

LANGUAGE TRANSLATOR

¹Prajakta Lohar, ²Ganesh Shirsat, ³Prof. Deveshree Wankhede

¹B.E. Student, ²B.E. Student, ³Professor

Department of Computer Engineering

Shivajirao S. Jondhale College of Engineering

Dombivli East, Thane, Maharashtra 421204, India.

Abstract: Smartphone's are equipped with hardware powerful enough to develop novel, interesting applications which allow users to directly interact with the world around them. This is OCR translator developed using a smartphone's camera combined with OCR (Optical Character Recognition). This application will read the text characters in English language and produce a voice of text in Marathi or Hindi language. That is, it will read the captured text, which is in Standard English language into the user's choice from the options. This will be done using OCR. This application will also detect text using camera, scan English text of vernacular language (Marathi), then translate it into Standard English, and display translated text. When text to be translated will be viewed through camera.

Keyword– OCR, Android operating system,, User Module, User Interface, Text to speech, Smartphone

I. INTRODUCTION

People travel to different places not knowing language used in that region. Imagine a situation where a person from a rural area has come to a metropolitan city like Mumbai and cannot understand a board (which is written in Standard English language) in front of him. He will become very helpless at this situation. The fact that if you see something that you don't understand or just willing to learn something that is written in a different language, it is emotionally draining. Hence, there is need to translate unknown words to recognizable text. Therefore objective of our project is to assist tourists to navigate while they are going around. This application will help travelers who can get translated text and speech as an output of our application along with some animation. Our application will be able to recognize the text captured by mobile phone camera, translate text, display translation result back onto screen of mobile phone, and produce speech of translated text. Nowadays mobile devices are becoming very popular especially Smartphone's. The capabilities of Smartphone's are enormous. Researchers are developing various applications for users which can be used on Smartphone's.

II. LITERATURE REVIEW

The following research articles are selected for review keeping in mind the traditional and conventional approaches of housing society system. This given below information is the observed, segregated and highlighted points from all the base systems whose paper we have used as reference paper for our system.

Our base system which was Optical character reorganization which was developed by Vijay Nadar and after that we deeply studied its flaws and merits. This project had a simple user interface but only do voice translation.[1]

The second system which we used for reference was called as " Detecting text based image using MFCC" and again picked out its points. The paper was based on project development by Manoj Jayabalan. It could convert both text as well as voice data but it was a website it required continuous internet connection which was a major flaw with the system.[2]

Our third base paper was on the project topic "Language Translator using Image Processing" a major flaw with this system developed by Varsha Mali was seen that it would generate output out of all given input into English Language and thus was not found to be of any use when used in an local environment.[3]

III. PROPOSED SYSTEM

As we know most of the population use a Smartphone's for a major part of their day so we decided to develop our project for the palmtop platform Our project language translator is an Smartphone application which was develop using a certain hybrid platform development technologies due to which it not only work on the android operating system but also work on the IOS cell phone that is the iPhone.

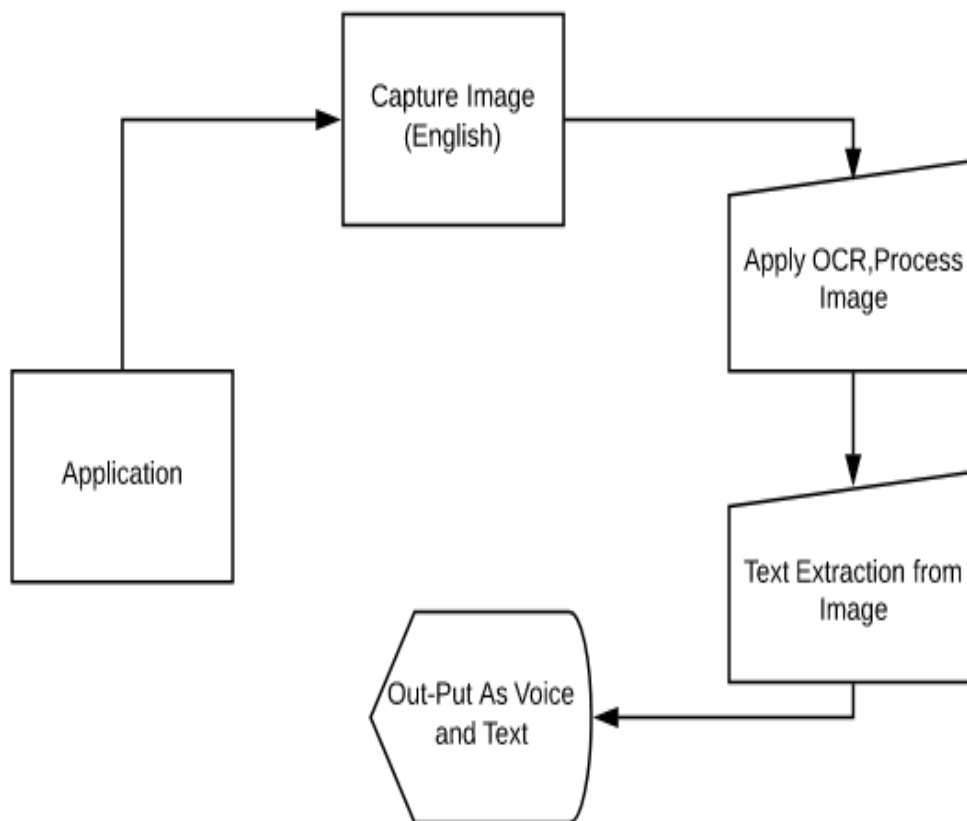


Fig. Architecture diagram of the system

Once the application is installed on the device, the user will be provided options to translate from English to Hindi or Marathi. To translate from English text of Marathi language To standard English the user then chooses one of the options which will open the camera of the system. The user has to adjust the camera properly and capture the images whose text has to be translated. In case of the first option the augmented translated image is displayed to the user. Along with it, features like animation or sound is also provided. In case of the second option the translated text is first displayed. Then sound of translated text is provided to the user. The language Translator system will be available to user in the form of an android application that can be downloaded from application stores.

Modules involved in Language Translator system are as follows:

- **Camera:**

The user to capture image of text that has to be translated uses inbuilt camera of the system.

- **OCR Module:**

Optical character recognition module plays role of translating text from English language to Hindi or Marathi language. The characters are identified after pre-processing of image and identified text is passed on to Text to Speech module. LOGIN: In order to enter the system user has to login with their provided ID and PASSWORD to have the access to the scheduled upcoming meetings in society regarding the demands or issues of the society members the application also provides user end to add any issues given date.

- **Text To Speech Module:**

This module to produce the speech of converted text will then use input taken from OCR module. This is given as output to user.

- **User Interface Module:**

The user will be given output which is translated text along with the voice and additional features

IV.COMPONENT:

The front end of application will be constructed using JDK as it gives a better build support for an application Java provides multiple tools and enhance services for developing android based mobile apps using distinguished packages and built in class which prove beneficial for the user

in developing a android application. The backend of Software system is developed using MySQL as it proves to easy use to use and manipulate by developers.

SYSTEM REQUIREMENT

An application is designed to be compatible with all android OS based devices and IOS devices.

- a) Software requirements:
- Operating System : Windows 7 And Above
 - Programming Language : JAVA/Android
 - Java Version : JDK 1.6 & above.
 - Data Base :MySQL
 - Tool : Android Studio
- b) Hardware requirements:
- System : Core i3
 - Hard disc space : 40 GB
 - Monitor : 14" color monitor
 - Mouse : Optical mouse
 - RAM : 2G

V.MAINTENANCE

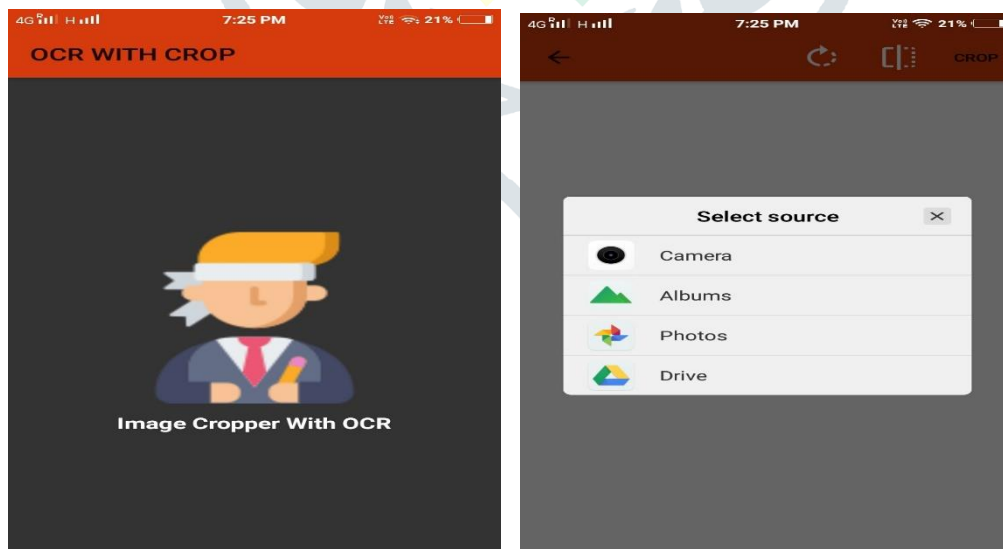
The system developers are some said to make more money in Maintenance phase than the development phase. The system requires constant maintenance as there might always be need to patch some minor flaws observed in running environment or update which is made to upgrade level of system

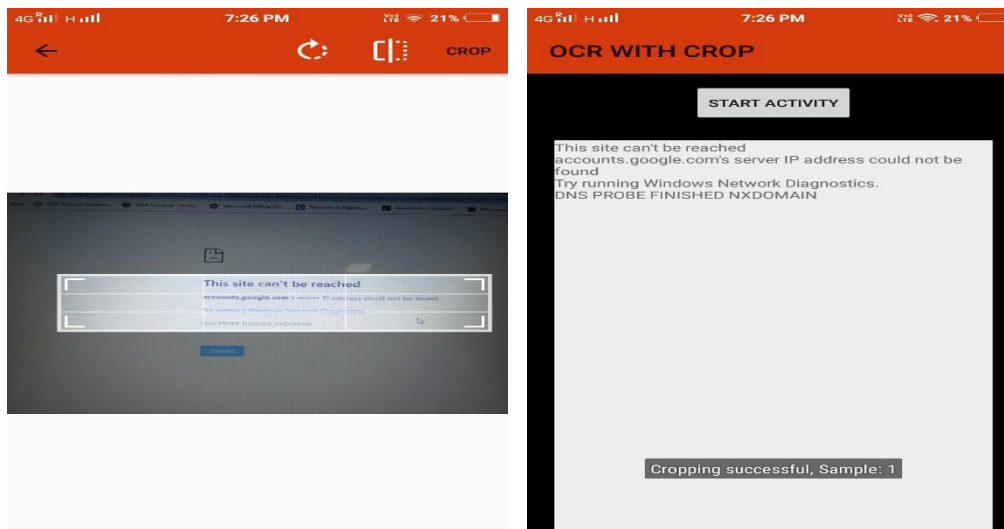
VI.FEATURES:

- It is software application that is work on android system
- It is easy and efficient user interface.
- It provides more accurate and selective result instead of translating the entire block of scanned document.
- It converts the given input to local language and display it on the screen.
- It also helps in converting selected text to voice output thus helping the user its pronunciation.

VII.RESULT:

Further given images are the actual image of the system interface.





VIII.CONCLUSION:

Language Translator is augmented reality translator developed using a Smartphone's camera combined with OCR (Optical Character Recognition). .OCR is emerging technology in which one's perception of real-time environment is enhanced by superimposing computer-generated information this application detects text using camera and scans English text of vernacular language (Marathi) and then translates it into Standard English and displays translated text. To understand dynamics of project, basic idea about what is OCR is required. This report explains entire working of Language Translator, along with minimum requirements needed to implement it. Hence, any person can easily use Language Translator as friendly simple application in all around globe.

IX.ACKNOWLEDGMENT:

We wish to express our deep gratitude to our guide **Prof. Deveshree Wankhede**, for all the advice, encouragement and constant support she has given us throughout our project work. This work would not have been possible without her support and valuable suggestions.

We are grateful to **Prof. Uttara Gogate, Project Coordinator** for giving us the necessary guidance for our project.

We are grateful to **Prof. P.R.Rodge**, Head of the Department of Computer Engineering and the **Members of Project Review Committee** for their valuable suggestions.

We are also grateful to **Dr. J. W. Bakal**, Principal for giving us necessary facilities to carry out our project work successfully.

We would like to thank all our colleagues for their help and constructive criticism during our project work.

X.REFERENCE:

- [1] Jisha Gopinath, Aravind S, Pooja Chandran, Saranya S S, Text to Speech Conversion System using OCR, International Journal of Emerging Technology and Advanced Engineering ,Volume 5, Issue 1, January 2015.
- [2] Raviraj S Patkar , S. Pratap Singh , Ms. Swati V. Birje, Marker Based Augmented Reality Using Android OS ,International Journal of Advanced Research in Computer Science and Software Engineering ,Volume 3, Issue 5, May 2013.
- [3] Rencheng Sun ,YiSui , RanLi , Fengjing Shao, The Design of a New Marker in Augmented Reality, 2011 International Conference on Economics and Finance Research , IPEDR vol.4 (2011)
- [4] <http://www.modlingua.com/blogs/853-definition-of-gilt.html>
- [5] https://en.wikipedia.org/wiki/Augmented_reality
- [6] https://en.wikipedia.org/wiki/Optical_character_recognition
- [7] <https://translate.yandex.com/>
- [8] <https://en.wikipedia.org/wiki/Yandex.Translate>
- [9] <https://www.kensiumbpo.com/foreign-language-ocr-and-translation-services>