Wikipedia (most correct). There will be use of wiki dataset with most appropriate result.

We are working on a research project under the able guidance of Dr. Rajesh Bhatia and Dr. Manish Kumar, our project is a major component (picture identification) of the project they are working on, we will deploy our project with frontend and backend technologies of Web Development like HTML, CSS, Bootstrap, JavaScript and React.

We will be using methods of Deep Learning like CNN (Convolutional Neural Network) in Machine Learning for the interpretation part of the picture that will be uploaded or inserted by the user and methods of Artificial Intelligence will be used in the screen reader for analysing and giving out the short description of the image.

The user logs in on the website using the LOG IN functionality, the user ID and the password are AUTHENTICATED by the server from our database.

After the login is successful, the user then SELECTS/INSERTS the picture from any website or PC (and waits for the description), picture's INTERPRETATION is further provided by the server to the screen reader.

Finally, the screen reader GENERATES the description and GIVES OUT the description in AUDIO FORMAT and finally, the user receives the description.