

LANGUAGE TRANSLATOR APP

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Abstract - A language translator is an android application that can be utilized for translating from one dialect to any other dialect. There have been difficulties in information communication between countries over the years. In modern times, language interpreters must understand and speak both the language that is being translated and translated to. The aim is to develop an android language converter app in order to make learning and language translation easy and facilitate stress-free communication, which can work more efficiently than other existing applications with an optimized code for the process of translation. The motto is to implement a lens for scanning the images instantly and convert them to text and translate them. Making the app work even in offline mode is the main objective.

Key Words: Language, Translation, Communication, Lens, Offline

1. INTRODUCTION

A Translator app is an assistance for translation which helps people survive in places where the language is unknown. They can easily input their message either via text or via speech and can translate it easily into any language. This can also assist people with difficulty in writing with the help of speech recognition features. The text in an image can be captured with a lens and it can be translated into any language as per the user's choice. I have used a specific set of codes which process two or more combined user input modes, such as speech, image. Even for detecting the voice and for scanning images we used java code to perform the actions unlike other systems. In our proposed model it works in both online and offline mode. The proposed model is the structure of the Next-Generation of voice Assistants.

2. LITERATURE SURVEY

This chapter will discuss article review of our project. The article review is important because it is used to help the developer to build the system, so that the developer gets more knowledge of the pros and cons of the system, which helps the developer to choose the best way to develop the system. Research and analysis of an existing system or current system have to be done in order to build a good system. Good system always comes after enhancement of existing systems.

A Practical Guide for Translators, 5th edn, Bristol, Multilingual Matters by Samuelsson-Brown G in 2020 briefs about translators and its applications which helped to build the flow of developing the app effectively

Building a translation competence model by Amsterdam, John Benjamins in 2021 gave guidance on building the model

Triangulating Translation: Perspectives in Process Oriented Research by Amsterdam, John Benjamins in 2021 says about translation and its applications which helped in implementation of translation more efficiently

Approaches to Translation by Newmark P in 1981 tells how translation works efficiently and guided to complete the app successfully

The research helped in completion of the application and served as a stepping stone for achieving efficiency in translation of text to text, speech to text, image to text translation.

3. PROBLEM STATEMENT

Communicating with people at one time when the user doesn't understand the language spoken by the other user. By using this app, the user can easily understand what he/she (other user) is speaking and translating it to the user who uses the app. They are completely useful for the one who travels from country to country or from state

to state i.e the one who travels the world. There are many apps like this but the app which has been developed can work completely in offline mode. Moreover it can recognise the text in an image accurately and translate it to the language as per the user's choice which reduces the efforts of the user in typing the text present in anything again in a translator app.

4. REQUIREMENTS

4.1 SOFTWARE REQUIREMENTS

S.NO	REQUIREMENT	SOFTWARE
1	Front End	JAVA8, XML1.0
2	Android	Android Studio
3	Operating System	Windows 7, Windows 8

4.2 HARDWARE REQUIREMENTS

S.NO	REQUIREMENT	HARDWARE
1	Processor	Intel Pentium III
2	RAM	minimum 4 GB
3	HDD	40 GB
4	Secondary Storage	1.44 MB FDD, CD-R, CD+RW CD
5	Monitor	14" Color Monitor

4.3 FUNCTIONAL REQUIREMENTS

1. System Admin: Installs translations in the application.

2. Translator: Updates translations that can then be used in the application.

3. Developer: Creates windows and customizations that use a translation

framework to enable a language specific version of the customization.

4. User: Works with the functionality in the application and specifies the language

they would like to view the user interface in. Chooses a language from those that

are active within the application.

5. FLOW CHART

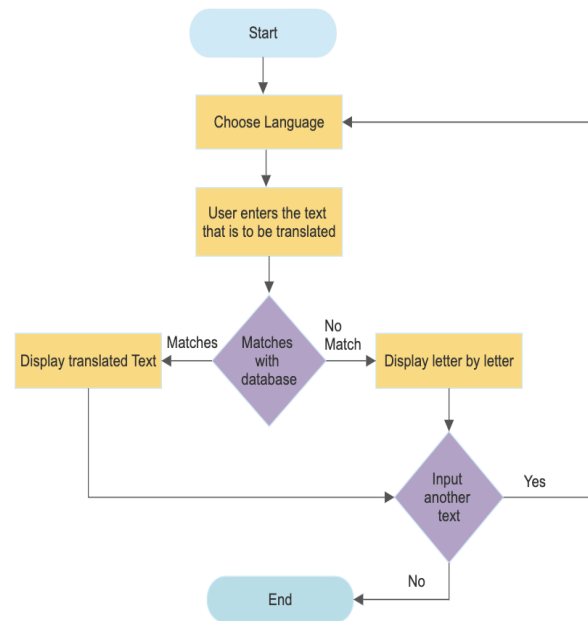


Fig 1: Flow of the application

6. METHODOLOGY

6.1 PARAGRAPH SLICING:

Here paragraph slicing is employed to separate a phrase or a sentence into words and then it'll be scanned by the scanner employed in the code in order that they'll be translated to required languages.

6.2 FIREBASE ML KIT:

Firebase ML Kit provides users the features of Machine Learning like Face recognition, Language Translator, etc. in brief ML kit provides the mobile SDK(Software Development Kit) that may be simply integrated with Android and iOS Apps. ML Kit brings Google's machine learning experience to android and iOS apps with a powerful however easy-to-use package. ML Kit makes it easy to use ML techniques in your apps by importing Google's ML technologies, such as the Google Cloud Vision API, TensorFlow Lite, and also the Neural Networks API along with a single SDK. Whether or not you would like the facility of cloud based process, the period of time capabilities of mobile-optimized on-device models, or the pliability of custom TensorFlow Lite models, ML Kit makes it possible with simply less lines of code. ML Kit SDK could be a multi-platform, that is APIs are used for iOS and android apps. Thus, ML Kit developed might compete with CoreML from Apple and even beat it sooner or later. However, today, CoreML has more benefits than ML Kit. As an example, CoreML uses TensorFlow, and it also accepts ONYX, Python tools, Apache MXNet.

7. OUTPUT SCREENSHOTS

7.1 LANGUAGE SELECTION

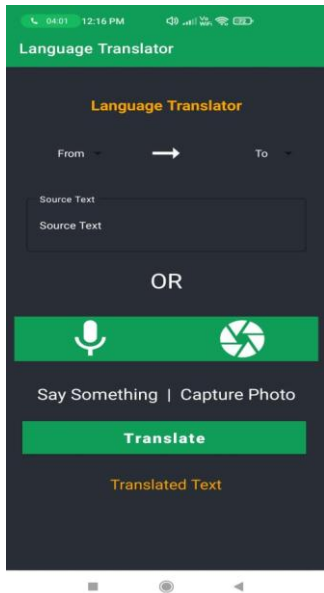


Fig 2: Homepage

7.2 TEXT TO TEXT TRANSLATION

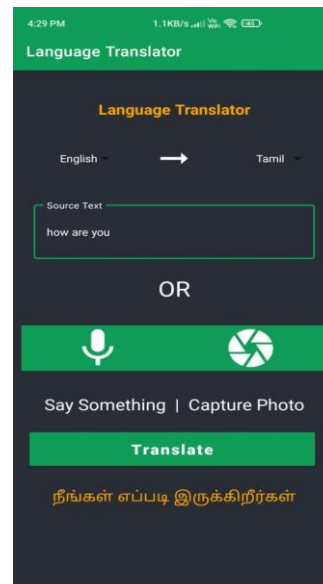


Fig 5: Text to text translation

7.3 SPEECH TO TEXT TRANSLATION

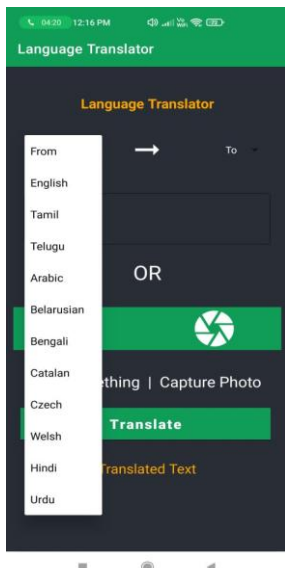


Fig 3: Language selection

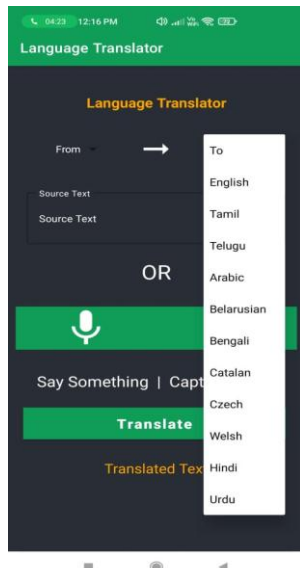


Fig 4: Language selection

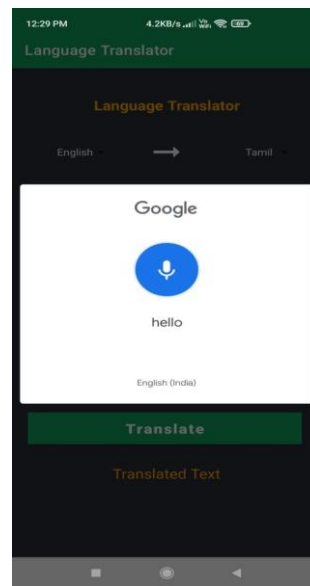


Fig 6: Speech recognition

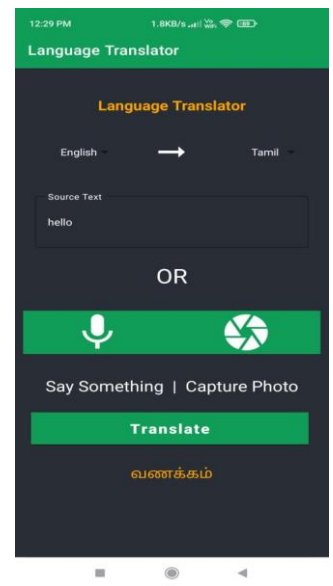


Fig 7: Speech to text translation

7.4 IMAGE TO TEXT TRANSLATION

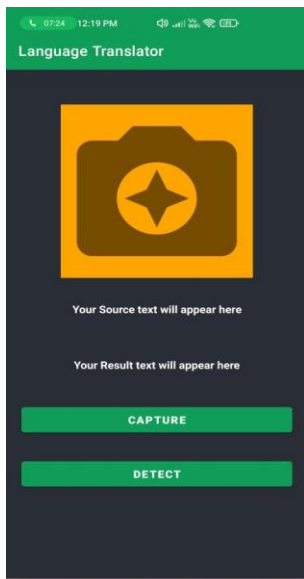


Fig 8: Image recognition

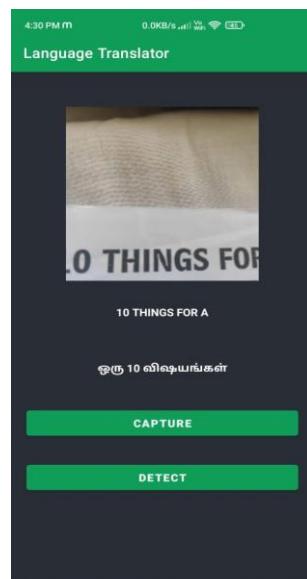


Fig 9: Image to text translation

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8. CONCLUSIONS

The development of the app comes up with the following conclusions

- Deliver information in multiple languages
- Improve communication in multiple languages
- Increase human translation productivity
- Create, manage enterprise language as a Corporate asset
- Integrate with enterprise applications
- Assist people with disability in speech
- Capture image and translate easily
- No requirement of internet connectivity

Further the future work can be taken up on image recognition for text which are handwritten and also including an option for uploading a document for translation.

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