

Lessons Learned from Multilingual Collaboration in Global Virtual Teams

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Overview

- Intercultural Collaboration Experiment 2002 (ICE2002)
- Discussion support facilities on TransBBS
- Observation and Lessons learned from ICE2002
 - To find out the technical issues of multilingual and distributed collaboration support
- Required features for supporting multilingual collaboration

ICE2002 in summary

- Software development experiment in multilingual and distributed environment
 - in Asian four countries, **China, Korea, Japan, and Malay**, each has different language, character, and culture
 - to **develop “intercultural collaboration support tools”**
 - team **consists of each country** develops a module to be integrated into a single application

ICE2002

Tools

- TransBBS

An multilingual BBS with machine translation (MT); enables members to discuss about the development

- TransWeb

An document sharing tool for middle documents stored in WWW

Simplest basement tools to find out technical issues with observing user activities

TransBBS and TransWeb

TransBBS - Microsoft Internet Explorer

ファイル(F) 編集(E) 表示(V) お気に入り(A) ツール(T) ヘルプ(H)

アドレス(A) http://ice.kuis.kyoto-u.ac.jp/TransBBS/mib.cgi

japana-256 || 投稿者: FUJISHIRO Yoshiyuki || [document](#)

件名: Approach : Requirement toward authenticity
Document : Collaboration Diagram
Korea Team
投稿日時: 2003年01月14日 火曜日 10時30分54秒 (+0900)

Cool Opinion! Translation is OK Terrible Translation

Need Evaluation 0 / 0 / 0 (detail/edit)

中国語(西語訳)	日本語	韓国語(西語訳)	マレー語(西語訳)	英語(西語訳)
早啊。	おはようございます。	안녕하십니까?	Selamat pagi.	Good morning.

返信

japana-255 || 投稿者: lim sanry || [document](#)

件名: Good chance
Approach : Other remark
Document : Others
Korea Team
投稿日時: 2002年12月17日 火曜日 17時30分12秒 (+0900)

Cool Opinion! Translation is OK Terrible Translation

0 / 0 / 1 (detail/edit)

中国語(西語訳)	日本語(西語訳)	韓国語	マレー語(西語訳)	英語(西語訳)
变得与有趣的实验知道好的人们的事是对我好的机会。3月试着期待Meeting。流利地做2002年完成吧。Ice2002 Fighting!!!	おもしろい実験と良い人々を知るようになったことは私に良い機会であった。3月にMeetingを期待してみる。2002年を仕上げを上手にやしましょう。Ice2002 Fighting!!!	재미있는 실험과 좋은 사람들을 알게 된 것은 내게 좋은 기회였다. 3월에 Meeting을 기대하여 본다. 2002년을 마무리를 잘 합시다. Ice2002 Fighting!!!	Untuk telah mendapat tahu sebuah eksperimen melucukan dan orang baik adalah peluang yang mana baik untuk saya. la mencuba menjangka Mac untuk membuat Mesyuarat. Ayuh siap secara mahir pada tahun 2002. Ice2002 Fight !!!	To have gotten to know a amusing experiment and good people was the opportunity which is good for me. It attempts to expect March to do Meeting. Let's do completing skillfully in 2002. Ice2002 Fighting!!!

返信

<5월9일에 업데이트(update) 됩니다>

【로경협2002

서

이 디자인(design) 단계

코멘트(comment)!!! -

한 커뮤니케이션(communication)을 서포트

어서 이야기해야 합니다. 기계번역은 실험의

하는 것을 기대합니다 : 참가자는 어떻게 번역

이 나라에서입니다 : 중국, 일본, 한국, 및 말레

(메이스(interface))을 작성하므로, 참가자는

4그룹(group)에 분할됩니다 : 중국, 일본, 한

각각의 팀(team)에 존재합니다. (아우조족,

인터넷



Translation problems

- MT systems do not satisfy the quality for exchanging messages
 - **Writers** cannot know whether the translation results are readable or not
 - **Readers** cannot tell to the the translation quality of translation results because the reply also requires MT
 - Also, readers cannot know the **importance of the message** with terrible translation

TransBBS

Required feature for supporting MT use

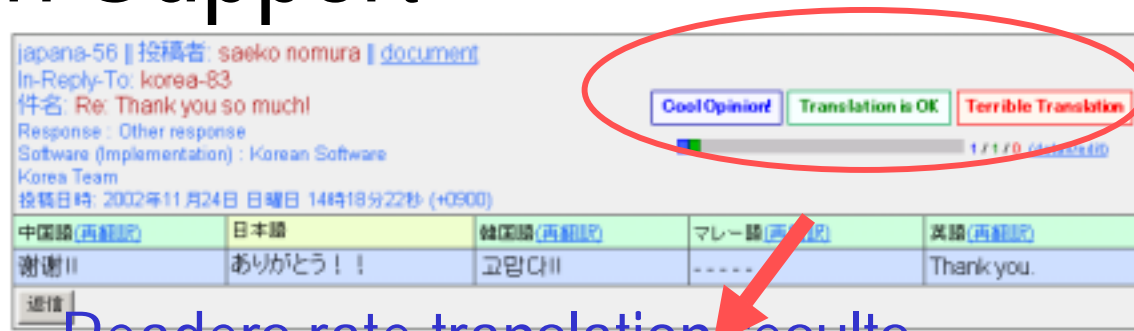
- **Readers** notify translation quality to the writer
 - Simple notification method from the readers like “terrible translation”, “translation is ok”
- **Writers** modify the original text for translatability
 - Modifying for adapting to MT increases the readability of MT result
- **Writers** annotate the message
 - Message’s importance, type, target readers etc

TransBBS

Communication Support

- Translation rating

- to notice the readability of the translation results



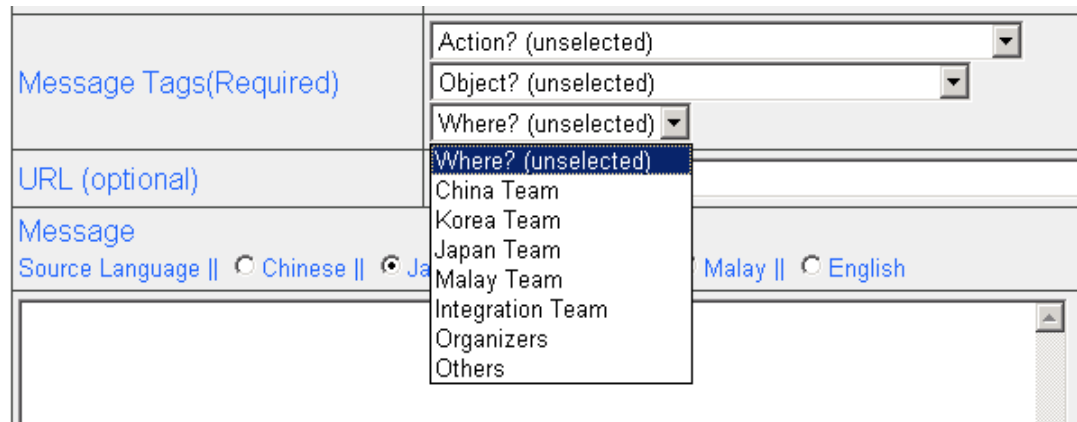
Readers rate translation results

- Message Tags

to specify

- type of the message as "Proposal", "Response", etc
- target of the message

Writers add semantics into messages



Observation

Users' efforts for communication

Use of facilities on TransBBS

- #Translation / #Post rate

Writers should modify original message for adapting to MT

Whether writers overcome the time & effort consuming translation for the communication?

- #Translation rating

Readers should point out the translation failure to the writer

Whether readers say "terrible translation" before they give up the communication?

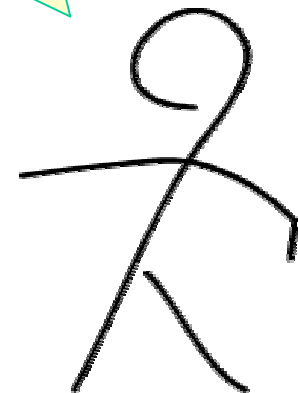
Observation: efforts for communication

#Translation / #Post rate

	post	translate	trans/post rate
Phase 1	481	1,608	3.34
Phase 2	274	806	2.94

translate and check,
translate and check,
translate and check,
and then post

- Average **3.20 translations** per post
- and not evidently decreased throughout the experiment

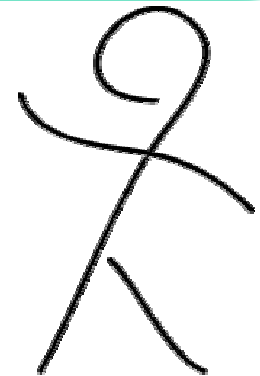


Observation: efforts for communication Usage of communication support

	Rating	Post	Rating /Post
Phase 1	321	481	.67
Phase 2	231	274	.84

"Receive a good motivation
to edit original message"

"Feel close to the valuer"



- Translation rating is **constantly (increasingly) used**
- Writers receive good motivations to modify the original text for MT

Observation: efforts for communication

However, some **negative situations** observed

- Users dislike **message tags** although it costs little time and labor
- **Translation turn around time** affects the number of posts

 **Motivations are very fragile**

Observation: efforts for communication

Negative situations

- Multilingual discussions are mainly on **overall design** of software development
 - Detailed designs are held on each country's local discussion rooms
 - Less translation tries in the local rooms (less mentions to other members)

	#translation / #post	
	Local room	Other rooms
China	1.81	2.28
Japan	4.99	5.65
Korea	1.88	2.60
Malay	1.83	1.79

Lessons Learned

User's efforts for communication

- Users **pay great efforts to communicate** with members of other languages
- However, the motivations are **very fragile**
- **Detailed discussions are difficult**

What are required in Intercultural Collaboration Support?

Required features of Intercultural Collaboration User's efforts for communication

- **Interactivity in Machine Translation** for supporting to keep the motivations to communicate with others
- **Sharing concept in the group / project** to supporting discussions on specific topics of the software development

Summary

- Observations of ICE2002 to find out the technical issues in multilingual collaboration
- Lessons Learned
 - MT can support communication with users efforts
 - Multilingual collaborations require more supports
- Future Issues
 - Interactive MT
 - Terminology or Ontology in the project

Thank you

Lessons Learned

- Users **pay great efforts to communicate** with members of other languages but the efforts are **fragile**
- **Detailed design discussions are difficult** on multilingual environment
 - **Psychological locality** in terminology exists

Observation

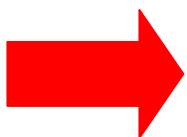
Users' activities on

1. Multilingual Communication

- MT has low quality in communication use
- How much the users pay their **efforts for the communication** via MT?

2. Multilingual Collaboration

- How **easy or difficult is the collaboration** in multilingual environment?



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What is the Required features for Supporting Communication and Collaboration?



ICE2002 setting summary

- Track I May – Jul 2002
 - Single action to translation and post
 - No discussion supports
- Track II Oct – Dec 2002
 - Divide translation and post methods
 - Discussion supports methods

Observation 2: Software development Discussion on design

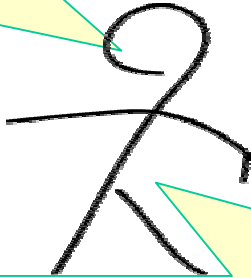
- Discussions are mainly on **overall design** of the software
- They **could not fix the detailed specifications** of the integrated application
- Detailed discussions are held on **each team's local discussion room** but it is closed for others

Observation 2: software development

Translate / post rate for discussion rooms

	#translation / #post	
	Own room	Other rooms
China	1.81	2.28
Japan	4.99	5.65
Korea	1.88	2.60
Malay	1.83	1.79

Translate and check, translate and check, ... and then post



This room is for our team only. Translate and slight check, then post

- Most members **check translations less in local discussion rooms** other than Malay members, who use English
- In local discussion rooms, they use **local terms** like "Lab 3"

Lessons Learned 2

Software development via MT

- Detailed design discussions are difficult on multilingual (noisy channel) environment
- There exists **psychological locality**
 - Users **do not mention other team members** in their own discussion room
 - And use their **local terminology / ontology**