

Team name

- Agile

Team roles

- Pei Chen: Developer
- Jin Huang: Developer
- Yuanyuan Lei: Product Owner
- Dongqing Yang: Developer
- Han Zhang: Developer
- Rongruo Zhou: Scrum Master

Customer meeting date/time/place

- First Meeting: 10/23/2021, Saturday, 10:00 am, Zoom
- Weekly regular meeting: every Wednesday (Start on Oct.27), 11 am – 12 pm, Zoom with Cindy, Guerrero, and her group members.
- Weekly regular meeting: every Wednesday (Start on Nov.3), 5 pm - 6 pm, Zoom with Dr. Irby for updates and clarifications

Summary

- Dataset: 20s recordings from the classroom with teachers and students' voices.
- Goals: Improve the machine learning models and add some new functional components to the existing dashboard system. For example, the system inputs a new video recording, and it can automatically adjust the teacher-student speech ratio and visualize the analysis result.
- Two challenges: (1) To identify the ratio of the teacher's speaking time to the student's speaking time. (2) To identify whether the teacher's speaking language

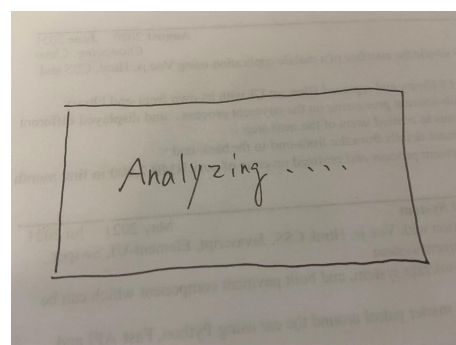
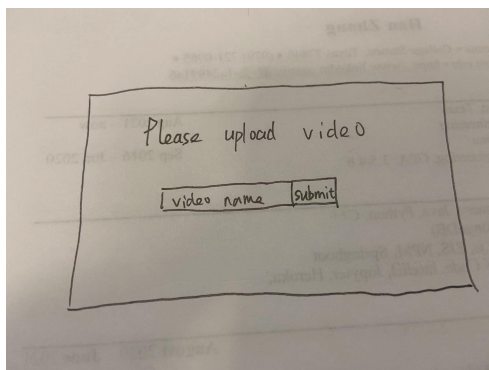
is the L1 native language or L2 English. For example, the teacher speaks first with L1 and then explains with L2 or speaks in L1 and explains in L2. At the same time, we need to identify the language in which the student's response to the teacher is.

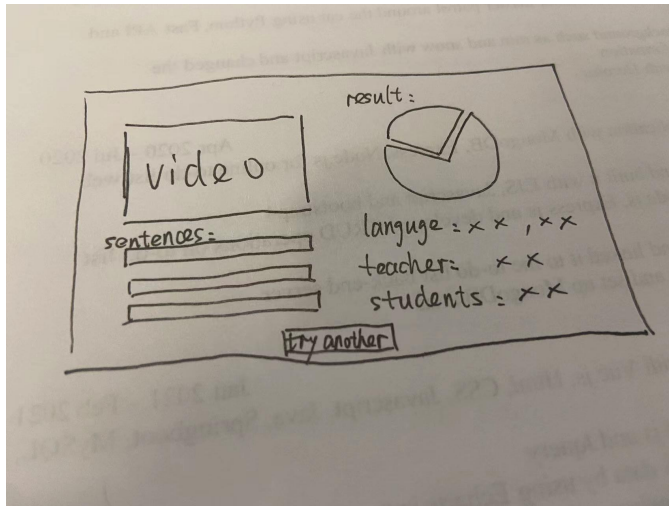
User stories

- Feature: Upload video file
 - As a user
 - We have a video consisting of two languages
 - So that we can analyze my video
 - I want to upload my own video
- Feature: Waiting for video analyzing
 - As a user
 - I upload my own video
 - So that I can know what condition is now
 - After I upload, I can see an analyzing interface
- Feature: Split a generated transcript of a chunk of audio into sentences.
 - As a user.
 - We have a video consisting of two languages, and the prior code will generate text transcripts by splitting the audio part into chunks.
 - So that we can select a generated transcript.
 - We want to split the transcript into sentences.
- Feature: Identify if a sentence is spoken by the teacher of the students.
 - As the system.

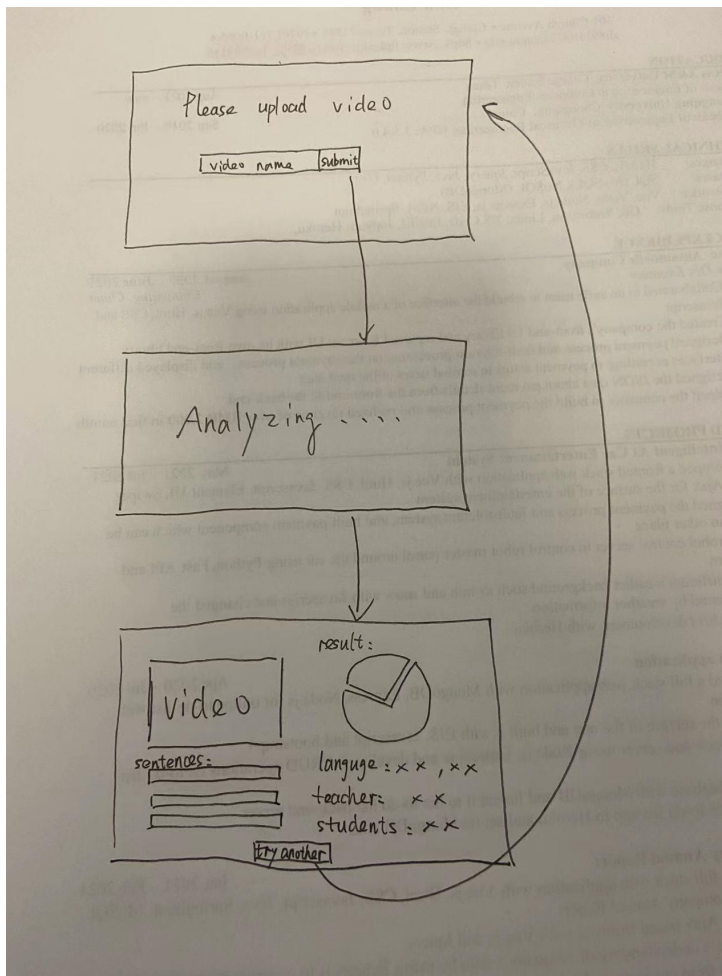
- So that we can classify if the given sentence belongs to the teacher or the students.
- Feature: Predict the language of a sentence.
 - As the system.
 - So that we can predict the language of the given sentence.
 - We want to save the language of the given sentence and decide the target translation language.
- Feature: Translate the sentence.
 - As the system.
 - We have the language of the sentence, and also the language it needs to be translated to.
 - We want to translate the text, save and bind the generated translations.
- Feature: Bind and show the translated text with its corresponding sentence.
 - As a user.
 - So that we can check the updated video.
 - We want to see each sentence in the video has its translation to the other language in the video.

User interface





Storyboards



Pivotal Tracker

- <https://www.pivotaltracker.com/n/projects/2535924>

GitHub

- <https://github.com/oniremia/ILOI>

Slack

- https://join.slack.com/t/csce606iloi/shared_invite/zt-xglog0ed-F8eRaqVaKMo0KheFO8DD5A

For legacy projects

- For our ILOI as a legacy project, our goal in this project is mostly to create and add some new functions instead of improving or changing the prior code. The prior code is able to take an input video and extract the audio part. Then, it splits the audio into chunks that each contains 20 seconds of audio. And for each chunk, it calls the Google Web Speech API to convert into text transcripts. Once it has all the transcripts ready, it calls the LangDetect Library to predict if it's in English or Spanish. Based on the previous report, the accuracy of prediction was around 80%.
- The most important part we need to learn from the prior code is how they implement the process to predict the language in videos, the libraries they use, and the format of generated results.
- The prior code splits the audio into 20 seconds chunks. We want to split them further into sentences to match the requirement that identifying if a sentence belongs to the teacher or the students.