



Pocket Translator

CSE 155: VirtualTranslator, Group 1

Introductions to Our Team



Kenny Jung

Team lead, Full stack



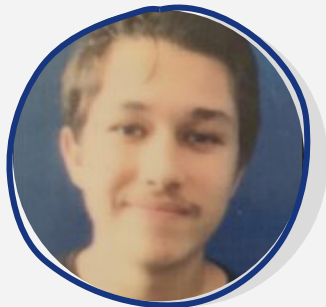
Shivneel Chand

Frontend



**Christian-John
Forcadilla**

Frontend



Jesse Luna

Backend



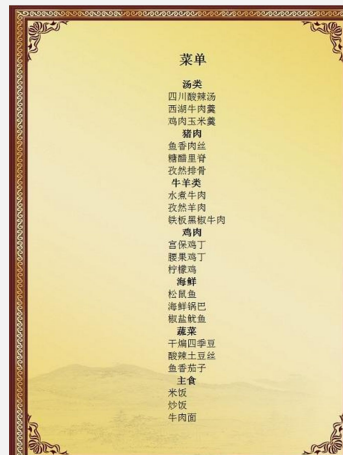
Stewart Choi

Backend



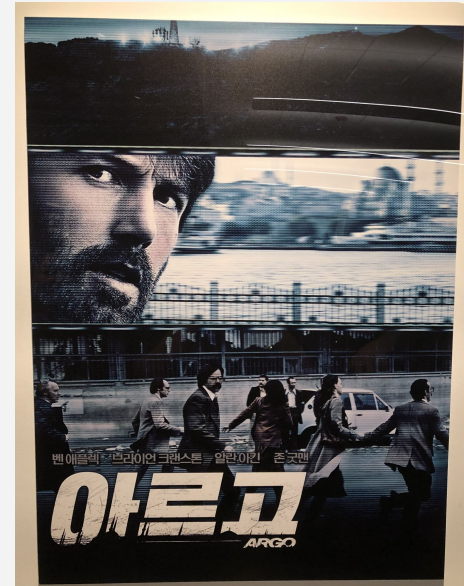
Target Group and Motivation

- Travelers
 - Foreigners who don't know the foreign language
- Example use cases:
 - Menu
 - Restaurant names
 - Subway map
 - Items like bleach bottles
 - Instructions



Mobile vs Web

- Travelers would typically have phone on themselves
- Would not want to pull out a whole laptop to translate a menu
- Foreign text is usually found outside your home

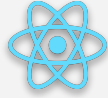


(Movie poster)

Tech Stack

Frontend

- React Native



Backend

- Python Flask



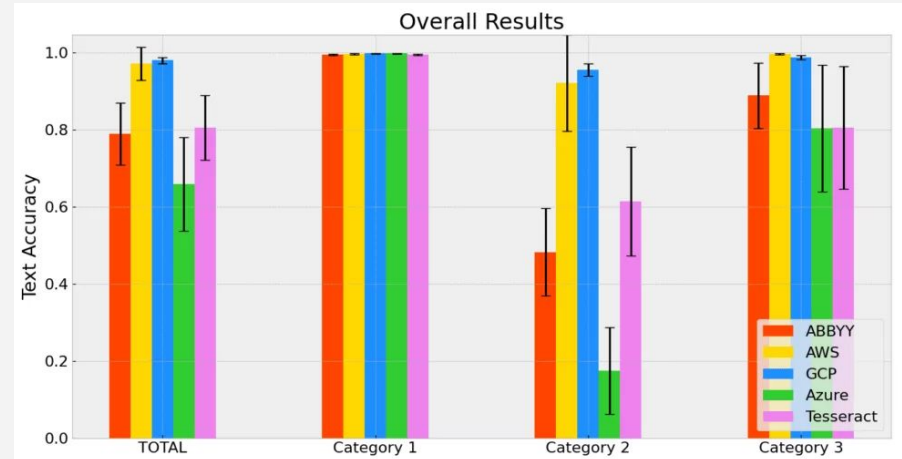
Services

- Google Cloud Vision API
- Google Translate API



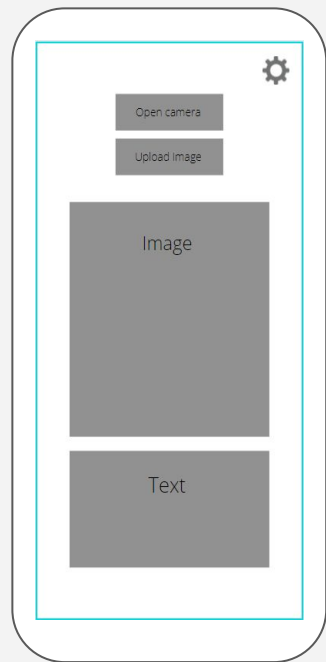
API Selection

- Google Cloud Vision outperforms other similar APIs
- Google Translate API chosen in response of choice to use Cloud Vision
- React Native for cross-platform
- Python/Flask for easy connections between the frontend and APIs - Versatility

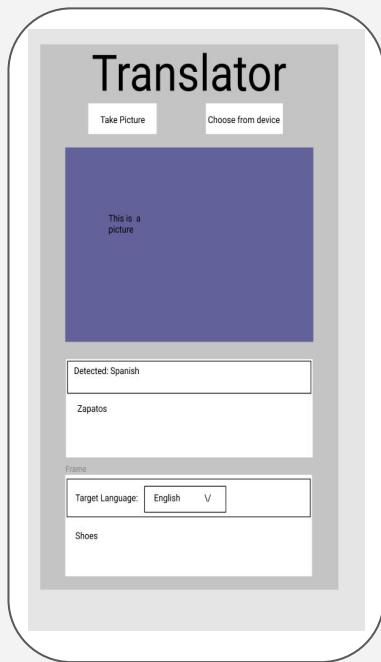


[Best OCR by Text Extraction Accuracy in 2022 \(aimultiple.com\)](https://aimultiple.com)

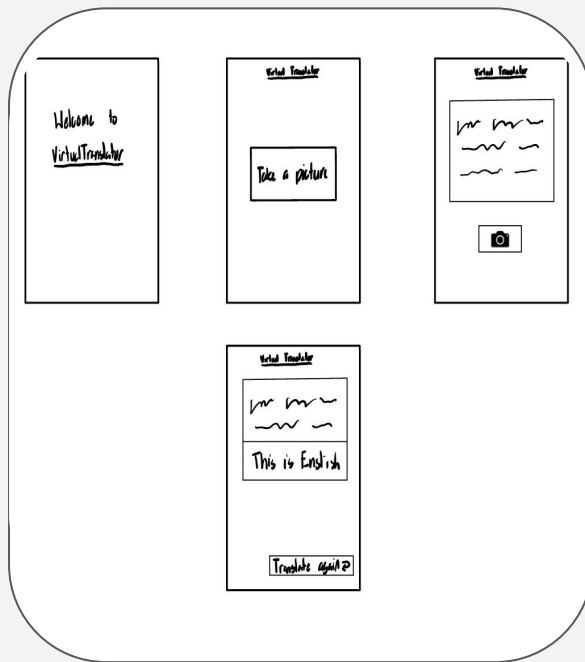
Interface Design v1 (Low-fi prototype + sketches)



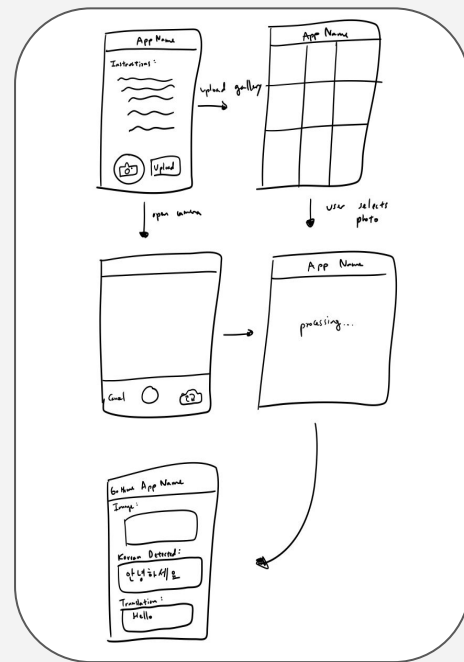
Stewart



Shivneel + Jesse

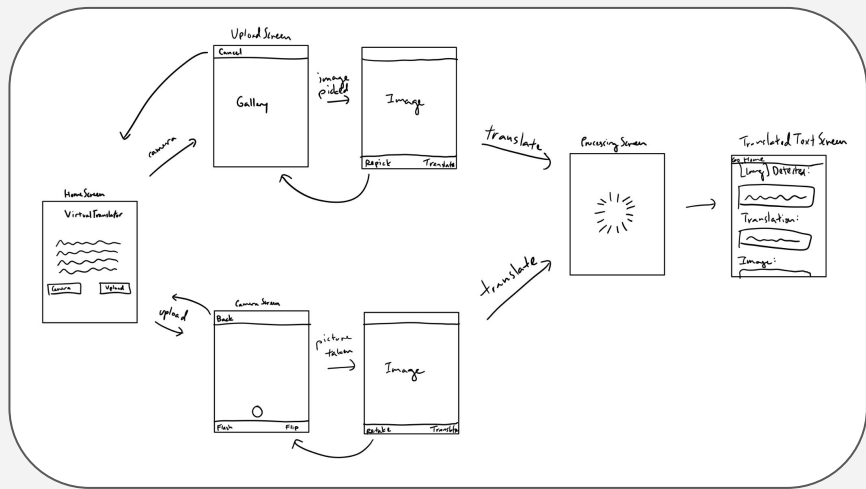


Christian-John

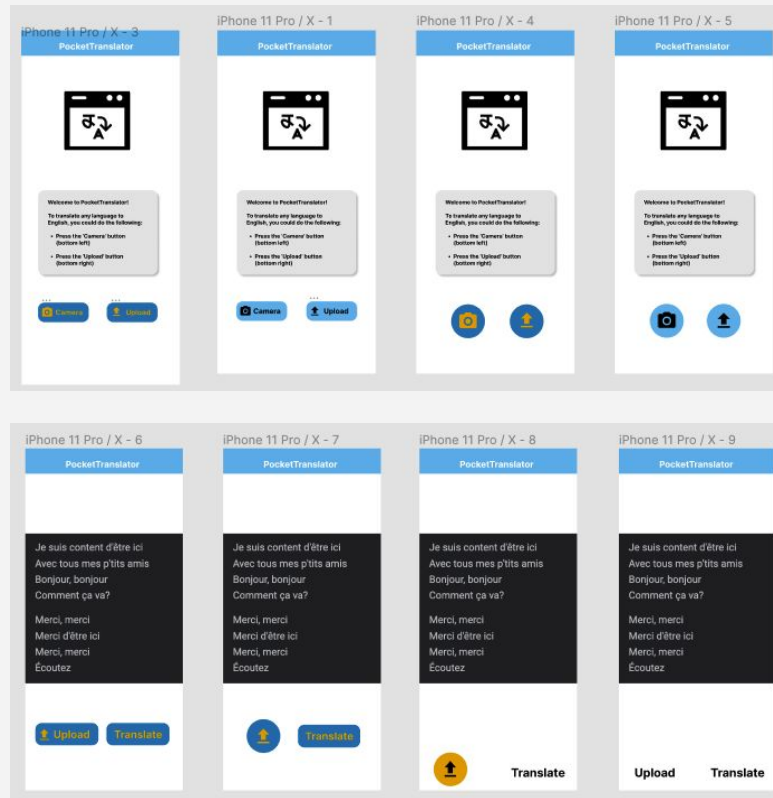


Kenny

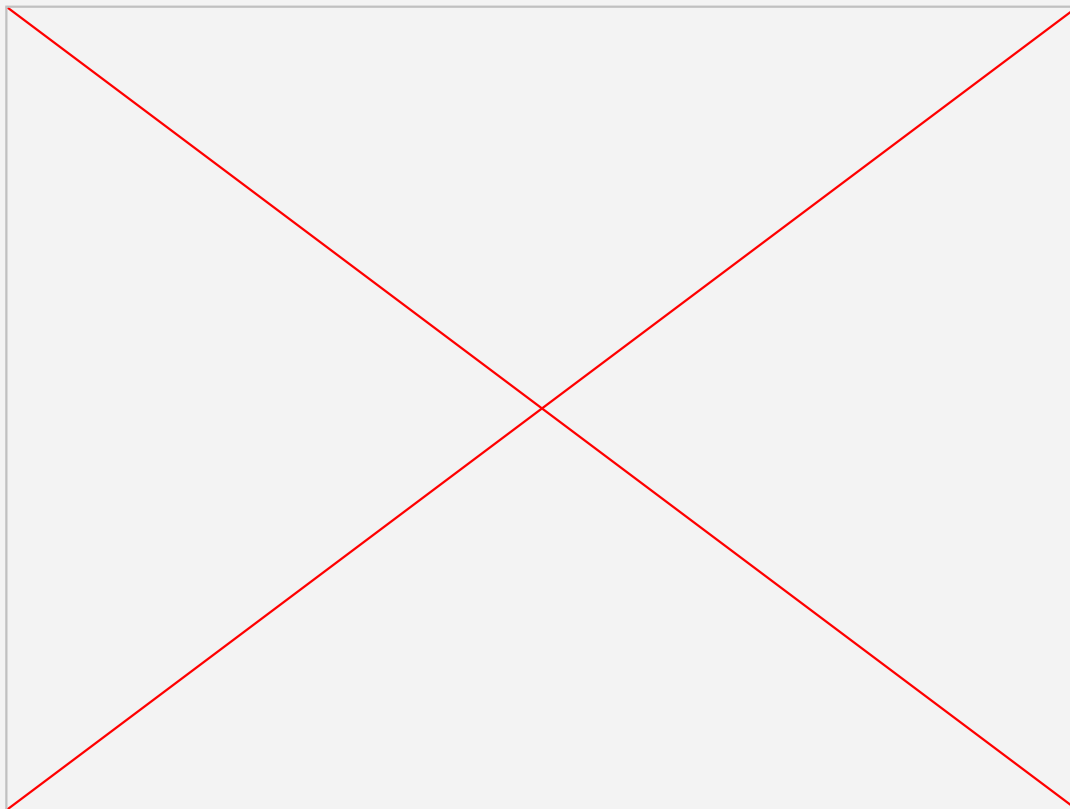
Interface Design v2 (Low-fi prototype)



Application Process



Interface Design v3 (High-fi prototype)



Demo : Camera



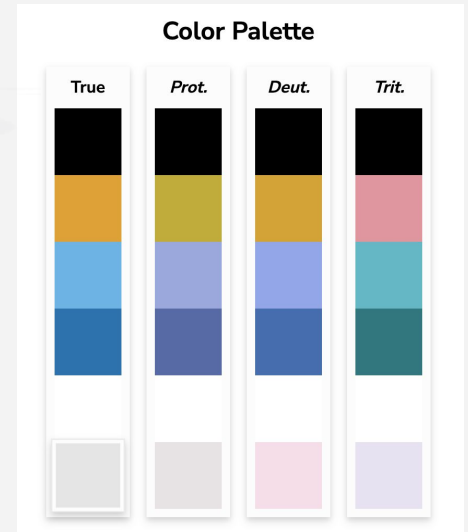
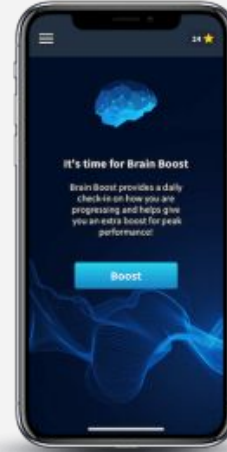
Home Screen

Layout:

- Colors
- Chunking of different visual aspects

Interaction:

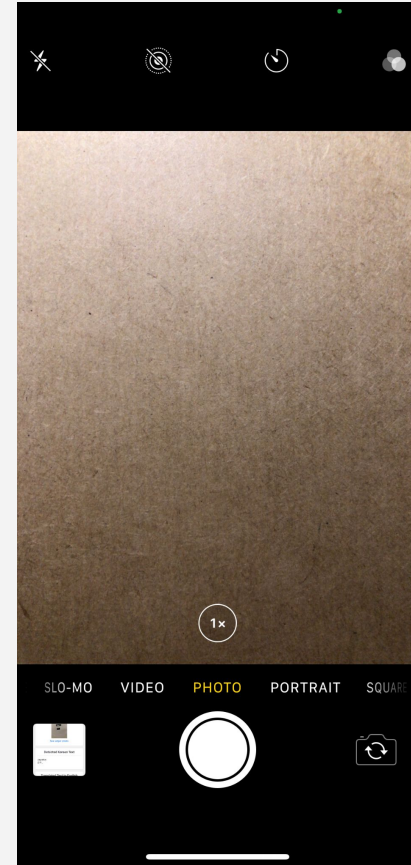
- Message
 - Direct feedback, Application for novice users
- Buttons



Camera Screen

Buttons:

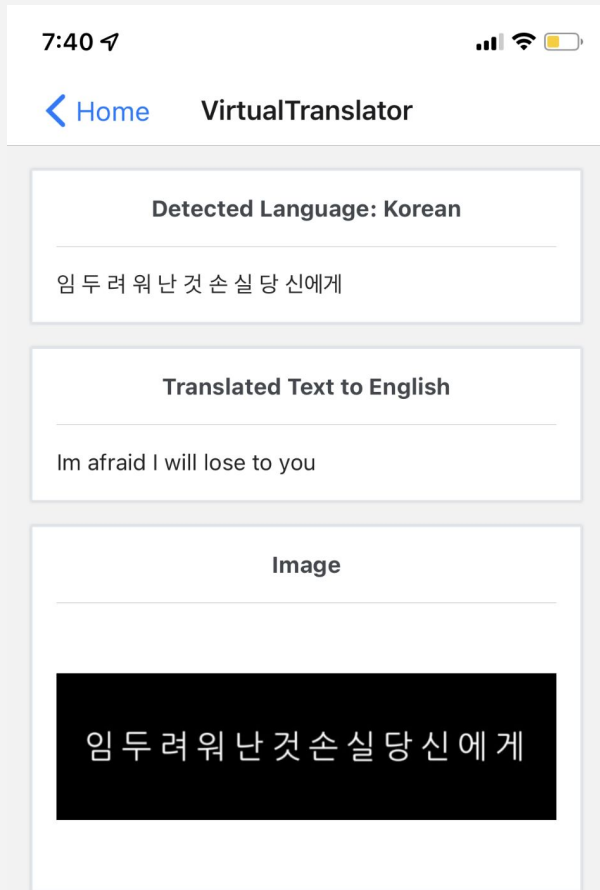
- Snapshot button in the bottom center
 - Skill transfer
- Retake button
 - Accident handling
- Flash on/off for dark settings
- Flip in case flip is easier in a certain context
- Translate



New Translated Text Screen

Things we tried:

- Card approach:
 - Translate text
 - Untranslated (detected text)
 - Original image
- Not helpful for some use cases

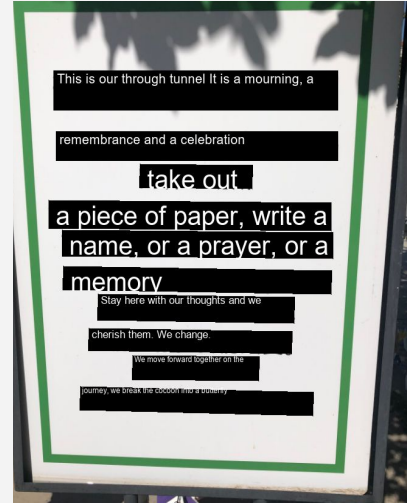


Demo : Upload



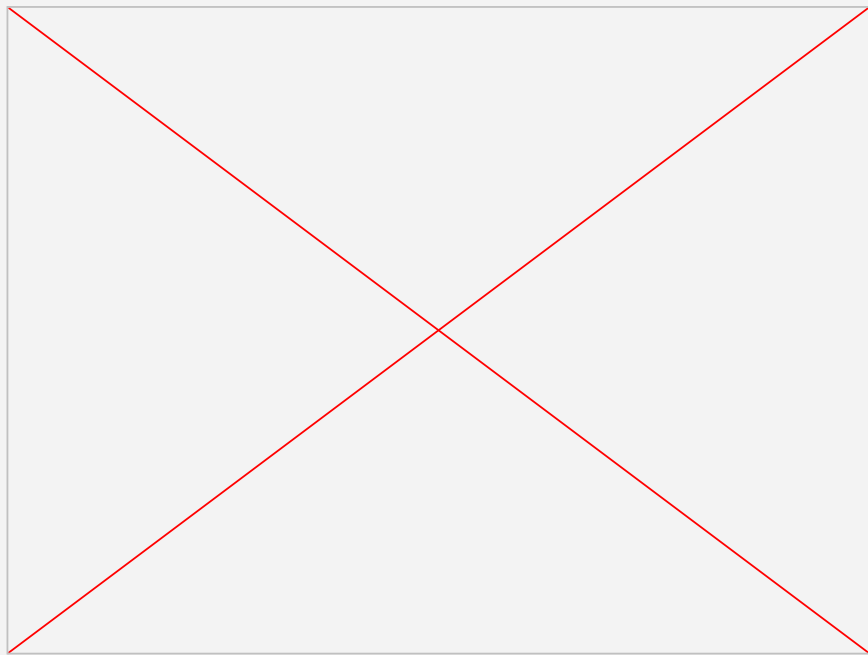
Future Considerations

- Improve the translated image so the text fully covers the black box (especially for translations from Camera)
- Improve the drawing of the black box over the foreign text
- Smart coloring of the boxes to match background
- Target Language (can translate to other languages as well other than just English)
- Text-to-speech, Speech-to-text
- Make the app run faster
- Include a settings section to toggle different design styles (dark mode, change fonts, or remove text under icons)

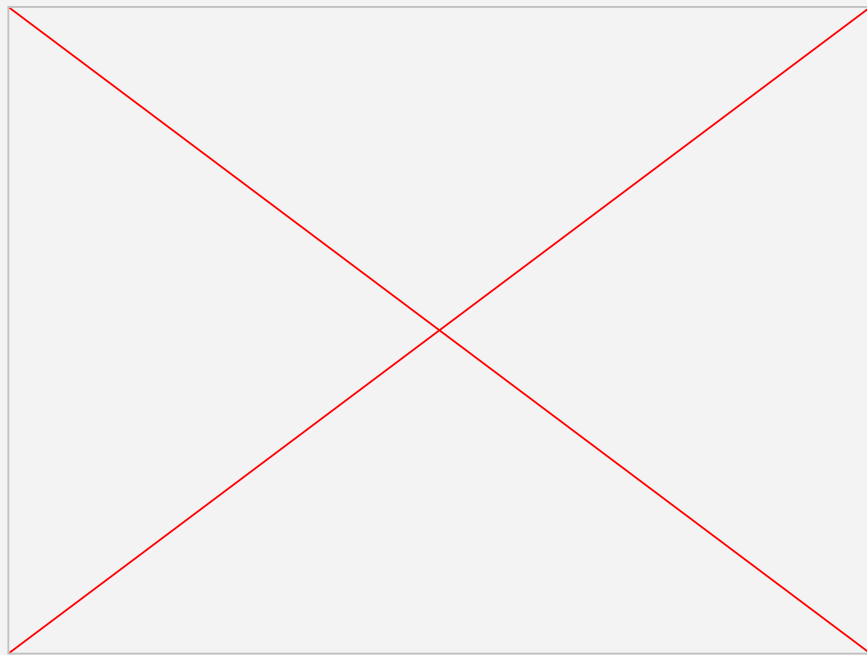


Questions?

Backup Video



Camera



Upload