

EE/CprE/SE 4920 WEEKLY REPORT 6
number: 44

Project title: FixIt

Client &/Advisor: Berk Gulmezoglu

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

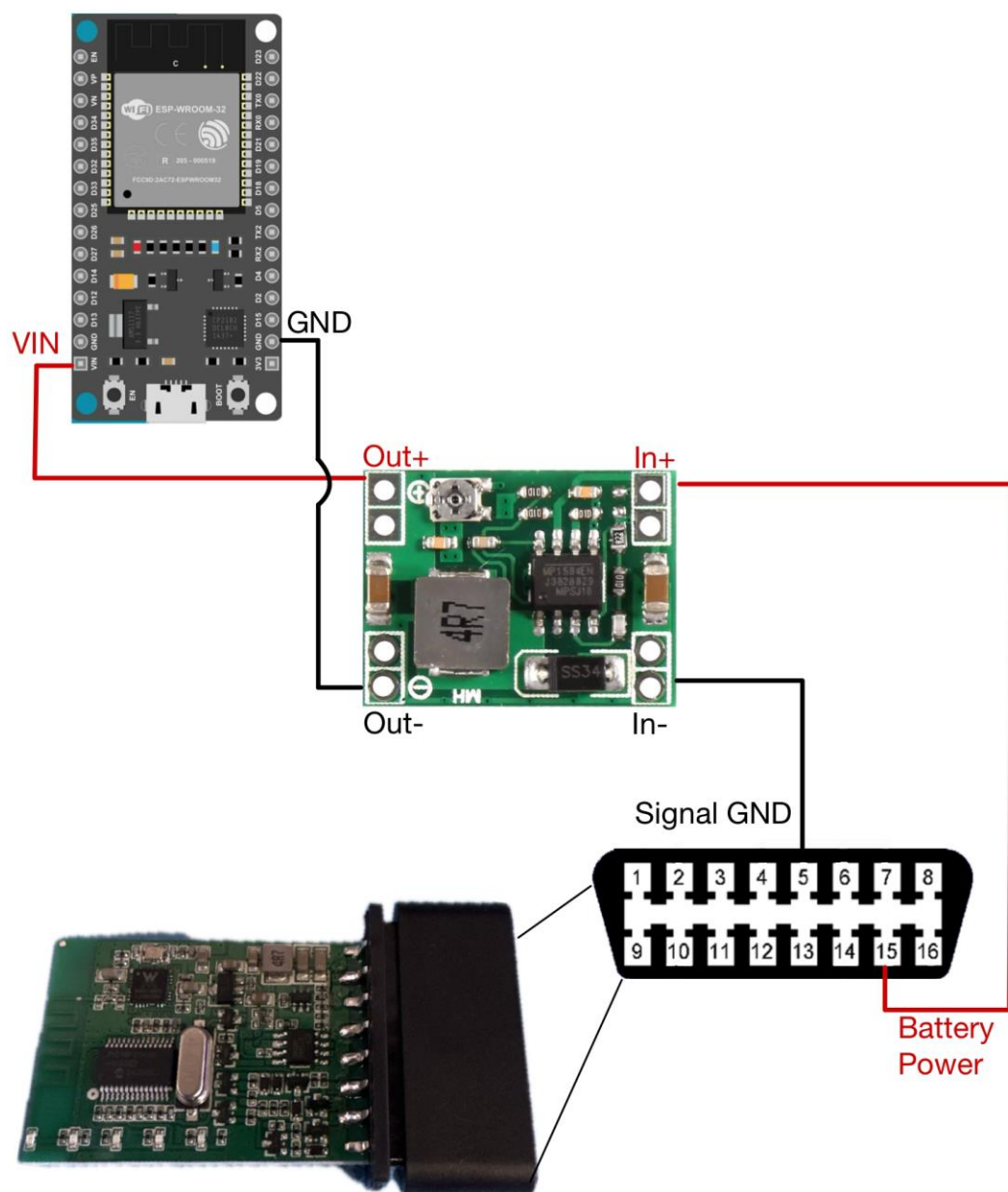
Weekly Summary

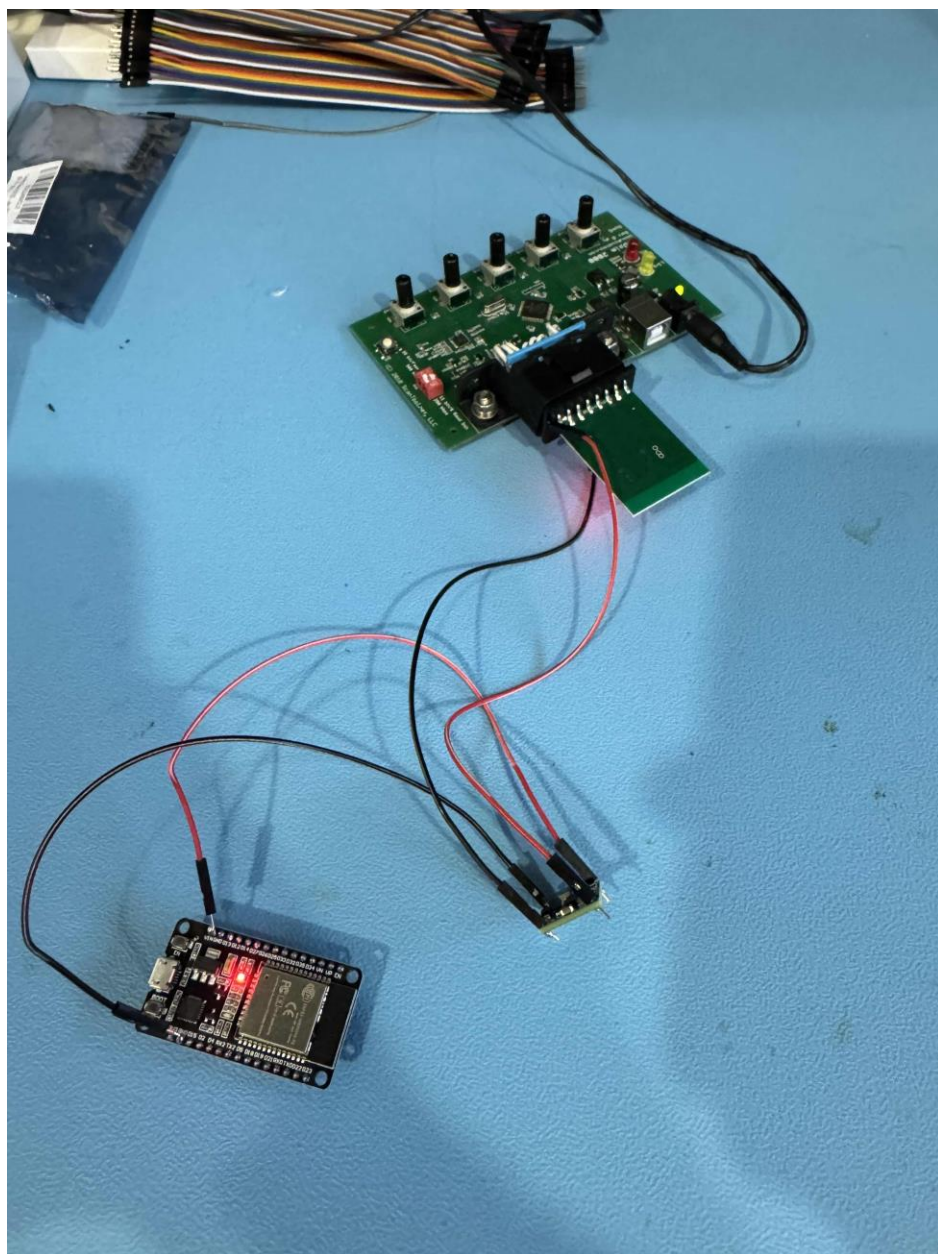
There have been many updates in the FixIt project. The project is coming together close to a prototype. Implemented a AI chatbot that takes in a pre-prompt of all the current users DTC code and relevant car information, explain to the users what is wrong.

Past week accomplishments

Benjamin Muslic

- Attempted to figure how read more features from the ECU
- Display VIN (it says emulator if its hooked up to one however)
- Wired up esp32 with ELM327 along with buck converter

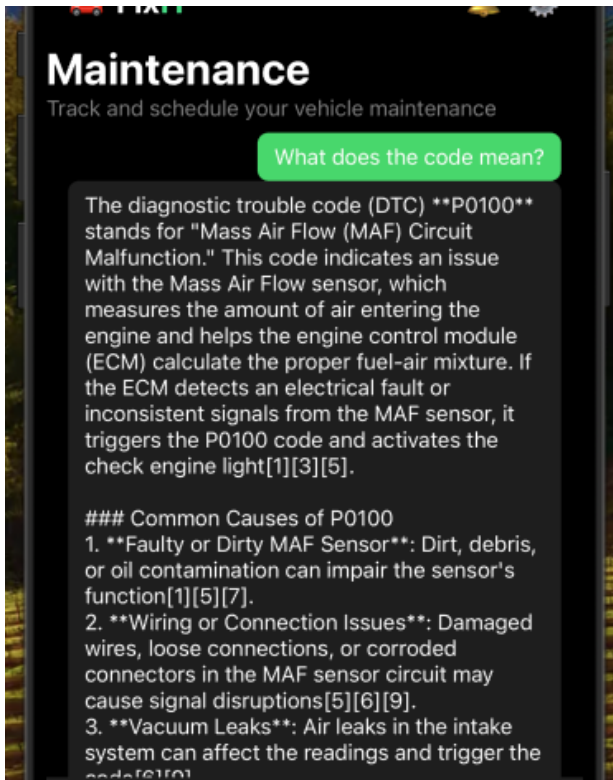






Jonathan Duron

- Allow users to ask questions and have the AI reply based off what their question was.
- Collaborated with Ben to receive JSON formatted string to the frontend and have the frontend parse the string to display to the user their codes.
- Saved users conversation to the cache files.



Mohamed Elaagip

- Documentation focused week with the design doc
- Worked with the team to connect dynamic vehicle data to the dashboard interface
- Met with team to discuss deliverables

William Griner

- Made significant updates to our design document
- Created new bruno routes to test our API
- wrote SQL queries to insert testing data into our database, and sql queries to test retrieving that data
- Met up with team members to discuss priorities

Pending issues

- There are STILL issues reading more than one DTC. The characters would be incorrectly parsed or there would be too many codes and cause a buffer overflow. We might not have enough time to fix it.

```
Skipping invalid DTC:
DTC Data sent via BLE: {"dtcs":["P0100","P0000"],"coolant_temp_c":215,"check_engine_light":true}
Raw DTC response payload:
0080:4303010001711:01100000000000
codesFound = 4
Raw DTC: P0100
Valid DTC added: P0100
Raw DTC: P1:01
Rejected due to non-hex characters: P1:01
Raw DTC: P0000
Valid DTC added: P0000
Raw DTC:
Skipping invalid DTC:
DTC Data sent via BLE: {"dtcs":["P0100","P0000"],"coolant_temp_c":215,"check_engine_light":true}
```

```
ERROR: ELM_BUFFER_OVERFLOW
DTC Data sent via BLE: {"dtcs":[],"coolant_temp_c":215,"check_engine_light":false}
Raw DTC response payload:
00E0:4306010001201:017104010455042:42000
codesFound = 4
Received: 00E0:4306010001201:017104010455042:42000
ERROR: ELM_BUFFER_OVERFLOW
DTC Data sent via BLE: {"dtcs":[],"coolant_temp_c":215,"check_engine_light":false}
Raw DTC response payload:
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ERROR: ELM_BUFFER_OVERFLOW
DTC Data sent via BLE: {"dtcs":[],"coolant_temp_c":215,"check_engine_light":false}
```

- The new assembly makes weird noises and Bluetooth is not working. Need to investigate voltages. Have not tested the new assembly with app yet due to this reason.

○ 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>
Benjamin Muslic	<ul style="list-style-type: none"> • Wiring new HW • 3d print design for FixIT OBDII • Assembling HW in new 3d printed case • Debugging DTC code issues • Updated design doc 	25	113
Jonathan Duron	<ul style="list-style-type: none"> • Frontend development 	10	98
Mohamed Elaagip	<ul style="list-style-type: none"> • Frontend development • Design document 	10	98
William Griner	<ul style="list-style-type: none"> • Updated design doc • Upgraded our API 	10	99

Plans for the upcoming week

Benjamin Muslic

- Fix new HW assembly issues
- Fix >1 DTC code issue (if time allows)

Mohamed Elaagip:

- Fix front-end routing
- Fix home page to include all needed components

Jonathan Duron

- Test app on android device
- Help Mohamed with bettering the UI for connection with OBD scanner

William Griner

- Help team with integrating
- Work on backend as needed