

A Linguistics Study of New Trends in Translation as a Speech to Act

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Abstract: Machine translation is the only available alternative to human translation. Thus, evaluating machine translation software, is very important to improve the performance of these software. This study aims to highlight the difference between human translation and machine translation with reference to speech to text program. In this study, the approaches of translation are mentioned as direct approach, interlingua approach, and the transfer approach. The problem of this program is with the literary translation more than the other types of translation as scientific and idioms. The most accurate is the scientific one as this study proves. As a solution to overcome the problem of literary translation is that machine translation software should be modified and updated continuously, so that they can keep pace with the follow of literary terms. Also, the study shows the advantages and disadvantages of using machine translation. Moreover, the work illustrates the types of linguistic problems encountered in machine translation, and some solutions to overcome these problems.

Keywords: Translation, Machine Translation, Translation software, speech, Text, Transfer approach, Interlingua approach

1. Introduction

1.1 The Problems of the Study

The mechanization of translation it has been one of humanity's oldest dream. In the twentieth century it has become a reality, in the form of computer programs or mobile telephones capable of translating a wide variety of texts from one natural language to another. No machine can produce a perfect translation in any language without human intervention or assistance. (Hutchins and Somers, 1992: 5) The two languages, English and Arabic are related to two different families, so it is absolutely expected to have different points in grammar, word orders, types of sentences, forms of verbs, terms, articles, adverbs, adjectives, etc. from all this, problems in any machine translation will definitely arise. (Abdulhassan, ND:1) these problems are:

- 1) Investigating the ability of machine translations software whether they are able to make all types of sentences on the same level of efficiency or it will give one meaning regardless other meanings.
- 2) Showing how Google translation and the automated phone operator have failed to translate abstract ideas, shift in tone, words that means more than one thing due to the lack of equivalent terms and the different backgrounds of the terms.
- 3) The machine translation have failed to introduce reader with a clear idea of idioms, terms and expressions, owing to the lack of some (semantic, pragmatic, discourse...) which collectively determine the surface structure of target language texts, and many other features in which human translation have. However, machine translation software are efficient and practical means to reduce time, money and effort spent on translating words as well as it is very easy that enable the learner to learn what ever they want in any time.

1.2 The Aims of the Study

- 1) The study will attempt to come out with some solutions to machine translation (MT) problem whenever possible so as to come with highly quality automatic translation.
- 2) Highlighting the differences between human translation and machine translation, and to prove which is the more useful than the other.
- 3) Showing the working process of speech-to-text translation that enable simple voice communication across a language barrier, by using a handheld mobile with a microphone to create text to, Speak, translate, listen, send and search using Speech to Text Translator TTS.

1.3 The Hypothesis of the Study

The hypothesis of this study are:

- 1) The study hypothesized that speech to text program is more useful when dealing with machines since these programs are not only economical but also present a shortcut for users who find it difficult to deal with the complications of new technology.
- 2) Machine translation leads to mechanical speech which in return is not always accurate and problematic when it comes to rhetorical and literary texts.

1.4 The Procedure of the Study

The procedure of this study are:

- 1) To assess the efficiency of (TTS) machine translation so, this study will make comparison of different kinds of texts in different fields such as history text, scientific text, and literary text so as to come out with the result which one is more accurate than the other.
- 2) Makes comparison between different kinds of (MT) software application in its ability and to discover which is better than the other.
- 3) In addition, investigates the terminology and idioms used in speech to text TTS programs.

1.5 The Limits of the Study

This work is not to be considered as a prescriptive study, and its conclusions are not in debatable. On the contrary, the work describes the stages of machine translation developments, and the types of problems which may affect the quality of the final product of machine translation speech TTS. Thus, the study stepped aside the discussion of other problems related to the evaluation of whole texts by machine translation specially to Speech to text .

The study also avoided deeper investigation into the specifications and technical features of (MT) software, which can be regarded as more related to computers engineering rather than linguistic applications.

1.6 The Value of the Study

- 1) The study in this field is intended for researchers, translation teachers, translation students for the purpose of education.
- 2) This study is important because it highlights the developments in (MT), the linguistic problems, and human factors which affect the quality of (MT) output.
- 3) The writers ,translators, businessmen , for people who they are unable to write so they can translate easily by speaking .

Section Two

2. Machine Translation

2.1. Machine Translation Concepts

Machine translation refers to the automatic production by computer or similar machine such as mobile translation now days the machine program must contain rules to analyze the original text in the source language and to find grammatical and lexical equivalents contained in its dictionary store , and to synthesis anew version of the original text in the target language .(Abdul Hameed, 1998:10).

Hutchins (1986: 15) defines Machine translation (MT) as "the application of computers in the translation of texts, from one natural language into another language" thus , computers are intended to carryout any definite rules of thumb process which could have been done by a human operator working in a disciplined, but an intelligent manner. The electronic computer should however obtain it's results very much more quickly. (Turing,1951:1)

2.2 Machine Translation Approaches

2.2.1.The Direct Approach

In the 1950s, the general strategy employed in systems design was the direct translation. (Hutchins, 1982: 22) .The direct approach is mainly a lexicon-based approach in which a computer program performs a word-for-word substitution with some local adjustment between language pairs using a large bilingual dictionary. (AlAnsary, ND:1) For example:

The mechanization of translation has been one of humanity's oldest dream.

The main principle of this system was taking the words of the source text one at a time, looking for their equivalents in a bilingual dictionary, and then bringing them to the output text which is, naturally, in the target language, in the same sequence as the source text. It may happen frequently that a word in the source text might have more than one equivalent or meaning, hence, the system prints all these meanings and leaves the choice to the human monitor to pick the right one. For example: The word (note) when it is translated to Arabic language give those options : ملاحظة, ورقة, عملة Perhaps the best example of the direct (MT) system is the system of the Georgetown Automatic Translation (GAT). The main aim behind using this system was to translate Russian physics into English. The distinct features of the system were its word-for-word translation with some local word-order adjustment. The output quality was very poor, if compared to human translation.(Slocum, 1985:4) This kind of system design was suitable for certain types of use, but it was not adequate for other purposes. The Georgetown (MT) project was terminated in the mid 1960s . (ibid)

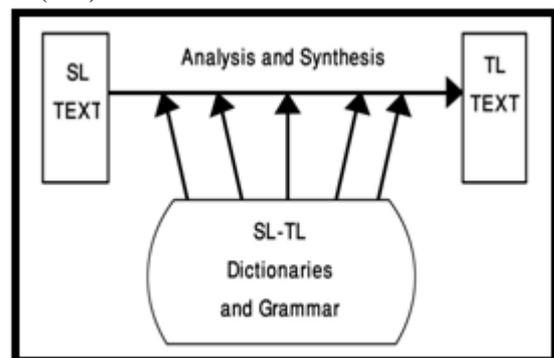


Figure 1: This Figure Shows The Direct System Direct MT Systems: (Lawson,1982:24)

2.2.2 .The Interlingua Approach

The search for more practical approaches than the direct translation led to other system called interlingua in the 1960. The Interlingua approach, is based on "the argument that MT must go beyond purely linguistic information (syntax and semantics) and involve an 'understanding' of the content of texts".

The motivation behind devising an interlingua was the long-lived belief that languages differ greatly in their "surface structures", they all share a common "deep structure". Hence, arose the idea of creating a universal representation capable of conveying this deep structure while enjoying the regularity and predictability natural languages lack. (Alnsary, N.D:1).

In this type of systems the translation are of two stages process. From source language into the interlingua, and from the interlingua into the target language. (Lawson, 1982: 26). As a practical application of the Interlingua system design. "The Centre d'Études pour la Tradition Automatique (CETA) " (Wageh ,2008:28).project was started at Grenoble University, France in 1961. The system was designed to translate Russian into French. Unlike GAT, which did not adopt any linguistic theory, (Slocum, 1985:5). The system aimed at a unified analysis of the structure of each sentence independently (what is called Global Scope), rather than

analyzing every word in the source text depending upon its context. The results of applying Interlingua system design at that period showed that using Interlingua erases all clues about how to express the translation. They also showed that sentences which are not completely analyzed will produce a poor quality translation, or mostly, no translation at all (ibid). After many years of deployment, and due to changes in hardware (thus software), CETA systems were abandoned and a new approach was emerging. (Wageh, 2008:30-31).

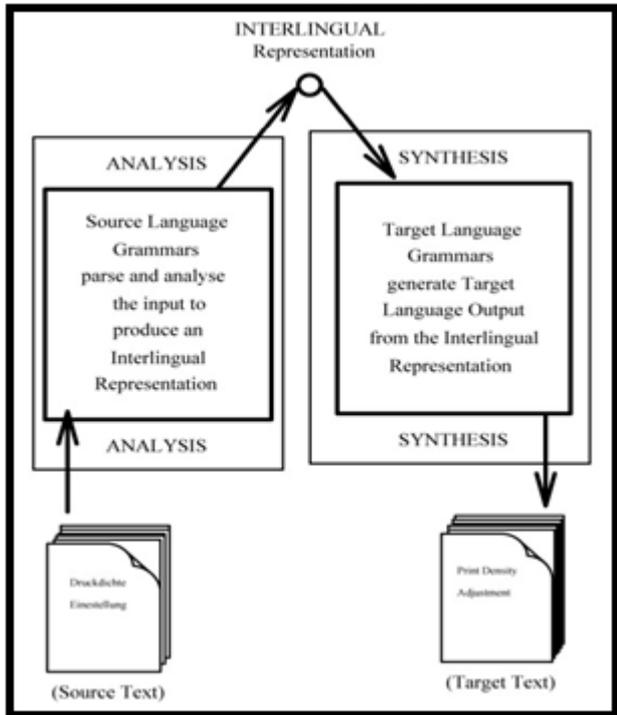


Figure 2: This Figure Shows The Interlingua System

The Components of the Interlingua System (Balkan et al., 1994:79).

2.2.3. The Transfer Approach

The Transfer approach operates over three stages: analysis, transfer and generation.

First, the SL text is parsed into the source-language-specific intermediate syntactic structure. Then, linguistic rules specific to the language pair transform this representation into an equivalent representation in the target language. Finally, the final target language text is generated. (Al-Ansary, ND, 1) In other words; The main principle of this approach, is that the translation consists of three stages: Analysis of texts into source language, Transfer into target language, and Synthesis of texts in the target language. The presentations produced by the analysis stage were aimed at solving syntactic and lexical ambiguities of the language in question, without the need for producing other representations for synonymous constructions and expressions. The analysis does not include the elements which might have more than one correspondent in target languages, (e.g. English **know** and Arabic **أعرف و أعلم**). It is the task of Transfer components to convert unambiguous source language representations into the appropriate representations for a particular target language (Lawson, 1982:29). Transfer approach is much more preferable to Interlingua approach for two reasons: First, the difficulty of devising language-independent representations; and second, the analysis and generation grammars become more

complex when the representations are not so relevant to the characteristic features of the source and target texts (Hutchins and Somers, 1992:76). Clearly, the intermediate representations in the transfer approach are still language-dependent abstractions, which reduce the complexity of analysis and generation.

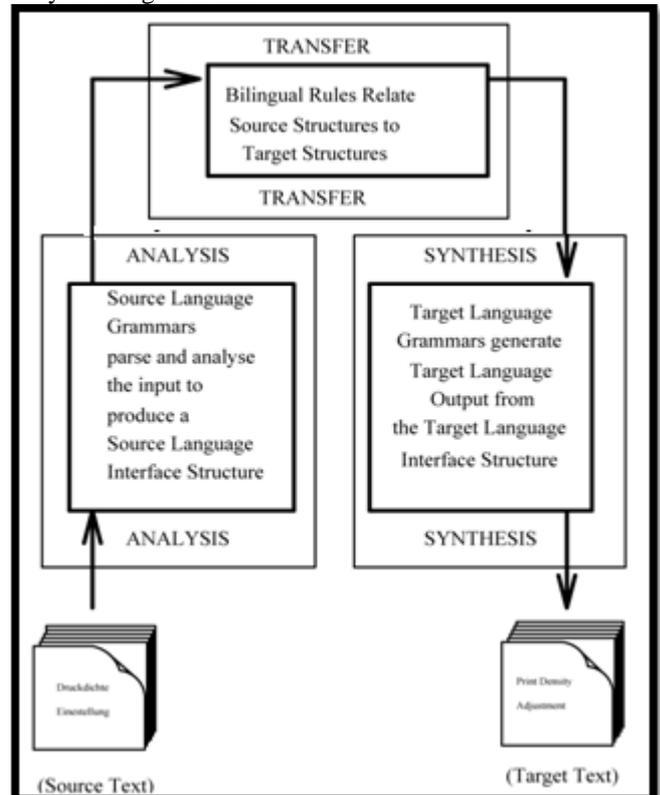


Figure 3: This Figure Shows The Transfer System

The Components of Transfer Systems (Balkan et al., 1994:68)

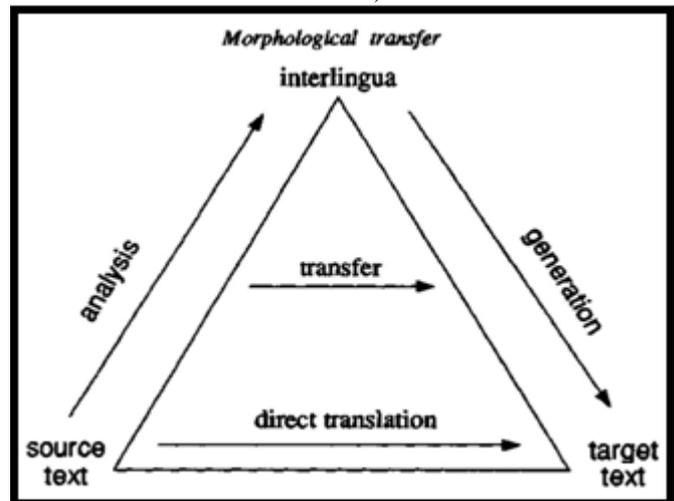


Figure 4: To Sum up All These Three Approaches of Machine Translation System The Triangle Diagram as Follows

Hutchins and Somers (1992:107)

Hutchins & Somers (1992:107) explain this diagram stating that "the apex (the top) of the pyramid represents the theoretical interlingual representations achieved by monolingual analysis and suitable for direct use by generation. The diagram is suggested to show that the path

to the Interlingua is long, and by cutting of the monolingual analysis at the same point and entering into a bilingual transfer, one can avoid the difficulties of a full analysis. Also, the diagram shows that the more the text is analyzed, the simpler transfer will be. At the bottom, there is a minimal monolingual analysis, and nearly all the work is done in transfer, as was the case with the early direct method systems (ibid).

2.3. Machine Translation Problems

Lexical ambiguity results when the machine cannot choose the appropriate equivalent to the terms or words which are found originally in the source text. Since machines are unable to understand the 'meaning' of what it is translating, they are not able also, by themselves, to pick the appropriate equivalent .

Balkan et al; (1994 :105) refers to this problem saying "when a word has more than one meaning, it is said to be lexically ambiguous." For example:

The word 'spring', which means:

- (I) A season of the year.
- (II) A coiled wire object.
- (III) A natural source of water.

Homographs, Once the grammatical category is identified, the homograph may be disambiguated according to the text type, provided that the homograph set is of different grammatical categories. In this regard, Nagao (1989:24) comments that several interpretations are possible for a sentence like:

Time flies like an arrow; where 'flies' could be a third person singular of 'to fly', or a plural form of the noun for the insect called 'a fly'. On the other hand, 'like' may be a conjunction or a verb meaning 'to love'.The following example is to illustrate the importance of identifying the grammatical category: If the following sentences are translated to Arabic, the word 'use' could be ambiguous

- (I) You must not **use** abrasive cleaners on the printer casing;
- (II) The **use** of abrasive cleaners on the printer casing is not recommended.

In (I) 'use' is a verb, while in (II) it is a noun. An English-Arabic dictionary gives تستعمل for the verb and استعمال for the noun. Thus the reader or an automatic parser has to work out whether the verb or noun should be translated when it comes within a sentence, depending on the possible grammatical patterns of the source language. Idioms are difficult to translate by computers because machine translation depends, mostly, on finding the most appropriate equivalent for any word in the source text, and applying certain rules to translate this equivalent into the target language. This approach does not apply to idioms where the translation of the components of the idiom does not necessarily represent the meaning of the idiom.

There are some idioms have a similar proverb in Arabic:

Out of sight, out of mind البعيد عن العين بعيد عن القلب Forbidden fruit is sweet كل ممنوع مرغوب

2.4. Machine Translation Types

2.4.1. Speech to Speech

In the globalizing world, the ability to communicate over language barriers is increasingly important. Learning languages is this is why there is a strong desire to develop automatic machine translation applications. The service runs in a mobile network and translates phrases between two languages in speech format. (Tirronen,2011:1)the importance of Speech-to-speech translation (S2ST) technology has been increasing the history of our (S2ST) research can be divided into three phases: The first phase ,focused on a feasibility study of (S2ST) that only allowed limited vocabulary and clear read-style speech. In the second phase, the technology extended to handle "natural" conversations in a limited domain . The third phase, which began in 2000. Its target is to develop technologies to make the (S2ST) system work in real environments. Many research projects have addressed speech-to-speech translation technology, such as **VerbMobil C-Star, Nespole, and Babylon**. These projects mainly focused on the construction of prototype systems for several language pairs .The goal of automatic speech-to-speech translation is to generate a speech signal in one (source) language that conveys the linguistic information contained in a given speech signal of another (target) language focused on translation between English and Asian languages.(Nakamura et al,2006:365).

Picture 1: Speech to Speech Program



([https:// www. Google .iq machine translation .com](https://www.google.iq.machine.translation.com))

2.4.2. Speech to Text

Speech-to-text conversion is the process of converting spoken words into written texts. This process is also often called speech recognition..All speech-to-text systems rely on at least two models: an acoustic model and a language model. In addition large vocabulary systems use a pronunciation model. It is important to understand that there is no such thing as a universal speech recognizer. To get the best transcription quality, all of these models can be specialized for a given language, dialect, application domain, type of speech, and communication channel. From

the user's point of view, a speech-to-text system can be categorized based in its use: command and control, dialog system, text dictation, audio document transcription, etc. Each use has specific requirements in terms of latency, memory constraints, vocabulary size, and adaptive features (See Section Three) . (<http://www.vocapia.com/publis.html>)

2.4. 3. Text to Speech

The substantial progress on text-to-speech synthesis over the last two decades, starting from the mid seventies, to the present. They have progressed from systems which could transform annotated phonetic transcriptions into barely intelligible speech, to systems which can take written text language in one language transform it into another language the automatic conversion of a text into speech that resembles, as closely as possible, a native speaker of the language reading that text.(Shih and Sproat, 1996: 35- 36).

In all current TTS systems speech that is highly intelligible, though certainly still mechanical in quality. The best example on this type is (IM Translator) text to speech .IM Translator voices are some of the best sounding voices, especially considering that they are all currently free. They seem to have more variations on how it says certain phrases, which makes reading longer articles more digestible and less robotic.(ibid:72)



Picture 2 : Im Translator Program

(<https://www.google.iq/machine-translation.com>)
 For example based on I'm Translator text to speech:

The old modern may not have worried much about the application of Judeo-Christian principles to his individual life, but he did place some value on the macro effects of that culture.

القديمة قد لا يكون الحديث بقلق كبير إزاء تطبيق اليهودي مبادئ الحياة الفردية، ولكنه لم بعض القيمة الكلية على آثار الثقافة.

2.4.4. Text to Text

The best examples to this kind of translation which done by entering text in one language to be translated to another language are:

Golden Al-Wafi Translator :

A machine translation system .This program has a new dictionary with more than two millions English/Arabic entries, and eight specialized science dictionaries in Medicine, Veterinary, Biology, Physics, Mathematics, Chemistry, Engineering and Geology. It can translate thousands of words in just seconds. (Wageh ,2008:65)



Picture 3: Golden Alwafi Translator
 (<https://www.google.iq/machine-translation.com>)

The second type is :
 Google Translate :

An instant translating program via Internet. This program is developed by Google's research group; it offers translations

between 23 languages including Arabic. The program has the facility of modifying the translations interactively; if the user has a better translation, he can suggest it as a feedback

to the program. This program is available on Google search engines to translate Web pages also. (ibid: 68).



Picture 4: Google Translation (ibid)

Section Three

3. Speech to Text (TTS) Program

3.1 The Definitions

Speech-to-text translation is an integrated system based on Google translation tools. The reference transcriptions are automatically translated using Google in order to evaluate the impact of recognition errors on translation quality. So the goal is to build a large vocabulary speech-input in machine translation system. This program is a funny user friendly recognition, text to speech and translator application this program allows the user to take notes easily by speaking. (Raybaud et al, ND :1-2).

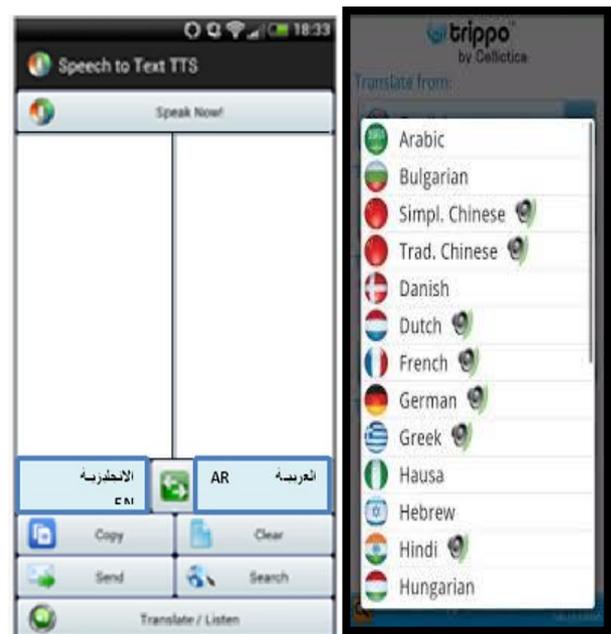
This section describes speech-to-text systems used to provide automatic transcriptions used in mobile programs as a machine translation through speech recognition. In spoken language translation a machine translation system takes speech as input and translates it into another language. A standard machine translation system is trained on written language data and expects written language as input. In this paper we propose an approach to close the gap between the output of automatic speech recognition and the input of machine translation by training the translation system on automatically transcribed speech. (Peitz, N.D.:1).

This program begin with three languages German, French, and English with two additional languages add each year. In 2010 STT was evaluated for seven languages adding (Spanish, Russian, Greek, and Polish) with Italian and Portuguese introduced in 2011.

Speech language translation performance was compared using both manual references and automatic transcripts of the spoken text as input data. "The lexical coverage of the recognition vocabulary is an important factor in a STT system, since any unknown (referred to as out-of-vocabulary or OOV) words will result in a recognition error. The vocabulary sizes range from 65k to 300k words, with some

sites using multiple word lists. The word lists are selected either using frequency cut-offs or unigram interpolation. In general the (OOV) rates range from about 0.5 to 2%. The systems represent the pronunciations with sets of 35 to 50 phone symbols, and generate the pronunciations with different methods. Some systems use rule based grapheme to phoneme conversion "(Lamel, ND:1). The user can copy the notes that produced through speech recognition to clipboard and listen to it, as well as he/she can send these notes with e-mail, sms, social media and various instant messaging applications such as WhatsApp, Viber, Skype, ...etc. In addition one can also search these notes on web. so Speak, translate, listen, send and search using Speech to Text Translator TTS. You can also use this software for language education. You can learn to speak all languages. All these features found in one application. This program requires active internet connection to provide the user with these languages:

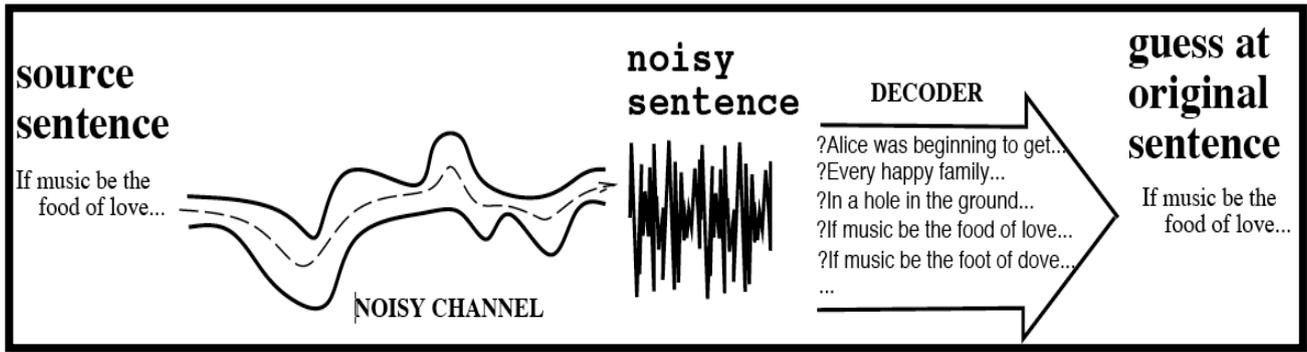
English, French, Spanish, Italian, Arabic, Bulgarian, Catalan, Danish, Greek, Estonian, Persian Canadian, Finnish, Hebrew, Hindi, Hungarian, Indonesian, Japanese, Haitian, Korean, Lithuanian, Latvian, Malay, Norwegian, Polish, Portuguese, Romanian, Danish, Russian, Slovak, Slovenian, Thai, Turkish, Ukrainian, Urdu, Vietnamese, Chinese.



Picture 5: Speech to text program **Picture (6):** Language Options

3.2 Speech to Text Problems

1. One of the main problem in this software program is the noisy channel in which speech effected by it.



Picture 7: Represent the Main Problem The Noisy Channel

So these suggestions like :
 Alice was beginning to get
 Every happy family.....
 If music be the food of love
 If music be the foot of dove

- 1) Like these suggestions appear this program begin its recognition it will search through space of all possible sentences .Then pick the one that is most probable given the waveform in this example the proper one is "if music be the food of love ...".
- 2) Another problem is concerned with the speech it self , the spontaneous speech which sometimes contain one of these things filled pauses, false starts, hesitations, ungrammatical constructionsetc.) that remain a problem.
- 3) Out-of-Vocabulary (OOV): Words systems must have some method of detecting OOV words, since any unknown words will result in a recognition error so this program must deal with them in a sensible way. 4. Prosody like Stress, intonation, and rhythm convey important information for word recognition and the user's intentions (e.g., sarcasm, anger).
 (www.informatics.manchester.ac.uk/~harold/LELA300431)

3.3 How Does It Work ?

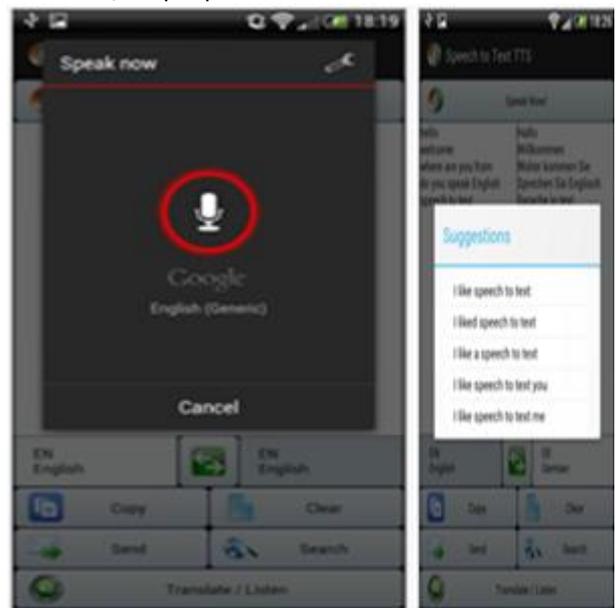
TTS is often described as have two conceptual stages: In the first stage, it decides how the text should be spoken, that is, how each word should be pronounced, what length and pitch each phoneme should pronounce well , loudness etc. In the second stage, the system does its best to create audio that matches the specifications produced by stage one. One of the most important thing is that TTS soft ware has little or actually no understanding of the text being create, but it contains rules ,lists , dictionaries to make a very sophisticated guesses about that text. While general performance can be quite good, some decisions are intrinsically hard to make without some level of understanding. For example, the word "pupil " in one meaning "the pupil in the eye " or in other meaning "pupil in the school". Intonation depends in many cases on the writer's intention, which often cannot be inferred in short texts even by human readers. As a result, TTS systems will occasionally make mistakes and can be fooled by carefully constructed texts. These are challenging problems for all TTS systems, and the researcher continue to improve this

program as much as possible to avoid these mistakes in the future .

System requirements:

- 1) Android 4.0
- 2) Internet connection
- 3) Using Google speech text
- 4) Download and install the speech -to-text translator, and let the app work for you .
- 5) Choose "speak now" in the middle top of the program , here you can type the text or dictate it into the microphone to covert the speech to Other medium (text).
- 6) After the note text is ready, you can save, delete, or send it .

One more features this kind of soft ware save the time instead of wasting time for typing using a speech synthesis system the app transforms human voice into text, which can be saved and sent via e-mail and these pictures shows these process. So , by this new technique the user can create text in his / her device very fast , using only your voice . The convenient app will be useful for different specialists ,copywriters, writers, translators, businessmen etc. The program can be used during conversation with a client or a partner when one need shorthand, when you need to rapidly create a text, for people with disabilities ..etc.



Picture (8)

Picture (9)



Picture 10

Picture 11

Speech recognition Suggestions Text send options
 (https://play.google.com/store/app/details/speech-to-text-translator)

3.4 .The Advantages Speech to Text Program

- 1) Recognizes texts automatically, no need to transcribe them manually.
- 2) Advance way of communication that enable people to chat from different places .
- 3) It can link people to the further areas within a very short time by creating text through speech that can be sent as SMS or via e-mail.
- 4) It is very easy to use and less expensive than human translation .

3.4. The Disadvantages of Speech to Text

- 1) It is not good as it does not translate meaningfully accurate .
- 2) Not properly formed sentences, which include grammatical errors.
- 3) Sentences which are difficult to read unless certain portions are rearranged.
- 4) Sentences in which the word order is incorrect and properly formed sentences are not produced; only fragmented translation with omissions.

Section Four

4. The Text Analysis

4.1 The Text Analysis

The more we try to humanize things , the less we succeed. But we can do things to solve the problems in android apps and it's applications like speech to text TTS mobile program the robot that looks like human , but still it is not human therefore it's result will not be completely correct and accurate . It does not translate meaningfully .It does the opposite since translation would be literary not semantically

so the message or the text would not achieve its aim , because the text needs many conditions accuracy , perfection , propriety which is difficult to be translated accurately in a mechanical way.

This section involves the translation of different kinds of texts which are randomly selected from various texts namely, science literary (prose and poetry) , in English language to be translated to Arabic language and then the translated text entered again to the program to be translated to English ,so as to prove whether this program is accurate or not .Then , other texts entered to the program in Arabic language to be translated to English the translated text will enter so as to translate to Arabic again to prove whether this program is accurate or not .The process of analysis and comparison was carried out so as to find out the similarity and differences in the translation so as to measure speech to text program .The research in this field is to show how the recent dramatic advances in technology have progressed towards the goal of human like performance .Now , as an example to prove this program is not accurate I entered texts in this program the result was as follows:

4.1.1. The English scientific Text

The Global Warming

The sun produces amount of energy that increases and decreases from year to year these changes in solar energy could be causing periods of warmer and cooler climates or climate change could be a result of changes in carbon dioxide levels and amount of solar energy

This text entered as spoken data and translated to Arabic language the result :

الأحترار العالمي

الشمس تنتج كمية من الطاقة ان الزيادة والنقصان من سنة إلى أخرى هذه التغيرات في الطاقة الشمسية يمكن أن يسبب فترات من المناخات الأكثر دفئا والأكثر برودة أو تغير المناخ يمكن أن يكون ارسولت للتغيرات في مستويات ثنائي أكسيد الكربون وكميات من الطاقة الشمسية .

This text entered as a spoken data from Arabic to English the result :

The Global Warming

The sun produces energy that increases and decreases from year to year changes in solar energy can cause periods of warmer climate can be a result to changes in carbon dioxide levels and amounts of solar energy . (Iraq opportunities , 2012: 75)

4.1.2. The English Literary Text

I) The Poetry :

The lamb

*Little lamb who made thee
 Dost thou know who made thee
 Gave thee life and bid thee feed
 By the stream and over the mead
 Fastest clothing woolly bright
 Gave the such a tender voice
 Making all the values rejoice
 Little lamb who made thee
 Dost thou know who made thee . (www.poets.org-viewmedia php 1522)*

This poem entered to the program as a spoken data to be translated to English the result:

الخروف
خروف القليل الذي ادلى اليك
انت الذي ادلى اليك
دوست اعطى اليك
الحياة والعطاء اليك
أرب لدفق واكثر في ميد
وقدم فوستيست ملابس صوفي
مشرق اليك هذه صوت اتيندير
مما يجعل جميع ربيس القيم
الحمل القليل الذي ادلى اليك
انت تعرف الذي ادلى اليك

Then this Arabic text entered to be translated to English again the result:

The Sheep

Little lamb who made thee
You made your life and
Give you dost give to you
In streaming and more in the mid west
The vostist clothing Sophie
Here's the bright voice
A tinder making all reyes made
Little load values you
You know who you made thee

II) The Prose:

The scarlet letter

“The scarlet letter was Hester’s passport into regions where other women dared not tread. Shame, Despair, Solitude! These had been her teachers, —stern and wild ones, —and they had made her strong, but taught her much amiss”. This text was translated to Arabic language :
(www.literatureproject.com/scarlet-letter)

وكان الحرف القرمزي جواز السفر في هستر في المناطق حيث تجرأ فلا قي النساء الأخریات. العار والبأس والعزلة! هذه كانت المعلمين لها صارمة والبرية منها وقد جعلتها قوية، لكن تدرس لها خاطئا كثير.

Then, the Arabic text was translated to English again :
The Scarlet Letter on Hester Prynne's passport in areas where dared not in other women. Shame despair solitude! These were her teachers Stern and wild , made her strong, but taught her much amiss

4.1.3. The Most Famous English Idioms

I) Crocodile tears (Meryem, 2010:13-15)

This idiom translated to Arabic language :

دموع التماسيح

Then this idiom entered again in Arabic to be translated to English :

Crocodile tears

II) Kill two birds with one stone . (ibid)

This idiom translated to Arabic language :

قتل عصفورين بحجر واحد .

Then this idiom entered again in Arabic to be translated to English :

kill two birds with one stone .

III) He is not a sleep . He is just playing possum . (ibid)

This idiom translated to Arabic language

انه ليس نائما فقط يلعب تمارض

Then this idiom entered again in Arabic to be translated to English :

He is not a sleep only playing possum.

V. I'm not going to put my head on the block for him . (ibid)

This idiom translated to Arabic language

لن تضع رأسي على الكتلة له

Then this idiom entered again in Arabic to be translated to English :

Will not put my head on the block it .

VI) To be the apple of someone's eye . (ibid)

This idiom translated to Arabic language:

ليكون تفاحة بعينه

Then this idiom entered again in Arabic to be translated to English :

To be apple in his eye .

4.2. The Arabic Texts

4.2.1. The Arabic Scientific Text

الذكاء الاصطناعي

الذكاء الاصطناعي يعتبر لغز مهم : كيف من الممكن لهذا الدماغ الصغير سواء كان بيولوجيا او الكترونيا ان يفهم ويدرك ويتنبأ ويتفاعل مع عالم اكبر واعقد من الدماغ نفسه .

(en.wikipedia.org/wiki/Artificial_intelligence)

The Artificial Intelligence

Artificial intelligence is an important puzzle over this little brain whether biology or electronic weitnba realize to understand and interact. With the largest and most complex of the world brain itself .

Then this text entered again to be translated to Arabic :

الذكاء الاصطناعي

لغز هامة على هذا الدماغ قليلا سواء بيولوجيا أو يتنبأ الكترونية تحقيق فهم والتفاعل مع اكبر واعقد من العالم الدماغ نفسها .

4.2.2. The Arabic Literary Text

1. The Poetry :

أنشودة المطر

عيناك غابتنا نخليل ساعة السحر
أو شرفتان راح ينأى عنهما القمر
عيناك حين تبسمان تُورقُ الكروم
وترقصُ الأضواءُ.. كالأقمار في نهر
برجُةً المجذافُ وهنأ ساعة السحر...
كأنما تنبضُ في غوربهما النجوم

From Arabic to English :

Song of the rain

Your eyes forests palm

Magic hour or balconies

Which disassociates them

Moon your eyes while tbesm

As haunt chrome and dancing

Light kalakmar on the river

03 paddle here magic hour

As if a live in were throbbing stars

from English to Arabic :

اغنية المطر

الخاص بك عيون غابات النخليل ساعة السحر

او الشرفتان التي تنأى بها القمر

تطارد عينيك اثناء تبسمان كروم

والرقص كالاقمار الاضواء على نهر مجذاف

03 هنا السحر ساعة كما لو كانت على قيد الحياة كانت النجوم الخفقان

2. The Prose :

قصة قصيرة

اليوم بينما اسير عائدا من لبيتي في المطر الشديد وجدت رجلا عجوزا يسير وهو يحمل مظلة كبيرة فسرت قريبا جدا منه لاحتمى من زخات المطر وما ان وصلنا الى مدخل بناية حتى توقف الرجل واغلق المظلة واعطاها لي ثم قال : هنا بيتي ولن احتاج اليها الان خذها فانتم تحتاجها اكثر مني واعطاها لمن يحتاجها بصدق .

From Arabic to English :

The Short Story

Today while walking back to my house in heavy rain found old is a large umbrella explained very soon from non definite of showers and as we got to entrance of the building until the man stopped and closed canopy and gave it to me and then said here is my home and I need to now take it you need more from me and give it to those in need siggy .

From English to Arabic :

اليوم بينما أسير عائدا لبيتي في الأمطار الغزيرة التي وجدت القديم مظلة كبيرة وأوضح قريبا جدا من غير أكيدة للاستحمام وكما وصلنا إلى منخل المبنى حتى الرجل توقف وأغلق الستارة وأعطاه لي وقال هنا هو بلدي لأن فانه اعتبر البيت و احتاج كنت بحاجة إلى فريد من لي وإعطائها لأولئك المحتاجين بعدك.

4.2.3. The Most Famous Arabic Idioms

1. خاطب ([https:// www.english forum.com list of idioms](https://www.englishforum.com/list-of-idioms/))
 الناس على قدر عقولهم

To English :

He addressed the minds aanas

To Arabic again

خاطب أناس العقول

2. لكل جواد كبرة (ibid)

To English:

Both jawad set back

To Arabic again :

لكل نكسة جواد

3. عامل الناس كما تحب ان يعاملوك

To English :

Treat people how you would like to be treated .

To Arabic :

التعامل مع الناس كما كيف انت ترغب في ان تعامل

4. خير الكلام ما قل ودل

To English :

To cut along story short.

To Arabic :

لخفض قصة قصيرة طويلة .

5. على راس لساني (ibid)

To English :

On the tip of my tongue .

To Arabic:

في مقدمة لساني

4.3. English Sentence in Noisy Environment

“ If music be the food of love“

Alice was beginning to get

Every happy family.....

If music be the food of love

If music be the foot of dove...

This text was translated to Arabic :

أليس كانت تَبْدَأُ بِأَنْ تُصْبِحَ.....

كُلُّ عائلة سعيدة

إذا تُكُونُ الموسيقى غذاءَ الحبِّ

إذا تُكُونُ الموسيقى القدمُ مِنَ الحمامةِ

Then, it was translated to English :

Els was beginning to become a

Each happy family

If music be the food of love

If music be the foot of the Dove...

Section Five

5.1 The Conclusions

Thus we can conclude from this research that machine translation software, which provide instant translations via Internet, produce translations of poor quality, so they are

more useful in cases where the demand is to have a fast access to the content of the text.

- 1) Computers and mobile programs do not understand the meaning of what they translate, and that it is up to the reader to make sense of the words which represent the output of (MT), and the numerous errors appeared after translating the sample texts by (MT) program.
- 2) These errors can be attributed to the following fact that homographs and Grammatical Categories: The most important reason behind such errors is the lexical ambiguity resulting from the homographs and polysems, for example the English idiom “ to be apple in his eye” which means ليكون قرة بعينه But the program translate it as: ليكون تفاحة بعينه
- 3) So, (MT) programs can not distinguish between the grammatical categories of the translated texts such as part of speech noun , verb , adjectiveetc. 3. The English literary texts: poetry “The lamb” and prose “The scarlet letter” also the Arabic literary texts were the lowest as if we compared it to the science text “The global warming “ since the translation was literary not semantically and the scientific text take limited meaning for specific purpose (e.g. the artificial intelligence) have specific meaning . Newmark (1982:46), suggests that the semantic model of translation is appropriate for descriptive, scientific texts, definitions and explanations
- 4) There is a lack of real world knowledge no doubt, unless machine translations are instructed how to translate, they are unable to select the accurate translation which coincides with the general context of the text. In other words, computers must be supplied with encyclopedic store of information about the real world knowledge, so that they can avoid the errors which result from selecting the inappropriate equivalent .
- 5) Noise environments is added to some data to cause recognition errors. The 50% recognition error is caused by noise which means all the utterances are correctly recognized before adding noise.
- 6) Finally, this study does not underestimate the efforts of the people who contributed in the field of machine translation, nor to minimize the advantages behind using machine translation software.

5.2.Recommendations

- 1) More researches, studies and experiments should be executed to modify the design of MT software, whose main concern is the English-Arabic pair, and to improve the performance of the checkers of these programs 2. The dictionaries of MT software should be modified and updated continuously, so that they can keep pace with the flow of scientific terms which appear daily.
- 2) Translators should be engaged in training courses to qualify them to use controlled language, hence, to use controlled vocabulary, so that each term carries only one meaning, and consequently one can avoid loss in time, effort and money spent on preparing texts for publishing purposes.

5.3 Suggestions for Further Research

- **Out-of-Vocabulary:** This program is lacking of many vocabulary that give one meaning regardless another meaning ,so what is the possible solution to avoid such problem .
- **Spontaneous Speech** – (filled pauses, false starts, hesitations, ungrammatical constructionsetc) remain a problem.
- **Prosody** –Stress, intonation, and rhythm convey important information for word recognition and the user's intentions (e.g., sarcasm, anger).
- **Accent, dialect and mixed language** – non-native speech is a huge problem, especially where code-switching is commonplace .

The Possible Solution to These Problem :

1. Better reception of human voices no matter of whom is talking whether a native speaker or foreign speaker .
2. Giving multi- vocabularies that can be suitable for a specific situation giving a vocabulary according to the previous situation .
3. Sentences should be predicted instead of word when man speaks to a machine .
4. Another way entered informal words (e.g. Stove instead of Cooker or Cab means Taxi Candy instead of Sweetetc.).
5. Increasing the time lag between the reception and perception .
6. Entered famous stress words , sentence and informal proverbs .

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