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## [A snapshot of real-time multilingual chat](#)

Thursday, 29 March 2012 09:45 Maxim Khalilov



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One of the most exciting applications of machine translation is for real-time chat. And while many in the language services industry will be harnessing MT in the coming years to optimize their operations, a few innovators are already attempting to deliver this very challenging service. As these solutions filter through to mass use it will be fascinating, and perhaps a little frightening at times, to observe the social and commercial impact.

Four use cases [were presented](#) at last year's TAUS User Conference. These came from Intel, Microsoft, Asia Online and Spoken Translation. Each demonstrated application scenarios where utility is valued over eloquence as a measure of translation quality.

The talks also highlighted the significant investment required to deliver effective solutions. The basic infrastructure that provides integration with business processes requires access to the high volumes of in-domain bilingual content or the set of translation rules specific for a certain language pair. The data needs to be processed in a way similar to traditional MT systems. However, in contrast to most other MT applications, tools for multilingual interaction cannot afford the luxury of expert human post-revision.

Speed and customization are the two crucial requirements for translation systems for simultaneous text conversations.

The need for speed challenges MT developers to use highly pruned translation and language models or to optimize the system to translate faster, risking deterioration in translation quality. Currently, solutions such as [GeoFluent](#) (LionBRIDGE/IBM), [ChatStat](#) (based on Google Translate engine), [VoxOx](#) (based on BabelFish) or [SDL Global Connect for LivePerson](#) reach the speed of up to 50-60 words per second, which is more than good enough.

A few systems also offer customized engines for different chat domains, just as other specialized MT engines are trained to meet specific client needs.

The additional challenge with live conversation is the sheer variety of language used, which is often ungrammatical, and ambiguous. There are of course many commonly used abbreviations (e.g. LOL, IMHO), which are handled by normalizing the source language. This means obtaining a parallel corpus that includes variations of abbreviations and slang used in chat conversations for statistical MT engines or by creating rules including ungrammatical input in the case of rule-based systems.

While looking at the offerings on the market I was intrigued to come across an instant multilingual chat system from The Institute for Infocomm Research ([I2R](#)) in Singapore. It uses a rule-based system to translate between English, Chinese, Malay, Indonesian and Thai or shall I say for a sizable chunk of the global population.

Users select a profile language for their chat sessions, after which outgoing and incoming chat messages appear to them in the selected language. The system standardises chat-speak terminology, such as “u r” for “you are”, or “2 L8” for “too late”, as well as more ambiguous usage, like “4” that can refer either to “four” or “for”, or “1” that can be “one” or “won”. What I like is that users can create their own lists of such chat lingo and pair each term with a corresponding standard word or phrase. This user-specific chat-speak normalization offers the potential for a pretty seamless approach to reducing miscommunication from wrong translations of non-standard expressions. Such user-centric customization is not so easily/speedily done for data driven systems.

While we, TAUS, will undoubtedly have our finger on the pulse of commercial uses of real-time chat, we are very interested to learn about its social uses, such as by The Qatar Foundation International for a multilingual chat forum [bringing together Brazilian and Qatari students](#).

We welcome you to get in touch or simply leave a comment if anything crosses your path.

*Thanks to Dr. Rafael E. Banchs, Sharifah Mahani Aljunied and Aw Ai Ti of the Institute for Infocomm Research, Singapore, for their openness when answering my inquisitive questions.*

   20 18 21

## Comments

#4 **Maxim Khalilov** 2012-04-26 15:54 0

Hi Bill,

Thanks for pointing us in the direction of this very interesting study. It's clear that the availability of multiple translation alternatives can increase user satisfaction. On a practical level, however, the diversity and quality of generated translations significantly influence the final system performance. I will be happy to read a report (or even to participate) on research of multi-optional chat translation for different domains and language pairs.

Regards,  
Maxim

Quote

#3 **Bill Ogden** 2012-04-19 16:29

+1

Good snapshot. You might be interested in a study in which we found that people using multilingual chat were more effective if provided alternate translations from multiple translation systems. See: <http://bit.ly/J4SrCw>

Quote

#2 **Maxim Khalilov** 2012-03-30 10:27

0

Hi Jun,

Thank you for your valuable comment. It is good to know that a variety of translation technologies is used in your system. Is there a special reason why SMT was used precisely for Chinese-English language pair, while the rest languages are translated with a rule-based system?

Maxim

Quote

#1 **Jun Lang** 2012-03-30 04:21

0

Actually, for Chinese to English ,the instant multilingual chat system from The Institute for Infocomm Research (I2R) uses Statistical Machine Translation technology. The core engine of this direction is mooses-style.

Quote

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### [Moses Users: Changing Priorities](#)

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### [TAUS launches Dynamic Quality Evaluation Framework](#)

*12th June, 2012, Amsterdam* – TAUS, the translation innovation think tank and interoperability watchdog, is pleased to announce the launch of the Dynamic Quality Framework (DQF).

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### [Google, Translators without Borders and Microsoft win TAUS Excellence Awards](#)

*1st June, 2012, Amsterdam* – TAUS, the translation innovation think tank and interoperability watchdog, announces the winners of Excellence Awards for outstanding ideas, solutions, and implementations presented at the TAUS European Summit, 31 May – 1 June 2012.

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### [Achim Ruopp joins TAUS Labs](#)

*25th May, 2012, Amsterdam* – TAUS, the translation innovation think tank and interoperability watchdog, is pleased to announce that Achim Ruopp has joined the TAUS Labs team as a Product Development Manager.

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