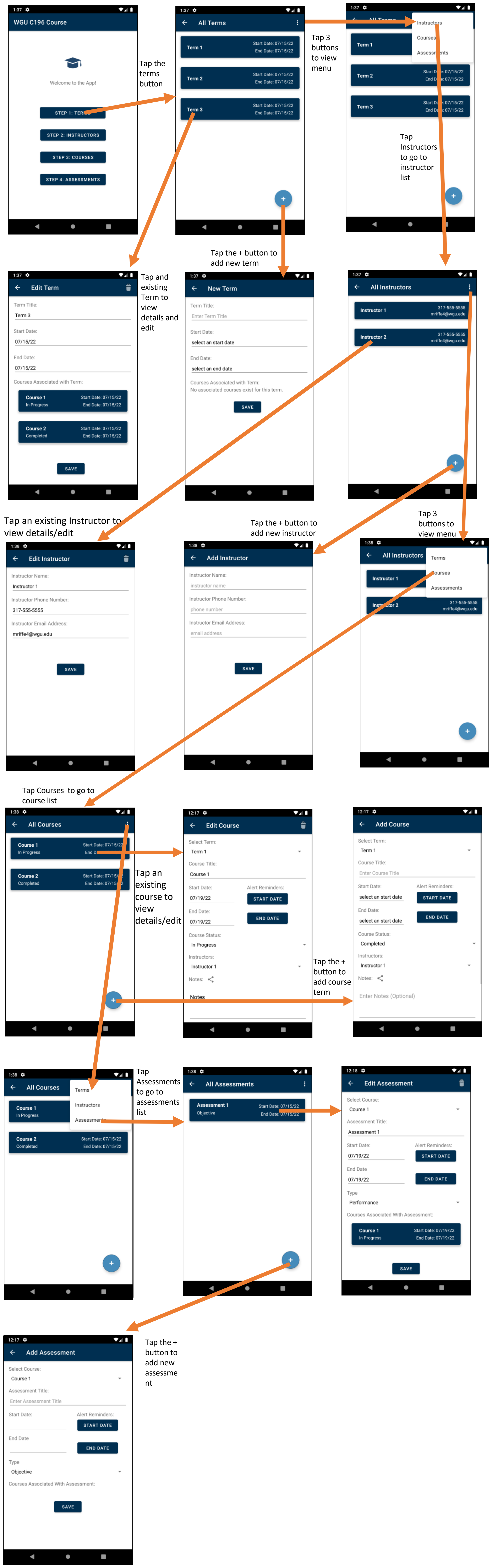
Task D: Storyboard



Tap the terms button

Tap 3 buttons to view menu

Tap Instructors to go to instructor list

Tap the + button to add new term

Tap and existing Term to view details and edit

Tap an existing Instructor to view details/edit

Tap the + button to add new instructor

Tap 3 buttons to view menu

Tap Courses to go to course list

Tap an existing course to view details/edit

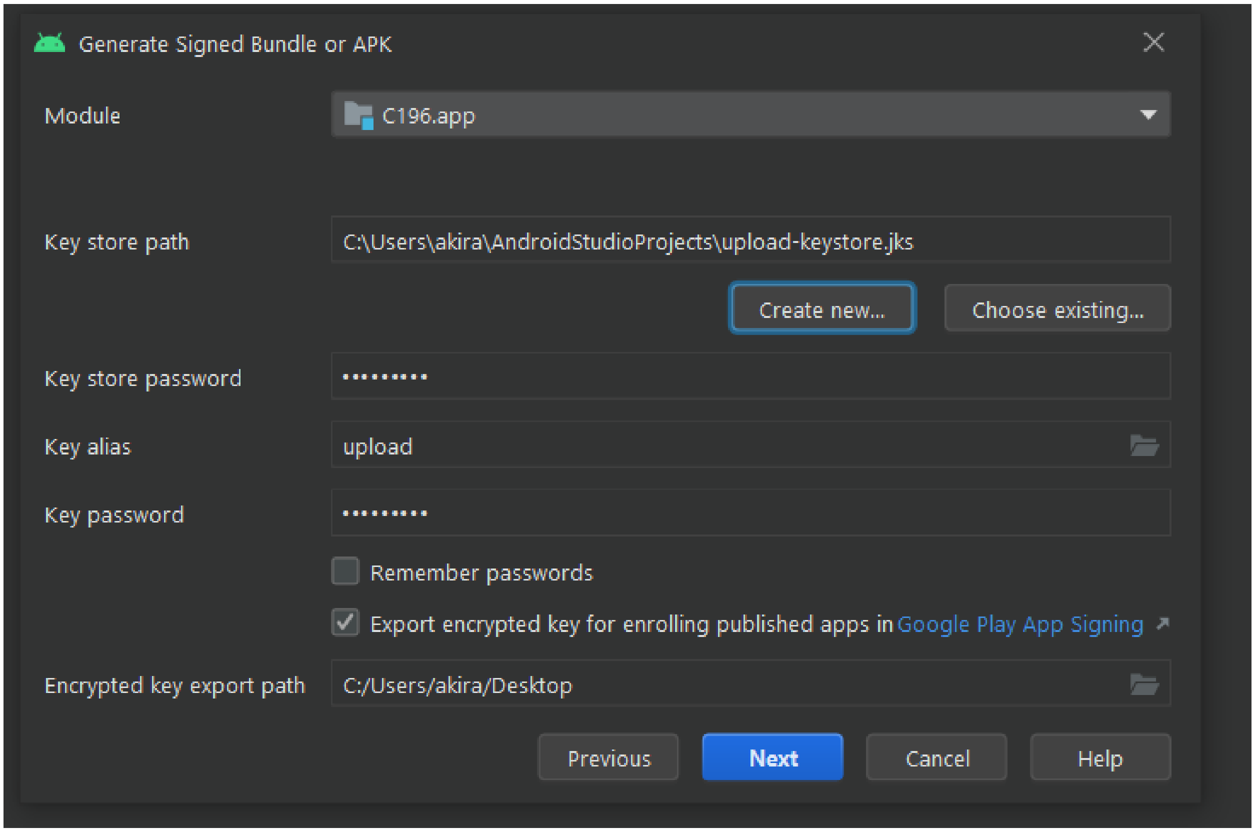
Tap the + button to add course term

Tap Assessments to go to assessments list

Tap the + button to add new assessment

WGU C196 Course
Welcome to the App!
STEP 1: TERMS
STEP 2: INSTRUCTORS
STEP 3: COURSES
STEP 4: ASSESSMENTS
All Terms
Term 1 Start Date: 07/15/22 End Date: 07/15/22
Term 2 Start Date: 07/15/22 End Date: 07/15/22
Term 3 Start Date: 07/15/22 End Date: 07/15/22
Instructors
Courses
Assessments
Edit Term
Term Title: Term 3
Start Date: 07/15/22
End Date: 07/15/22
Courses Associated with Term:
Course 1 In Progress Start Date: 07/15/22 End Date: 07/15/22
Course 2 Completed Start Date: 07/15/22 End Date: 07/15/22
SAVE
New Term
Term Title: Enter Term Title
Start Date: select an start date
End Date: select an end date
Courses Associated with Term: No associated courses exist for this term.
SAVE
All Instructors
Instructor 1 317-555-5555 mriffe4@wgu.edu
Instructor 2 317-555-5555 mriffe4@wgu.edu
Edit Instructor
Instructor Name: Instructor 1
Instructor Phone Number: 317-555-5555
Instructor Email Address: mriffe4@wgu.edu
SAVE
Add Instructor
Instructor Name: instructor name
Instructor Phone Number: phone number
Instructor Email Address: email address
SAVE
All Instructors
Terms
Courses
Assessments
All Courses
Course 1 In Progress Start Date: 07/15/22
Course 2 Completed Start Date: 07/15/22 End Date: 07/15/22
Edit Course
Select Term: Term 1
Course Title: Course 1
Start Date: 07/19/22
Alert Reminders: START DATE
End Date: 07/19/22
END DATE
Course Status: In Progress
Instructors: Instructor 1
Notes:
Notes
Add Course
Select Term: Term 1
Course Title: Enter Course Title
Start Date: select an start date
Alert Reminders: START DATE
End Date: select an start date
END DATE
Course Status: Completed
Instructors: Instructor 1
Notes:
Enter Notes (Optional)
All Courses
Terms
Instructors
Assessments
All Assessments
Assessment 1 Objective Start Date: 07/15/22 End Date: 07/15/22
Edit Assessment
Select Course: Course 1
Assessment Title: Assessment 1
Start Date: 07/19/22
Alert Reminders: START DATE
End Date 07/19/22
END DATE
Type Performance
Courses Associated With Assessment:
Course 1 In Progress Start Date: 07/19/22 End Date: 07/19/22
SAVE
Add Assessment
Select Course: Course 1
Assessment Title: Enter Assessment Title
Start Date:
Alert Reminders: START DATE
End Date
END DATE
Type Objective
Courses Associated With Assessment:
SAVE

Task E:
APK Screen shots



Generate Signed Bundle or APK

Module: C196.app

Key store path: C:\Users\akira\AndroidStudioProjects\upload-keystore.jks

Key store password: •••••••••

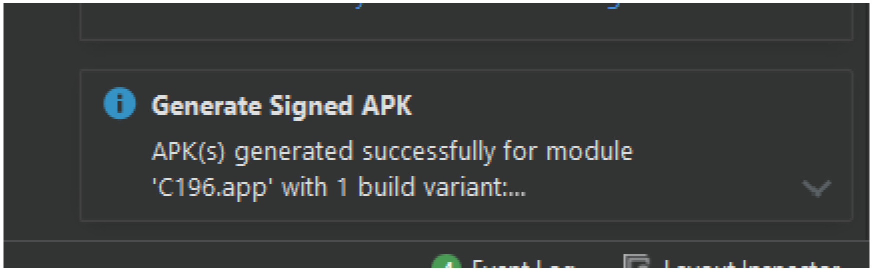
Key alias: upload

Key password: •••••••••

☐ Remember passwords

☑ Export encrypted key for enrolling published apps in Google Play App Signing ↗

Encrypted key export path: C:/Users/akira/Desktop



Generate Signed APK

APK(s) generated successfully for module 'C196.app' with 1 build variant:...

Task F:
Reflecting

1. If I developed my application to be used specifically for tablets, I would make it easier to view data as a whole. To accomplish this, I would have the list fragments (term, instructor, courses, assessment) displayed on the screen's left side, allowing the user to select the desired item and have the detail fragment present itself on the right side of the screen. This layout will provide the users a larger area to view the data and minimize scrolling to enhance the interactivity between the user and the application.

2. The application is designed to support a minimum SDK version of API 26 (Android 8.0, Oreo), while the targeted SDK version is API 32 (Android 12)

3. A challenge during this project was figuring out how to design the code to allow both the add form and the edit form to be the same file and then determining how to update/insert the appropriate items into the database, where needed. Another challenge I faced was setting the spinner values when editing an existing entry and getting it to display the associated data from the database.

4. My first challenge in figuring out how to have the same edit/add form resulted in creating a boolean since I needed to determine whether it was an existing item in the database or new. To resolve this, I made a for loop that iterated through the appropriate table (such as assessments) and then stated that if the id number for the individual matched what was in the database, then the boolean determined if an existing id compared the current id. This process made setting the fields more accessible and changing the support action bar title. The second challenge resulted in researching the official Android documentation and zyBooks and how to reference the data. During this process, I received an index out of bounds exception error. I resolved this by iterating through the array adapter count and then comparing the table's IDs to the IDs of the list used in the original adapter and the associated ID in the database. If a match were identified, it would set the spinner to that value, allow me to fix the out-of-bounds exception error, and successfully set the spinners with the appropriate data when editing.

5. One of the items I would do differently would be putting thought and getting user feedback on navigation and screen to give the users a better overall experience. In addition, I found after a while (especially with the DetailedCourse file) that it tended to be sluggish, even on a newer device (Pixel 6 Pro). While looking at the official Android documentation, I would attempt to implement LiveData to increase the speed, reduce the amount of data and reduce memory issues in the future.

6. Emulators allow testing across many devices, screens, and operating systems to test functionality, design, and the overall experience. Using an emulator has many advantages; it allows the developer to test numerous APIs, devices, and screen sizes to help gauge how a user may interact with the application. It also reduces the need for a physical device (and the associated cost), which will be constrained to the device's

specifications. An emulator will allow you to cater to a more significant range of users. A downside to an emulator is that it does not encompass all of android's capabilities and does not consider outside factors such as battery drain or other applications running on your device. An emulator is also not a true reflection of the responsiveness and user experience, especially with interactive features that can hinder the user from effectively using the application.

Task G:
Sources

Graduation Hat used as logo:

rawpixel.com. (n.d.). *Graduate icon vector*. Retrieved July 14, 2022, from https://www.freepik.com/free-vector/illustration-graduation-hat_2606584.htm