

# Native Language Website using Interlingua Technique

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**Abstract**— Now a days translation is present as a software in the web, but the language which is presented in the websites is in English which are mostly used by people who know English but creates problems for those people who don't know English but know their respective native languages. Our task is to provide effective communication with the all type of customers which increases the understandability of the goods or products displayed in web-site as well as increase in sales, which results in the increase of business which is the key factor for the success of any e-commerce system. In this work we have explained our devloped database which is useful for websites so that people who know their respective languages, can easily access websites without other language difficulty.

**Index Terms**— E-commerece, Interlingua translation, Innovative components.

## 1 INTRODUCTION

In the following we explain some brief description of the system.

### MACHINE TRANSLATION (MT)

Machine translation, or automated language translation, is a process using computer software to automatically render a text presented in a given natural language (such as English) into another language (such as Spanish). Applying complex sets of specific rules, the software analyses and then transfers the grammatical structure of the source language (text to be translated) into the target language (translated text). Historically four different approaches to Machine Translation have been used

- Direct translation
- Interlingua translation
- Transfer based
- Knowledge-based

### DIRECT TRANSLATION

It is the oldest approach to MT. If the MT system uses direct translation, it usually meant that the source language text was not analyzed structurally beyond what it required. The translation is based on large dictionaries and word-by-word translation with some simple grammatical adjustments e.g. on word order and morphology. A direct translation system is designed for a specific source and target language pair. The translation unit of the approach is usually a word.

### INTERLINGUA TRANSLATION

This approach was historically the next step in the development of MT. Esperanto was an Interlingua for translating between languages. In an Interlingua based MT approach translation is done via an intermediary (semantic) representation of the SL text. Interlingua is supposed to be a language independent representation from which translations can be generated to different target languages. The Interlingua approach assumes that it is possible to convert source texts into representations common to more than one language. Translation is thus in two stages:

- From the source language to the Interlingua (IL) and
- From the IL to the target language.

### TRANSFER BASED

Transfer Based systems divide translation into steps which clearly differentiate source language and target language parts. The first stage converts source texts into abstract representations; the second stage converts these into equivalent target language oriented representations; and the third generates the final target language texts. Whereas the Interlingua approach necessarily requires complete resolution of all ambiguities in the SL text so that translation into any other language is possible, in the transfer approach only those ambiguities inherent in the language in question are tackled.

### KNOWLEDGE-BASED

Knowledge-based machine translation follows the linguistic and computational instructions supplied to it by human researchers in linguistics and programming. The texts to be translated have to be presented to the computer in machine readable form. The machine translation

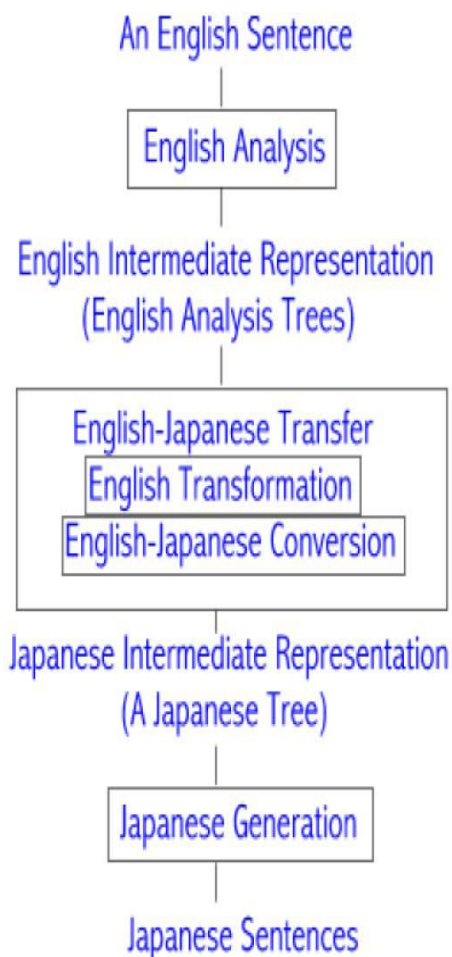
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process may be unidirectional between a pair of languages: the translation is possible only from Russian to English, for example, and not vice versa, in one system. Or it may be bidirectional.

#### EXAMPLE: TRANSLATION FROM ENGLISH TO JAPANESE

Most MT systems developed in Europe and the USA deals with language pairs in the Indo-European language group. In the case of English-Japanese translation, since both languages are categorized in different language groups, a more powerful linguistic mechanism must be implemented. For instance word order and sentence style are different; and moreover, an English word sometimes corresponds to more than one Japanese equivalent. To overcome these difficulties an English-Japanese or Japanese- English MT system might be based on a transfer or Interlingua approach with a wide range of tree transducing capabilities and a semantic processing mechanism. The figure below shows the overall translation process.



The translation is done by Interlingua translation technique as this is more advantageous when compared with other techniques.

## 2 INNOVATIVE COMPONENTS

### **IDENTITY: (YES)**

Identity is the one through which people can be identified. Here, the identity of the subscriber is obviously one's mobile number.

### **CONFIDENTIALITY: (YES/CONTEXTUAL)**

Ensures that information is accessible only to those authorized to have access. Here, it depends on the website or the business that has been conducted.

### **NON REPUDIATION: (CONTEXTUAL)**

Non repudiation is a way to guarantee that the user performing a task cannot later deny the transfer. Here, it depends on the website or the business that has been conducted.

### **INFORMATION PROTECTION: (YES)**

Talks about protecting personal information and eliminate unauthorized viewing and distribution of sensitive data. Here, this is protected.

### **VOLUME OF DATA: (NO)**

Measure of amount of data used in the model. Here, the volume depends upon the type of website created and its business done by customers.

### **RESPONSE: (YES)**

Response is just an output resulting from an input. Here, response is required for replying the user after his registration is completed.

### **AUTHENTICATION: (YES)**

The process of identifying an individual making request. Authentication merely ensures that the individual is who he or she claims to be. Here, it is based on user name and password.

### **SELECTIVE EXPOSURE: (CONTEXTUAL)**

Here, when the user logs into his account, he can see the details depending upon the policies implemented in that business.

### **INFORMATION ASSURANCE: (YES)**

Practice of managing information-related risks. More specifically, Information Assurance practitioners seek to protect and defend information and information systems by

ensuring confidentiality, integrity, authentication, availability, and non repudiation.

#### **TRACEABILITY: (CONTEXTUAL)**

Refers to the completeness of the information about every step in a process chain. Here, same is accomplished by storing all the information whenever the user accesses the website.

#### **PRIVACY: (YES)**

Privacy is provided for the users who have already registered in the website.

#### **ANONYMITY: (NO)**

Anonymity refers to unidentification of user. Here, as user is asked to log into the website he will be authenticated and identified.

### **3 COMPARISONS WITH STATE-OF-THE-ART**

Almost 80-90% of websites don't have translation process in-built in them. This module provides effective communication with the customers. So this website is much more better than other websites in view of E-commerce.

### **4 IMPLEMENTATION**

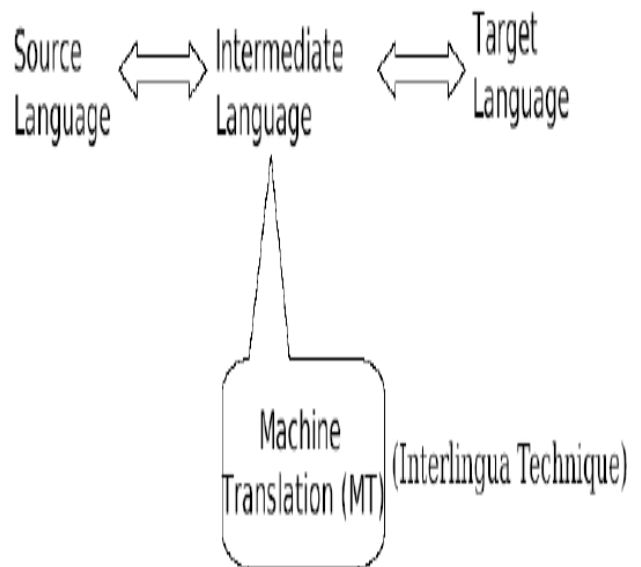
#### **PROBLEM DESCRIPTION**

Now a days translation is present as a software in the web. But the language which is presented in the web is English. These websites are mostly used by literate people who know how to handle them. This facility of e-commerce (exchange of goods and services in electronic domain) may not be used by illiterate people. So, for business in the present market and to attract customers a solution has been provided which is Native Language Website.

Every Customer who registers in a web-site is asked to enter his native language. Thus, enabling his account with the language chosen by him/her. So whenever the registered Customer enters into the website then he will be able to see the contents in his native language which he has selected while registration. This increases the understandability of the goods/products displayed in web-site as well as increase in sales. This results in increase of business which is the key factor for the success of any e-commerce system.

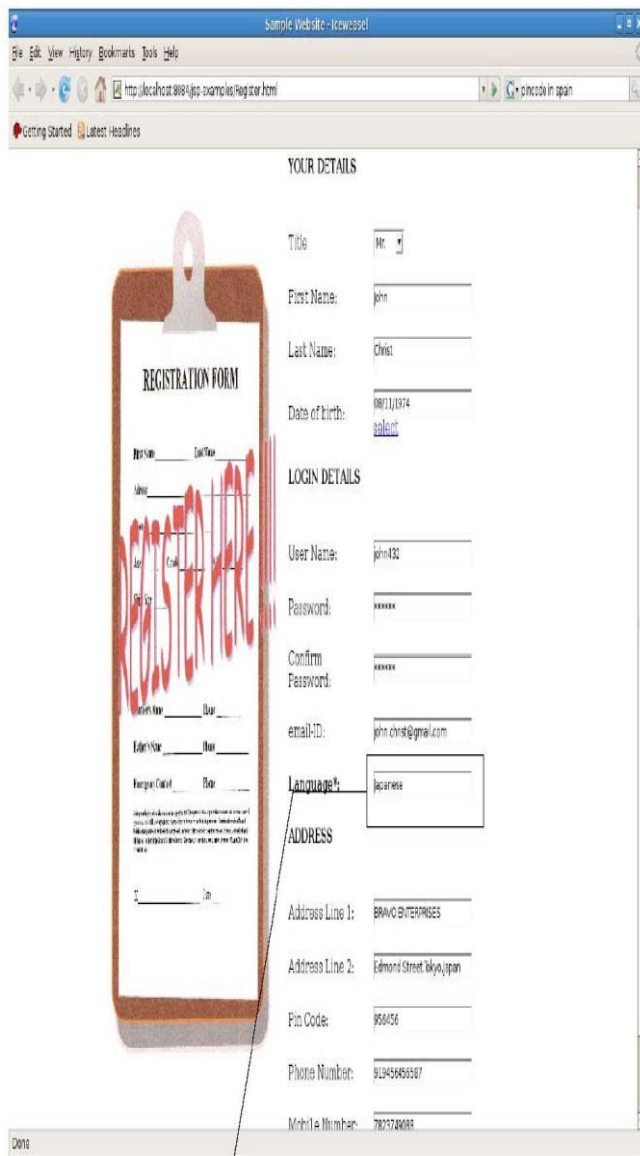
### **5 SOLUTION DESCRIPTION**

As discussed above by Machine Translation (MT) we can achieve another language which is native language of the customer. While registration of a customer to a website one option is asked to him to enter his choice of language. From this point whenever he logs into this website again, the language which he has selected while registration is sent as target language for the Machine Translation. Thus, whenever the customer requests the webpage he will see the webpage in his native language. The Machine Translation technique used is as Interlingua. This technique of MT is chosen because it separates the source language, intermediate language and the target language. This adds flexibility of converting any language to any language via intermediate language. This can be shown as follows:



The approach "Interlingua Technique" is a flexible method when compared to other methods present for the implementation of MT. Using this technique we can have bunch of source languages converted to Intermediate languages and form Intermediate language to target languages. So, for all the languages this intermediate language has become a interface (facade) which adds flexibility to convert whatever language the user is interested in.

## SCREENSHOT:



## REFERENCES

- [1] Debra Cameron, " Electronic Commerce: The New Business Platform for the Internet".
- [2] G. Winfield Treese and Lawrence C. Stewart, " Designing Systems for Internet Commerce".

As shown in the screenshot User who wants to register should enter his choice of language so that when he logs in with his username and password he will obtain the webpage in his native language (in this case 'Japanese').

## CONCLUSION

We have explained our developed database for native language website using Interlingua technique which can be easily implemented in website so that people who know their respective languages can easily access the website. Further investigation is needed in this direction.