International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 07 Issue: 04 | April - 2023 Impact Factor: 8.176 ISSN: 2582-3930

Language Translator Application

Vinayak Vathare[1] , Shreyash Belle[2], Shishir Tirth[3], Prashant Nandiwale[4], P. K. Karve[5]
Department of Computer Science Engineering Sharad Institute of Technology Polytechnic Yadrav, India
Corresponding Author's Email: - vinayak.vathare2004@gmail.com[1]

Abstract
The application is equipped with advanced language processing capabilities that enable it to translate text from one language to another accurately and quickly. The application features an intuitive interface that allows users to input the text they want to translate and select the target language. Once the translation is complete, the application generates a report in the desired language, which can be saved or shared with others. With this language translator application, users can easily communicate with people who speak different languages and generate reports in the language of their choice,making it a valuable tool for professionals and individuals alike.

Keywords: Language Translator, Mobile Application, Stress-FreeCommunication

INTRODUCTION
In today's globalized world, language barriers can be a significant obstacle for communication and collaboration. The language translator application for Android is designed to help users overcome this barrier by providing a simple and effective solution for generating reports in different languages. With the increasing need for businesses to expand globally, this application can be a valuable tool for professionals who work with clients and partners from around the world. The application is easy to use and features an intuitive interface that allows users to translate text from one language to another quickly and accurately. The reports generated by the application can be saved or shared with others, making it a powerful tool for collaboration. In this era of digitalization, language translator applications have become essential for individuals and businesses to communicate effectively with people who speak different languages.

METHODOLOGY

For text translation, the Translation App uses Google Translate API to translate entered text or message into a selected language. For instance, if the user entered text in English & translation language is selected as Marathi, the google translation API will translate it into the Marathi Language Users can switch languages; the user can enter the text in Hindi or Marathi or any other language. There is another option, if the user speaks any text or message, it will detect it and translate it intothe selected language.

System Requirements

The Project application is loaded in Android Studio. We used Android Studio for Design and coding of project.

HARDWARE REQUIREMENT

a Windows 7 or higher

b I3 processor system or higherc 6 GB RAM or higher

d 100 GB ROM or higher

Software Requirement

1. Laptop or PC
2. Android Studio

Modules and their Description

The system comprises 4 major moduleswith their sub-modules as follows:

Home Screen

1. Text- The user can translate anytextthey want.
2. Picture- The user can translate anyobject or text on the picture

Text Translation Module

Text translation involves converting written or spoken text from one language to another. Here are three to four key points that explain the work of text translation:

Language Conversion:

The primary task of text translation is to convert the meaning of written or spoken text from one language

into another.

Accuracy and Quality:

A critical aspect of text translation is ensuring that the translated text accurately conveys the intended meaning of the source text. Quality assurance processes are essential to check for errors and ensure that the translated text is free of ambiguity and unclear expressions.

Conversation

The work of conversation in a translator app involves facilitating communication between two or more individuals who speak different languages:

1) **Real-Time Translation:** The primary task of conversation in a translator app is to provide real-time translation between two or more individuals who speakdifferent languages..

2) **Speech Recognition**: Conversation in a translator app requires the ability to recognize and accurately transcribe spoken language.

PICTURE TRANSLATION MODULE

Object Detect

Object detection is a computer vision technique that involves identifying and localizing objects of interest within animage.

Identifying objects:

An object detector is designed to recognize specific objects within an image or video byanalyzing the visual features of the objects.

Localizing objects:

Object detection also involves localizing the objects within the image or video by determining their exact location and size.

Text Detect

A picture text translator is a type of translator app that can recognize and translate text found in images or photographs. Here are three to four keypoints that explain the work of a picture text translator:

Optical Character Recognition:

The first step in picture text translation is optical character recognition (OCR), which involves identifying the text in the image and converting it into machine-readable text. This is typically done using computer vision algorithms and machine learning techniques.

PROPOSED SYSTEM

The proposed language translator application for Android will be designed with the following features to generate reports in different languages:

User Interface: The application will have a user-friendly interface that is easy to use and navigate. The users will be able to input the text they want to translate and select the target language for generating reports.

Translation Engine: The application will use an advanced language processing engine to translate text from one language to another. The engine will be capable of accurately and quickly translating text from a wide range of languages.

Language Support: The application will support a wide range of languages to provide users with maximum flexibility. The users will be able to select the target language from a dropdown list or input the language code.

Customization: The application will allow users to customize the font, font size, and other formatting options to generate reports as per their requirements

Cloud vision API to recognize theText, andit is also part of ML.

Another option is available here; thesame user must pick the image on which text is accessible, and that text or message will be transformed intothe specified language.

FUTURE SCOPE

The future of language translator applications is expected to witness significant growth with the emergence of new technologies such as artificial intelligence and machine learning. With these technologies, the application can become even more accurate and efficient in translating languages. Moreover, the integration of voice recognition technology will allow users to communicate with the application using their voice commands, making it even more user-friendly.

Another area of growth for language translator applications is the integration with other applications and devices. For instance, integrating the application with smart home devices and wearable technology will allow users to communicate with their devices in their preferred language.

Features

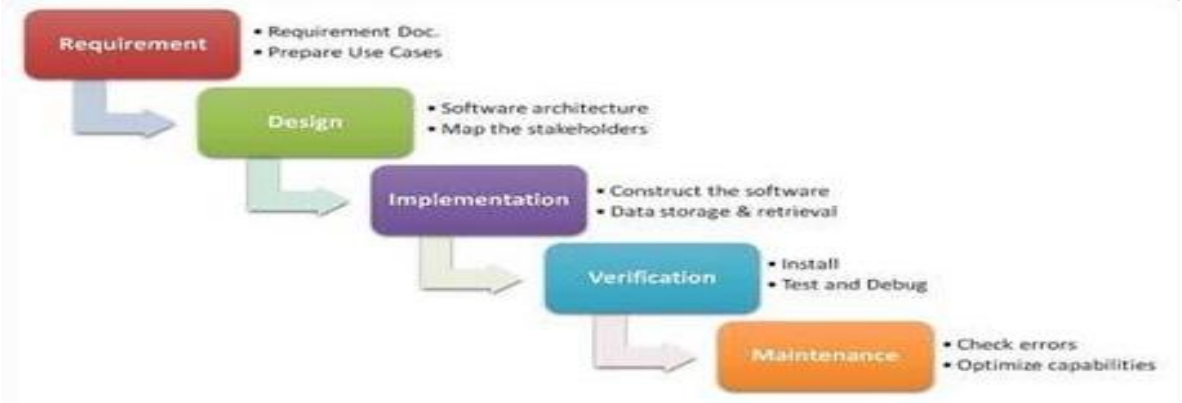
The application should have accurate translation capabilities that can translate text from one language to another withoutany errors.

The application should support multiple languages to cater to the needs of users from different parts of the world.The interface of the application should be user-friendly, making it easy for users to input text, select the target language, and generate the report.

he application should provide customizable options for report generation, such as font size, page layout, and formatting.

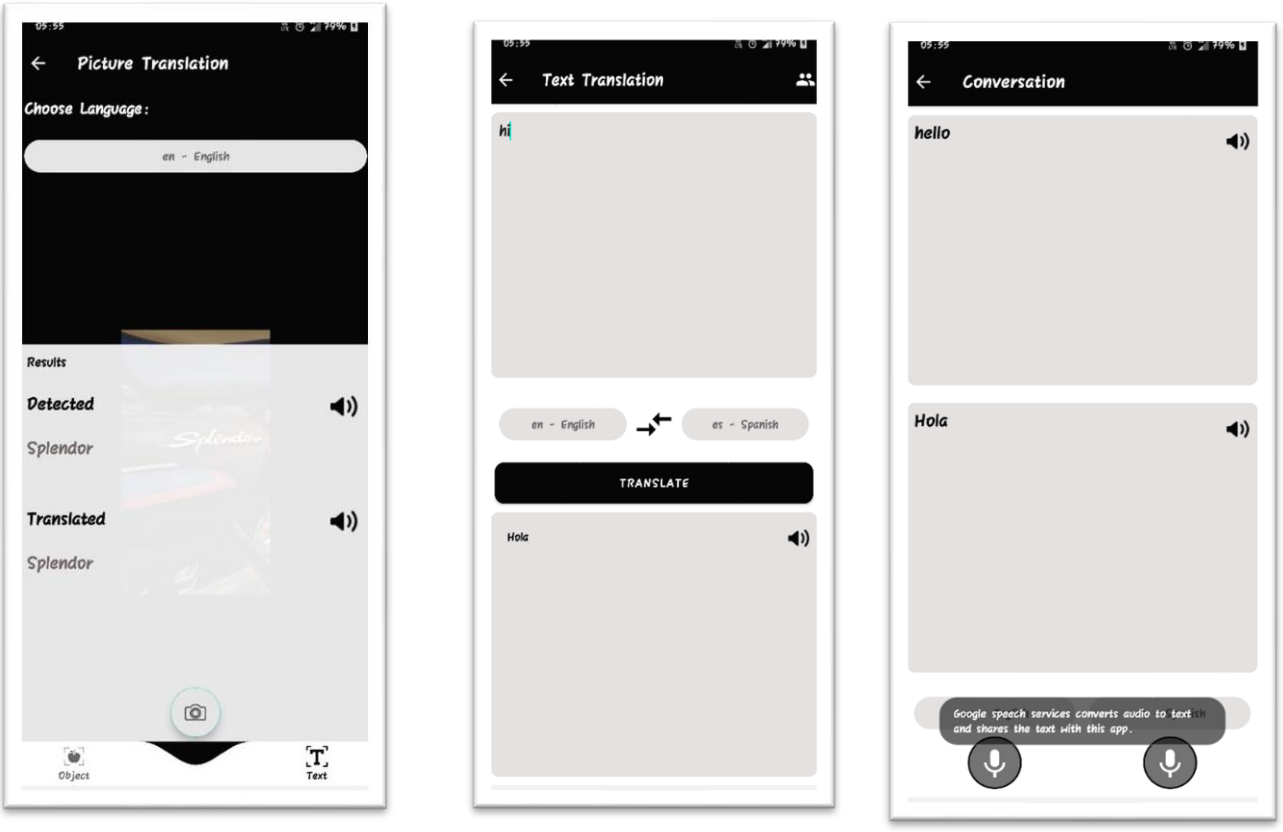
PROJECT LIFECYCLE DETAILS

Waterfall Model



The Waterfall Model is a linear sequential flow. Which progress is seen as flowing steadily downwards (like a waterfall) through the phases of software implementation. This means that any phase in the development process begins only if the previous phase is complete. The waterfall approach does not define the process to go back to the previous phase to handle requirement changes. The waterfall approach is the earliest approach that was used for software development.

IMPLEMENTATION



Overview of Technologies Used Introduction to Android

Developing a language translator application for Android requires the use of several technologies. Here are some of the essential technologies used in developing alanguage translator app for Android:

- This is the primary integrated development environment (IDE) used for developing Android applications. It provides a comprehensive set of tools for designing, developing, and testing Android applications
- Java is the primary programming language used for Android application development. It provides a robust platform for building high- performance applications with a wide range of features
- Extensive testing tools and frameworks
- This is a cloud-based translation service provided by Google. It enables developers to integrate translationfunctionality into their applications.
- C++ and NDK support

Existing System & Proposed System Problem with the currentscenario

- The complexities of the characters certainly put even the most moderntechnology to the test.
- There are often mistakes with translated words, particularly with grammar, structure, and context.

CONCLUSION

In this paper, I described the brief introduction of our project Language Translator. Finally, we concluded that, this helps to remove language barrier between humans between humans a lot of knowledge about the development field.We hope this will prove fruitful to us.

REFERENCES

1. en.wikipedia.org
2. applications-and-research-pdf-free.html
3. https://www.researchgate.net/publi cation/350555260_Artificial_Intelli genc_Based_Language_Translatio n_Platform
4. https://www.hindustantimes.com/cities/mumbai-news/iit-bombay- designs-ai-based-translation-app- to-help- students-from-linguistic-minorities- 101631632296794.html