

ABM2 Task 1:

Mobile Application Development:

C196

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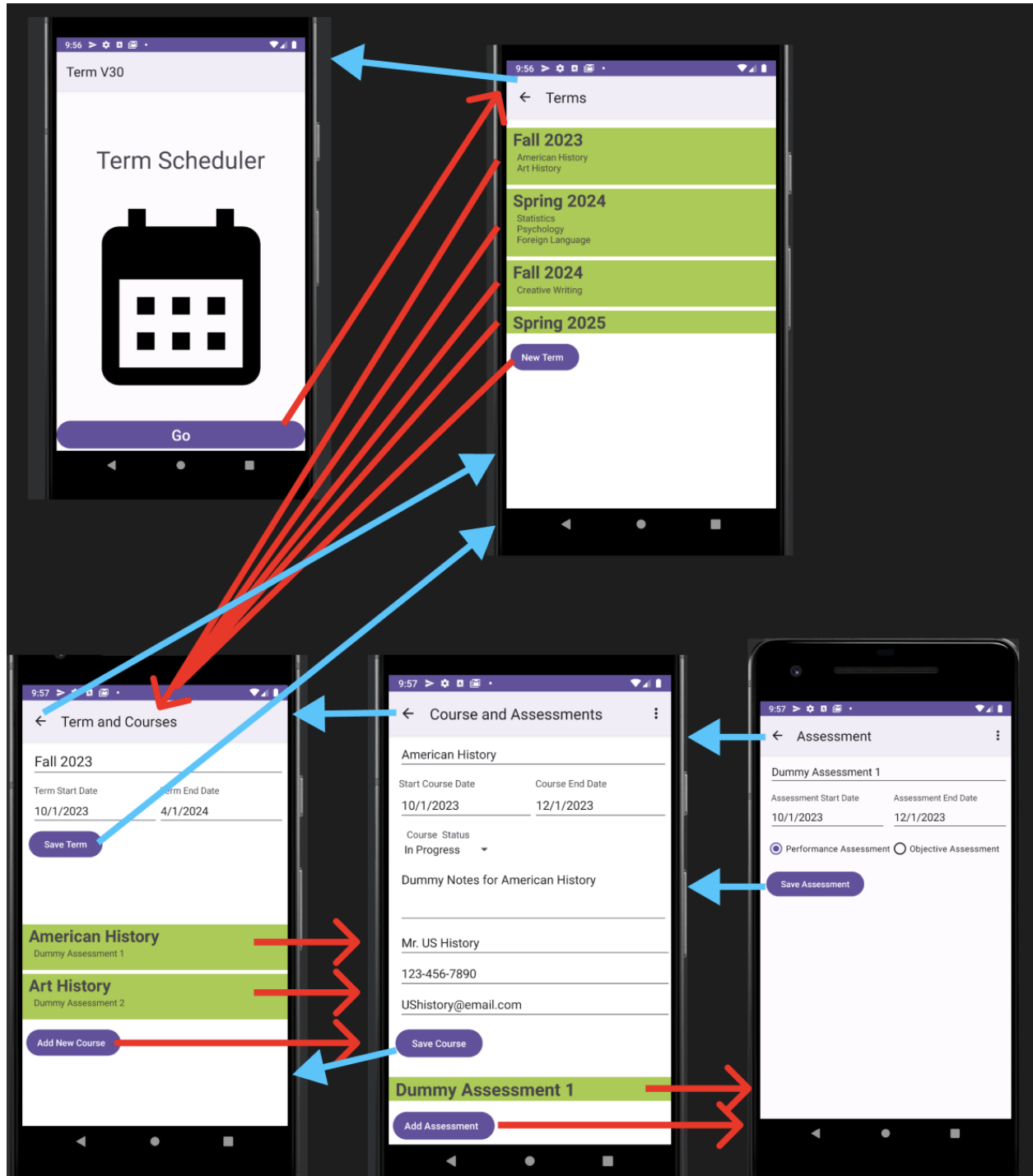
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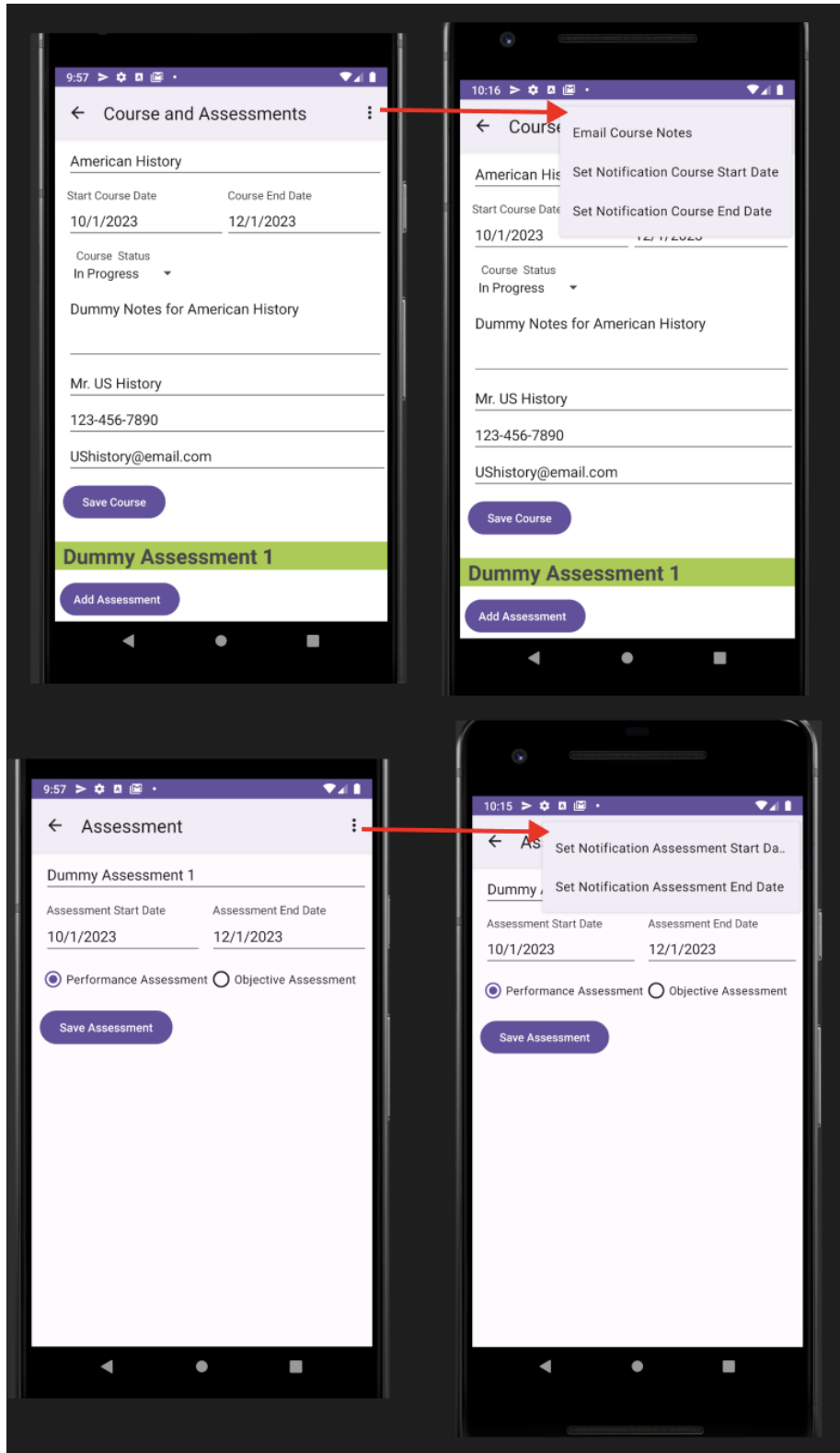
Section D:

Create a storyboard to demonstrate application flow that includes each of the menus and screens from part B.

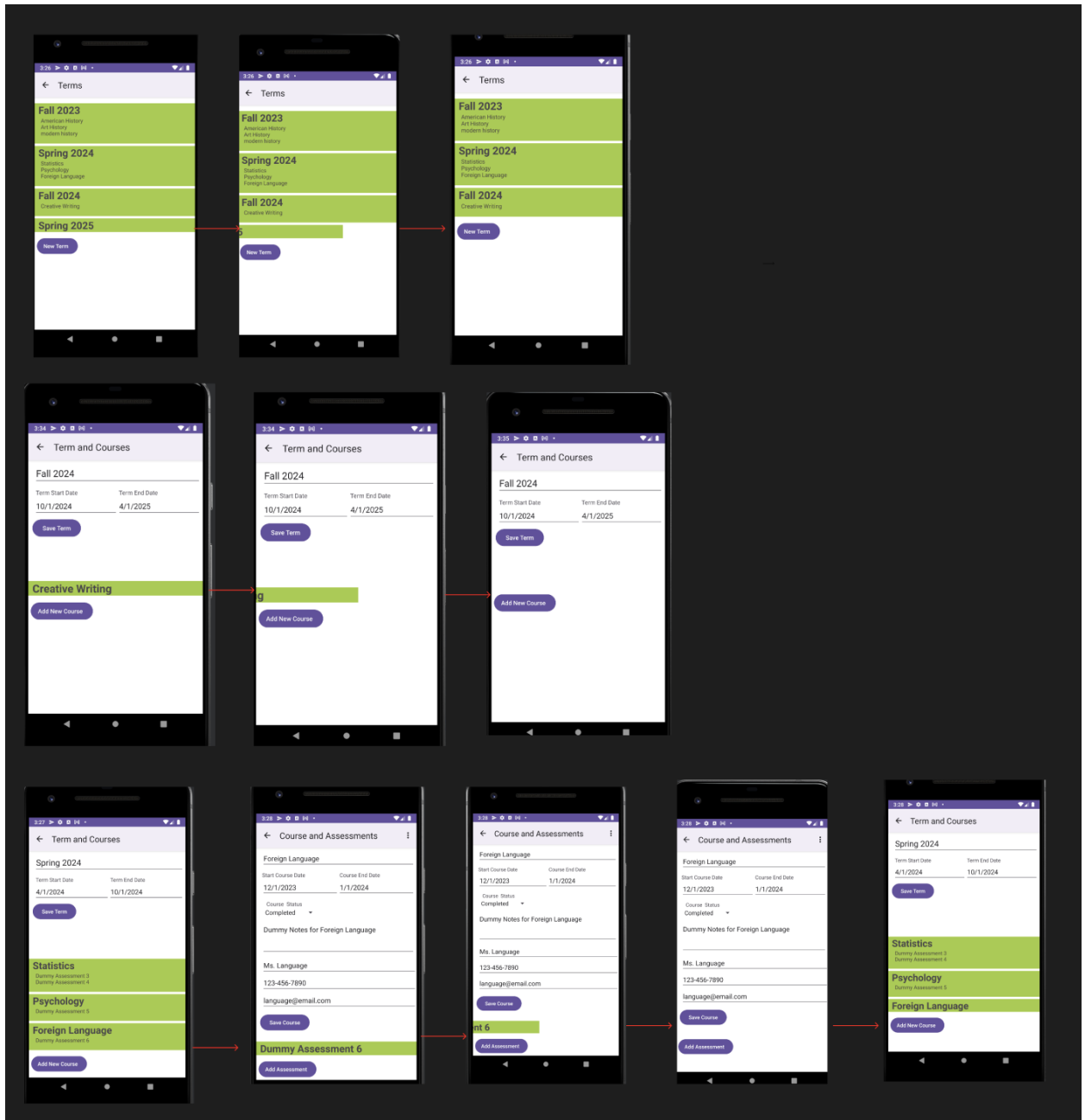
1. Image one shows flow from: Term V30 (Home Screen) -> Terms -> Term and Courses -> Course and Assessments -> Assessment



2. Image two shows the menus

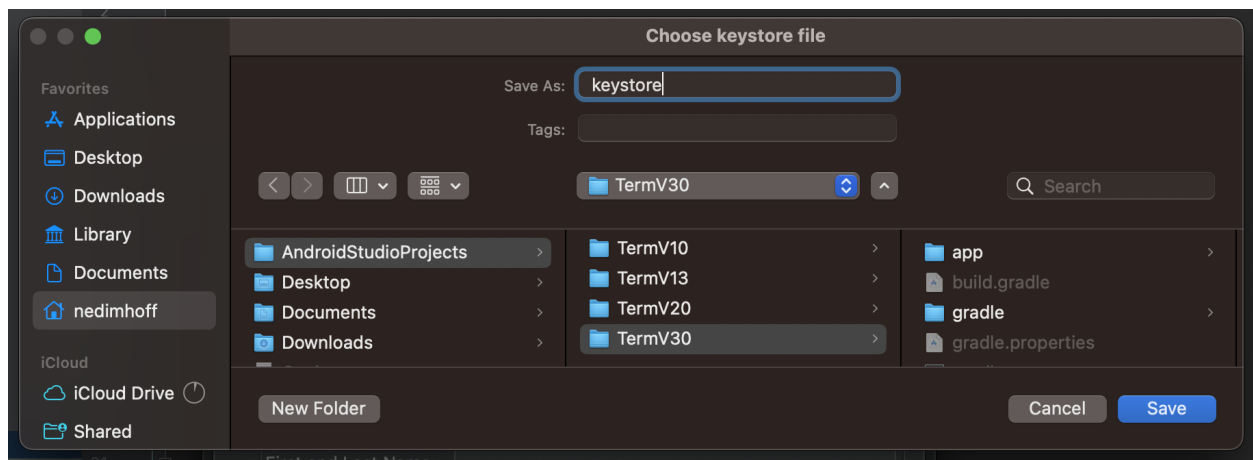
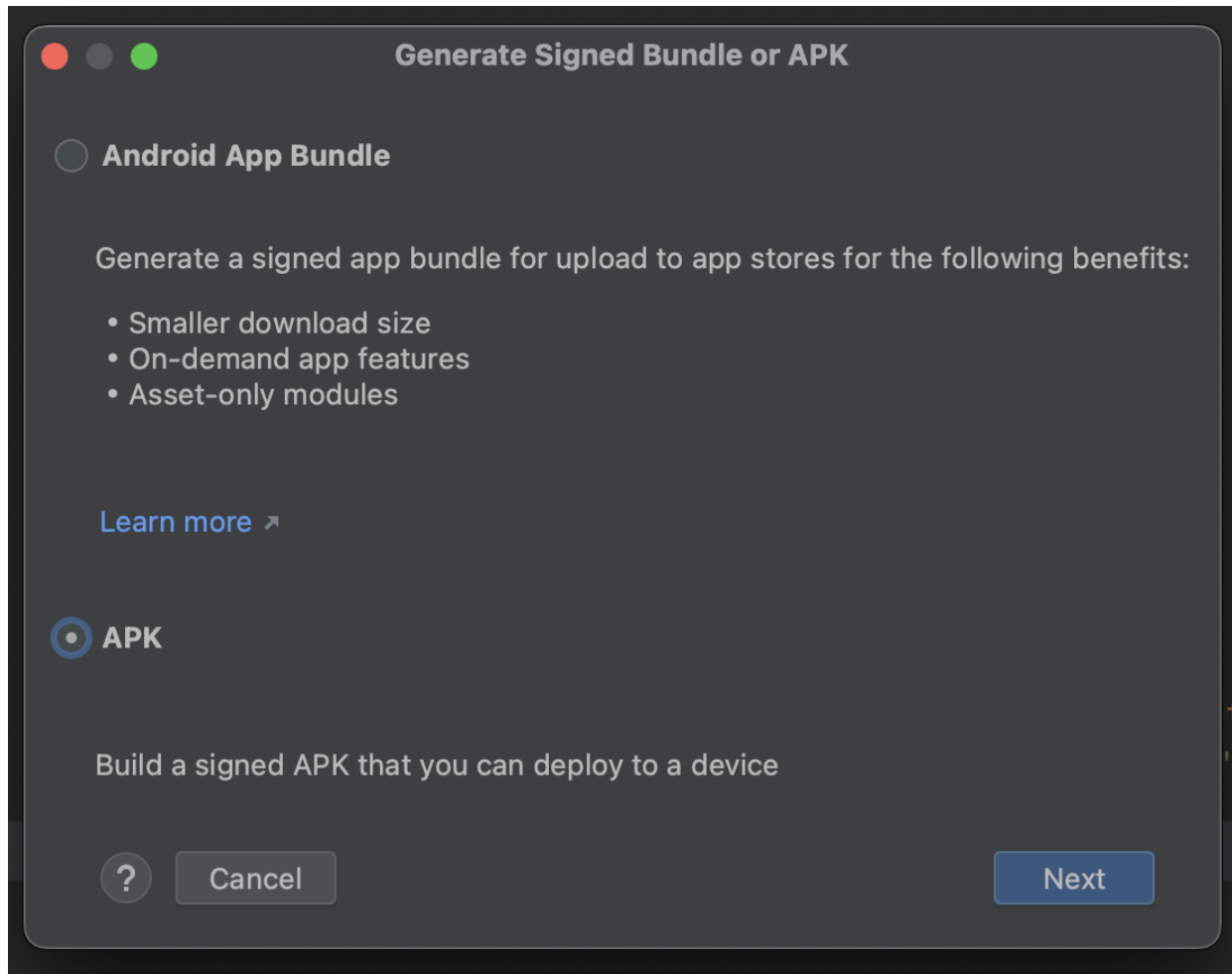


3. Image three shows terms, courses and assessments can be deleted by swiping item to the left.



Section E:

Provide screen shots of generating the signed APK to demonstrate that you have created a deployment package.



New Key Store

Key store path:

Jsers/nedimhoff/AndroidStudioProjects/TermV30/keystore

Password:

.....

Confirm:

.....

Key

Alias:

key0

Password:

.....

Confirm:

.....

Validity (years):

25

Certificate

First and Last Name:

Ned Imhoff

Organizational Unit:

Organization:

City or Locality:

State or Province:

Country Code (XX):

Cancel

OK

Generate Signed Bundle or APK

Module

Term_V30.app

Key store path

/Users/nedimhoff/AndroidStudioProjects/TermV30/keystore

Create new...

Choose existing...

Key store password

.....

Key alias

key0

Key password

.....

☐

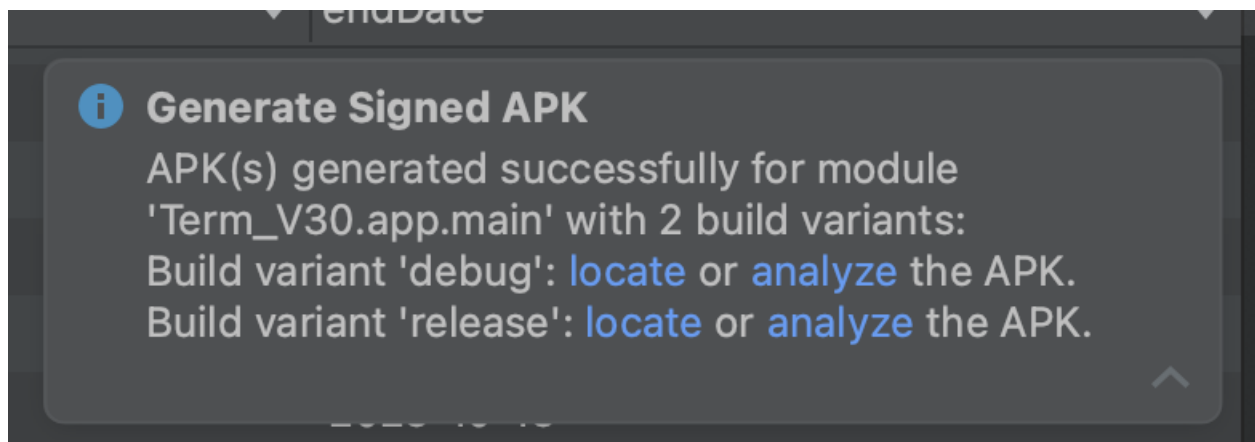
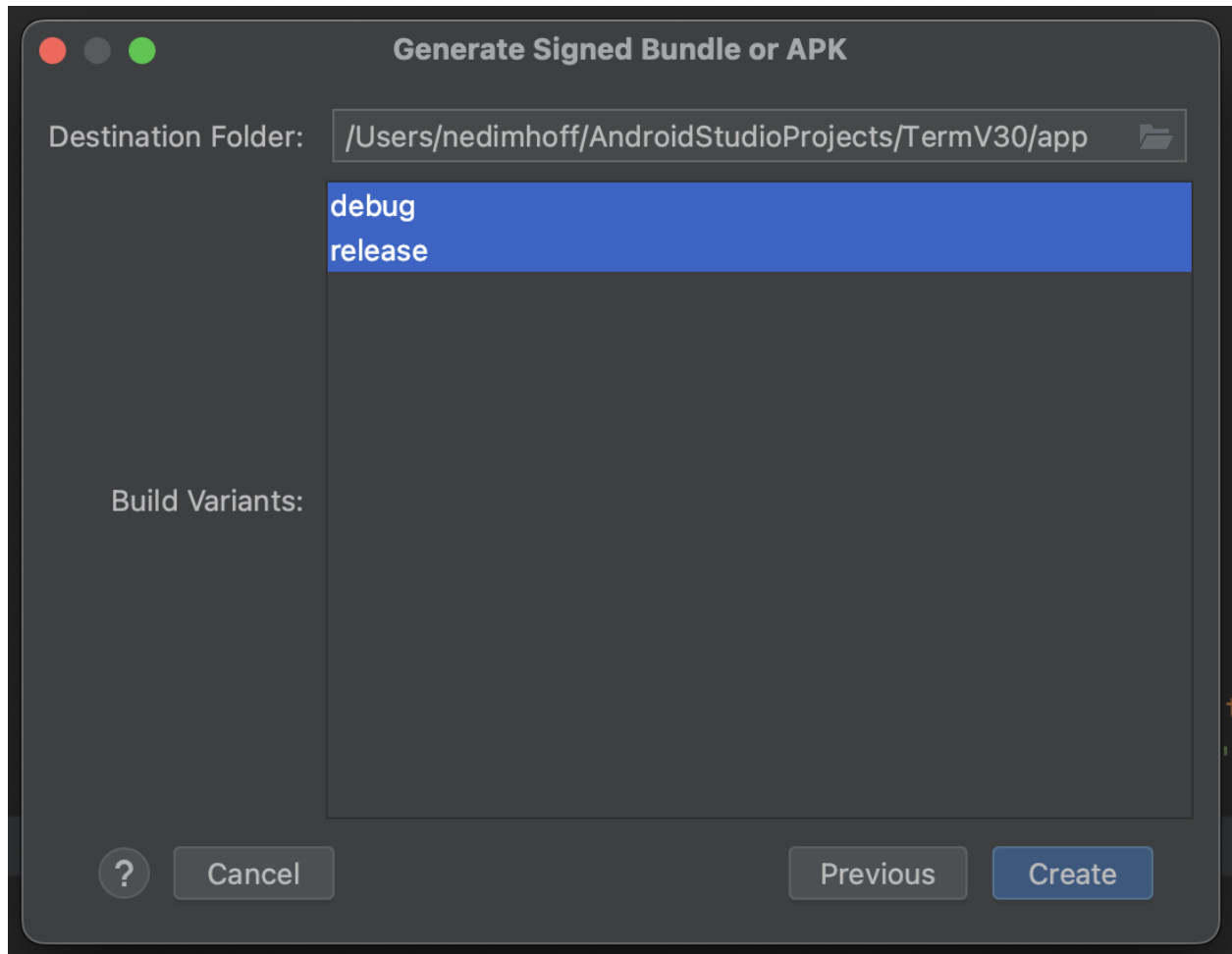
Remember passwords

?

Cancel

Previous

Next



Section F:

Reflect on the creation of your mobile application by doing the following:

1. Difference for tablet layout
 - a. Explain how your application would be different if it were developed for a tablet rather than a phone, including a discussion of fragments and layouts.

Developing an application for a tablet instead of a phone has several design changes that can impact the user experience. One of the differences is in the utilization of screen real estate. Tablets offer larger displays, allowing more interaction opportunities on the interface. A tablet application can display multi-pane layouts, allowing users to view multiple sections of content simultaneously. To allow this multi-pane viewing, fragments would be used to display on the tablet's larger screen. The fragments could be designed to adapt to different screen sizes and orientations.

2. Minimum and target operating system
 - a. Identify the minimum and target operating system your application was developed under and is compatible with.

The application was developed with a minimum operating system requirement of Android 8.0 (Oreo), corresponding to API 26, and is compatible with a target operating system of Android 13, or API 33. However, during the design of the application the phone emulator used was a Pixel 2 API 28.

3. Challenges in development
 - a. Describe (suggested length of 1–2 paragraphs) the challenges you faced during the development of the mobile application.

During the development of the mobile application, there were several challenges that influenced the design and project evolution. A significant challenge revolved around managing date inputs for start/end dates to terms, courses and assessments. The project began by creating start and end dates as strings from user inputs. The problem with this was users could enter a string that wasn't in the correct date format. This caused challenges when trying to set notification alerts. The solution was to replace the string input with a date calendar drop-down menu. This change served two functions, the first was simplifying the process of inputting dates for the user and always ensuring a true date was entered. Secondly, the date value generated in this process was able to be used by the notification logic of the application. Prior to this change the alert/navigation component of the app would not have functioned correctly.

Another challenge was refining the activity views. The application began with a large number of activity views that addressed each of the requirements individually. This required redundant and extensive code to connect them together. In later revisions, these activity views were condensed

into a smaller number that fulfilled several requirements. The views could accommodate more information, yet remain easier to manipulate. This streamlined approach not only simplified development but also improved the app's navigation and usability.

4. Overcoming challenge

- a. Describe (suggested length of 1–2 paragraphs) how you overcame each challenge discussed in part F3.

When creating the activity views and logic for terms, courses, and assignments, the initial solution was to have a variable take in a user entered string for a date. Although this solution worked for assigning a course title, dates required more specificity. This became apparent when beginning to code the notification alerts logic based on a start/end date. The question became how to force the user to enter a date that was a true accurate date every time. The solution was to implement a calendar drop down for the fields in question and assign the date to the assigned variable. The resources from Professor Carolyn Sher-DeCusatis supported overcoming this obstacle and resulted in a functioning calendar drop down menu for users to choose from.

The other challenge of condensing numerous activity views to a core group of intuitive and functioning views was a process in design. The original map of views were organized in levels getting progressively farther away from the home screen. The solution was to take the view farthest from the home screen and condense it into its closest partner if it made sense. An example is displaying the edit course details screen with a list of assignments below the course details rather than having a button to jump to the associated assignment list. This process was a practice in referencing the requirements while keeping the view simple and logical.

5. What you would do differently

- a. Discuss (suggested length of 1–2 paragraphs) what you would do differently if you did the project again.

If I were to undertake the project again, there are several things I would do differently. When building the project I would take time to add more notes to make my code clear. This would streamline the development process and ensure that I have readily available resources to address any challenges that arise. I would reach out to my professor sooner with questions or for guidance. I would allocate more time at the beginning of the project for comprehensive planning and layout design. Rather than settling for the initial draft, I would explore alternative layouts to ensure the user interface is as intuitive and efficient as possible, ultimately resulting in a more polished and user-friendly mobile application.

6. Emulator use

- a. Describe how emulators are used and the pros and cons of using an emulator versus using a development device.

Emulators serve as virtual platforms to mimic the behavior of real mobile devices on a computer. Emulators typically provide a software-based replica of a mobile device's hardware and software environment, this allows developers to run and assess their applications without the need for a physical device.

Emulators can be downloaded to a computer allowing a developer to access several different devices. Developers can launch apps on emulators rather than launching on physical devices. Emulators provide a controlled and isolated environment for testing, reducing potential interference from other apps or settings on a developer's computer.

Emulators do not perfectly replicate the performance characteristics of real devices, leading to differences in app behavior. This limitation can be particularly critical for resource-intensive apps or those reliant on specific hardware features. Emulators offer basic sensor emulation but lack other sensors like GPS. User experience testing can also be challenging on emulators, as they cannot fully replicate the tactile feel of touchscreen devices, potentially leading to inaccurate assessments of usability.

Section G:

Acknowledge sources, using APA-formatted in-text citations and references, for content that is quoted, paraphrased, or summarized.

Sher-DeCusatis, C. (2022). Artic_Fox_Master. C196_D308 Code Repository. Retrieved from

<https://westerngovernorsuniversity.sharepoint.com/sites/CISoftwareTeamResourcesRepo/Student%20Resources/Forms/AllItems.aspx?csf=1&web=1&e=Dhr4VR&cid=93a9d021%2D6bec%2D4d4f%2Db706%2Ddfa99d7ba05c&FolderCTID=0x0120003A10B552C00AC84098A6553E0FD6F792&id=%2Fsites%2FCISoftwareTeamResourcesRepo%2FStudent%20Resources%2FC196%5FD308%20Code%20Repository%2FMy%20Bicycle%20Shop%20for%20Android%20Arctic%20Fox&viewid=a13d9dcb%2D9ff5%2D42bd%2Db2d4%2Def3c17a6fb8c>. Accessed September 2023.