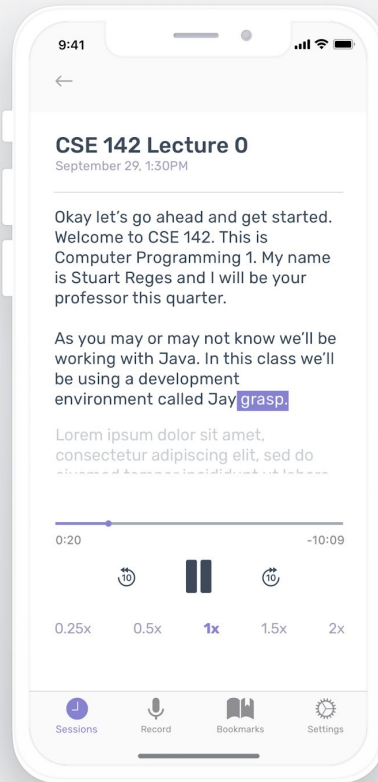




Closed captioning anywhere



# Problem Focus

Students at UW have some difficulty listening to lectures.

Primary user group:

- Students attending lectures in universities

May also help:

- English Language Learners (ELL)
- Hard of hearing populations

# User Research

Conducted interviews:

- 4 English native students
- 1 Non-English native student

Key findings:

- Hard to follow lecturers who talk too fast/slow
- Lecturer voice is too small to hear
- Difficult to follow lecturer's topic at times

# How can we...?

...empower students by providing a resource to improve their learning experiences in lectures?

Solution:

- Real time audio transcription
- Define, bookmark, and translate specific words

# Design Process

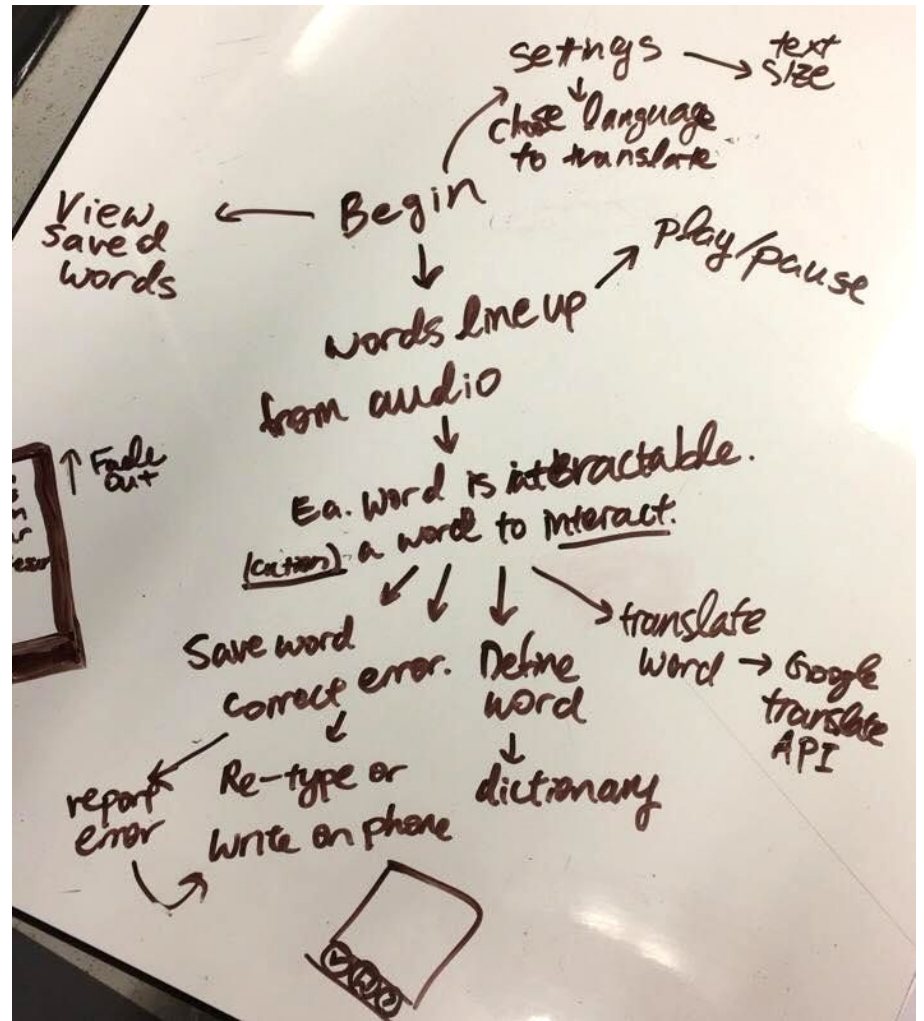
User research

Information architecture

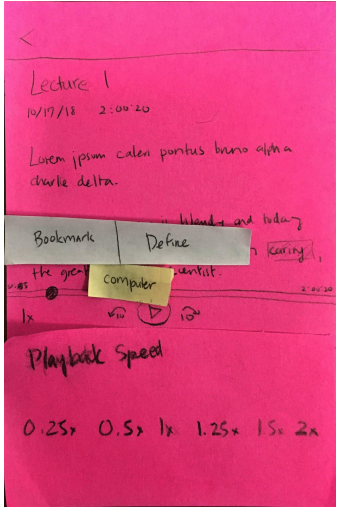
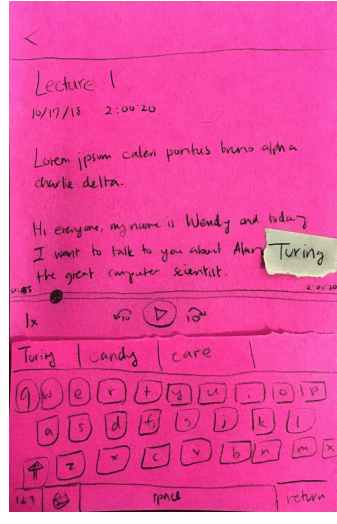
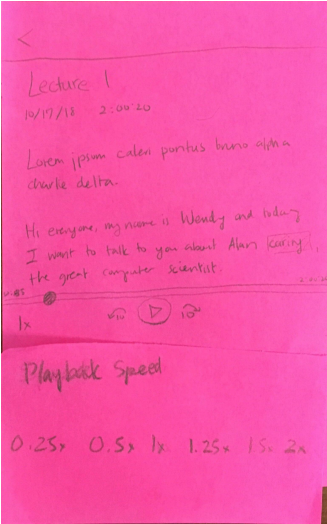
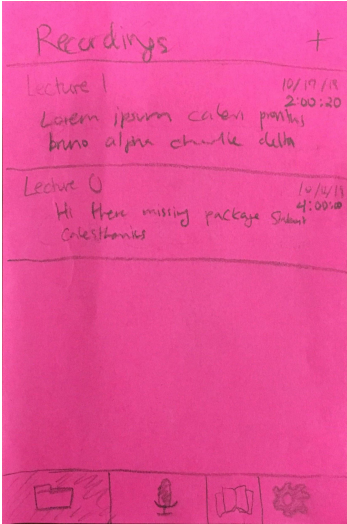
Paper prototypes

Wireframes

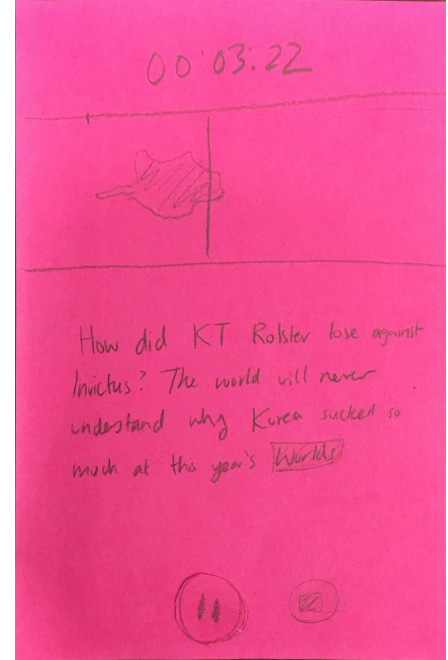
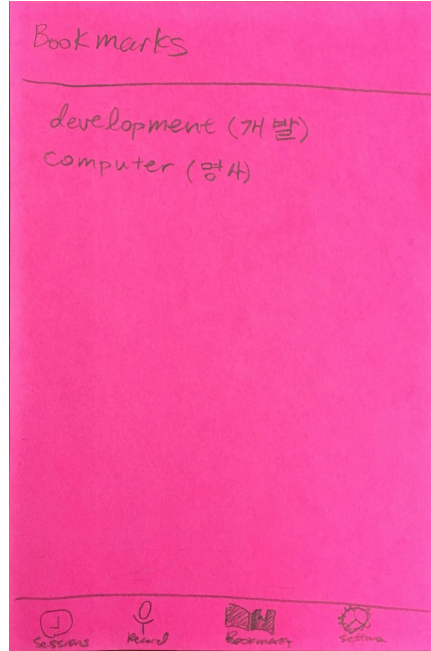
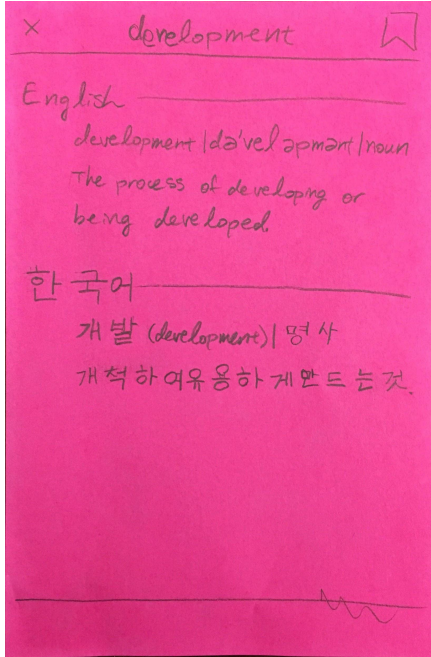
# Information Architecture



# Paper Prototypes

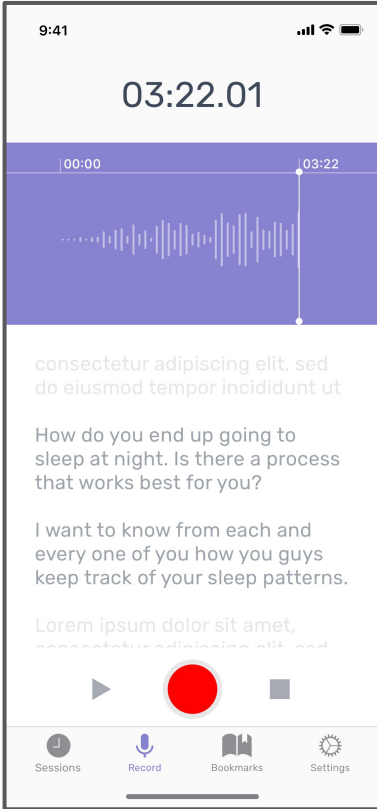
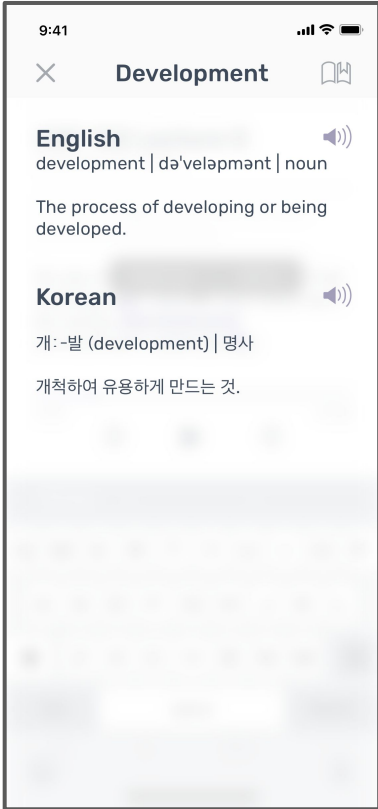
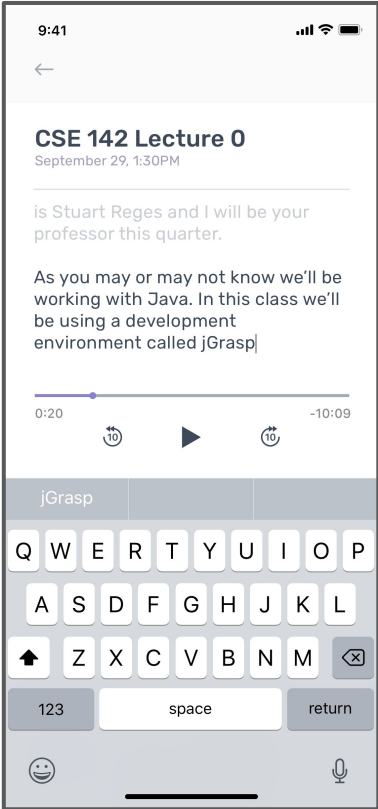
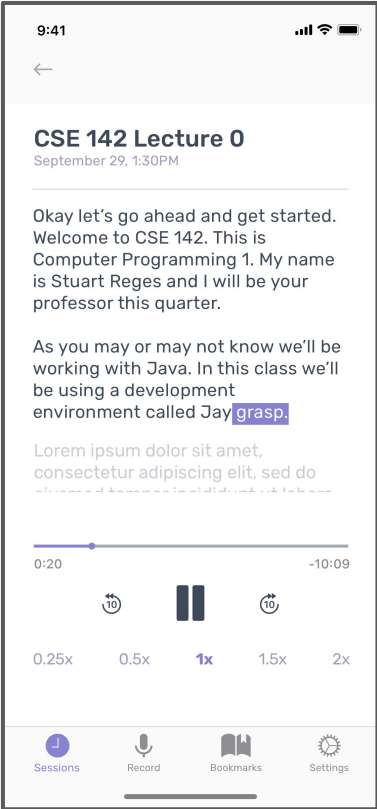


# Paper Prototypes





# Wireframes



# Wireframes (cont)

>> HI THIS IS A TEST

« LIVE »

>> HOW DO YOU END UP GOING TO SLEEP AT NIGHT?

IS THERE A PROCESS THAT THAT WORKS BEST FOR YOU?

>> I WANT TO KNOW FROM EACH AND EVERY



>> HI THIS IS A TEST

LIVE

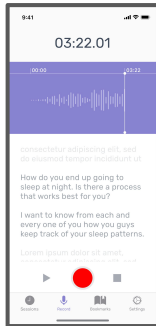
>> HOW DO YOU END UP GOING TO SLEEP AT NIGHT?

IS THERE A PROCESS THAT THAT WORKS BEST FOR YOU?

>> I WANT TO KNOW FROM EACH AND EVERY



Approach to more of a “closed caption” style of live transcribing.



First iteration - more of a dictation style

# Coding process

Used APIs:

- Google speech to text
- Google Cloud Platform repository on speech

Other resources:

- Android's developer website

# Pseudocode

Process explained:

1. Receives audio input via smartphone mic
2. Passes audio file to Google speech to text API
3. Google speech to text API gives back transcription of audio file
4. Displays transcription

# Challenges

- Finding code examples relevant to project direction
- Example code did not align with code language required for Android Studios
- Translating code languages:
  - Different libraries and syntax
  - Minimal previous knowledge

# Future directions

## Code:

- Implement word interaction features
  - Bookmark, define, translate, error correction
  - Google translate API, dictionary library

## Design:

- Improve UI
- More user research (interviews and surveys)