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**Hardware Production Technology Week 2 Proposal**

**Introduction and Background**

The name of our project is Park Smart, the people that are involved with this project are George Alexandris, Vikas Sharma, and Daniel O’Donnell. I am planning to build a smart parking lot system that incorporates a phone app to manage your tickets, account and where to park, and mini parking lot. The idea of this project came up when my group realized that we can develop an easier way to find parking spots by connecting all the spots to a parking app that detects if there is spot open.

**Skills and Courses Related:**

* Circuits from CENG 215 Digital and Interface Systems
* Gannt charts that plan out the project CENG 216 Intro to Software Engineering,
* Raspberry Pi and Micro computing from CENG 252 Embedded Systems,
* Dealing with SQL and databases from CENG 254 Database With Java,
* Web access of databases from CENG 256 Internet Scripting; and,

**Hardware**

The hardware that will be used for the project will be tested in the Fall 2019 semester. I plan to implement IR sensors that will be used for the gate control. Vikas plans to setup proximity sensors for the parking spots to detect if a car has parked. Daniel plans to setup the camera for authentication of license plates and stepper motor for the gate to move up and down. We plan to get the data from a Firebase database that we will setup. We will have all the information about the account for example for an account we will take the name of the person, balance, and parking spot and store that information on the database.

**Schedule**

We plan to finish implementing the Android app and get used to using our sensors by the end of the fall semester. We can finish it on time as long as we meet all of our deadlines. If we come to any problems occurring in production we plan to immediately fix that problem ASAP.

**Similar Products**

There are an amount of parking lot systems that are similar to our product such as EasyPark. [1] EasyPark is a way for people that use the app can purchase a monthly parking pass or daily parking pass and can park in the designated area. This is similar to our app as we plan to add a payment system that allows customers to get in a reserved space for them.

**Conclusion**

In conclusion, we believe that with our skills that we learned form the courses in our program we can build and implement our parking lot system on time. We will be able to get an IoT solution by the end of this semester and be prepared to build our project in the final semester on time. I request approval for this project.

**References**

[1] (n.d.). Parking Vancouver, Parking Downtown Vancouver, Public Monthly Parking, EasyPark. Retrieved from <https://www.easypark.ca/>