

A report on the project titled as

Language Translator

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1. Abstract

Language Translator is a web application to translate from English language to any other language you wish to translate and vice versa. It provides categories of commonly used words, sentences and phrases. As such, tourists can rely on mobile phone for communication purposes. This application will have the functionality of pronouncing the words, sentences and phrases. This application is anticipated to overcome the language barrier among tourists, who are visiting various different countries. Subsequently, by using this application they are able to integrate with the local people and get the right information. There are many different hardware components found in mobile devices so their applications are developed using different software architectures. It is made more complicated because users of mobile applications have diverse preferences, so extensive improvements to traditional system development methodologies are required in order to keep up with this demand.

2. Introduction

The mobile and internet users have increased over the past decade worldwide and web applications are rapidly developing and have become a prominent segment of the web technology. It consists of software that runs on mobile and laptop devices and performs certain task for the user of the mobile phone and PC. As tourists travel through the world today, they experience many dimensions to the places they encounter. Whether within a building, or when exploring a city, people are navigating with the help of things like cars, handheld instruments like smart phones, cameras, books or various map-like devices. Tourists can rely on mobile phone for travelling purposes. This application is intended to overcome the language barrier among tourists, who are visiting various different countries. Subsequently, by using these applications, they are able to integrate with the local people and get the right information.

A great number of tourists are facing communication problems when visiting various countries as they could not speak the local language there with the local people because the language is not internationally used. Therefore, in the event where these tourists from other countries meet the locals, they might face the similar situation where they could not communicate with these ethnics. The consequences of inability to understand the national language resulted in tourists unable to blend well with the culture and traditions as well as receiving wrong information. Furthermore, misunderstandings can cause complications and might lead to unpleasant circumstances. Although there are books available for new learners to speak the local language, it will take time for the tourists to understand the language. Furthermore, it takes time to refer and practice to get good pronunciation of the words before they will be able to converse. To aid the tourists in fast and easy learning, the Language Translator is designed. This application is an important tool for tourists because it helps them to communicate with the local especially when they are travelling from one destination to another destination within countries

3. Existing Method

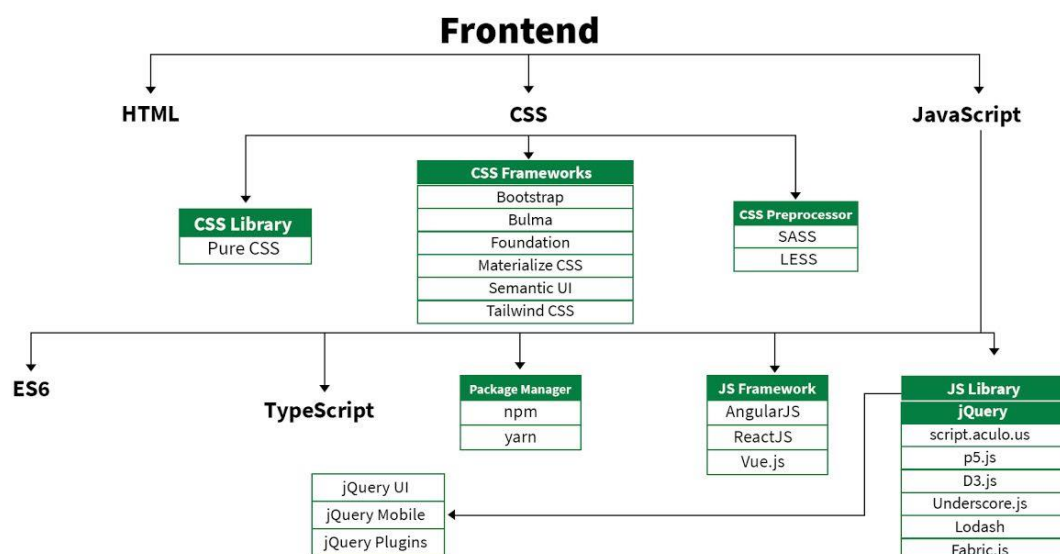
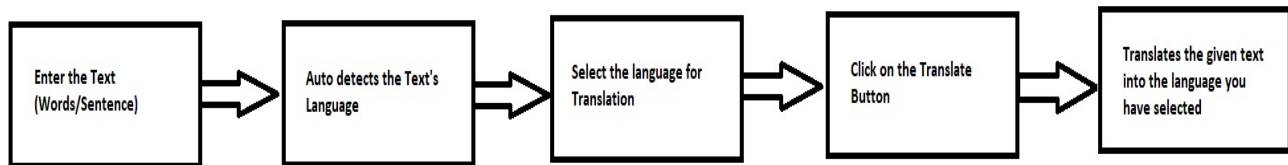
Google Translate is a multilingual neural machine translation service developed by Google, to translate text, documents and websites from one language into another. It offers a website interface, a mobile app for Android and iOS, and an application programming interface that helps developers build browser extensions and software applications. As of November 2021, Google Translate supports 109 languages at various levels and as of April 2016, claimed over 500 million total users, with more than 100 billion words translated daily.

Launched in April 2006 as a statistical machine translation service, it used United Nations and European Parliament documents and transcripts to gather linguistic data. Rather than translating languages directly, it first translates text to English and then pivots to the target language in most of the language combinations it posits in its grid, with a few exceptions including Catalan-Spanish. During a translation, it looks for patterns in millions of documents to help decide which words to choose and how to arrange them in the target language. Its accuracy, which has been criticized and ridiculed on several occasions, has been measured to vary greatly across languages. In November 2016, Google announced that Google Translate would switch to a neural machine translation engine – Google Neural Machine Translation (GNMT) – which translates "whole sentences at a time, rather than just piece by piece. It uses this broader context to help it figure out the most relevant translation, which it then rearranges and adjusts to be more like a human speaking with proper grammar". Originally only enabled for a few languages in 2016, GNMT is now used in all 109 languages in the Google Translate roster as of November 2021, except for when translating between English and Latin.

4. Proposed method with Architecture

- The proposed solution of this project is **to create a Language Translator Web application using jQuery and PHP without any API**
- jQuery is a JavaScript library, so it operates on top of JavaScript. It cannot exist on its own, so you can't use one over the other. You can use just JavaScript or JavaScript and jQuery. jQuery was introduced to make development with JavaScript easier. It will reduce the development time. Use it to add animation and even handling on your website.
- jQuery simplifies HTML document traversing, event handling, animating, and Ajax interactions for rapid web development. jQuery is easier to use compared to JavaScript and its other JavaScript libraries. You need to write fewer lines of code while using jQuery, in comparison with JavaScript.
- The name PHP stands for Hypertext Pre-processor and denotes a server-side scripting language, which suggests that applications written thereon run on web servers and don't depend upon the online browser. Syntax of PHP language is analogous to C language. It is created by Rasmus Lerdorf and it appeared in 1995. PHP is being widely utilized in developing web applications and become one among main languages for developers to make new applications.
- PHP is getting used widely in developing web-based and other applications across all domains. for a few of technology supported which PHP applications are developed listed below :
 - Content Management System.
 - Web-based applications and development of sites.
 - E-commerce websites and applications.
 - Data Analytics and Representation.
 - Processing of Images.
 - Graphical interface design based applications.

Architecture:



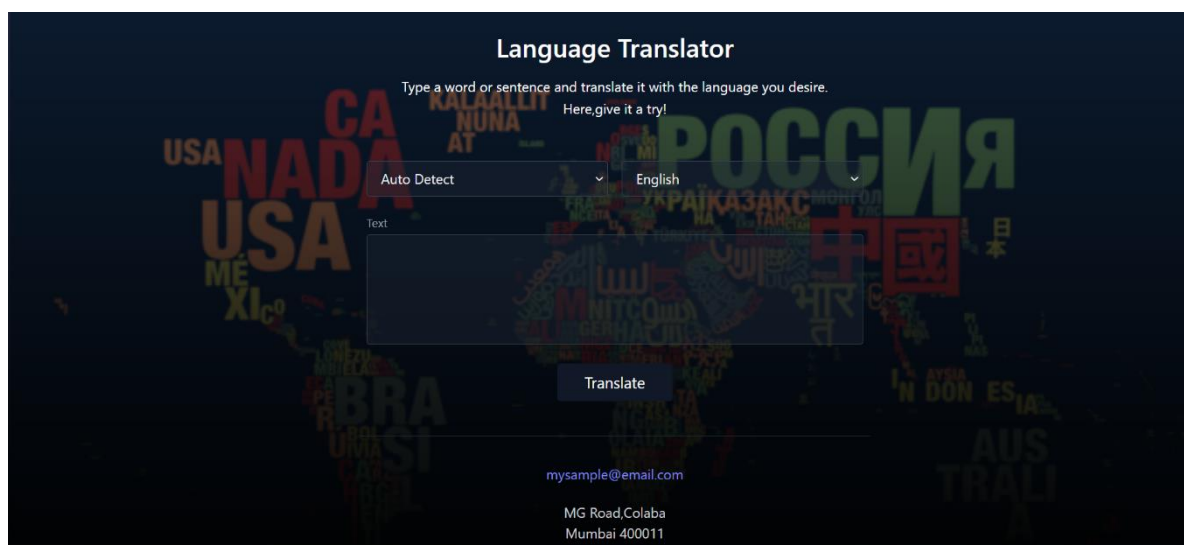
5. Methodology

This Language Translator Web application helps us to translate Words/Sentences from English to any other language and vice versa.

The following is the Methodology that it follows:

- The user has to first enter the Text in the text box, whether it be word or sentence.
- The language of the Text is then auto detected, i.e. if the language of the text is English then it is detected accordingly.
- The user then has to select the language he/she wants to translate the text into by clicking the dropdown menu option.
- The user then Clicks the Translate button below the text box.
- Hence it results into the Translation of the Text entered by the user into the language selected by the user.

Web application page:



6. Implementation

The following are the Software used in the project implementation:

- IDE- Visual Studio Code
- Front end Languages- HTML, CSS, JavaScript (Library-jQuery)
- Back end language- PHP

Why jQuery?

jQuery is a fast, feature-rich, and lightweight JavaScript library. The main purpose of using jQuery is to make it much easier to use JavaScript on your modern and smart website. It is highly recommended to have a basic knowledge of HTML, CSS, and JavaScript.

jQuery was developed to save the time of developers by reducing the code. It takes loads of common duties that require many lines of JavaScript code to perform and wrap them into strategies that you may name with a single line of code.

Reasons to use jQuery in this web application:

- **Easy to understand:** It has simpler code than JavaScript. So you just have to write few lines of code to do the same thing. In addition, builders ought not to be professionals in programming or web layout to create incredible patterns for their sites. Any developer who has spent hours coding and trying out CSS documents will recognize the easy implementation that jQuery brings to the table. There's additionally a set of strong jQuery UI additives that builders can plug into their websites.
- **Easily Integrated with other IDE:** Most .Net developers use Visual Studio and are acquainted with NuGet. This is a part of the purpose why jQuery's recognition keeps developing with .Net developers. With the addition of the jQuery cell difficulty for Windows, you currently have all the development benefits of the jQuery library for the Windows Phone platform.

Why PHP?

- PHP code can be written for your app to send and receive files and cookies to and from servers.
- It enables access to data in a database, which you can modify as and when required
- It helps to generate Excel and PDF files
- Your web application can be coded to create Sign Up and Login Features for member-only sections.
- Content management and memory management

PHP-based web applications can be easily developed in a limited time and budget. Its modern libraries and frameworks, high level of security, and cross-compatibility are great for developing interactive web applications. Hire experienced developers from a reliable PHP development company, like Source Soft to create a web application as per your specific needs.

7. Conclusion

Human beings take about a year to learn a language but computers can learn in a day. With the help of this Language translator application people will be able to communicate with each other with no Language barrier and can access the application through internet anywhere in the world.

So the project is successfully completed and can Translate any Language into English and vice versa. Hence it is feasible for the users to use and Translate words and Sentences into the language they wish.