CHATTRA-CHAT APPLICATON USING LANGUAGE TRANSLATION

Mrs.AIBYMOL VARGHESE
Dept of CSE
MBCCET
Kerala,India
aibyvarghese@gmail.com

Mrs.HEPSY MARIAM THOMAS
Dept of CSE
MBCCET
Kerala,India
hepsymariamthomas@gmail.com

Mrs.JISHA ANIE JIJI
Dept of CSE
MBCCET
Kerala,India
jishaaj1997@gmail.com

Mrs.NEENU ANNA KOSHY
Dept of CSE
MBCCET
Kerala,India
neenuannakoshy@gmail.com

Mrs.ANNIE CHACKO
HOD,Dept of CSE
MBCCET
Kerala,India
annniechacko@mbcpeermade.com

***Abstract*—India is a multilingual country; different states have different territorial languages but not all Indians are polyglots. There are 18 constitutional languages and ten prominent scripts. The majority of the Indians, especially the remote villagers, do not understand how to read or write English; therefore implementing an efficient language translator is needed. Translation is required to eliminate communication difference that occurs between two languages and discard them from sharing information between them. Translation is been required by authors for writing rich literature work in one language to others and hence need a faster and better translator. Translation is done with human translators and need to be paid heavily and is a time-consuming process. English, being a universal language and Hindi, the language used by the majority of Indians, we propose English to Hindi and vice versa machine translation system design. This project also describes the different approaches to Machine Translation. Computer helps in summarizing huge calculations and complex problems in seconds, which are been extended to solve this problem and called as machine-assisted or machine translation. The huge scope of work lies in the development of these machines. The first step in better research identification is a systematic survey. In this paper we are discussing about different types of language translation and the approaches used in it. This paper gives an overview about a chat application with language translation.**

INTRODUCTION (*HEADING 1*)

Translation is the process of translating words or text from one language into another ie, the conversion of something from one form to another or medium into another. A translator or programming language processor is a computer program that performs the translation of a program written in a given programming language into a functionally equivalent program in another computer language (the target language), without losing the functional or logical structure of the original code. Machine Translation (MT) Systems are used for automated translation of one natural language to another. Human translation of any language is time consuming and expensive. By the use of machine translation systems, we can reduce time and cost of human translators. Hindi, the official language of India, is used by about 400 million people. The motivation behind the project English to Hindi machine translation system is that many documents and records like government records, historical, news etc. are written in English, which is not popular among the remote villagers of India. However, the rural villagers, especially in north India, apart from their native language, know Hindi. English and Hindi are used for official work in most states of India. The state governments in India predominantly carry out their official work in their respective regional language whereas the official work of Union government is carried out in English and/or Hindi. All the official documents and reports of Union government are published in English or Hindi or in both English and Hindi. Many newspapers are also published in regional languages. Hence, there is a need of an automatic translation from English to Hindi. Machine translation eradicates the gap in communication and facilities sharing information among people. Major problem in developing translators is huge vocabulary and structural divergence introduced by language. The main goal of research is to focus on English and Hindi language as English is worldwide accepted and Hindi is our mother tongue. To accomplish the goal we introduce a new translator application that converts English language to Hindi as well as Hindi to English language to improvise the communication gap. Starting in Android Marshmallow, the operating system gained support for custom text selection actions. Selection includes four options; text to text, speech to speech translations and an additional chat option. The translation of our selected text appears in a floating box at the top of the screen. We can chat more easily with chat app. Conversation mode goes back and forth between the two languages: when we speak, the app translates; the other person speaks, and the app also translates for you. By default, the translator operates for two languages at a time that offers a more natural experience, provided we can avoid talking each other with a mediator. Translating these documents manually is very time consuming and costly. Hence there is need to develop good machine translation (henceforth referred as MT) systems to address all these issues, to establish a better communication between states and Union governments and exchange of information amongst the people of different states with different regional languages. Many Indian languages being low resource languages become a major hurdle in the development of MT systems for Indian languages.

OBJECTIVE

The main objective of the proposed system are given below
Mainly focuses on the people who does not know Hindi language.

The Application is user friendly.

The Chat Application helps people to communicate with each other without language barrier(English to Hindi and vice-versa).

A very good knowledge of the language, written and spoken, from which they are translating;

An excellent command of the language into which they are translating;

Familiarity with the subject matter of the text being translated;

A profound understanding of the etymological and idiomatic correlates between the two languages, including sociolinguistic register when appropriate; and

A finely tuned sense of when to metaphrase ("translate literally") and when to paraphrase, so as to assure true rather than spurious equivalents between the source- and target-language texts.

REQUIREMENTS SPECIFICATION

A. *Functional Requirements:*

- The primary requirement of CHATTRA application is to provide a mechanism for Online Chatting using language translation at a small scale.

B. *Non-Functional Requirements:*

Ease of use:

- The User Interface must be easy to handle, understand , navigate and use.

Availability:

- The application must be available to use as and when required.

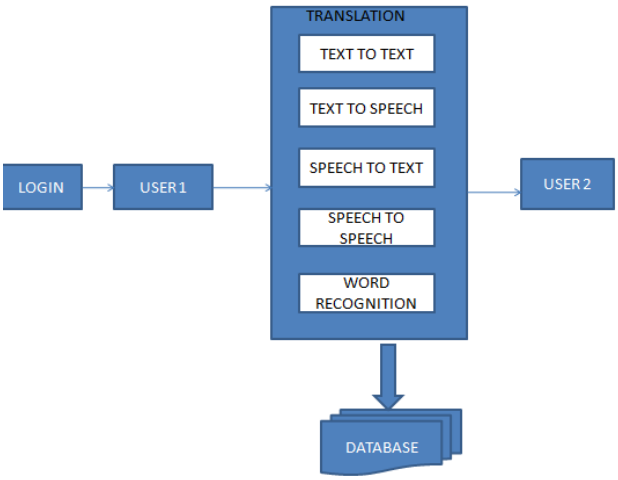
C. *Hardware Requirements:*

- ***Operating System:*** Windows 8
- ***Processor:*** Intel Core i3-6006u 2.0 GHz
- ***Ram:***4 GB
- ***HDD:***1000 GB

D. *Software Requirements:*

- ***Language:*** Java, xml
- ***Tools:*** Android Studio
- ***Database:*** Firebase console (real time online database)

ARCHITECTURE



The System architecture is done on an Android Application. The translation of language is done from English to Hindi and vice versa. The Application has user registration where the user must be able to register for the application through name and email id. The name and email id is stored in database. As the user registers the name gets displayed on the chat screen. A particular user can communicate to another user by sending messages as text to text, text to speech, speech to text and speech to speech. This application also has a camera that recognizes the word and converts it into the other language.

IV.IMPLEMENTATION

LOGIN PAGE

The chat application is logged in by username and email id. It also has an option for registering the name and email id.

REGISTRATION PAGE

This page is for the unregistered users. It has name and email id as fields to filled.

HOME SCREEN

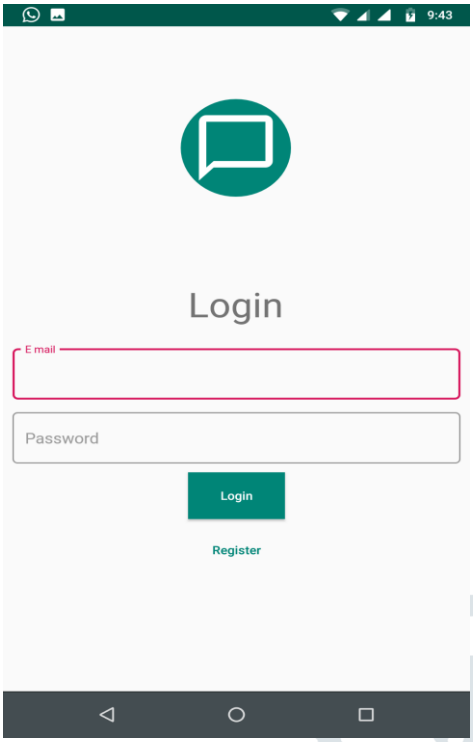
The home screen has two sides camera field and a chat screen. There is option for converting English to Hindi and Hindi to English.

(i) **Camera Side**: The camera recognizes the word or the sentences and converts it to other language as binary data. The converted text is displayed according to the words recognized in the array form.

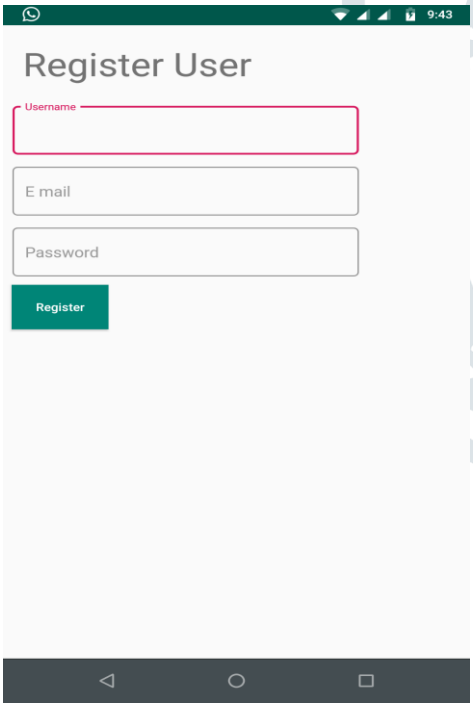
(ii) **Chat Screen**: In this screen the registered users are displayed. As the chat is taken it has keyboard to write the message and then the message can be sent as text to text, text to speech, speech to text and speech to speech.

V. TESTING AND RESULTS

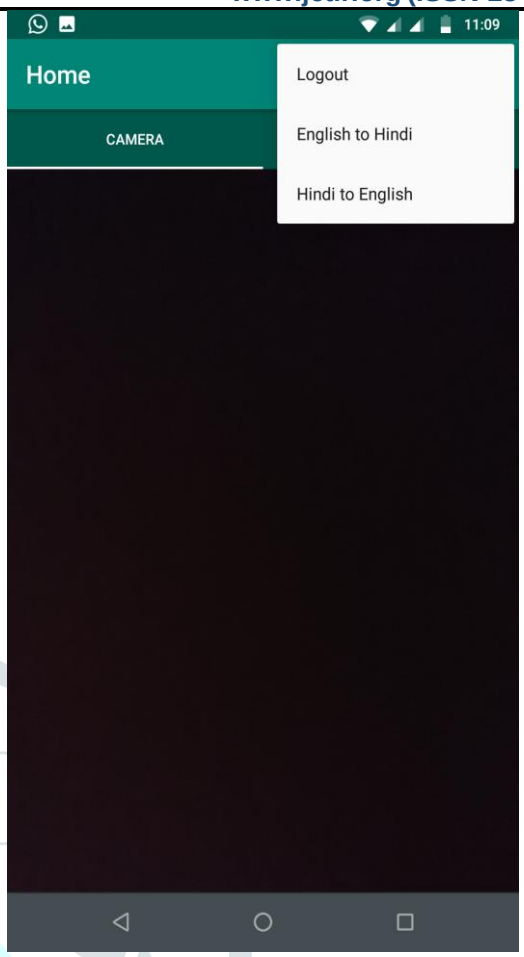
USER AUTHENTICATION



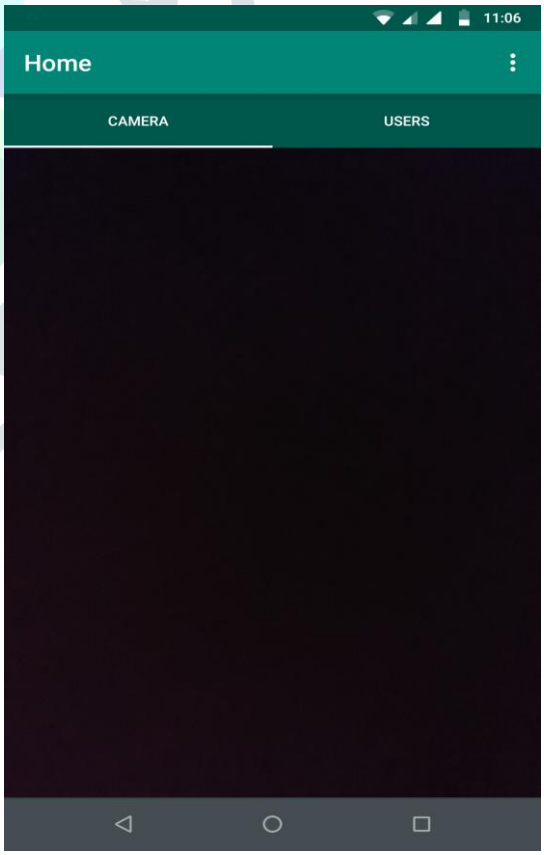
REGISTRATION PAGE



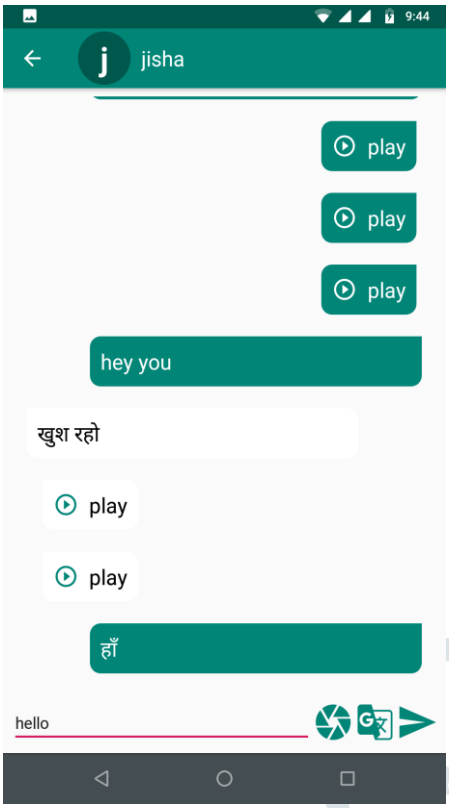
HOME SCREEN

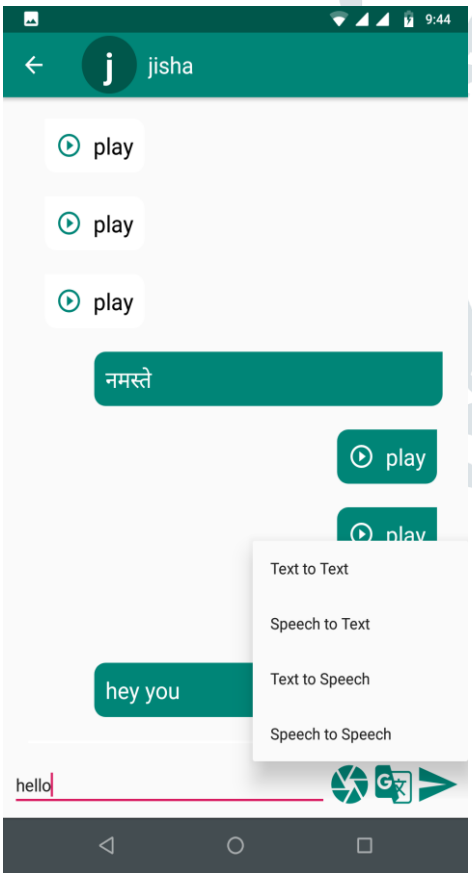


(i) Camera Field



(ii) Chat Screen





CONCLUSION

The proposed system is an efficient and useful application for people to avoid language barrier. The application helps one to convey some valuable messages to other people in different languages. The application would help majority of the Indians to overcome the difficulty in understanding the English language. The application would be useful for the people as this acts as a need for the beginners. To make the translation process more efficient, new features are added to the system. This technique can relinquish better level of efficiency compared to other approaches over English to Hindi language. Our proposed system shows the accurate results than other systems.

VII. REFERENCES

[1] Jayashree Nair, Amrutha Krishnan K, DeethaR, "An Efficient English to Hindi Machine Translation System Using Hybrid Mechanism."

[2] Anna Becla, "Translation and its importance in learning foreign languages at primary schools."

[3] Sneha Tripathi and Juran Krishnan Sarkhel, "Approaches to machine translation."

[4] Sanjay Kumar Dwivedi and Pramod Premdas Sukhadeve, "Machine Translation Systems in Indian Perspectives."

[5] V.N.Shukla, Prof. R.M.K Sinha, "AnglaBharati Machine Translation System"

[6] Shachi Dave, Jignashu Parikh and Pushpak Bhattacharyya, "Interlingua-Based English–Hindi Machine Translation and Language Divergence."

[7] AmarpreetKaur and Jyoti Rani, "Web based Punjabi to Hindi statistical machine translation."