

## ***EE/CprE/SE 491 WEEKLY REPORT 9***

***Nov 7 – Nov 14***

***number: 44***

***Project title: FixIt***

***Client &/Advisor: Berk Gulmezoglu***

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

### **Weekly Summary**

Significant progress has been made this week for FixIT. We were able to establish communication between front end and hardware and debug any issues that were raised. The current prototype setup was modified to be more consumer friendly.

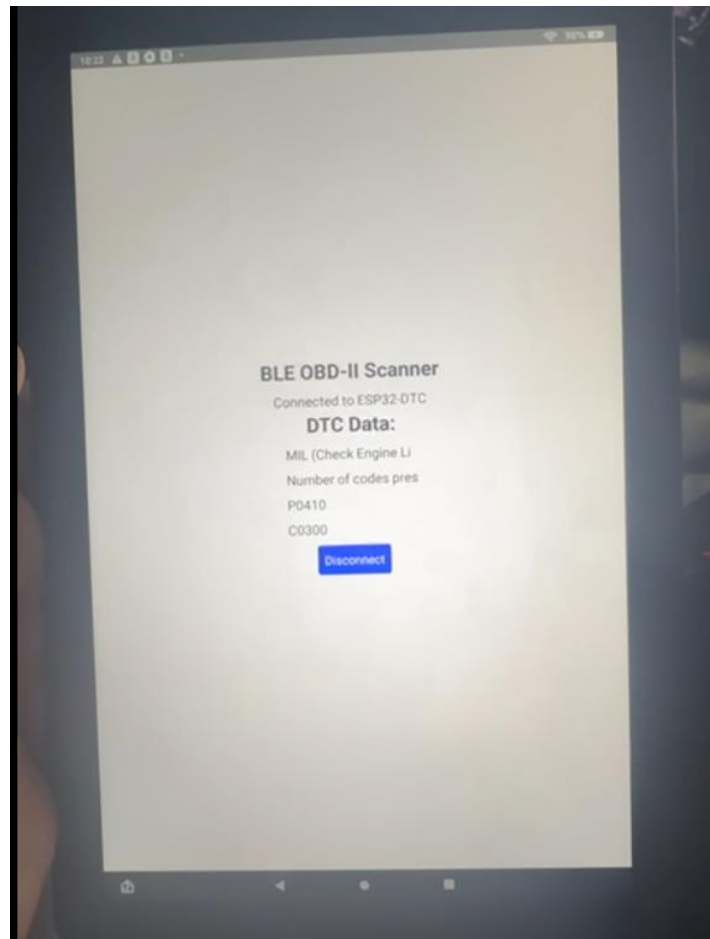
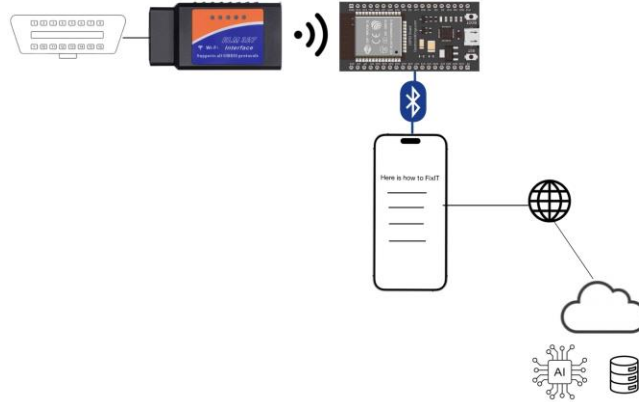
### **Past week accomplishments**

#### **Benjamin Muslic**

Ben has made major progress by performing duties on the high-level software side (react-native)

- Made a new high level diagram representative of a working prototype that is user friendly
- Was able to learn how to set up react-native environment and start developing code to talk with the hardware
- Ran and compiled application on Amazon Fire Tablet.
- Implemented Bluetooth logic in front end code by setting permissions and assigning respective UUIDs
- Tablet talked via Bluetooth to hardware and displayed DTCs when user pressed a series of buttons

- Talked with ETG about obtaining OBD emulator board for easier development and debugging without having to constantly run to his car. Scheduled to pick up later this week



```

import { useState } from 'react';
import { BleManager, Device } from 'react-native-ble-plx';

const ESP32_SERVICE_UUID = '12345678-1234-1234-1234-123456789abc'; // ESP32 Service UUID
const DTC_CHARACTERISTIC_UUID = '87654321-4321-4321-4321-cba987654321'; // ESP32 Characteristic UUID

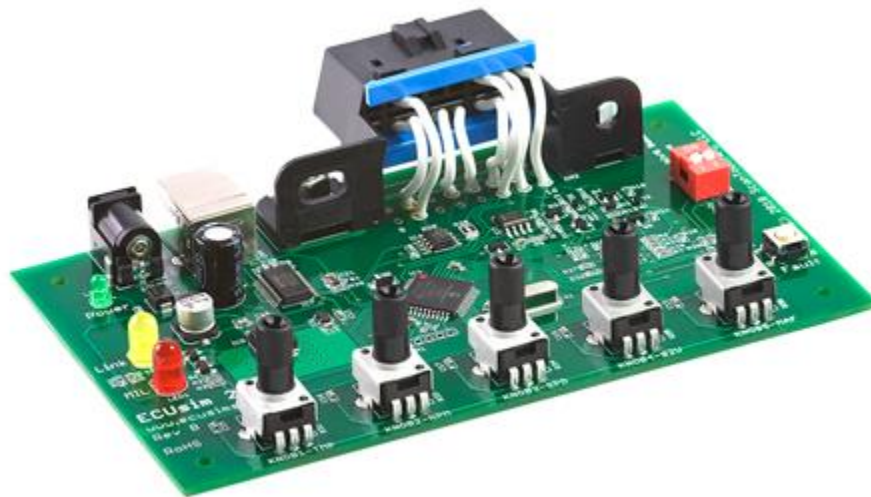
const bleManager = new BleManager();

function useBLE() {
  const [allDevices, setAllDevices] = useState<Device[]>([]);
  const [connectedDevice, setConnectedDevice] = useState<Device | null>(null);
  const [obdData, setObdData] = useState<string[]>([]);

  const isDuplicateDevice = (devices: Device[], nextDevice: Device) => {
    return devices.findIndex(device => device.id === nextDevice.id) > -1;
  };

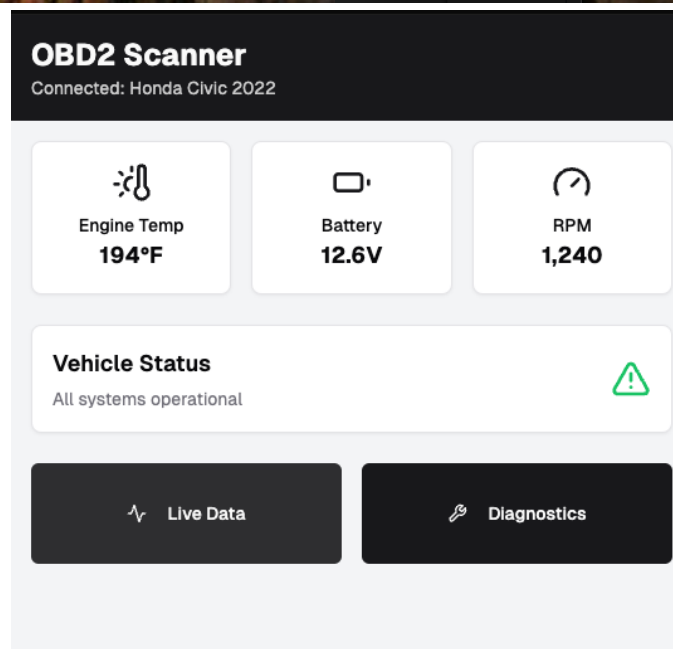
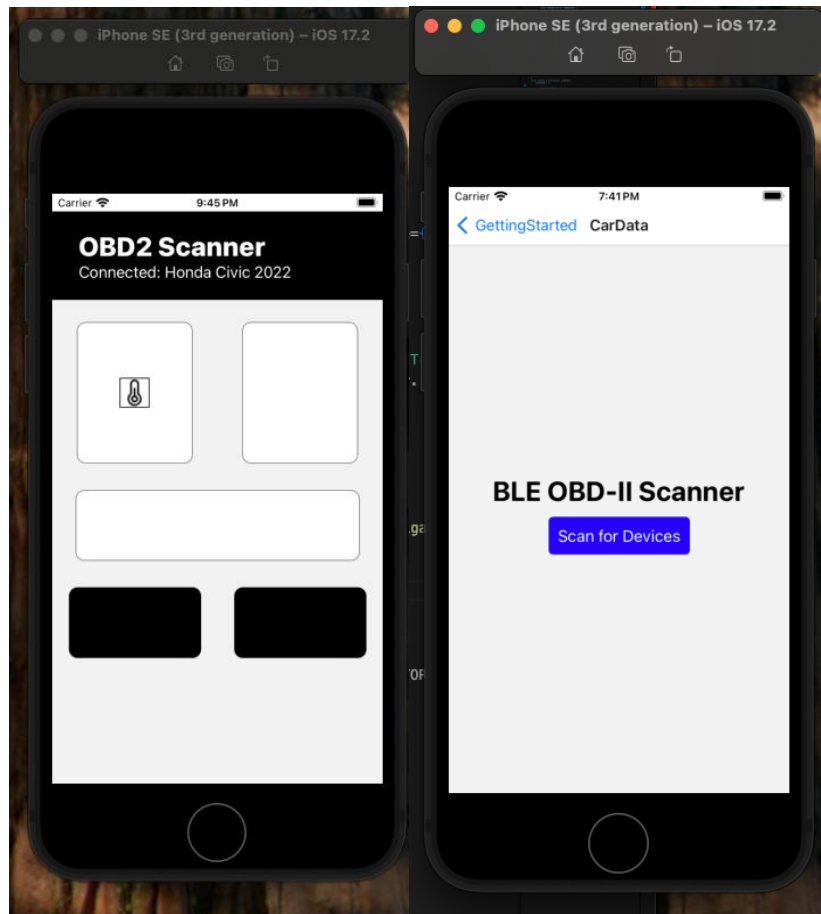
  const scanForPeripherals = () => {
    bleManager.startDeviceScan(null, null, (error, device) => {
      if (error) {
        console.error('Error scanning for peripherals:', error);
        return;
      }
      if (device?.name) {
        console.log('Found device:', device.name); // Log all discovered devices
      }
      if (device && device.name === 'ESP32-DTC') {
        if (!isDuplicateDevice(allDevices, device)) {
          console.log('Device found:', device.name);
          setAllDevices(prev => [...prev, device]);
        }
      }
    });
  };
}

```



## Jonathan Duron

Merged Bens Bluetooth connection to the OBD scanner into the repo's code. Also started to work on the home screen for the application and design.



### **Mohamed Elaagip**

- Focusing on documenting our Functional Requirements and Non-Functional Requirements
- Starting the quality assurance and testing process

### **William Griner**

- Utilized AWS fault injection services to test the reliability of our infrastructure
- Further collaborated and discussed design patterns and possibilities with Benjamin

### **Pending issues**

We do not have any issues at the moment.

#### ○ **Individual contributions**

<b><u>NAME</u></b>	<b><u>Individual Contributions</u></b> <i>(Quick list of contributions. This should be short.)</i>	<b><u>Hours this week</u></b>	<b><u>HOURS cumulative</u></b>
Benjamin Muslic	<ul style="list-style-type: none"><li>• Designed new diagrams</li><li>• Tested Bluetooth on tablet</li></ul>	10	49
Jonathan Duron	<ul style="list-style-type: none"><li>• UI design</li><li>• Frontend Development</li></ul>	7	53
Mohamed Elaagip	<ul style="list-style-type: none"><li>• Designing our reequipments both NFR and FRs</li><li>• Quality assurance and testing</li></ul>	6	56
William Griner	<ul style="list-style-type: none"><li>• Use AWS fault injection services</li><li>• Collaborated with Benjamin</li></ul>	3	57

### **Plans for the upcoming week**

#### **Benjamin Muslic**

- Figuring out cloud with Will
- Figuring out backend
- Setup CAN emulator

#### **Mohamed Elaagip:**

- Keep documenting requirements that bridge our Software, Hardware, and Cloud/Storage
- Advance quality assurance and testing

#### **Jonathan Duron**

- Finish developing the home screen
- Start using testing variables for the phone application

**William**

- Help the team out wherever I can
- Investigate webscraping and what pieces of data we'd want to look for with it.