



# QA InfoTech

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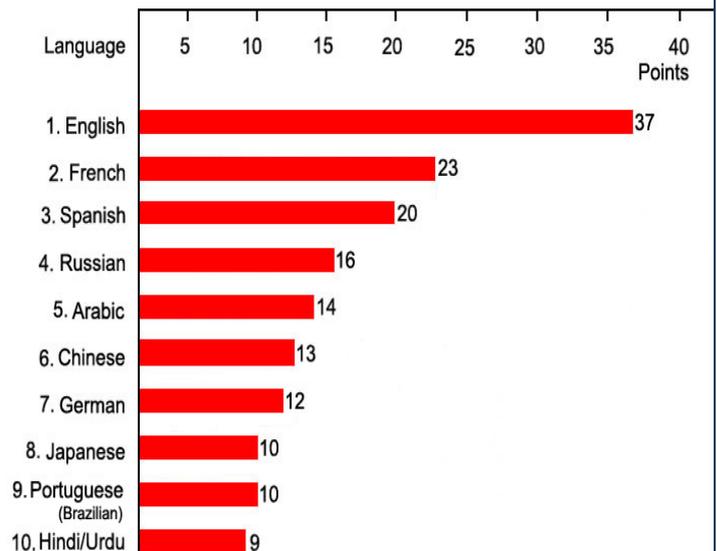


## Translation Technology: An Overview

### Introduction:

During the early part of human civilization around 100AD, Latin was the most spoken language. With the advent of time i.e. in early 20<sup>th</sup> century, the "West" started ruling the world and as per the graph provided below, one can clearly see that English was the foremost language followed by French and Spanish.

But with the internet creating in-roads across continents and the world becoming more accessible, companies have started diversifying their products across different languages, and thus the need for translation has increased leaps and bounds



Source: World's 10 most influential languages by George Weber

Releasing the product across various locales with top notch quality, and within a limited budget requires great dedication from all teams involved to provide native language UI and content. This elaborate process involves translation of millions of words every year. The limitations of translation vendor companies and the clients in terms of effort cost and quality necessitates a very efficient process to produce localized products of exceptional quality. Looking as an outsider, one finds the entire translation process so uncomplicated and accommodating. But is it really so?

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### **Does translation simply mean a swap of words from one language to another?**

If one does that, it generally results in offensive and weird output even if it means a complete word to word translation. Thus the need for the localization process where translation is performed, keeping in mind several aspects such as culture, date, time, number and measurement formats, visual icons and technical knowledge of the target region. The goal is to ensure that the translation doesn't change the original intent of the source text. In simple words, translation is a task of substitution of words from one language to another in order to translate a complete documentation, software, web page or multimedia, keeping in mind the factors listed above. This task can be performed either by human translators or using computer software. Varieties of software are available to perform automated translation, though such tools have their own limitations, such as lack of contextual translation. There are also browser integration software (extensions, add-ons etc.), which are very quick to translate texts but have the same challenge around correct contextual translation.

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### **Need for Translation Technology:-**

With cut throat competition in the market, every company looks for a process through which they can reduce their costs and market their products much better in comparison to their rivals. For companies which develop globalized products, a chunk of their capital is used for translating text as linguistic experts come at a very high cost. Moreover the software and machines that are available in the market are appropriate only for translation of minimal text (a line or more). In order to translate either a file other than a text file (e.g.xml, html) or something like a complete document, software or multimedia containing images or webpage, one needs a technology with a complete framework in order to get accurate translation which also helps in reduction of associated translation costs.

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### **Challenges:-**

Every new technology that is introduced needs to go through a thorough round of testing and with the criticality involved in the translation technologies; an in-depth testing environment has to be created to get successful results. The main challenges involved are testing areas such as correct fetching of translated segments for the proper language from the databases, properly saving translated segments into the

databases, verifying proper indexing of segments stored in the databases, performance issues involved during the process of saving and fetching segments, priorities of segments retrieved both for fuzzy\* matches and 100% translated segments, proper allocation of 100% match segments to the source segments based on parameters such as date, content involved etc., testing of texts that extend over pages and virtually do not have an end defined.

### Solution:-

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Testing such a technology requires in-depth understanding of the databases involved as well as xml tags present in the files that undergo translation. For example in texts which virtually have no end, the xml tags 'Start' and 'End' need to be identified in various lines of code to successfully map the segments in the database. Also, for the translation done between the languages pair, the segments saved in the databases need to be checked to ensure they are indexed correctly and proper results are returned based on the priorities set.

### Testing Strategy: -

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Features that need special attention: The following features are the backbone of the Translation Technology and thus need special attention:-

#### **Translation Memory(TM):**

For a particular application, once a translation is done, the translated content is exported to a database often called as the translation memory. The application displays the translation memory matches if the same text is encountered in the document for which that database i.e. the translation memory is referred.

#### **Instant Memory (IM):**

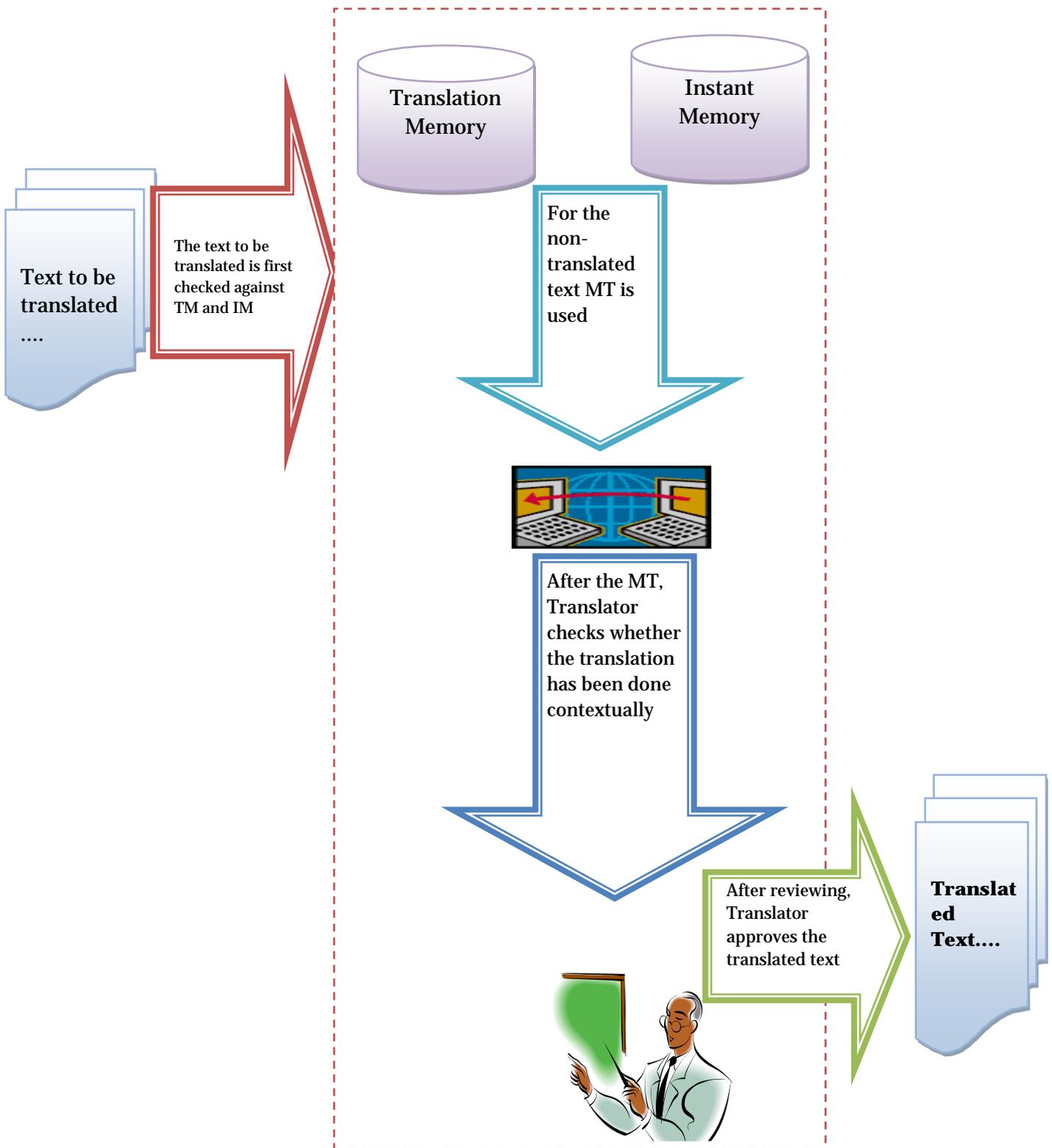
The Instant Memory function performs an IM comparison to search for similar source language segments within a single document. This helps reduce redundancy by avoiding the translator search for the same text over and over again. The most efficient translation process first checks the existing database, viz. translation memory and instant memory. The remaining text to be translated should then be translated using machine translation. It's only after the entire text is translated should the translator (a human tester in this case, who is conversant in the native language in which the translation is being done) check whether the text has been translated correctly and make changes if necessary.

### Steps to make Testing Easy and Affordable:-

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- ✚ A well defined process for end to end testing
- ✚ Smart test optimization matrix to reduce human and hardware resources resulting in cost-effectiveness
- ✚ Rigorous tested for various file formats, language combinations

The diagram below provides an overview of the entire process:-



## To Summarize:

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The evolution of the translation process has significantly reduced the translation costs, although it cannot entirely remove the human element. A combination of such technology and the human verification together make the translation process, fool proof, as well as time and cost efficient.

Someone once rightly said *“When a machine begins to run without human aid, it is time to scrap it - whether it is a factory or a government”*

*Note: \*Fuzzy segments are very similar to the source segment i.e. anywhere around 60+% to 95% match if not more, but they are not true i.e. 100% copies of the source segments. They can vary in terms of mismatch of words in the sentences or subtle differences in the sentence formatting.*

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### For more information, please:

Visit us at: [www.qainfotech.com](http://www.qainfotech.com)

#### Work Offices:

- - B-8, Sector 59, Noida
- - A-19, Sector 59, Noida  
- Plot 190, NSEZ, Phase II, Noida,
- - Tower C, 3rd Floor, DLF IT Park, Chandigarh
- - 33045 Hamilton Court East, Suite 105, Farmington Hills, MI 48334, USA

Contact us at: [info@qainfotech.com](mailto:info@qainfotech.com)

### About QA InfoTech:

QA InfoTech is a leading Software Quality Assurance and Testing company specializing in providing independent, unbiased testing services to world class businesses.

QA InfoTech is an ISO 9001:2008, CMMi Level 3 and ISO 20000-1:2005 and ISO 27001:2005 Compliant Company.

Through its wide range of services constituting of functional testing, acceptance testing, localization testing, test automation and performance testing, QA InfoTech has helped many Fortune 500 companies in creating and successfully executing their QA strategy. At QA InfoTech, we maintain a distinguished level of service which blends top quality with cost effective solutions. The forceful combination of our highly skilled test engineers, domain experts and our investment in latest technologies ensures end to end coverage for our client’s products. We bring together best practices and strategies to cater to the unique software testing needs.

**Established** in 2003, with less than five testing experts, QA InfoTech has grown leaps and bounds with five QA Centers of Excellence in US and India, and more than 600 Testing engineers.

**Excellence, Partnership and Commitment** are the three hallmarks of the way we approach our clients; we believe you will see this in our service and our expert team.

