CSC-20038

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Development platform and IDE:

Xamarin.Android on Visual Studio Community 2019, Version 16.8.3

Minimum SDK Version:

Android 8.0 (API Level 26 - Oreo)

Tested on:

Android 9.0 (API Level 28 - Pie) - Pixel 2 Emulator

Brief explanation of functionality of app

First startup

On your first startup you'll be prompted to accept permissions required to run the app. They must be accepted to progress, if they are not accepted then the application will not allow you to do anything. When prompted a second time you'll also be given the option to exit the app instead of accepting. Once the permissions have been allowed you'll have access to the list page where items can be added, viewed and deleted.

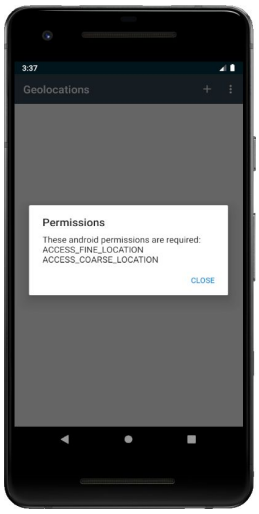

Figure 1: Permissions dialog.

Figure 2: Empty first-time page

Adding and deleting locations

Clicking the plus icon allows for a new location to be added. The edit page will be brought up afterward. It features two textboxes allowing for the title and note to be edited and 3 seperate labels showing the longitude, latitude and altitude of the location respectively. The button in the top right will show the option to delete the location which will remove it from the database after asking the user.

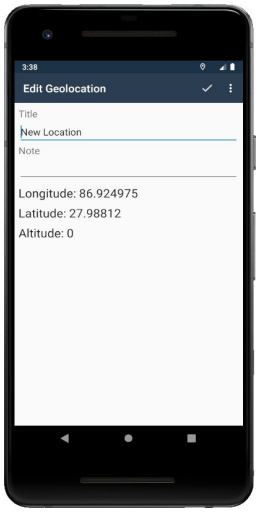

Figure 3: Edit Geolocation page with no values

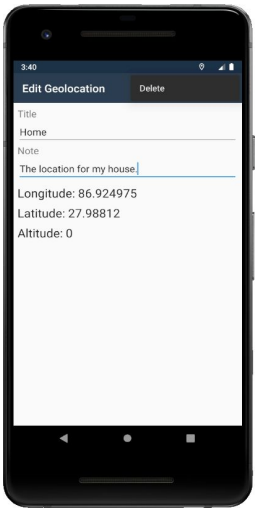

Figure 4: Edit Geolocation page with some values.

Displaying and deleting all locations

Once a location has been added to the database it will appear on the list page. It will be added to the bottom of the list. Locations are distinguished using their title, however multiple locations can share the same title. The location can be selected to bring up the display for the location, which will show the title, note, latitude, longitude and altitude respectively in a dialog window. Clicking edit will bring up the edit page and close will close the dialog. The button in the top right will show the option to delete all stored locations which will remove all entries in the database after asking the user.

Figure 1: New Geolocation shown in list.

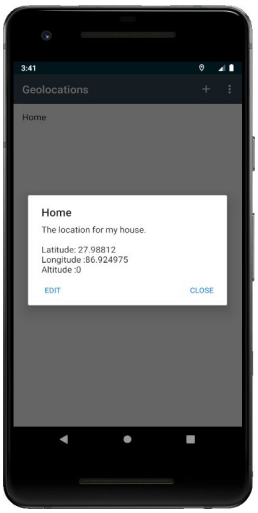

Figure 2: Selected Geolocation showing values.

CSC-20038 Word Count: 493

Questions

a)

I had two major considerations in mind when developing my app: Incorporating code re-usability and previous experience. Re-usability was relatively easy to get into the app, once I had created a Model class to represent each of the locations I could connect the List View and the Database up to each other directly.

This comes in especially handy when passing Models around the application itself. I can use the source of the List View for getting selected items IDs and for very quick queries which would otherwise be done in a Database, and then scarcely use the Database for refreshing the List View when adding or deleting entries. The re-usability of the Model is held up by the ID (the primary key) which could be passed around Activities via Bundles.

Developers should always consider re-usability when developing as it gives them the option to cut corners down the line and prevent issues, but incorporating my other aim you need experience to know when and when not to cut those corners. Personal experience helped me to decide which parts of my application should be universal and which should be explicitly for one purpose.

With my previous experience and my new skills learnt on this course I had the opportunity to know what to do and what not to do. For example once realising we could use an alternate development platform I moved to Xamarin knowing that my weaknesses in Java and Android would be normalised if not drastically improved by my previous experience with C#.

My previous experience with applications like the one I was developing helped me decide when to include additional inputs which would stunt the input efficiency but improve the user experience as it helped to prevent the user from making mistakes such as deleting an item by accident.

b)

When planning for the development of a mobile app developers should consider the market they wish to enter into. The android and IOS development market are considerably different and offer different costs which should be accounted for.

There is always the option of incorporating a third-party into the release of an app as they can offer promotional opportunities such as ad-placement in their other apps and wide-distribution among various portals both centralised and decentralised. Third parties normally hold domain over one platform, for example Voodoo is a “conglomerate” on IOS (*Robbins, W (2020)*) but not on android.

Developers should consider the changes made by the platforms they plan to develop for and the possibility of change which might hinder their app in the future. For example Apple released a privacy update which can prevent applications from getting full usage of the users photo library or location (*Clover, J (2020)*) which would mean developers who had plans for constant location tracking or full library access would have to change their entire plan. So picking either an iPhone or an Android will mean the user has to follow the respective protocol for that platform.

References

Robbins, W (2020) Voodoo Games thrives by upending conventional product design. [online] Available at: https://techcrunch.com/2020/02/17/voodoo-games-thrives-by-upending-conventional-product-design/ [Accessed 17th December 2020]

Clover, J (2020) iOS 14 Privacy Features: Approximate Location, Clipboard Access Warnings, Limited Photos Access and More. [online] Available at: https://www.macrumors.com/guide/ios-14-privacy/ [Accessed 18th December 2020]