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Group Number: 33
Team name: VoiceRus
Due Date: 5/10/17

Final Report

1. Team Contributions

Ashley Lee: sketched storyboard with Danie. Fraction of total work: 5/100
Emily Pedersen: worked on connecting the GUI to the DB with Christopher and Ning, filmed the video, and compiled and wrote the Final Report. Fraction of total work: 40/100
Danie Selzer: sketched storyboard with Ashley. Fraction of total work: 5/100
Christopher Quan: worked on connecting the GUI to the DB with Emily and Ning. Fraction of total work: 25/100
Ning Yang: worked on connecting the GUI to the DB with Emily and Christopher. Fraction of total work: 25/100

2. Problem and Solution Overview

The problem we are addressing is that actors and actresses often don't have easy and timely access to a practice partner or practice space. We built a mobile app called Acting Bud, which allows users to practice lines of a script at anytime, anywhere, and over and over again without the need of a scene partner(s). Users can search for a script in the Acting Bud database, or upload a script, and rehearse their lines with Alexa or the flashcard GUI. The flashcard GUI interface allows users to practice lines with the help of flashcards.

3. Three Main Tasks

3.1 Short Descriptions

a. Search/Upload a script: Users will be able to search for a script that is in the database or upload their own script.
b. Practice selected script with Alexa: Users can practice the selected script with Alexa. For example, the user can ask Alexa for the previous line, the user's current line, to pause practicing, resume practicing, jump to another line within that scene, start practicing the scene from the top, or quit Acting Bud.
c. Practice the selected script using flashcard GUI feature: The flashcard GUI allows users to see the line before their line on a flashcard. If the user forgets her own line, she can choose to flip the flashcard to see her line.

3.2 Representative Tasks

1. Easy task: An easy task would be to search for a script in our database.
2. Medium task: A medium-level task would be practicing with the flashcard interface.
3. Hard task: A hard task would be practicing lines with Alexa because this feature allows for many different tasks, such as asking Alexa to cue the user, reminding the user of her line, and/or jumping to another line within that scene.

4. Revised Interface Design

4.1 Changes

After interactive prototype testing, we changed the design of the "Select Type of Practice" screen and the "Flashcard Practice" screen of the GUI part of our project.

In our first high-fidelity prototype, the "Select Type of Practice" screen (Figure 1) consisted of two text buttons labeled "Voice" and "Flashcard". We found that the design choice was boring, so we decided to use eye-catching buttons that visually represent practicing with voice (with Alexa) and with flashcards (Figure 2). We hope this design will visually articulate these functions, and clearly demonstrate the effects of clicking those buttons.

We also redesigned the "Flashcard" feature. Through this feature, a user can run the entire selected act and scene, and see all the user's cued lines on the front of the flashcard. In our first high-fidelity prototype, a user clicks the "+" icon to flip the card to show her next line if her line is the proceeding line (Figure 3). A user can also click "Next" to move through the script, or click "Back" to exit the "Flashcard" activity. However, we found that the"+" icon might violate the design heuristic of "Match between System and Real World" as "+" normally means enlarge, not flip. We also felt that the "Back" label might be ambiguous, possibly misleading a user to think this button goes back to the previous flashcard when instead it goes to the previous screen. Therefore, in our final high-fidelity prototype, we changed the "+" (flip) and "Back" buttons to the words "Flip" and "Exit Flashcard" (Figure 4). When a user clicks "Flip" and if her role is in next sequence to speak, she will see her role's line (Figure 5). If a user selects "Flip" and the user's role is not to speak, the flashcard will read "Your character is not next to speak. Click "Next" to proceed." (Figure 6). We also changed the text from "Back" to "Exit Flashcard" to indicate exiting the "Flashcard" activity. In addition, we added "Prev" button to go back to the previous flashcard, and "Next" to go to the next flashcard.

Even though we received feedback that Acting Bud should not say the role's name before speaking, we did not change the VUI dialog due to time and resource constraints. For example, Acting Bud will say "Romeo says," followed by "Thus with a kiss I die… "". By keeping this dialog, we think it's clear who's turn it is within the script.

4.2 Screenshots

Figure 1(First Hi-Fi Prototype)

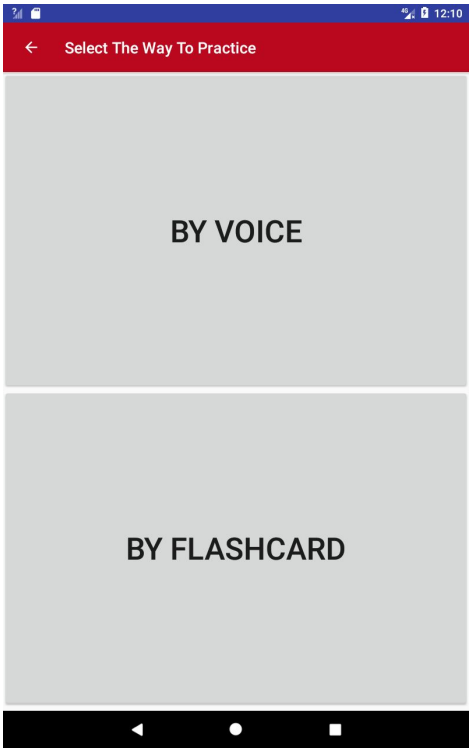


Figure 2 (Final Hi-Fi Prototype)

Figure 3 (First Hi-Fi Prototype)

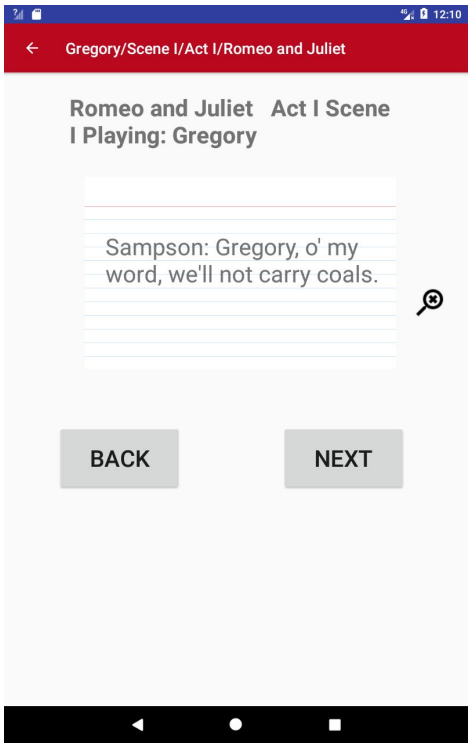


Figure 4 (Final Hi-Fi Prototype)

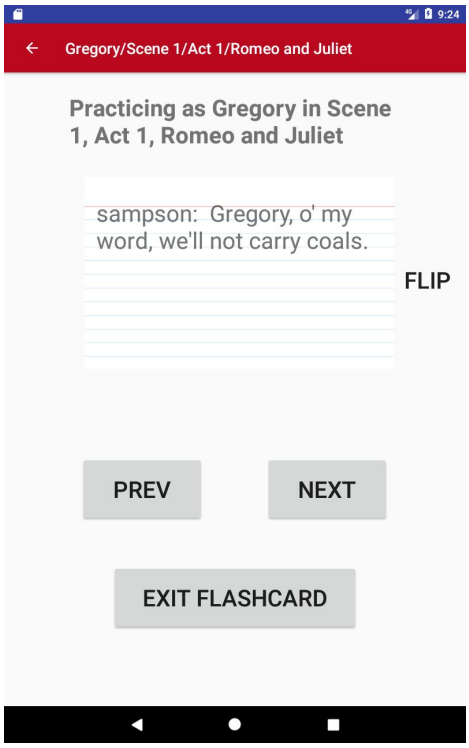


Figure 5 (Final Prototype)

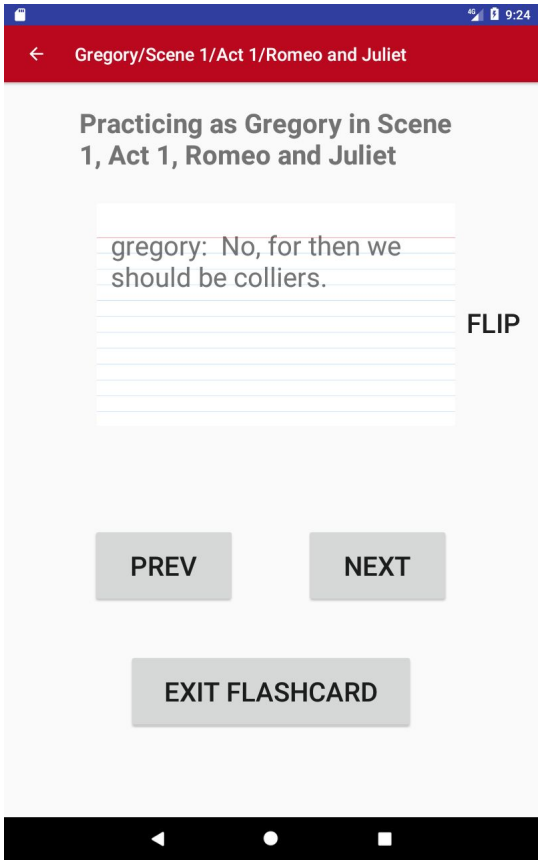
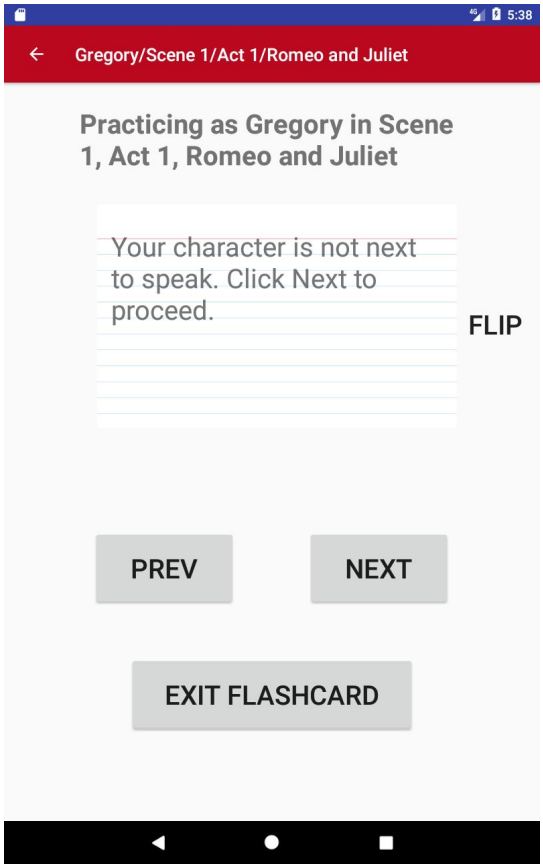
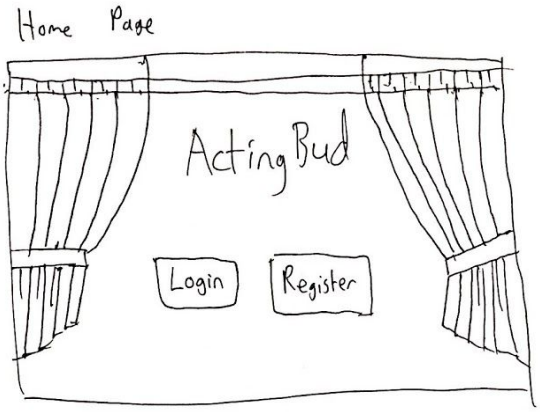


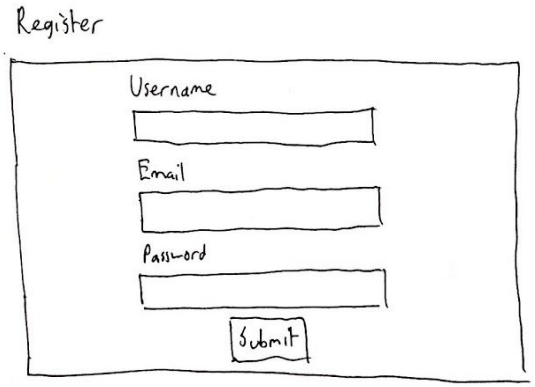
Figure 6 (Final Prototype)

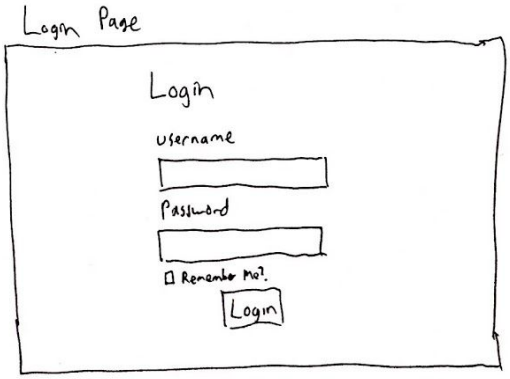


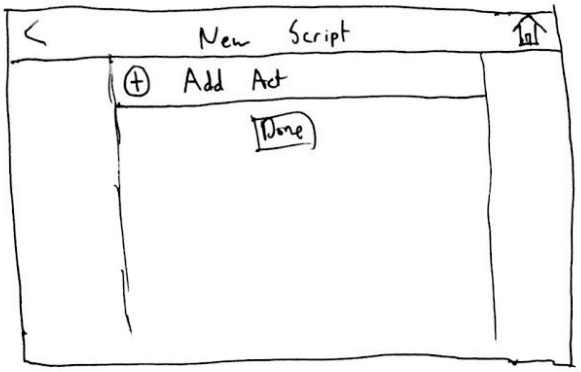
4.3 Sketches of Unimplemented Screens

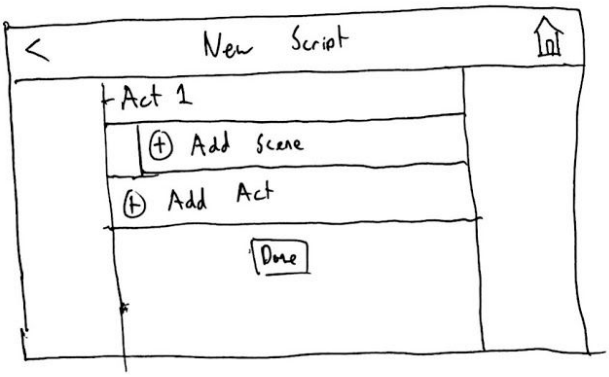
Below are sketches of the Welcome page and the Login page. If we had more time to work on this project, we would also consider adding another feature of 'creating your own script' in the app. The task flow for 'creating your own script' in the application is also sketched below.

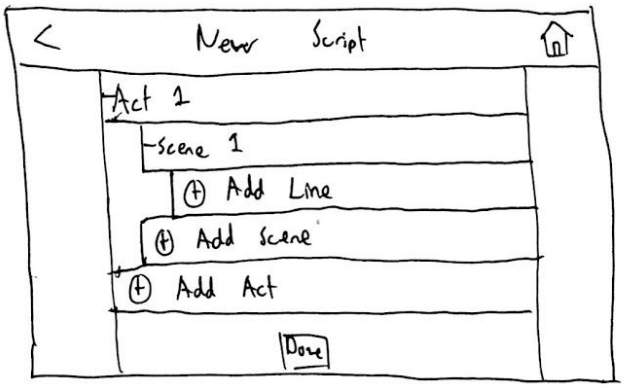


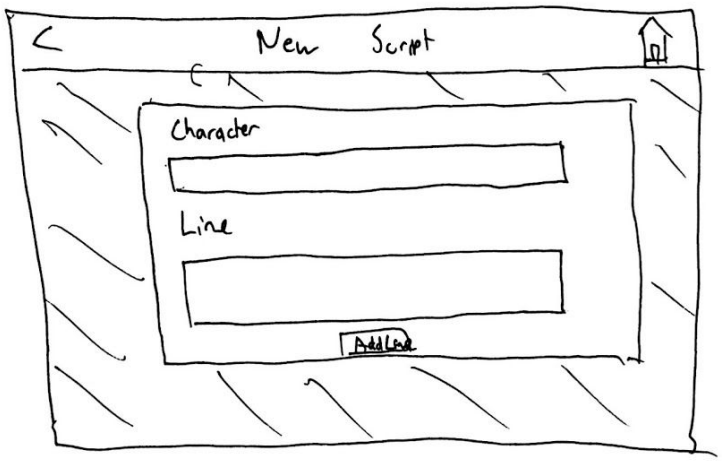


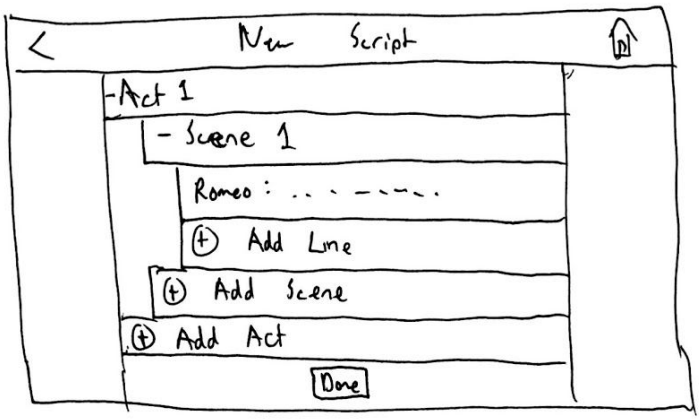



New Script
Add Act
Done


New Script
Act 1
Add Scene
Add Act
Done

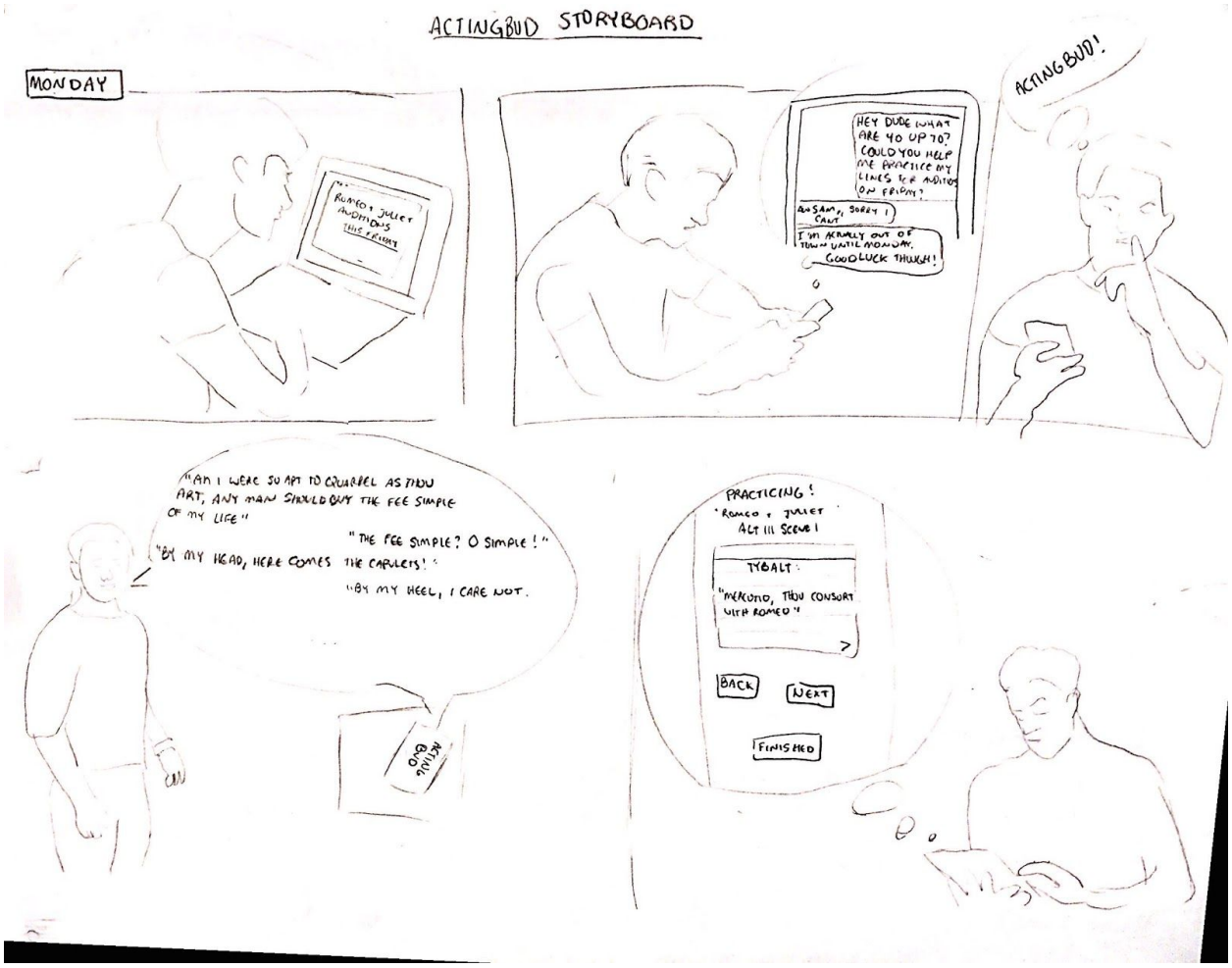

New Script
Act 1
Scene 1
Add Line
Add Scene
Add Act
Done

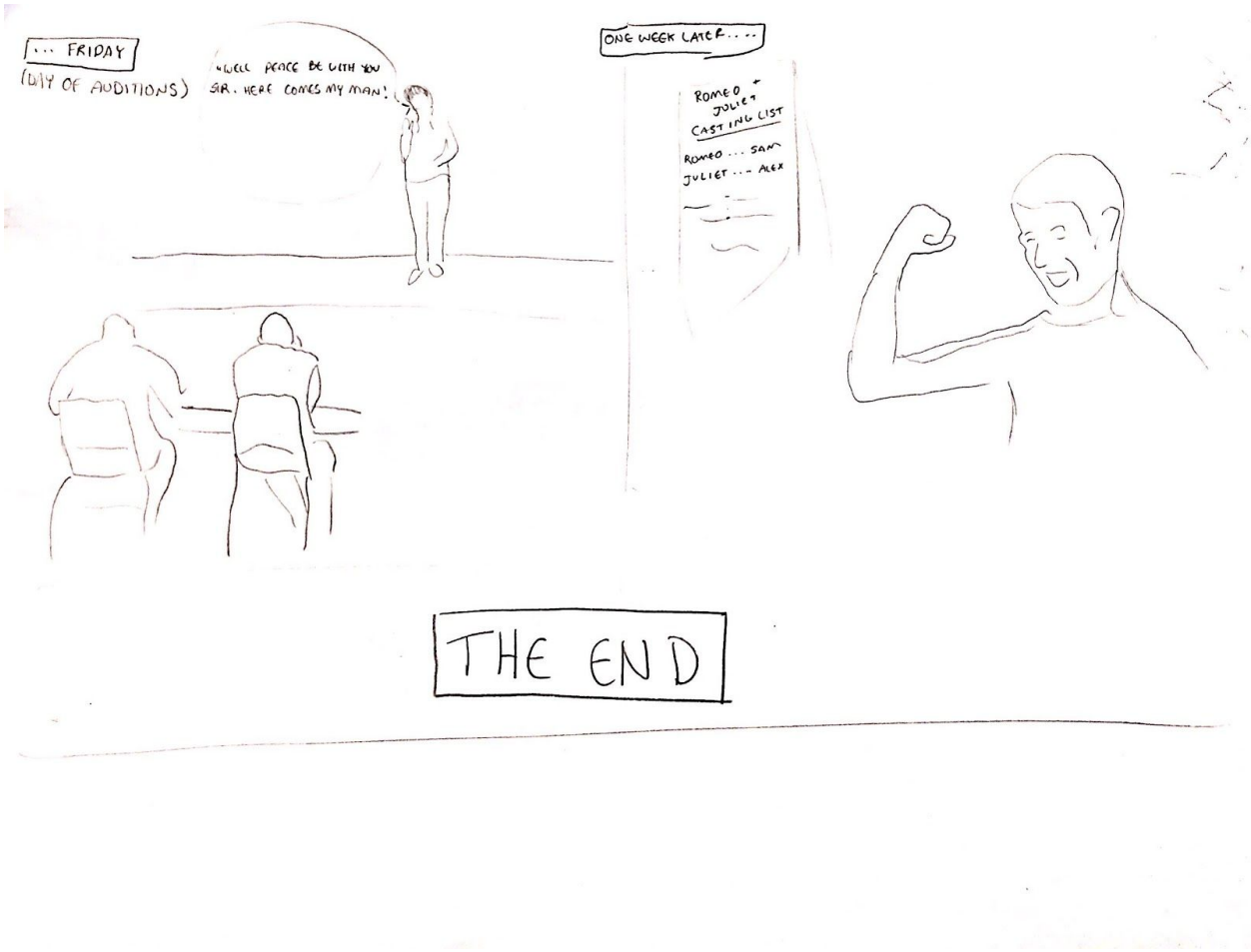

New Script
Character
Line
Add Line


New Script
-Act 1
- Scene 1
Romeo : . . . - - - - .
Add Line
Add Scene
Add Act
Done

4.4 Storyboard of Tasks

This storyboard demonstrates a scenario where an actor would use Acting Bud. In this scenario, an actor finds out about an audition for "Romeo and Juliet," but doesn't have an acting partner to run lines with or access to a practice space. Therefore, he uses Acting Bud to prepare for the audition, and gets the role of Romeo!

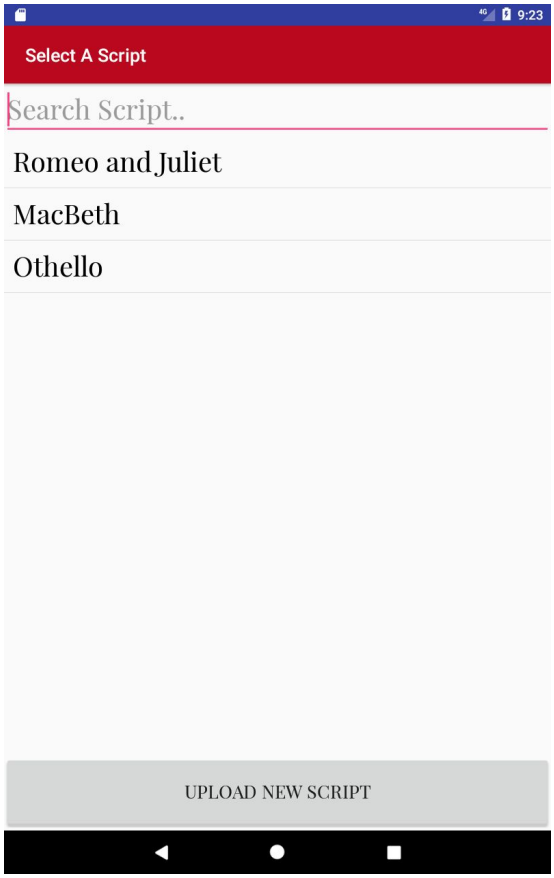



... FRIDAY
(DAY OF AUDITIONS)
"WELL PEACE BE WITH YOU SIR. HERE COMES MY MAN!"
ONE WEEK LATER...
ROMEO + JULIET CASTING LIST
ROMEO ... SAM
JULIET ... ALEX
THE END

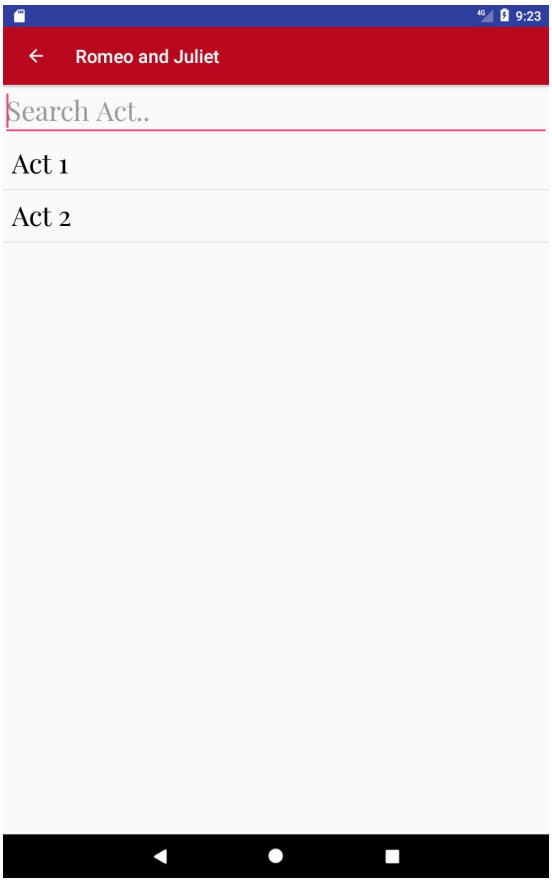
5. Prototype Overview

5.1 Screenshots of Final Prototype GUI

‘Select Script’ Screen

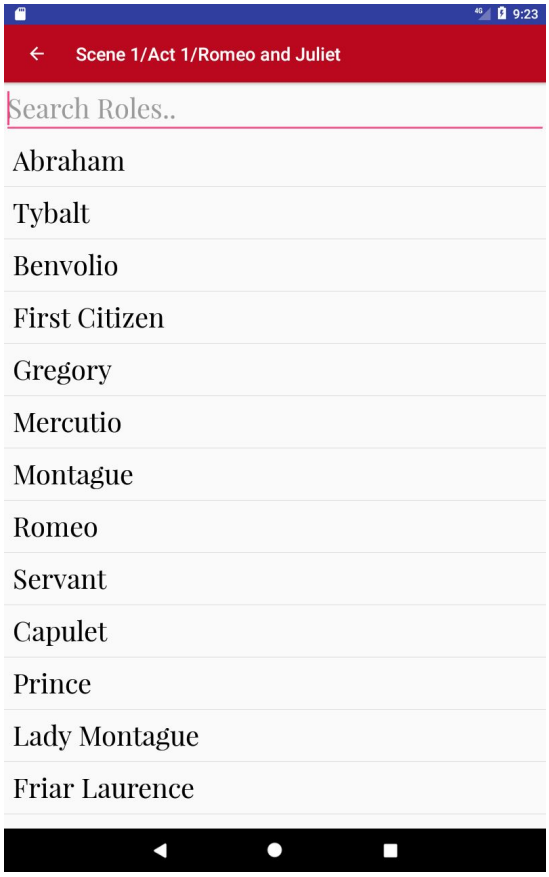


‘ Select Act’ Screen



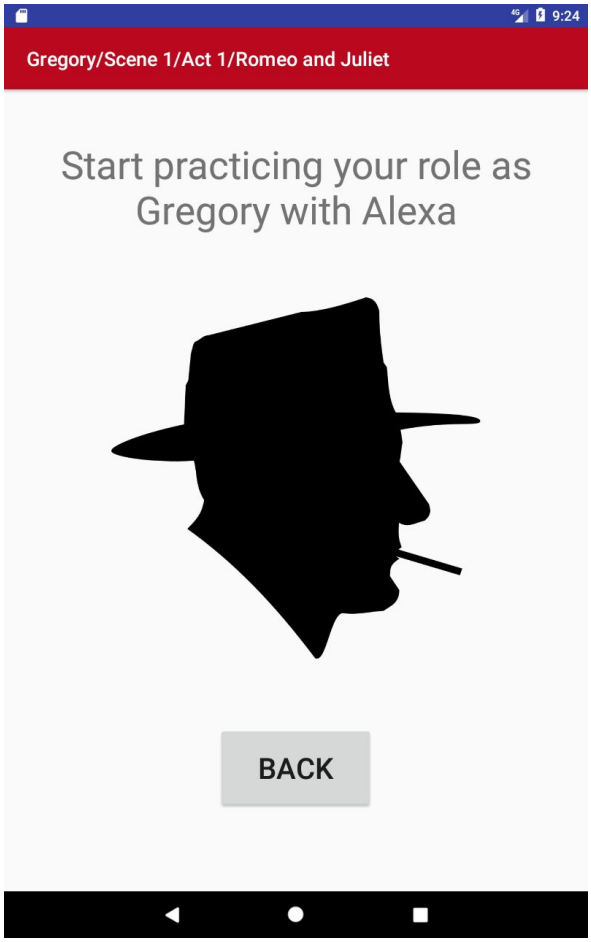
‘Select Scene’ Screen

‘Select Role’ Screen

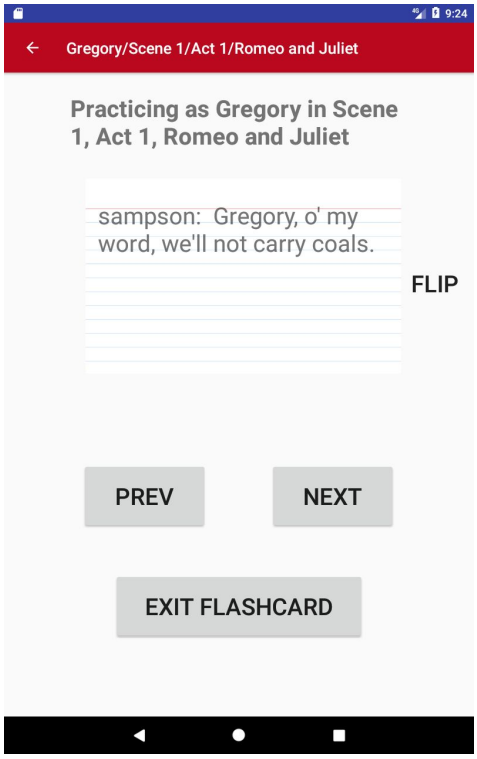


‘Select Type of Practice’ Screen

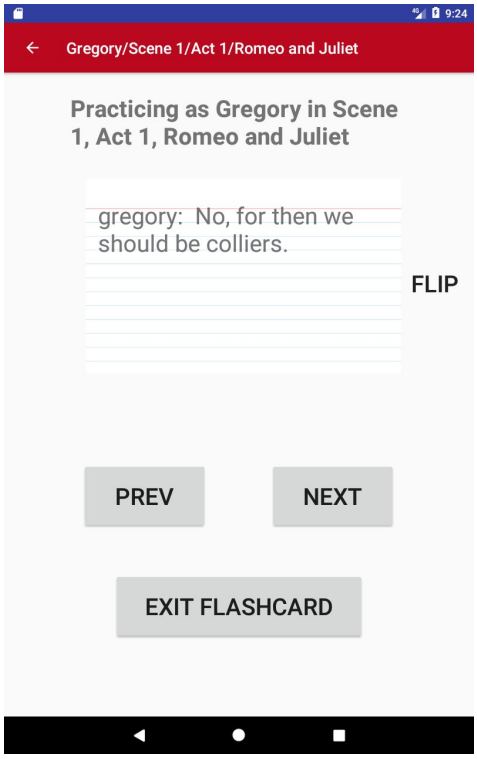
‘Practice with Alexa’ Screen



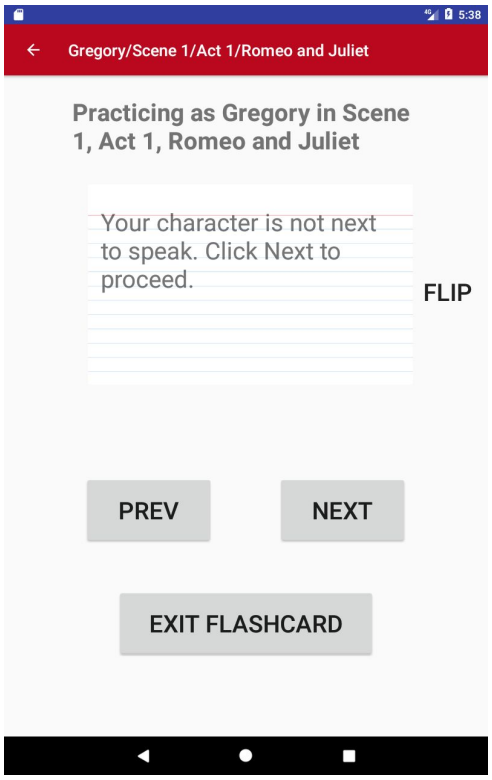
‘Practicing with Flashcards’ Screen



‘Practicing with Flashcards - Flipped Card’ Screen



‘Practicing with Flashcards - Flipped Card When it’s Not Your Turn’ Screen



5.2 VUI Sample Utterances and Sample Dialog

- Start practicing
- Cue me
- Done line
- Read my line
- Jump to line #
- Pause practicing
- Resume practicing
- Start from the top
- Stop practicing

User: open actingbud
Acting Bud (AB): Welcome to Acting Bud! You've selected + (play name, act, scene, character) (Romeo and Juliet, Act 1, Scene 1, and Gregory. When you are ready to begin practicing please say 'start practicing'. To select another play, say quit.
User: start practicing
AB: Sampson says 'Gregory, o' my word, we'll not carry coals.'
User: No, for then we should be colliers. done line
AB: Sampson says 'I mean, an we be in choler, we'll draw.'
User: Cue me
AB: Sampson says 'I mean, an we be in choler, we'll draw.'
User: Ay, while you live, draw your neck out o' the collar. done line
AB: Sampson says "I strike quickly, being moved."
User: read my line
AB: Gregory says "But thou art not quickly moved to strike."
User: But thou art not quickly moved to strike. done line
AB: Sampson says "A dog of the house of Montague moves me."
User: pause practicing lines
AB: Pausing practicing lines. When you want to resume, please say 'resume practicing.'
User: resume practicing
AB: Sampson says "A dog of the house of Montague moves me."
User: jump to line 10
AB: Sampson says "True; and therefore women, being the weaker vessels,
are ever thrust to the wall: therefore I will push
Montague's men from the wall, and thrust his maids
to the wall."
User: The quarrel is between our masters and us their men. done line
AB: Sampson says "'Tis all one, I will show myself a tyrant: when I
have fought with the men, I will be cruel with the
maids, and cut off their heads."
User: what can I say
AB: You can say begin practicing, finished line, stop practicing lines, cue me, what's my line, pause practicing, continue practicing, or jump to x line

User: start over
AB: Sampson says ‘Gregory, o' my word, we'll not carry coals.’
User: stop practicing
AB: Are you sure you want to stop practicing (play name, act, scene, character) (Romeo and Juliet, Act 1, Scene 1, and Gregory.
User: Yes
AB: Goodbye! Thank you for using Acting Bud!

5.3 Overview
For this final prototype, both the VUI and GUI are connected to the DB, which means the VUI can access values in the DB, and the GUI can update values in the DB.

For the VUI, we wrote code that generated a java object given a play script, and then converted that java object into a JSON object. We stored that JSON object as a value in a dynamoDB table. When a user interacts with our Alexa skill, we grab that JSON object and parse it to read the lines of the script. The JSON objects stores all the lines in a play, and binds to it the character and line number. We also store the start and end line numbers of an act and a scene. For example, if a user wants to practice Romeo and Juliet, Act 1, Scene 1, for the role of Gregory, a user will be able to ask Alexa to cue him, remind him of his role’s line, pause practicing, resume practicing, jump to another line within that scene, start from the top of that scene, and quit practicing. A sample dialog is shown in 5.2.

For the high-level GUI, a user’s clicks update our dynamoDB, reflecting the script, act, scene, and role the user wants to practice. We also have a search feature in each of the selection screens to allow a user to easily find the script, act, scene, and role she wants to practice. Here’s an example of an interaction flow: an user searches “Romeo and Juliet”, “Act 1”, “Scene 1” in the role of “Gregory” through the 4 different selection screens (all shown in 5.1). All of these selections update a row to our dynamoDB table called status, so our application knows which script to practice. Then a user can select to practice with Alexa or with our Flashcard GUI.

In our Design 07 report, the interaction with the “Flashcard GUI” was hardcoded because we didn’t pull the lines from the database. Now, this feature is no longer hard-coded. The contents of the flashcard are pulled from the database, reflecting the role the user selected. Also the flashcard is scrollable, meaning if the text exceeds the space of the flashcard, a user can scroll to see the full contents of a line.

5.4 What was Left Out and Why
In our VUI interaction with Acting Bud, users must say “done line” to signal Acting Bud to continue to the next line in the script. Alexa currently can not recognize that a user has said a specific line, so we designed the sample utterance “done line” for Acting Bud to move onto the next line. In an shipped version, we would not want users to have to say, “done line,” since continually saying this utterance could possibly impinge on their practicing.

In our final prototype, we kept Acting Bud saying the role's name before saying the role's line to indicate who is speaking because we think is important to indicate which role was speaking. We wanted different roles to have different voices, however, Alexa does not support different voices.

The feedback from the final presentation also recommended that we use SSML. However, we did not include SSML because SSML involves Alexa knowing the sentiment of a line, which is a complex machine-learning technique.

Finally, we did not implement the "Upload" button on the "Select Script" screen because we wanted to focus on the interaction flow of selecting a script, act, scene, and practicing with the VUI or Flashcard GUI. With a fully implemented "Upload" button, users could upload a script and that script would be parsed and stored in our dynamoDB table. We also did not implement 'upload' because our script parser assumes a specific script format, and uploaded scripts don't necessarily follow this format.

5.5 Wizard of Oz Techniques

Our final prototype does not require any Wizard of Oz Techniques. A user can select one of the scripts that we have loaded into our dynamoDB table, and practice with either Alexa or the flashcard GUI.

6. Video

https://www.youtube.com/watch?v=Vu2JUPOI-2c