

Final Self-Assessment: Ryan Logsdon

Throughout the course of this project, I felt that I was able to contribute to almost every functional aspect of our final design. Although my initial focus was to build out the software and IoT capabilities of the system, I was able to dive into the more complex hardware infrastructure associated with our device. My main focus for this project was developing a multi-platform web application that was capable of hosting data visualization tools to analyze the diagnostic data of the vehicle. In order to complete this task, I utilized W3 spaces to host the website. From here, I used JavaScript, CSS, and HTML programming languages to design a user interface that interacts with Losant, a cloud based IoT platform. Through webhooks, I was able to create a seamless environment in which real-time data could be collected through Losant and passed into the web application. Lastly, I designed and implemented a 3D virtual environment in Noda.io that allows users to visualize diagnostic data across numerous vehicles.

Being able to immerse myself in the full design, creation, and implementation of Metaverse Maintenance has taught me a variety of skills and competencies. As an associate software engineer at Prodigy, I am tasked with being on the leading edge of innovation across multiple industries. However, Metaverse Maintenance showed that the ability to work fluently on a multidisciplinary team far outweighs the ability to be a successful individual contributor. I believe one of the core competencies I developed throughout this project was the ability to manage a software development lifecycle from inception to completion. Moreover, the ability to work alongside Cory created plentiful learning opportunities based around both the computer science and electrical engineering fields. The greatest barriers we faced during this project were implementing previously unknown technologies, such as the Blues Notecard and Bluetooth OBD module. The ability to overcome these obstacles resulted in our greatest successes, namely, the opportunity to present Metaverse Maintenance for over 100,000 people at CES 2023, the world's largest consumer electronics show.

Our group was able to accomplish every goal we outlined at the beginning of this project's lifecycle. We ideated, designed, created, and implemented a fully functional car diagnostic tool and associated multi-platform analysis tool. Although the technical accomplishments of our team were rewarding, a greater accomplishment came through the recognition from our project sponsor Prodigy and their partner Blue Wireless. Both of these

organizations showed full support of our project goals and provided the resources necessary to see out its completion. Moreover, the ability to present our project at CES 2023 opened up numerous networking opportunities for both Prodigy and our individual team members.

Metaverse Maintenance would not have been able to be completed without the dedicated team efforts of both Cory and myself. The primary aspect of teamwork that lead to this success, in my opinion, was communication. Both Cory and I were able to set aside weekly times to meet and discuss where the project was at, what needed to be completed, and how we were going to complete each task. This clear channel of communication allowed any obstacles to be addressed by both team members in a timely manner. Moreover, clear communication allowed both team members to have an equal contribution of efforts toward the project. If one member felt overwhelmed with their respective tasks, the other was able to assist in whatever capacity they could. Overall, I believe Cory and Myself were able to create a well-designed product that we are proud to have created and engineered.