

# Report Template: Mobile translator user research

Date of Report: [2-22-2015]  
Period of Test: [2-17-2015] - [2-21-2015]  
Location of Test: [Toronto, Ontario]

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## Executive Summary

Our topic of interest is language barrier, mainly targeting two groups of individuals. The first group includes the business professionals in Toronto working for companies that have operations in developing nations. The other group of individuals are travellers who interact with people from various cultures and languages. In this research I am conducting an online questionnaire to find out when people are faced with language barrier, what are their first choice of actions, how they are solving the current issue, how effective were their choice of action, and what kind of mobile app they are more likely to use. During the questionnaire period, a total number of 23 individuals of various backgrounds have participated. Most of the participants picked Google translate as a first choice of action in the face of language barrier.

The research data can be found here:

[https://docs.google.com/spreadsheets/d/1SG2ZZDDNpmJjMzXcJs5rPomV1X6D-2zfNYr6gZ\\_xAjk/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1SG2ZZDDNpmJjMzXcJs5rPomV1X6D-2zfNYr6gZ_xAjk/edit?usp=sharing)

## Methodology

A total of 23 participants were surveyed via Facebook and Reddit. The participants were close friends, friend of friends, relatives and random strangers from reddit who have traveled to different countries during the past year. They were presented with an average length questionnaire which can be found here : [https://docs.google.com/forms/d/12Uu-K9nsEXoJJ\\_4GIO4Epy5jKod3e-U\\_t7wFxNYRRyA/viewform](https://docs.google.com/forms/d/12Uu-K9nsEXoJJ_4GIO4Epy5jKod3e-U_t7wFxNYRRyA/viewform)

In the questionnaire we are looking forward to find out what kind of strategies the participants naturally come up to deal with the language barrier, and how effective their strategy. Aside from that we are also looking forward to find out what types of apps would they prefer to have on their phone to deal with the problem.

## What participants did

The participants filled out a survey via a google forms link. In the questionnaire the participants answered questions relating to language barrier and their experience with language barrier.

## What data we collected

The data collected can be found here: [https://docs.google.com/spreadsheets/d/1SG2ZZDDNpmJjMzXcJs5rPomV1X6D-2zfNYr6gZ\\_xAjk/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1SG2ZZDDNpmJjMzXcJs5rPomV1X6D-2zfNYr6gZ_xAjk/edit?usp=sharing)

## Major findings and recommendations

Important findings:

Experiences language barrier in current location	How often people interact with people who speaks a different language besides english	Difficulty	Did you any aid to help you get over the language barrier
Yes: 19	Avg: 3.47	Avg: 3	Yes: 16
No: 4			No: 7

Top most used aid	Second most used aid	Third most used aid	app perferred
Google translate	Dictionary	Google images	Picture: 10
Effectiveness: 4.33	Effectiveness: 2.33	Effectiveness: 3.6666	Voice translation : 6
			Translation to words on screen: 7

Do you think physical translator would help	Do you think electronic translator would help	Do you experience language barrier while traveling aboard	How awkward is it when someone is talking to you suddenly talks to their phone
Avg: 2.56	Avg: 3.69	Yes: 17	Avg: 2.78
		No: 6	

From the findings, we can see that 82% of the participants are experiencing language barrier at their current location. 69.5% of the participants used aids to help with the language barrier, out of the 69.5% of those participants 56.25% used Google translate, 18.75% used dictionary, 12.5% used Google images, and the other 12.5% used dictionary app.

Major issues:

- Without wifi, most of the participants will have to rely on simple english or body language.

Identify Solutions:

- Most of the participants are using Google translate to help with the problem with a high effective rate.
- Most of the participants prefers to use a picture dictionary.
- Most of the participants thinks that an electronic translator would help.

## User needs

- Dependable  
The app should work regardless of wifi connection.
- Fast and accurate translation  
Allows the user to instantly respond back
- Easy to use interface  
Easy to learn and use interface, quick for the user to pickup

## Stakeholder description

The stakeholders who will be affected by our system are people who are experiencing language barriers, new immigrants, travellers, business men, professors and the like. The area that is covered is very broad, but the focus tend to be the travellers who travel to a different area with a different culture and language.

## Primary persona

Name: Bob

Age: 31

Role: White collar

Attitude: Independent

Goal: To close a deal with contractor overseas

Behaviours: Tend to deal with stuff on his own. Helpful to others

Scenario: When visiting Bei Jing Bob was faced with the problem of language barrier. The problem arrived while he was out shopping for greeting gifts to the officials. Bob was looking for a specific item, but the shop manager failed to understand what Bob was trying to say. Bob quickly pulled out a Google image search of the specific item that he wanted to purchase with his smartphone. The manager understood what he was looking for and the problem is solved. Bob then google translates “Thank you” and thanked the shop manager.

## **Additional personas**

Secondary school students, immigrants, professors, government officials are also included in the field of the target audience.

## **Task analysis**

The task that is relevant to this study is to understand a new noun in a different language. There are a few ways that the users can understand the new noun, by having the object near the user and use body language to allow the user understand the noun or by having an image of the noun presented in front of them and repeat the noun in the different language.

## **Detailed findings and recommendations**

See the google spread sheet at: [https://docs.google.com/spreadsheets/d/1SG2ZZDDNpmJjMzXcJs5rPomV1X6D-2zfNYr6gZ\\_xAjk/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1SG2ZZDDNpmJjMzXcJs5rPomV1X6D-2zfNYr6gZ_xAjk/edit?usp=sharing)

## **Appendix:**

Google forms: [https://docs.google.com/forms/d/12Uu-K9nsEXoJJ\\_4GlO4Epy5jKod3e-U\\_t7wFxNYRRyA/viewform?usp=send\\_form](https://docs.google.com/forms/d/12Uu-K9nsEXoJJ_4GlO4Epy5jKod3e-U_t7wFxNYRRyA/viewform?usp=send_form)

Google spreadsheet: [https://docs.google.com/spreadsheets/d/1SG2ZZDDNpmJjMzXcJs5rPomV1X6D-2zfNYr6gZ\\_xAjk/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1SG2ZZDDNpmJjMzXcJs5rPomV1X6D-2zfNYr6gZ_xAjk/edit?usp=sharing)

## **Research Instruments**

### **Survey**

#### **Language barriers user research**

##### **What is your occupation**

- ☐ White collar
- ☐ Student
- ☐ Professor

##### **Age**

- ☐ 0 - 10
- ☐ 11 - 20
- ☐ 21 - 30
- ☐ 31 - 40
- ☐ 41 - 50
- ☐ 51 - 60
- ☐ 61 - 70

##### **Gender**

- ☐ Male
- ☐ Female

##### **Yearly salary**

(aprox)

- ☐ \$0 - 10 000
- ☐ \$10 001 - 30 000
- ☐ \$30 001 - 50 000
- ☐ \$50 001 - 70 000
- ☐ \$70 001 - 90 000

**What is your first language**

**Did you experience a language barrier while traveling abroad**

- ☐ Yes
- ☐ No

**While traveling abroad what/who do you rely on to get pass the language barrier**

**Do you experience a language barrier while interacting with others in your current location**

- ☐ Yes
- ☐ No

**How often do you interact people who speak a different language besides English**

1	2	3	4	5
<hr/>				
not at				dail
all				y
<hr/>				

**How difficult was it to get the idea across**

1	2	3	4	5
<hr/>				
very				very
easy				hard
<hr/>				

**Did you use any aids to help with the language barrier**

- ☐ yes
- ☐ no

**Name at most 3 aids used**

**How helpful were aid #1**

1	2	3	4	5
very helpful			not helpful at all	

**How helpful were aid #2**

1	2	3	4	5
very helpful			not helpful at all	

**How helpful were aid #3**

1	2	3	4	5
very helpful			not helpful at all	

**Do you think a physical translator would help  
i.e dictionary**

1	2	3	4	5
Strongly disagree			Strongly agree	

**Do you think a electronic translator would help  
i.e smartphone**

1	2	3	4	5
Strongly disagree			Strongly Agree	

**Do you own a smartphone**

- ☐ yes
- ☐ no

**How often do you use it**

	1	2	3	4	5
rarely					all the time

**While traveling abroad, do you carry your smartphone**

- ☐ yes
- ☐ no

**Which smartphone app do you think will help the most with language barrier**

- ☐ Instant translation through voice recognition, acts like a real time subtitle
- ☐ Picture dictionary through voice recognition or keyword search
- ☐ Voice recognition and instant playback the translated language

**Do you feel uncomfortable when the person you are talking to suddenly starts talking to their phone**

	1	2	3	4	5
Strongly disagree					Strongly agree

**Interview**

How many developing countries have you traveled in the past year?

Do you usually bring electronic devices when you travel?

If so please list out the top 3 electronic devices you frequently bring.

What are your general traveling experiences? Good or Bad? Please elaborate.



What activities do you do when you are traveling, which require a great deal of communication?

Does language barrier play a part in your experience?

If so did you use any electronic aid? What are they?

How helpful were the electronic aids? What would you suggest for improvement?

Do you find yourself using the internet a lot while you're traveling?

If you had good experiences without internet, what helped to overcome the obstacles?

How accessible was internet for the best and worst experiences?

If I introduced a new product that deals with language barrier would you try it out?

### **Observation**

### **Game Stimulation**

The purpose of this game is to emphasis the problem of language barrier between people, and observe their behaviors when they are solving the problem.

#### **Instructions:**

1. Gather two participants who speak a different language besides English.
2. Instruct one person to describe an obscure noun in his or her own language to another person under the following conditions:
  - a. One can only say the exact word in his or her own language.
  - b. One can make noises, draw or use body gestures.
3. Take notes on what methods the participant employed in order to accomplish his or her task.

4. A participant wins the game when he or she successfully teaches another person the meaning of the word.
5. Role will be switched when one participant completes the task successfully.

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## RESEARCH PROTOCOL

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1. **Project Title:** “Interviews and Observations of People who interact with people from another culture, facing a problem such as a language barrier
2. **Investigators:**
  - Julian Chow: [julian.chow@mail.utoronto.ca](mailto:julian.chow@mail.utoronto.ca)
  - Shu Xu: [shu.xu@mail.utoronto.ca](mailto:shu.xu@mail.utoronto.ca)
  - Hao Cheng: [haohao.cheng@mail.utoronto.ca](mailto:haohao.cheng@mail.utoronto.ca)
  - Thomas Kwok: [thomas.kwok@mail.utoronto.ca](mailto:thomas.kwok@mail.utoronto.ca)
  - Guo Hao Yan: [guohaoyan@mail.utoronto.ca](mailto:guohaoyan@mail.utoronto.ca)
3. **Purpose:** The purpose of our research is to understand the main difficulties and solutions of people faced with language barriers to help us derive requirements for the design of novel interactive computational media that are intended to be useful to people who are held back by language barriers. A brief description of our design concept is a interface that allows the user to speak a word in their own language and a visual representation of that word would be shown to that user.
4. **Process to be Followed:** We will brief the participants about the purpose of the study, explain the consent form to them, and ensure that they sign the consent form. We will then engage the participants in a observational game which we will have scripted. We will also with their permission make observations as follows: The solutions that they derived from the scenario, the effectiveness of their solution and their input of what would be an “ideal” solution.
5. **Participant Selection:** Participants will be chosen from people who generally spend a lot of times in a foreign country that does not hold english as their primary language or people who spend a significant amount of time interacting with others whose mother tongue is not english identified via voluntary interviews and selected according to their proficiency in said languages. In general they will be characterized by people who make frequent business trips to non-english speaking countries.
6. **Relationships:** Our relationship to the participants may be described as follows: we will at most be limited to knowledge of the participant’s preferred language and their proficiency in said language.
7. **Risk and benefit:** There will be minimal risk to the participants, for example that they feel that they have wasted their time. The only benefit will be to contribute to the education of the investigators. Participants are free to withdraw before or at any time during the study without the need to give any explanation.
8. **Consent Details:** We will brief the participants about the purpose of the study, and explain the attached consent form to them, and ensure that they consent to participate and sign the consent form.
9. **Compensation:** Participants will receive candies for their cooperation
10. **Information Sought:** The information to be sought is described in the attached scenario script and interview question list
11. **Confidentiality:** Information will be kept confidential by the investigators. Names or other identifying or identified information will not be kept with the data. The only other use will be to include excerpts or copies in the assignment submitted, but names and other identifying or identified information will not be submitted.

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## CONSENT FORM

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### **Consent Form: Language Barrier Study**

I hereby consent to participate in a research study conducted by Julian Chow, Shu Xu, Thomas Kwok, Guo Hao Yan, Hao Cheng for an assignment in University of Toronto Computer Science 318, Design of Interactive Computational Media.

I agree to participate in this study the purpose of which is to study the difficulties and behaviour of people faced with a language barrier.

I understand that

- The procedures to be used are a scripted scenario and structured interview
- I will receive no compensation for my participation.
- I am free to withdraw before or any time during the study without the need to give any explanation.
- All materials and results will be kept confidential, and, in particular, that my name and any identifying or identified information will not be associated with the data.

#### PARTICIPANT

Name(please print)\_\_\_\_\_

Signature\_\_\_\_\_

Toronto, Date\_\_\_\_\_

INVESTIGATOR(s) Name\_\_\_\_\_Signature\_\_\_\_\_

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