

EE/CprE/SE 491 WEEKLY REPORT 7

Start Date – End Date

Group number: 44

Project title: FixIt

Client &/Advisor: Berk Gulmezoglu

Team Members/Role: Benjamin Muslic, Jonathan Duron, Mohammed Elaagip, William Griner

Weekly Summary

This week we focused on extensive research. We ran into multiple issues in software that slowed down our progression.

Past week accomplishments

Benjamin Muslic

- Became more familiar with the cloud
- Coordinated with Will on how to tackle sending DTC to code for user retrieval
- Research how to send HTTP requests via embedded code
- Determining if there is an easier way of replicating the hardware demonstration process

Jonathan Duron

- Fixed the frontend git issue
- Created navigation system to navigate from page to page
- Created a frontend page to start allowing users to plug in their OBD scanners.

Mohamed Elaagip

The development team has made significant progress on multiple fronts, successfully resolving a Windows-specific issue in collaboration with Jon and shifting focus to the front-end development phase of the project.

The current priority is establishing a robust communication framework between the front-end and back-end components of the application, which involves setting up API endpoints, implementing data serialization and deserialization, handling authentication and authorization, and managing state and data flow in the front-end.

In parallel with the front-end development, the team is planning the containerization of the entire project using Docker, aiming to ensure consistency, simplify deployment, and enhance portability by creating lightweight, standalone, and executable packages that include everything needed to run the application on any device or operating system that supports the container runtime.

William Griner

Collaborated with Ben to plan our communication between our OBD device and our cloud application server.

Further researched the pros, cons, and technical details of hosting our own LLM as opposed to making API calls to chatGPT.

Researched various cloud providers to see which have the best free tiers and services that fit our needs.

Pending issues

Trying to figure out if we can minimize connections steps and use less hardware. Confused on which cloud service to continue using

- **Individual contributions**

| <u>NAME</u> | <u>Individual Contributions</u> <i>(Quick list of contributions. This should be short.)</i> | <u>Hours this week</u> | <u>HOURS cumulative</u> |
|--------------------|---|-------------------------------|--------------------------------|
| Benjamn Muslic | <ul style="list-style-type: none"> • Research • Cloud planning • Streamlining alternatives | 8 | 49 |
| Jonathan Duron | <ul style="list-style-type: none"> • Fixed git issues • Created scanning OBD page | 4 | 39 |
| Mohamed Elaagip | <ul style="list-style-type: none"> • Fix windows environment • Work on front-end | 6 | 44 |
| William Griner | <ul style="list-style-type: none"> • Created a server in the cloud for ben's experimentation, researched hosting our own LLM, researched various cloud providers | 4 | 42 |

Plans for the upcoming week

Benjamin Muslic

- Experiment hardware setup on different vehicles
- Continue trying to figure out sending DTC to the cloud

Mohamed Elaagip:

The next steps include completing the front-end to back-end communication setup, conducting thorough testing of the integrated system, beginning the containerization process, and performing cross-platform testing to ensure smooth operation on various operating systems, ultimately working towards a robust, portable, and easily deployable application that will provide a consistent experience for all users.

Jonathan Duron

- Help setup authentication
- Setup Bluetooth functionality for the app

William –

Further set up our cloud environment, with a focus on user authentication, user authorization, and various IAM roles for our users and cloud resources.