Be Your Eye Application

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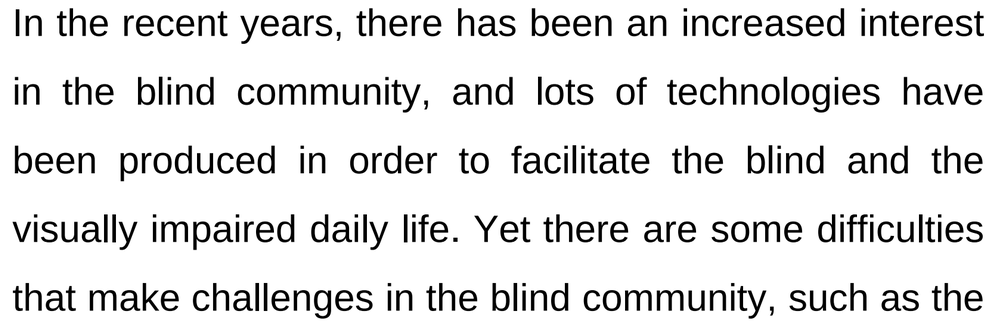
INTRODUCTON

In the recent years, there has been an increased interest in the blind community, and lots of technologies have been produced in order to facilitate the blind and the visually impaired daily life. Yet there are some difficulties that make challenges in the blind community, such as the inability to understand the content of a video. Therefore, the application will analyze videos by using some of the MATLAB built in algorithms and libraries to detect and track objects. Object's name, count and their position in the scene will be formed as a text that describes the video to the user. The application will use the voice assistant in order to interact with users.

PURPOSE OF THE PROJECT



The normal people can see the video and understand it.

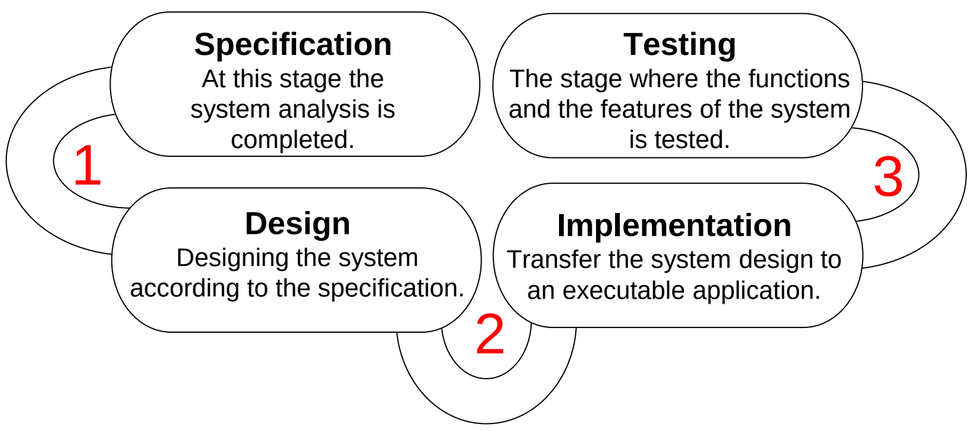
But blind people can't see the video and understand it.

By using the 'Be Your Eye' application, blind people can understand the video and interact with it.

The figure 1 shows the differences between the normal and blind people in understanding the content of the video, and how the application will provide the solution

METHODOLOGY

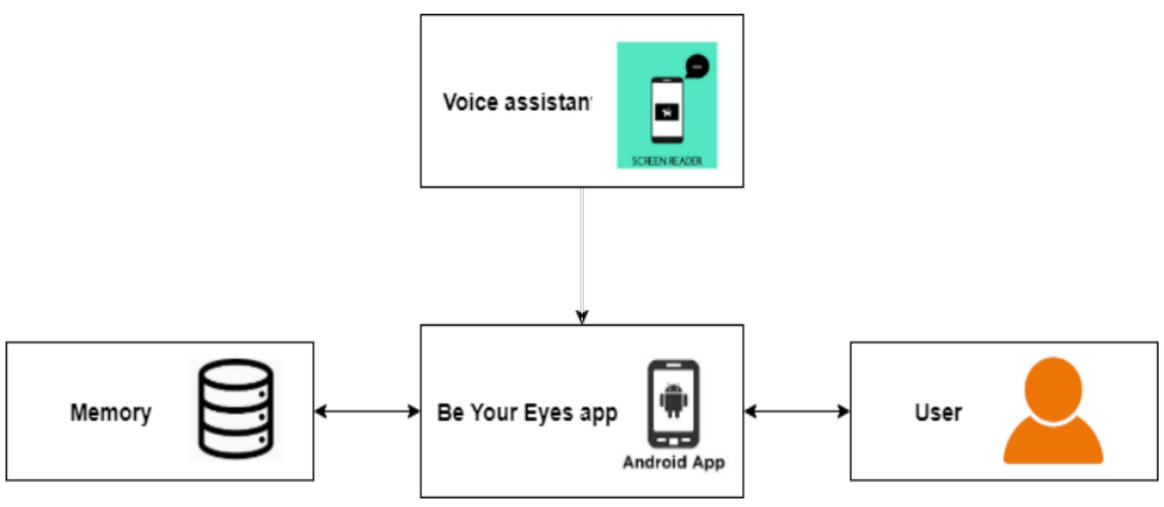
Agile development model had been used to develop this project.



OBJECTIVES AND GOALS

- Help them to be more socialized and break the barrier of dependence.
- Support the vision of 2030 toward an integrated community.

MAJOUR MODULES



The figure 2 shows the major model that illustrates the relationship between the following elements.

IMPLEMNTAION AND TOOLS

MATLAB had been used to develop the application by using (Deep Learning, Image Processing) Libraries in detecting and tracking objects, then formed these information as a text.

ANDROID STUDIO had been used to develop the application interfaces and to call the video information from memory, then display it on the screen.

RESULTS

- Analyzing the content of the video.
- Getting the video from the memory, then detect and track the object of its content
- Converting the result to text
- Displaying the text as textual information and read by the voice assistant for the user.

CONCLUSION

The "be your eye" application seeks to build an application that helps the people with a visual disability to obtain information about a particular video.

This project will be developed using some object detecting and tracking technology. The outcomes of the video analysis will be formulated as an understandable textual information that can be read for the user via the mobile voice assistant.

FUTURE PLANS

- Develop the system to be able to detect more objects in the video, describe them and determine the direction of their movement.
- Add the image analysis subsystem to the application that generates an image's description.
- Develop the system to be able to recognize famous faces.

Scan with QR reader to view the content

REFERENCES

SCAN ME