

# Tongues

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# Problem & Solution

**Problem:** Communication across languages in day-to-day life.

**Solution:** Crowdsourcing accurate, real time translations with a tool that's easy to use.



# Context Inquiry

**GOAL:** Understanding how people currently interact across languages and how we can improve that.



**When** and **how** do people speak the other language? What do they do when they are **stuck** on a **word** or **expression**?

How do they use existing tools like Google Translate?

# Participant 1 - Student Abroad



- Friend of a group member taking a quarter abroad in Paris.
- Mostly relies on herself and people around her to communicate. Light use of Google Translate.

“Motivated enough to bring my books, not motivated enough to open them.”

# Participant 2 - Travels a lot



- Friend of a group member who has spent extensive time travelling in Europe.
- When hearing jokes in foreign languages, felt left out.
- Got laughed at when using certain words

“When you don’t know a word, you gesture and you get creative. A dictionary is my last resort”

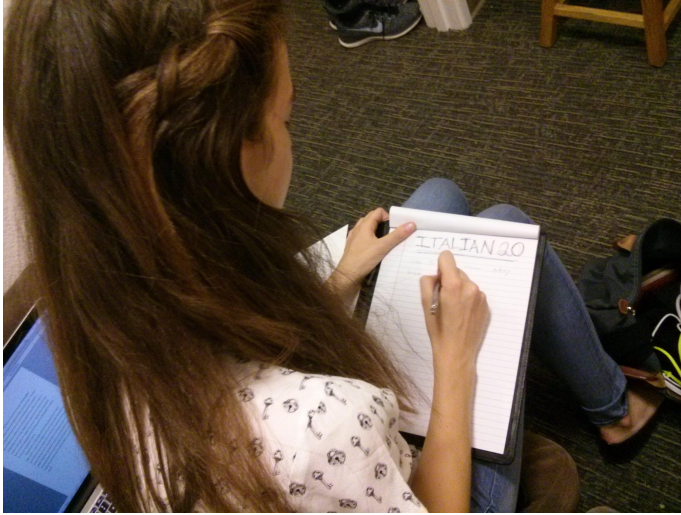
# Participant 3- Language Teacher



- German teacher at Stanford
- Best way to learn to **speak** is to practice and be around German all day
- Best way to learn to **read** is to going over lists and lists of words

“Google Translate? It’s bloody awful. Languages are so syntactically different.”

# Participant 4 - Language Student



- Friend who is passionate about learning languages
- Uses Google Translate for words, not phrases.
- Thinks that classes don't teach enough slang

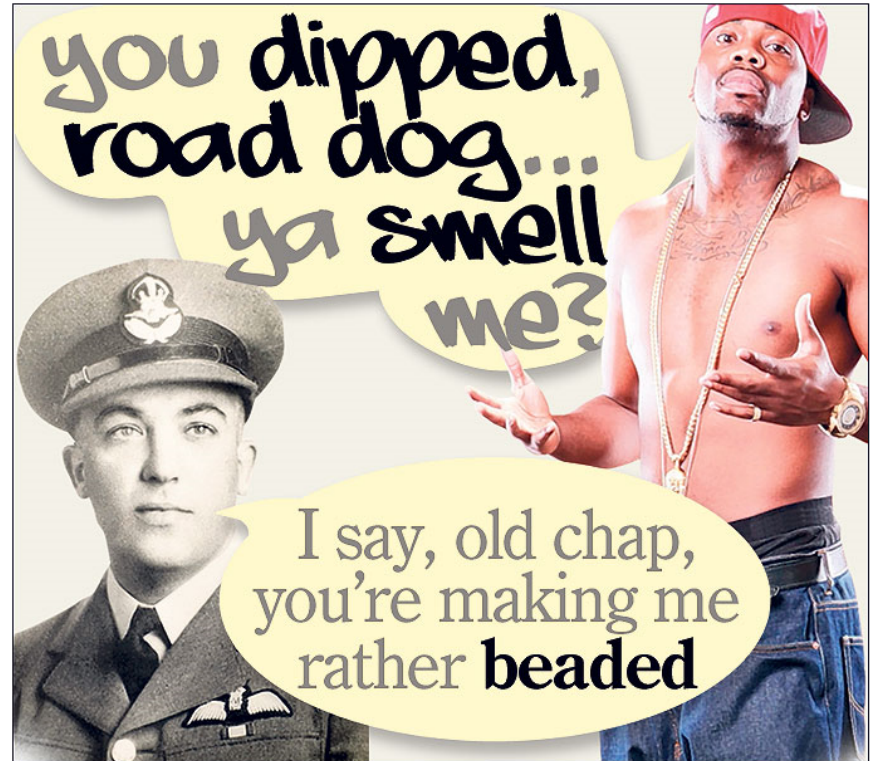
“I don't think classes teach you enough slang... the best way to learn is by speaking with native speakers.”



# Context Inquiry - Results

## Similarities:

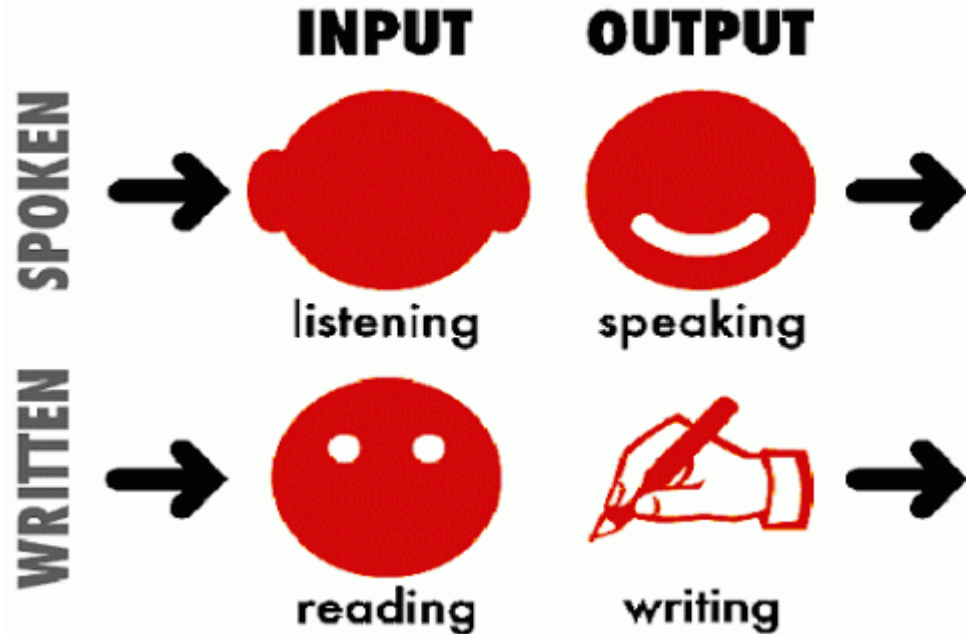
- Users only use Google Translate for single words.
- Users had experience with jokes, slang, etc. that they had a hard time understanding



# Context Inquiry - Results

## Differences:

- Language used in different context by user
- Different skill level in user's respective language(s)



# Task Analysis (Part 1)

## **Who is going to use the system?**

*People who want to learn a new language and its more natural, colloquial usage, or people who are in a foreign country and want a translation colloquially accurate to their region*

## **What tasks do they now perform?**

*They try to speak in a foreign language, and they try to understand colloquialisms, slang, and informal language.*

## **What tasks are are desired?**

*Get small phrases translated quickly and accurately.*

## **How are the tasks learned?**

*Intuitively through user interface.*

## **Where are the tasks performed?**

*On the street, in a less formal environment, in a conversational setting.*

## **What's the relationship between customer and data?**

*Customers contribute to the data by adding source phrases that they want translated, and either writing their own translation or “up/downvoting” previous translation attempts.*

# Task Analysis (Part 2)

## **What other tools does the customer have?**

*The customer has the resources of Google Translate, online and physical dictionaries, and the people around them who may be bilingual and help out.*

## **How do users communicate with each other?**

*Users don't directly communicate, but they can ask for translations from other users and either translate or up/downvote past translations, contributing to our data set.*

## **How often are the tasks performed?**

*Whenever the user needs something translated; whenever the user is trying to communicate through a language barrier. Whenever the user doesn't understand an informal use of the language.*

## **What are the time constraints on the tasks?**

*As close to real time as possible.*

## **What happens when things go wrong?**

*Typically if a new speaker say something "wrong" then people laugh (not meanly) and correct them. We think that if something goes wrong with the app (they get a wrong translation) people will find a humorous way to interpret that, too.*

# Representative Task 1

Getting a quick translation of a **word**

## Google translate

- Slow to use interface
- Need to select language from lengthy drop down
- No colloquialisms



# Representative Task 1

Getting a quick translation of a **word**



## Tongues

- Easy and quick to use
- One step translation (no drop downs)
- Suggests colloquialisms based on your location

# Representative Task 2

Getting a quick translation of a sentence fragment

## Google translate

- Slow to use
- Need to select language from lengthy drop down
- Can only accurately translate individual words
- No colloquialisms



# Representative Task 2

## Getting a fast translation of a **sentence fragment**

Web Images Videos Maps News Shopping Gmail more ▾

Google translate

From: English - detected ▾ To: Vietnamese ▾ Translate

English to Vietnamese translation

Will Justin Bieber ever hit puberty

Justin Bieber sẽ bao giờ đến tuổi dậy thì

Listen

Web Images Videos Maps News Shopping Gmail more ▾

Google translate

From: Vietnamese - detected ▾ To: English ▾ Translate

Vietnamese to English translation

Justin Bieber sẽ bao giờ đến tuổi dậy thì

Justin will never reach puberty

Listen

### Tongues

- VS
- Easy and quick to use
  - One step translation (no drop downs)
  - Can accurately translate sentence fragments
  - Suggests colloquialisms based on your location

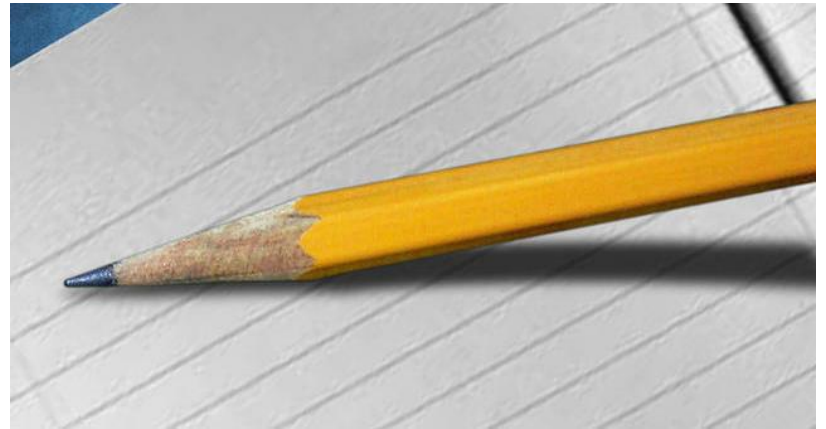


# Representative Task 3

Completing quiz to practice vocabulary

## Paper Quiz

- Requires effort & motivation
- No immediate feedback
- Requires a secondary source (textbook)
- List like display, looking at many things at once



# Representative Task 3

Completing quiz to learn vocabulary



## Tongues

- Less effort and motivation required
- Immediate feedback
- The app will display to the top results after given input
- One word at a time on screen, one thing to focus on

# The Ideation Process



# Application Idea 1

- Voice recognition
- User speaks the phrase they want translated
- Translator responds in real time via text
- The app reads out their text response verbally



# Application Idea 2

- Text based translation
- User types out the word/phrase they want translated
- Translator responds real-time via text
- Region based language settings

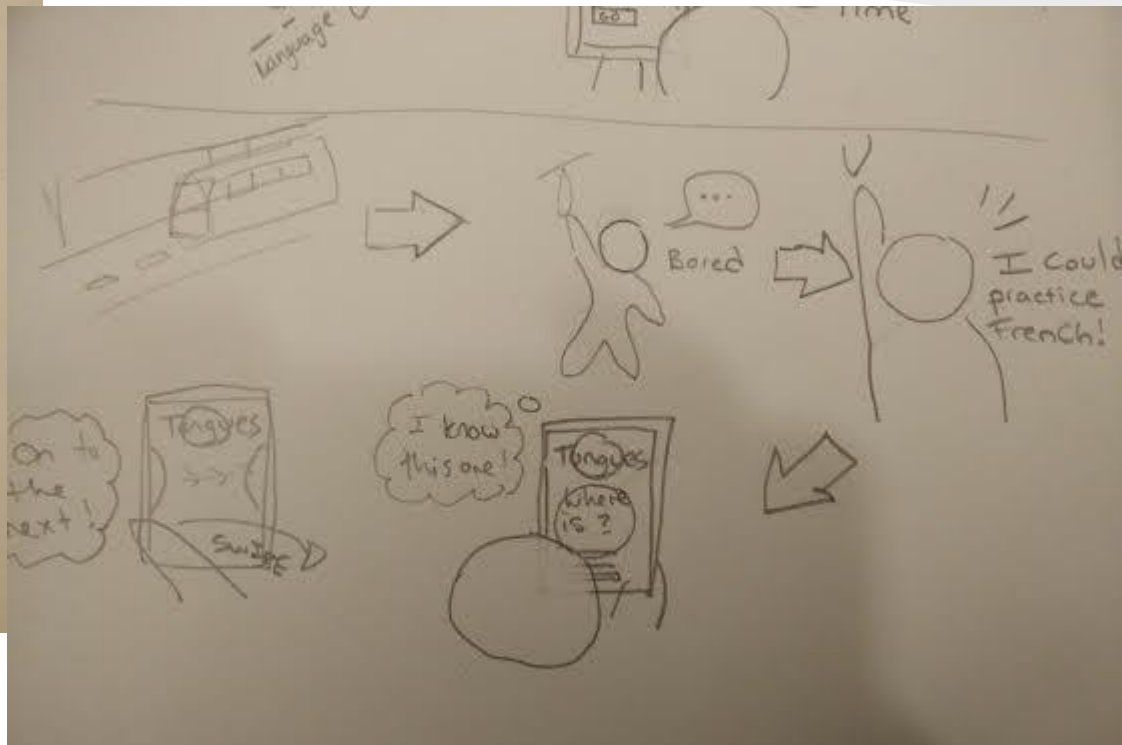
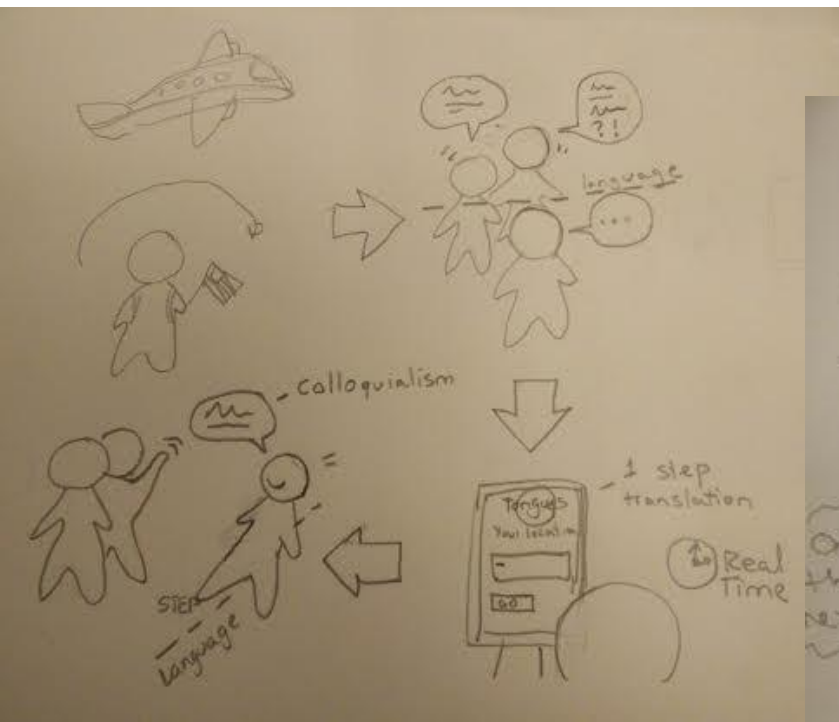


# Application Idea 3

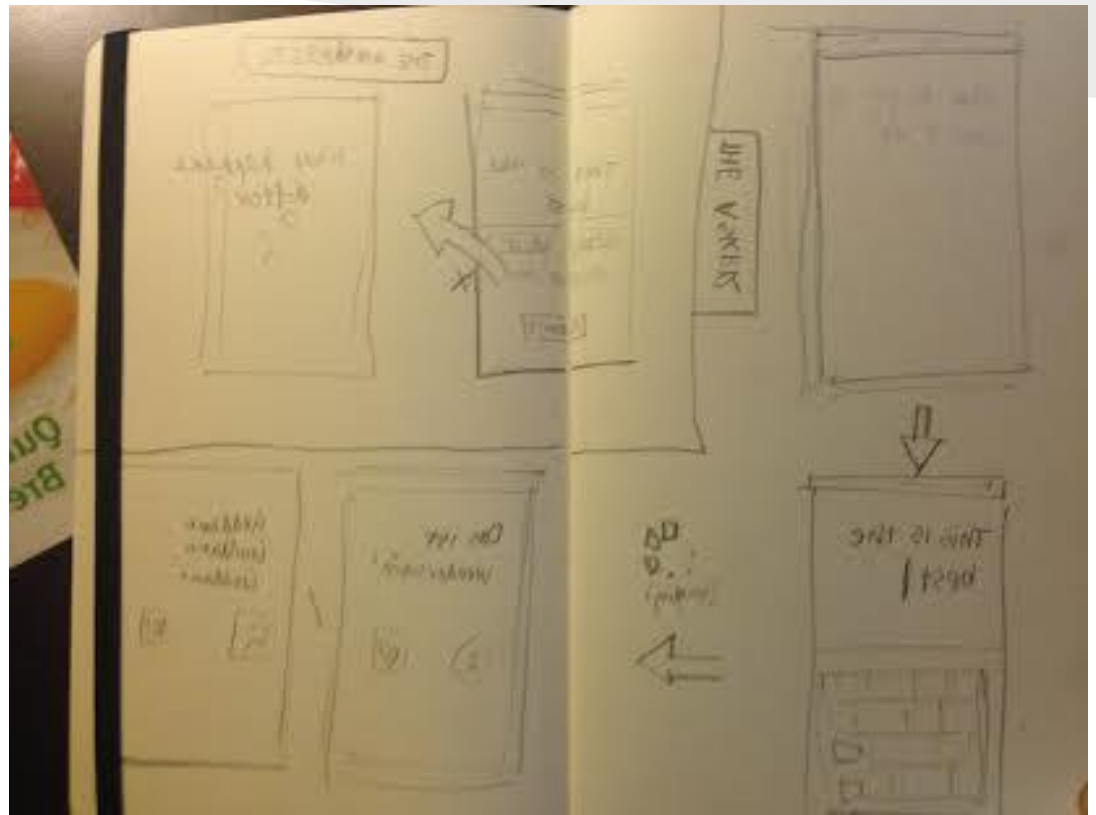
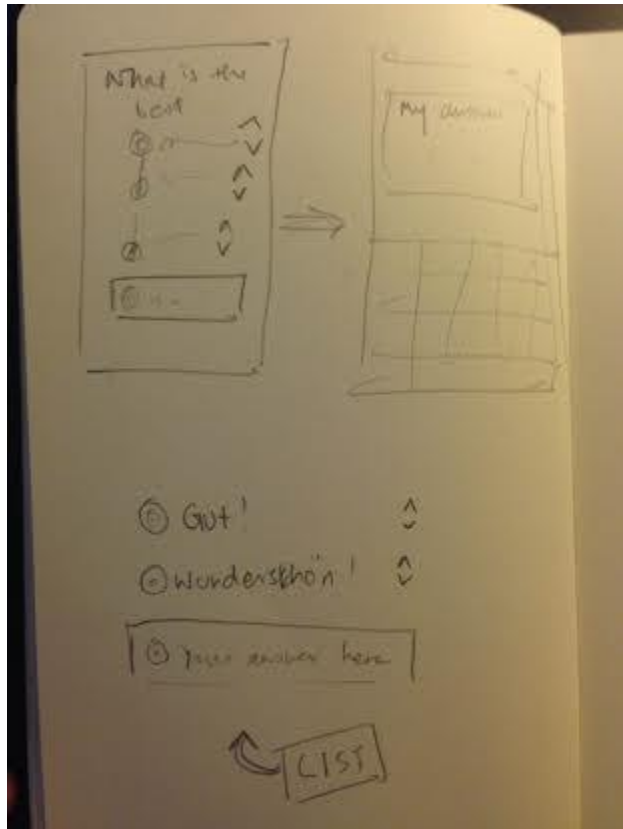
- Text based translation
- User types in a phrase to be translated
- If a previous translation exists, returns that version
- If not, returns the Google Translate version and crowdsources a better translation for future use



# Design Sketch 1

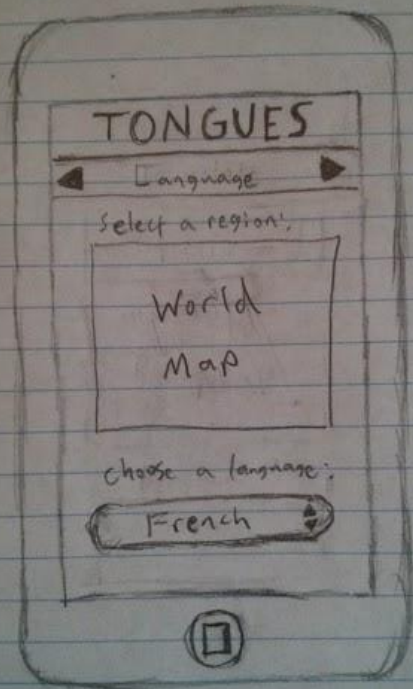


# Design Sketch 2





# Design Sketch 3



- Alex Wu



- Alex Wu



- Alex Wu

# Summary

**Tonges**-A Comprehensive approach to communication across languages.



“Breaking One Language Barrier at a time”