Senior Project Proposal

FORAGING TRACKER APP

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What is my project?

       The goal for my senior project is to create an android application that will help you keep track of when and more importantly where you find plants out in the wild. Users will be shown a map allowing them to pin their exact location, when they pin their location on the map a widget will pop up that allows the user to choose what plant they found. This same widget will include information about each plant in the database like their characteristics, if it's safe to eat, etc... After they select the plant, they will be given an option to take a picture of the plant and to leave some personal notes about the, allowing the user to be a little more specific if need be. This app can act as a helpful reminder of where to go the following season for those berries you found, and as a list of plants you've found in your area.

       Personally, I've always been bad at finding patches each year, I've never been great with directions. So being able to pinpoint where that patch of thimbleberries was last year would save me time and give me a chance at picking some wild berries before anyone else gets to them!

Tech Used

       I'll be writing this app in <u>Kotlin</u> while using <u>XML</u> for the UI and <u>Room</u> for my database. Room is a database library that's part of the Android Architecture Components, it's also an abstraction layer on top of SQLight which in of itself is a library that's built from the SQL database language. Something of note with Room, and probably with most databases on android, is the frequent use of coroutines which I have little experience with. So, working with coroutines and the other aspects of Room will be a huge learning experience. I also have some experience with Kotlin prior to this project, enough to get the ball rolling – but otherwise have no experience with XML or Room/SQL. This project will be a huge learning experience for me, and I expect to be well versed in all three technologies once I'm done.

       I'm also planning on using Git throughout this project. Git is used everywhere in the real world, from what I've seen, and I want to get a better understanding of it in hopes it will help me after I graduate. I currently use GitHub for my remote repositories for regular schoolwork, and use Git Bash locally to stage, commit and push all my work to my remote repositories. For this project I'll have a repository on GitHub where I will be pushing all my work through the semester, which will be useful when switching between my school machine and my personal machine.

Hope to learn

       By the time I'm finished with this project I hope to be proficient in Kotlin, XML and Room/SQL. Mobile application development is something I want to do after I graduate, so I'm hoping I'll be able to use what I learned here in my career after graduation. I also hope to get a better understanding of the brainstorming process that

comes with developing a mobile application, or any large project for that matter. Lastly, I hope to have a better grasp of version control via Git, and by using Git Bash I hope to have a better grasp of version control before moving to some Git UI like GitHub, GitKraken or Sourcetree.