CS5002 – Self Assessment

By: Owen Edwards

Part A: Individual Contribution

For my senior design project, I primarily focused on developing the mobile application for the Smart Parking System using Dart and Flutter. I designed and implemented the user interface, ensuring it was intuitive and aligned with best practices for mobile development. Additionally, I integrated the frontend with the backend, which was developed using ASP.NET and C#. This required implementing API calls to fetch real-time parking data from the IoT sensors and display it to users. Throughout the development process, I applied my prior knowledge of mobile app development, database management, and backend integration, all of which I had gained through coursework and co-op experiences. While working on the project, I deepened my understanding of state management in Flutter, API handling, and OAuth authentication for secure user login.

One of my major successes was building a functional and responsive UI that could handle real-time data updates efficiently. I also successfully implemented OAuth for authentication, ensuring secure access for users. However, I faced challenges in integrating real-time sensor data with the app, particularly due to inconsistencies in the API responses. Debugging these issues required extensive testing and collaboration with my teammates working on the backend. Additionally, learning C# for backend-related tasks was initially challenging, but I was able to overcome this by leveraging my experience with other backend technologies like Java and Spring Boot. Overall, this project strengthened my skills in mobile development, API integration, and real-time data handling, all of which are valuable competencies for my future career.