

Online translated system: DESIGN AND Implementation

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ABSTRACT: In the presence of technology and taking into account the concept of globalization, the application of chat is one of the most important aspects of our daily life to use different purposes that meet the needs of education, business and personal communication where the barrier is the language in most cases. Although we can send text using the chat app but there is still no known chat app where people can chat in different languages with the help of automatic translation system. Here the author decided to develop a mobile application with a chat and translation system in which users can chat in their preferred language for the translation system. Businessmen will help to facilitate communication with their foreign partners and students can talk to their friends abroad. It is useful to learn different languages and is useful to communicate with each other. Users only need to select the language they want to chat from the specified system. The system will use the Microsoft Translator API to translate in different languages.

Keywords: API, online translation, Microsoft translator, HTS



1. INTRODUCTION

Chat application is a program through which messages can be transferred to a remote site or anywhere and can communicate via the Internet at the same time. Talkomatic is the first chat app developed in 1973 by Doug Brown and David R. Woolley where five users can send a message that appears on the user's screen. It was popular for the PLATO system at the University of Illinois. It is actually a transmit and receive action application with which users can interact with them. But the first online system was "chat" that was created in 1979 by Tom Walker and Fritz Thane of Dialcom [1]. Chat messages are simply short with a specific end goal to enable different members to respond quickly. Next, a tendency is created such as chat conversation, which identifies chatting from other content-based online messaging structures, for example, Internet and e-mail forums. Chat translator app is a programmed program used to convert or translate languages from one language to another. Using the translator app is to translate messages or conversations. Users copy the text from the chat application or write the text in the translator app and translate into the desired language for the user. There are thousands of languages that use people in the world but not all people are good in more than a few languages. Sometimes people need to communicate or interact with different languages that cannot be understood in all words or vocabulary. For the purpose of being understood, unknown language users use the compiler application program. But the current chat translation process is manual. For chat translation users, they still use the copy and paste process [2]. Automatic chat translation is the federation of the chat system and the translation system. In this system, chats can be translated automatically without using copy and paste text because chat and translation systems are traditional different programs. If the user only needs to chat with another user, he can only use the chat app. If the user needs to chat and also needs to translate messages, the user needs to use both types of application but in the automatic chat application for translation the user can perform both chat and translation in the same application. Automatic conversation translation consumes more time and memory space and speeds up the process speed [3].

2. LITERATURE REVIEW

In the recent period, many applications for instant messaging and messaging have spread among the people, and the process of communication through e-mail between companies and between universities and between government agencies and institutions and between students and professors teaching in universities is well known, making social communication a very important thing among members of society [4]. A lot of people have used social media platforms for messaging and the issue of their social needs such as messaging, communication, and others. Recently, there have been many applications for messaging because they have become a very important thing in life and a pillar of special needs, which has facilitated our life and circumstances, and there are companies that support social communication [5]. And messaging programs like Telegram, Viber, Facebook with its Facebook products, WhatsApp, Instagram, and many other companies, in addition to Google, which launched the Gmail platform to send messages via e-mail, Yahoo and other important companies that contributed to the development and assistance of people's lives by facilitating their tasks[11]. However, companies in general did not provide a very important feature! However, it is the simultaneous translation of messages for a reason that everyone is ignorant of, knowing that people need this feature because it is very important in the process of understanding between people and society especially among the multilingual community. For example, there is a person in Iraq who corresponds with a person who lives in America, it is natural that the first person (Iraqi) He speaks the Arabic language, while the person who lives in (America) speaks the English language, so it is difficult for an Iraqi who speaks only one language, which is the Arabic language, to communicate the idea to the person who lives in America in the required way and this is a problem, and the person who lives in America cannot deliver the idea to The Iraqi person, simply because of the difference in language between the first parties, is fluent in English and the other is fluent in Arabic !! And from here our idea came, why don't we create a private messaging system that performs automatic translation when sending?

3. MICROSOFT TRANSLATOR API

Translator, part of Azure Cognitive Services, is a cloud-based machine translation service supporting more than 60 languages. Translator can be used to build applications, websites, tools, or any solution requiring multi-language support. Built for business, Translator is a proven, customizable, and scalable technology for machine translation. Translator technology powers translation features across Microsoft products, including Microsoft Translator apps for Android, iOS and Windows, Microsoft Office, Edge, SharePoint, Yammer, Visual Studio, Bing, and Skype. Simply integrate translation into web, desktop, or mobile applications, using industry standard REST technology, Translator provides a rich functionality set for any developer. Learn more about machine translation and how Translator works [6]. Translator also comes equipped with additional features to provide increased value in multilingual apps and workflows: transliteration and bilingual dictionary [7].

HTS is a web service that enables straightforward integration of Translate translation service into your corporate workflow or content manager.

Your CMS calls HTS to get quotes and to place translation orders directly at our servers, exactly as a normal customer would do by clicking on our website Instant Quote widget. These translation orders will eventually be delivered back to your systems in an automatic, server to server fashion [8].

Key benefits of using HTS for your workflow are [9]:

- Cost saving: immediate reduction of administrative and management costs.
- Speed: your text is translated and posted back to your website just a few hours after the order are placed.
- Robustness: an error- free process for managing multilingual content. No more copying and pasting!
- Agility: real-time quotation and delivery planning, no more back and forth with sales to get a quote.
- You only pay for the translations you order. HTS has no setup cost and no monthly fees. Costs for human translation can be seen using our online quote.

3.1 MICROSOFT TRANSLATOR NEURAL MACHINE TRANSLATION

Neural Machine Translation (NMT) is the new standard for high-quality AI powered machine translations. It replaces the legacy Statistical Machine Translation (SMT) technology that reached a quality plateau in the mid-2010s [10].

NMT provides better translations than SMT not only from a raw translation quality scoring standpoint but also because they will sound more fluent and human. The key reason for this fluidity is that NMT uses the full context of a sentence to translate words. SMT only took the immediate context of a few words before and after each word NMT models are at the

core of the API and are not visible to end users. The only noticeable difference is improved translation quality, especially for languages such as Chinese, Japanese, and Arabic.

4. METHODOLOGY

Our project is an application that is specific to messaging between two or more people. A computer programmer. Our programming relied on the C Sharp language using the Microsoft API in the translation process, as was mentioned in previous chapters. It contains a server and a messaging application when opening in more than one device. And the connection on the server until the clients and the server are linked together so that the communication process is done in a successful way and without any mistakes, and also that the server has the process of processing that occurs in the messages sent in the language conversion if it is Arabic that converts it to the English language and then sends it to the second party Using api Microsoft or from English he converts it to Arabic then the sender if he is fluent in the Arabic language then the future must master the English language and many of the advantages

5. CONCLUSION

In this research of online auto translate chat system; translations were implemented using the API of Microsoft translator which avoided the formal process of copy paste using the auto translation process. This approach actively involves users to perform their chat translate smoothly which is saving the time and making easy and user friendly to communicate with different speaker with different languages.

When a person is fluent in Arabic, he writes and sends the message in Arabic, and when you reach the second person who is the recipient of the message, you reach him in English, and vice versa. This is the title of our system, its details, and its beautiful idea that will benefit the community beautifully, not to mention the difficulties facing the rest of the people who have a poor translation and language, as well as this feature not found in all messaging social media programs.

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CONFLICTS OF INTEREST

The author declares no conflict of interest.

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