Canect: Matching You the Best-fit Translation Service

By

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Abstract

In this thesis, a new service: Canect is designed to challenge the problems of current translation service providing. Briefly speaking, Canect is a service that helps international travelers and companies to find and manage the best-fit translation services. While the traditional translation service industry staying in the black box, Canect is designed to be more transparent, flexible and reliable. It will improve the translation service experience from the early stage to the end evaluation stage. To limit the language scope, this project will focus on English speaker who seek Chinese translation services.

The design process followed a typical interaction design process including design research, user needs mining, personal and scenario development, prototyping and evaluation.

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Introduction

General Topic Area

Increasing globalization presents incentives for those who can break down barriers of language

and culture. Improved language translation is the key to better cross-cultural communication. In

this thesis, Chinese and English languages were chosen due to their wide coverage and

differences in language structure. Translation, as a service is studied as the core object.

The design project:

A new service: Canect is designed to challenge the problems of current translation service

providing. Briefly speaking, Canect is a service that helps international travelers and companies

to find and manage the best-fit translation services. While the traditional translation service

industry staying in the black box, Canect is designed to be more transparent, flexible and

reliable. It will improve the translation service experience from the early stage to the end

evaluation stage. To limit the language scope, this project will focus on English speaker who

seek Chinese translation services.

There is a living site for all information about the project: http://www.torry-

ue.com/project/Thesis2011.htm. You will find the proposal file, research data, design materials

and the html prototype for the system.

I also attached the project presentation, scenario video, user experience map and testing adobe

swf files as supporting materials for the projects.

Design Research

As the first part of the thesis, research was carried from three different directions: the literature review from publication about general translation service issue, industry research about the field; interviews about the user need.

Research Plan and Methods

The research was broken into two different parts for its nature and the areas to explore. A detailed plan was made before the project began.

Part I: General research before start

Directions: Explore how people interact with current translation tools/methods.

Methods: Mixed methods; AEIO analysis (Activity, Environment, Individual, Object)

Time line: From July to early September, 2010

Goal: Get insights, data, ideas; narrow down the scale; find touch-points

The following table presented the detailed research:

Table 1: Research Matrix for the Project in Translation Area

Category	Research direction	Research resources	Research methods
Translation service users	- Let people talk, share their experience - What's the moments of truth - Jobs they really want to be done - Highlights - Touch-points - Mental model	People who have been to foreign country with limited foreign language skills; people who need execrate translation with small budget; travel agency company will be covered too.	Questionnaires Interviews Both qualitative and quantitative methods will be used here.
Current service providers	- What are the mainstream tools/methods; how they works - The industry, the	Traditional dictionary; electronic dictionary; mobile application; online tools; desktop translation software; translation agencies with	Cross-wise comparing and user's feedback, experience mapping will all needed (Need data collecting,

	business model; ● MT vs. HT ● Conceptual model ● Unmet needs ● Profits and bottom line	real man as members	reference, questionnaires design)
Translators	● Students' skill level ● Career market for newly graduated ● Academic vs. real world ● Needs and wants	Teachers, students, parents and institutions may all covered.	Questionnaires Interviews

Part II: Research during the process

Directions: Explore a way to solve the problems that has explored. Find literately supports for the design.

Methods: Mixed methods;

Time line: From October, 2010 to early February, 2011

Goal: Get the design idea and support documents.

After giving the new service a definition, it is going to solve the problems found in the early researches. To cover two major needs of people who need translation services, the concept is to match a right translator and then manage the translation project. And the following research mainly focused on the two aspects.

This time both design research methods and marketing research methods were implied. To me the research questions was better understood when consider the same problem from different angles, like marketing and design.

Creating a frame of reference is a method for branding but also a very good way to understand the future position of Canect in the market. Depends on the stage in the life cycle of Canect, both same and disparate categories will be included in the research. As for a new brand, Canect is thought to be innovative which will be difficult to fit it into an established frame, that's why I

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need to break it into two parts (matching and managing) first. Due to the limitation of this thesis project, most efforts were made in the area of matching right translators.

Besides the frame of reference method, user interviews were carried on to figure out people's needs when matching a translator.

Literature Reviews

The literature reviews focused on the nature of translation, the theory about Human translation (HT) and technology of Machine translation (MT). Start from the question: what is translation, it is not proper to see translation as a simple process of decoding and encoding a foreign message to the receptor.

The current Machine translation (MT) service performs poorly on structure-based translation. Complicate structure, requires flexibility to compare and analog. A mechanical way to represent complex structures is called "model". It is particularly risky to use mechanical models as ways of describing the nature of language. Now think about the process of analysis (restructuring not included) a relatively complete sentence or paragraph, a translator should concern the following aspects:

· The referential meanings of the semantic units

· The connotative values of the grammatical structures and the semantic units

Each of the above considerations introduces challenges for effective translation. Grammatical analysis requires relatively deep structural understanding of the language itself and the particular referents in a given sentence. The interpreted meanings and intent of a sentence can vary considerably depending on context in which it is uttered. The key step of restructuring the

sentence properly requires getting the translated meaning, syntax, grammar and "literary level" right for the intended audience.

But even single world translation is undependable. This is not only a mapping problem in word-to-word translation, which has certain ordered rules. Mechanically applied rules must factor in at least two conditioning elements: the context and the literary level. Which leads to a second concern about machine translation: It requires the user to have some degree of language competency in order to properly apply the translated text or to re-organize the structure of the sentence. A recent study by researchers at Human-Computer Interaction Lab, at the University of Maryland focused on machine translation for people with no target language background. The researchers designed a new iterative translation processes to leverage the massive number of online users who have minimal or no bilingual skill (Benjamin B. Bederson 2007). Combining existing machine translation methods with monolingual human speakers supported the iterative translation process. This fresh application of the power of social networks revealed that collaboration between human is highly critical to complete a successful translation process.

The human mind operates in a much more complex manner than any computer program; it is capable of many more intricate and interrelated analogies and comparisons (Nida n.d.). . But from a business aspect, human translation involves a more expensive resource and a more involved management structure than sheer machine automation. It is not feasible to provide free human service for skilled translation work. Compared to oral translation, automated document/text translation has lower threshold of acceptability. It is a comparatively easy, cheap thing for technology companies to do. That is why document/text translation is such a crowded, competitive market.

Industry Research

After some research about the current industry, the following table was summarizes for the structure of

translation services available in China:

Table 2: Current Translation Service Structure in China

Category	Text Translation		Oral Interpretation		
	Real time	Other	Consecutive Interpreting	Simultaneous Interpreting	Sight Interpretation
Description	User can access the translation almost as soon as they provide the content.	Translation that will take time to process the content	The speaker will stop time to time in different parts of the talk for interpreter to translate.	Interpreter speaks almost the same time as the speaker. The translation happened simultaneously.	Interpreter will be provided with the script of the talk, he/she translates while listening to the talk and reading the script.
Occasion to use	The most widely used translation service. Service user and provider who need instant translation.	For formal use mostly. Text like thesis, user manual, commercial doc, brand…	The most common used interpreting service. Tourists, medical and business uses are all included.	International conversations. Two interpreters take turns to work. *Whispered Interpreting*: only serve one person	Formal meetings, banquets and events. Most scripts are confidential and passed to interpreter minutes earlier before start.
User requirement	Level 2+ language skill Access to the interface	0 language skill required Budget of $ and time	0 language skill required Budget of $	0 language skill required Sufficient budget of $	0 language skill required Budget of $ Prepared Scripts
Advantage	- Cheap/free - Fast - Convenient - Easy to operate	- Higher service quality - 0 user language skill required	- Convenient - 0 user language skill required	- High quality - Top talents - Reliable - 0 user language skill required	- Reliable - 0 user language skill required
Disadvantage	- Highly depends on the user level - Lack of quality evaluation - Invalid for long text	- Cost-effective is a myth - Take effort to find a reliable provider - For time-	- Need to pause while talk - Quality can be vary - Hard to know the quality in advanced (risky) - Cost-effective is	- Pricy - Market is relatively narrow - Challenging for service providers - Choice of service provider is limited	- Pricy - Market is relatively narrow - Cost-effective is a myth - Choice of service provider is limited

		sensitive translation it may not work	a myth		

And a table of the current players in the market is shown below:

Table 3: Recent Players in Translation Service Marketplace (Chinese/English)

Category	Text Translation		Oral Interpretation		
	Real time	Other	Consecutive Interpreting	Simultaneous Interpreting	Sight Interpretation
Players in the market	**- Online tools:** Google Translate iCiba Netat Proz TranslatorsCafe GoTranslators K-international Myngle Translated.by **- Software** iCiba desktop **- iPhone APP** iDict Cap n Trans Translation Station **- Dictionary** **- E-dictionary** **- Books**	**- Formal Translation companies** Xinyiton Global Bridge China Translation ... **- Freelancer - Small agencies***	**- Formal Translation companies** Xinyiton Global Bridge China Translation ... **- Freelancer** **- Small agencies*** **- Travel agency** **- Government Offices**	**- Formal Translation companies** Xinyiton Global Bridge China Translation ...	**- Formal Translation companies** Xinyiton Global Bridge China Translation ...

From the research, text translation is the most crowded, competitive service category. The category of oral translation services is less competitive, presenting a potential opportunity–a market gap–for new entrants in this area. Early primary research indicates considerable latent demand among non-Chinese speakers for these services.

Beyond this apparent market gap, there are various other niche opportunities for translation services. Inexpensive or even free internet-based services are mostly machine translations (MT), which perform poorly in sentence or paragraph translation, requiring in many cases that users

have degree of familiarity with the target language.

Some translation services, such as those under Simultaneous Interpreting, are binding with guiding services for travelers or tourists. These are often designed by companies to maximize profit rather than serve translation needs. The largest, most established translation agencies in China work in a sort of "black box" mode, brokering translation services while shielding translators from direct contact with consumers. Consumers must rely on the agency to select translators for them, and pay a service premium for such. Likewise, professional translators are kept anonymous players in this model. This presents an opportunity for a more transparent model for specialized oral translation services, one that enables convenient self-selection and communication between customer and translator. The objective is to afford a more decentralized matching service. To test the efficacy of this proposed approach, a service prototype will be developed and used to elicit feedback from users–translation consumers and translators alike. From the feedback, subsequent iterations and improvements on the design will be produced. This thesis will document research, development, and design of the service prototype, as well as the results of user testing and feedback.

Meanwhile, vast numbers of travelers visit China but possess few or no Chinese language skills at all. Hence, the large market for language translation services. Offering a more convenient way for non-Chinese speakers and the local translators to find each other and contract for services would significantly benefit both parties. Recent market statics in China indicate that opportunities for college graduates in English is not promising. Every year about 100,000 Chinese students majoring in a foreign language graduate in from college. Two-thirds of them are English majors. More than half of them will likely work as typewriters, secretaries, officers or other job that irrelevant with what they learned. Even these may be considered fortunate

compared to very many others who are unable to find an official job. Trends in the translation industry indicate that demand for services far exceeds supply.

For talented, high-quality interpreters the demand is particularly strong. Agencies seek out those with real-life, real-time translation experience. Interestingly, of those Chinese students with part-time jobs, 90% do text translation work. The education system is slow to adjust, but there are likely opportunities that a new service model can service the particular needs for these young scholars in a fair and equitable manner.

User Interviews

Besides the study of the nature of translation and the service industry, interviews were designed for service users and providers. For each individual interview, designated questionnaire were used for different roles. The interview time varied from 15 minutes to 1.5 hours, depending on the information each individual can provide. For the reason of time differences and distances, some interviews were carried on telephone; some were through video camera; some were via IM tools while the rest were face to face direct talking.

Pens, notebooks and laptop were used to record their answers. The interviewers were asked to pause or repeat when necessary.

To view the full version of the recorded interview data, please check on the information I listed in the project site: http://www.torry-ue.com/project/Thesis/ResearchUserInterview.htm

The Problem Space

For Service users:

The Language and Culture barrier
Gaining mastery in a foreign language through formal education is naturally the best, most direct means of enhancing cross-cultural communication. But such training requires considerable time and resources. For most people, especially those in business, using on-demand translation services to handle practical communication is a far more practical means of satisfying immediate needs.

According to the earlier discussion about learning the language or using translation services, the barrier of cultural difference seems to be more difficult to go through.

Back to some famous joke about Chinese translation of international brand, most of them are fine literally, but the misused cultural context makes the brand sounds funny. The old story about how Coco-cola succeed in China started from they changed their translated brand name. As for the recent story about why Best Buy failed in China, one thing that these critical articles forgot to mention was the strange translated name. From the name, local Chinese can hardly connect it with the famous Best Buy from US, which affected the market awareness. On the other side, people can't tell what do they sell from the name while most local retailer's names are frank and direct. Cases like these will require the translation to be highly culture-sensitive. In other situation, such as a tour to places of interest, specific culture knowledge is needed other than general understanding. The translation quality relies on how well the interpreter use cultural elements from both side.

Preference of all types of translation services becomes necessary. And that provides a sufficient reason why people should consider using the customized, best-fit service for their travel, business or other purposes.

Compare and Choose the Best-fit Service

To compare and choose the service best meet the purpose is not easy. This is especially frustrated for the oral translation services. There are many way to find the services, and most of the time you may have more than one choice. And you'll do the compare and choose manually.

For these who trust former agencies, no matter what the huge size of the agency is or how many translators work for it, you are making indirect comparison and choosing. Transparency is missing here: it is usually the individual companies who you are comparing rather the individuals who will work for your project. Comparing is even more difficult for these who don't know much about the foreign language. However, in most cases the agencies will choose the translators for you, but it was their benefit instead of yours to be concerned more.

For these who decide to choose individual freelancers, need to manually sort the information of the posts on BBS, biding system or search results. You may face the problem of limit or overload information about each candidate. Finally when you send out messages try to contact them, you'll find the communication time is usually unpredictable.

Manage the Project

In my research, I didn't find any specific tools that support people managing their translation projects. To manage the project seamlessly, translator have to be a "partner" of your project and you work together. Such kind of application is rare to found.

It is also a problem about balancing budget and energy. If you want to save your energy, you can "outsource" the management to translation agencies. The charge will later go in your bill. If you want to save money, you can find a freelancer online for a cheap price. But you will be the one responsible for the service quality control, or track the deadline and work efficiency.

For Service Providers:

Human Value in the War between HT and MT

If machine translation is so widely available, when is it necessary to make skilled human translators available and visible in the marketplace? Considering the two key weaknesses of machine translation: context and literary level, these are areas where skilled human translators can make a big difference. Of the different levels of context that are relevant to language translation (i.e., pure language, social, and culture), cultural context is probably the trickiest. These context levels equate to common categories of language translation: technical, formal and informal. Judgment of appropriate context varies by user types and settings. For instance, the translation needs of tourists are less technical and less demanding than those engaged in business activity. Likewise, the translation requirements of those engaged in business transactions or negotiations are more demanding than those involved in relatively simple staff meetings or high-level introductions. The second key contextual element in effective translation is specialized knowledge. Areas of specialized knowledge may involve geography, history, business, industry, or government. The relevance of such information upon negotiations may be hard to anticipate early on, but can be crucial to the substance of a negotiation and its successful outcome.

Matching the right translator to the right customer (and their requirement) is a core consideration. The disadvantage of the traditional translation agency model is that the method process for matching customers to translators is a mystery only the agency knows. Success relies considerably on the professional competency of the agency. The customer has to trust that the agency: a) understands the specific translation requirements involved, and b) will provide the best translator available for the job. The model also depends on trust between agency and the

translator. In other words, this business model involves highly mediated business relationships. Managed well, these relationships lead to successful outcomes: fees get paid, business gets done. But managed poorly, the consequences can be devastating and costly, resulting in the loss of trust, reputation, and business opportunity. Unfortunately, the power of the agency in matching of translator to customer's translation requirements doesn't always benefit translators themselves. Of the premium service fees collected from customers, agencies pay their translators only a small percentage. This relationship is not equitable; agencies hold asymmetrical power in the relationship.

There are market incentives for finding ways to effectively provide high quality translation services while removing or reducing the power of the agency "gate-keepers". The choice between machine and human is obvious; technology here is only a bridge to help users find the right human translator. The goal of a new translation service model would be to use technology to make it easier for companies and expert translators to find one another and negotiate a more direct service relationship.

In this war human translation brings the questions to translators to prove their value: how to make the user trust you rather than Google Translate? How to make them think your work worth a payment? How to make them think their payment is fair? These raised issues should be considered a challenge for any design to resolve the problem.

Bidding Systems: Design to be Cheap

Bidding systems is the system allows you to post your request with a budget. People who have interest will reply. Besides the bad comparing experience, his kind of bidding may cause unfair competition between translators: such as cheat on price, play tricks to show on top, create fake

rating or experience and make blur contract explanation. All these can hurt the benefit of service users as well as other translators.

For these skilled talents who charge more, the bid system is not designed for them: clients come here mostly with limited budget, they expect the translators to be cheap. And for clients who knew little about the language, judging the translation quality in a short time is such a challenge.

And from the industry research, most bidding system are poor designed with complicated operation, unprofessional look and feel as well as flashing ads everywhere. They are designed to be cheap from the first peer.

Art of Client Management

Why agencies dominate the industry, especially oral translation? The requirement of client management skills is one reason. It doesn't necessarily mean individual translators also have to take care of a bunch of clients at the same time. To explain this problem more specifically, I break it into different parts based on different phases which are: before project start, in the process and the after service phase.

Ideally, the client chooses a certain translator best fit his own requirements. The choosing is both sides, so a popular translator may get more than one offer at the same time. Then it switches the turn to translator to compare and choose the clients.

A well-designed service should help the translator to simplify the comparing too. The different client requirements and the different translator expertise create the complexity. There should be a way that most efficiently categorize the requirements and preferences precisely, as well as cover the requirement space as completely as it can. So find and choose each other will be an easier process.

During the project, managing the client relationship needs skills and experience. There were translators spent more energy to solve communication problem with the clients rather than on the work, while some might win good partnership in the end. Communication is such an important thing for relationship building, thus a reliable communication platform is required too. Moreover, some experience sharing, guiding and training will be very helpful too.

Feedback from the clients will not only help the translator to improve their service, but also help translator gain valuable experience. These experiences are very likely to be viewed by the potential clients. To track the service after delivery, scientific methods or practical tools are needed to guarantee the fairness, quality and accuracy.

Sharing: Opening a Window without a Shield

By analysis the needs of translator, the need of sharing turns out to be an essential one. Not only the translators want to share their talents and experience with the clients, but also with other translators.

But currently sharing is like opening a window without a shield; you get fresh air as well as the bugs. It is great to share because people get to know you more can bring more opportunities, and translators can learn from each other, help each other or even work together. But it may lead to unfair competition, privacy and copyright issues too.

My Solution: Canect

Match, compare and choose

Canect is designed to have an innovative function that differs from any other current translation service provider: the match function. This is not a just advanced search though it still used the algorithm of fuzzy match. It has a human touch with the concept to match the requirements and preference from both sides. Three kinds of matching results will be provided to the translation user:

- **Best match:** the ones who matched the preferences most
- **Best rated:** the ones who didn't match all but are high-rated by former clients
- **Future star:** the ones who just joined without rating data but high quality profile.

It is easy to make comparison by using the system. Inspirited by the the experience of buying durable goods online, Canect will help you to sort your selected translators based on your requirement and preferences. You can also manually check out each candidate's own pages, where you will see presenting video, resume, certifications, comments, previous work, rating and other information about them. Online chatting, videoconference and interviews as communication tools are also available for users to compare and make decision. The value of each translator can be maximal presented to the clients. And cheating can be avoided in this way by allowing comment on previous work.

The "my translator list" could cache the candidates in a list, so user can access anytime when they want to make a decision. Translators will get a notification once they are added to some one's list. With the job details, client information and requirements, the translator can either contact the client for the job or quit from the list.

Manage the project by service user and provider

To make the work flow fluent and to help building trust from the two sides, Canect will allow both sides work on their project. In this way, service user can monitor the project better while service provider can manage the relationship better too.

All kinds of tools provided by the third party application developers and partners can help manage the project more efficiently. For instance, a user using Canect finding translator for tourism purpose can now use planning tools to plan a trip, communication tools to chat. Someone hiring a translator for publication translation can now track the progress and communicate their comments. For those need translator for business negotiation, they can exchange files safely via these applications before the negotiation. HR users can even use interview tools from Canect to do the premier interviews of the translators for long-term contract.

However, using these tools or not is not required as a must. But it serves the goal that we want to keep the two sides within the system: not by limitations, but by providing more competitive services. Once they found it is a better and seamless flow for them to do all activity here, they will stay. Let them manage the project increases the transparency of the whole process. Meanwhile, it is more beneficial for translators. If they jump out to personal emails, their experience, history, comments may not be kept on their page; their privacy and other right may also not be protected.

Relationship network based

Relationship plays a very important role in these more interdependent societies such as China. It is seen as the fundamental element of the social structure. In the workplace, it is a huge advantage to have wide relationship network. And I was inspired by the advantage.

The idea to use the "network" concept between translators is to build a virtual relationship network via Canect. And this is going to solve many problems. It will avoid the risk of unfair competition: each activity or information the translator posted could be viewed by people within the same network. If the information is faked or misused, your former classmates, colleague can immediately make a comment or report to the community. Moreover, the trust building could be enhanced by this kind of network. Clients will know the translator better from reviewing his/her network too: birds of a feather flock together. The last but not the least, seeing "group" of people also provide more choices to find the best-fit ones. It also can be a way to solve the problem of limited choices when the match result is not completely satisfied.

However, for its natural character of benefit-related, it should not be treated as a SNS. People are expected to be more serious and professional. As a fair game will not only need strict and clear rules, but also the experienced sharp-eye coach. The benefit of setting up such easy access platform is, people can get in-time response and multi-verified information. People can comment on other's translation work, recognize a former colleague, feedback and rating and share knowledge base via desktop computers, laptops, cellphones and other devices that can access Internet. People become the coach witnessing and monitoring others' activity.

Besides, specified law talents are needed to support such a platform too. Other than drafting the term of use and user agreement, solid law knowledge is needed for the contract generating process too. Canect will provide personal contract so translators and clients can settle down with

agreement about each items on the contract. The contract will have a universal template with

some customizing items. All these roles and set-up is hoping to build a transparent and safe

environment for both side of the users.

The Design Process

Experience mapping

The next step was to map out the whole experience. By storytelling, the whole idea about how

Canect works and whom it will serve came out clearer. I built the experience map for three kinds

of users: personal user, company user and translator. Each of them included storyboard sketches,

user operation flow, wire frame of user interfaces and user's feedback according to each phase. It

is attached as a supporting document.

Prototyping

As a literate design, there are several versions of prototyping. The first three used low-fi wire frame while

the fourth used the high-fi html that can simulate the interaction with user on a real environment.

Table 4: Design Iterations for the Project

Version	Format	Description	Developing tool
V1	Simple wire frame	Pages of setting up account, matching and a little translation user's page	Paper,Balsamiq
V2	Simple wire frame+ notes	Updated matching pages, added pages before log in, differed company user and personal user.	Balsamiq, Post-it
V3	Customized wire frame	Translator's pages added, both company user and personal user's	Balsamiq, highlighter

		pages were updated,	
V4(final)	html+js+jpg	Has the interactive matching pages, demos for translator's pages and translation user's pages.	Photoshop, JotForm, Dreamweaver,

User tests and iterations

For each generation of the prototype, different people were involved as user tester. They were assigned different roles with different tasks. The testers were expected to finish all tasks without any help. The method I used was role-playing: each individual tester will sit down in front of an interface on paper, telling the system their action. I was acting as the server, providing the interface they chose to see to the user. Moments of truth were recorded such as their order, where they stopped, where they confused, where they gave up.

During several rounds of testing, the questions and problems people complained were more and more similar. And that's where I stopped testing. All comments were collected and processed. Useful ones will be the new updates for next generation.

Conclusion and Other Possibilities

Limitations of Canect

Canect is a system that highly depended on the number and variety of users. To make a successful match, a database with enough capability is needed. And to make a successful comparison, all candidates are expected to complete their profile.

There's always a gap between user and the system about the expectation for any system. And Canect has to face another gap of user and service providers. There is a marketing balance between demand and requirement there. Different from produced goods, ability to provide the service can hardly transfer from individual providers: they are not completely replaceable. A test translator needs time and hard work to become an interpreter. If it is not launched at a right time when enough service providers joined, the matching result might not satisfy the users. People will soon leave the system, unless their requirement is always there so they have time to wait for new candidates.

Other alternatives

For the problem space I mapped earlier, Canect is just one solution to solve some of the most important problems. Other possibilities existed and they could cover different problems. The following are some options as alternative designs that I found in my research:

A volunteer community based free service

This kind of community is not only as a charity behavior; people who help others for free will benefit themselves in return. Translators, especially students still in school will gain working experience to put on their profile.

And once people publish a project, several translators can work together. They can learn from each other to level up themselves too. It also has a limitation about the quality guaranteeing, as well as the lack of management of projects.

As a new Mobile phone services

The idea is to use cell phones providing resources to people. For instance, the person need someone explain the destination to a taxi drive, he can just dial a number and let the people on the other side handle it. Or, someone got confused about the foreign text on a sign; he simply took a picture and sent it out to get it translated.

It is easy to make payment too: the fee can be charged based on the time he talked or the length of the translation. It would be very convenient for those who need translation for short time and immediately, like international tourists.

Non-professional + machine translation united

Even people who don't know both of the two languages can translate with the help of machine. According to a research in the human computer interaction lab, University of Maryland, monolingual people can use online free tools such as Google Translate. They will together manually verify the contents translated by machine; both sides will use the translation tool to check the translated content several round until they meet an agreement.

By using this method, the cost of translation can be cut down really cheap or even free, and the quality will be much higher than just machine translation. The only concern will be the use of time: efficiency.

To conclude, in this thesis project I mapped out the general problem space for service user and provider. I see design as a way to solve problems. And my solution is not the only way or the best way. As long as these problems can be covered and be resolved in the designs, I can see better services to be provided to make both sides more satisfied, and level up the service quality of the whole industry.

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Google Translate: http://translate.google.com/

Yahoo Babel Fish: http://babelfish.yahoo.com/

Lingo 24: http://www.lingo24.com/

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iCba: http://www.iciba.com/

World Lingo: http://www.worldlingo.com/products_services/worldlingo_translator.html

Xinyitong Translation Co. Ltd: http://www.xytfy.com/bj/

China Translation: http://www.88fy.com/

Golden Bridge Translation: http://www.netat.net/

Talking China: http://www.talkingchina.com/en-US/Default.aspx

Proz.com: http://www.proz.com/

Appendices

Project website: http://www.torry-ue.com/project/Thesis2011.htm.

Living prototype of the matching: http://www.torry-ue.com/project/Canect/match.shtml

User experience mapping attached as a swf file.

Defense presentation attached as a swf file.

Scenario video attached as a video file.

3 storyboards attached as swf files:

- Story of using traditional service;

- Story of company users using the system;

- Story of translators using the system.