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CSC 415 Software Engineering

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**Proposal:**

I chose option 2. If you have ever been in the city or a large parking lot when it is extremely busy you know the struggles of trying to find your car after you park it. I propose a mobile application that can be used to pinpoint your vehicle after it is parked and then be navigated to when requested. This application would also have additional functionality of putting in a parking space number, if one is provided, and also a meter countdown if it is timed parking. If the meter is running low the application will notify the user based on a predetermined time either from the user’s specifications or will give automatic suggestion based on distance from the vehicle. Also if in a parking garage the ability to specify the floor that you parked on. I have never heard of any application like this where it is able to give you every option to find your car by different categories and give a map direction of where to go.

**Reaching Requirements:**

The application is a mobile app. I’m thinking of using Dijkstra’s algorithm for finding the shortest path from your current location to the location of your car. I’m thinking of programming for an android given that I am an avid android user and for honing in more on my java development skills. I should be able to implement at least the general mapping of the location of the vehicle and the navigation back to it. The other functionality of listing a space number, meter timing, meter notification, and garage floor will be implemented time pending.

**Licenses:**

Apache- this license requires preservation of the copyright notice and disclaimer. It allows the user of the software the freedom to use the software for any purpose, distribute it, modify it, and to distribute modified versions of the software without the concerns of royalties. This type of license is good for developing projects where the successors are not looking for money, but for recognition. This is a good resume building license for those who want to work on open source projects for fun and get recognition. However this type of license does not always yield the best results if somebody modifies the whole program and takes credit for it, especially if there are no royalties involved.

GPL v3 – guarantees end users the freedoms to run, study, share (copy), and modify the software. It demands that the software is called free software and if the software is copyleft that those rights be retained. It uses copyleft to ensure the freedoms are preserved whenever the work is distributed. This is a good license to use if there is a team set in place to continue work on a project after it is completed. By keeping the software free but keeping the conditions the same it ensures that the project will remain on task. However this could take a turn for the worse if the condition is unclear and authorities change which can lead to implementation in the software that was not intended.

MIT – puts limited restriction on reuse and permits reuse within proprietary software. It is easy to use, copy, modify, publish, distribute, sublicense, and/or sell copies of the software and permits the persons to whom the software is furnished to do so. This is good for projects in classes such as these where projects are undertaken with no real ambition of continuing it in the future. Anybody else can pick this up and make it better or turn it into something else, or even use parts of the project for their own. The bad part is that there is no credit given to the original author of the project which can lead to legal problems if he/she demands royalties.

**License Choice:**

I will be using the MIT license on the grounds that after I have finished this project and make this public I would love to see other people innovate this and get the proper recognition for it. I do not care much for patent rights for a small individual project that I will have about 6 weeks to work on it. In the off chance that is worked on after the conclusion of the project I am much more open to having programmers with much more experience than I making it great. The ease of use will be much more comforting to me knowing that I won’t have to worry about adhering to many rules.

**Github:**

Path: https://github.com/jarban1993/parkingapp.git

**Case Diagram**

