

EE / CprE / CybE / SE / SD 491– sdddec24-17

SmartPark: IoT-Driven Automatic Parking Solution

Week 10 Report

April 10 – April 16, 2024

Client / Advisor: Md Maruf Ahamed

Team Members:

William Clemmons - Project Lead and Software Design.

Kennedy Reiling - Client Interaction and Hardware Design.

Brian Witherspoon - Hardware and Software Design.

Ethan Haberer - Hardware Design and Quality Control.

Zachary Sears - Hardware Design and Quality Control.

Mubassir Serneabat Sudipto - Client Interaction, Quality Control, and Software Design.

Past Week Accomplishments

- Software Team:
 - Researched testing frameworks for the React Native platform.
 - Enhanced my understanding of Firebase to improve our app's backend integration.
 - Investigated Arduino as an alternate server solution to bolster our project's reliability.
- Hardware Team:
 - Commenced the integration of tested simulations into tangible hardware components.
 - Received ordered components from ETG.

Pending Issues

- Determine the specific setup requirements for our team's Stripe account to ensure seamless financial operations.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
William Clemmons	Looked at various React Native testing frameworks to figure out what would work best for our team.	4	35
Kennedey Reiling	Researched the Nano boards and decided to use their Wifi capability to complete our project. Also, put in a parts request to start prototyping.	4	32
Brian Witherspoon	Ordered parts from ETG and worked with the hardware team to discover we will use wifi connections over Bluetooth.	4	32
Ethan Haberer	Researched Stripe API and investigated how efficiently it can be implemented in our project.	3	33
Zachary Sears	Worked on a small prototype incorporating radio rather than Bluetooth. Then discovered that the boards we are using can utilize WiFi, rendering other connectivity options obsolete.	4	33
Mubassir Serneabat Sudiopto	Worked on enhancing our project by integrating Firebase Server for better data handling and exploring Arduino Native Server options as an alternative plan.	3	34

Plans for Coming Week

- Software Team:
 - Start app development.
 - Create a payment page using Stripe API for our application.
 - Pursue strategic procedures to maximize the capabilities and performance of our Firebase server.
 - Learn Arduino server functions as an alternative for peak efficiency.
- Hardware Team:
 - Continue the teamwork with Arduino boards and sensors, advancing our understanding and capabilities in hardware development.
 - Continue to implement the tested simulations into physical hardware.
 - Start to test the concept of using the Uno rev four and nano board wifi capability.