EE/CprE/SE 492 BIWEEKLY REPORT 4

October 12 - October 25

Group number: 9

Project title: Arinc429 Portable Receiver APP and Firmware

Client &/Advisor: Colin Cox & Daji Qiao, Mathew Wymore

Team Members: Eduardo Contreras, Riley Millam, Nicholas Morgan, Jared Staskal, Nate Trotter

o **Summary**

For the flutter application, we are currently completing further testing on bluetooth low energy (BLE). This involves streamlining the connection process for the end user via filtering the BLE search results. We also finished implementing the Label Storage portion, allowing us to store user created Label Definitions as well as load default ones. We are also closer to finalizing the Converter, Word Inspector. For the firmware, we were able to send labels from the testing device to BLE Client. With this completed, our main focus will now be to filter the labels we send because it is currently an excessive amount.

o **Past weeks accomplishments/issues**
- Label storage Implementation completed
    - Updated json planning to be more user friendly
    - Testing was successful
    - Default labels will be included with the app
- Successful BLE connection from Flutter Application to ESP32
    - Using ESP32 Gatt server with hardcoded data
    - When connecting shows too many devices
    - Plan to filter devices by names to cut down on previous
- Continued working on framework for managing data received from BLE in Flutter App
- Able to modify client's sample code for the ESP32 to fit our project
- ESP32 BLE connection complete
- Able to send labels to Flutter application
- Issues:
    - Struggling to filter labels due to errors with using files
        - Might hardcode filter instead of reading to file
        - Hoping to meet with client because he has knowledge on this
    - Still learning Flutter ins and outs with widget types and states

o **Individual contributions**

NAME	Individual Contributions *(Quick list of contributions. This should be short.)*	Bi-weekly Hours	HOURS cumulative
Eduardo Contreras	● Continued working on gatt server ● Working on receiving ARINC429 word from testing device and Holt IC ● Modify client's sample code to fit our project ● Managed to run sample code with our project and initialize all components ● Debugging issues with ESP32 code working with testing device	15	57
Riley Millam	● Worked on some Flutter framework to utilize data received from BLE 　○ Converter class, Word class, Word Inspector ● Worked on Flutter GUI elements	12	49
Nicholas Morgan	● Improving BLE connectivity from flutter to ESP ● Filtering connections by characteristic UUID ● Cleaning up connection display ● Began working on the label creator	15	57
Jared Staskal	● Finished implementing Label storage functionality ● Tested Label Storage functionality ● Updated json and label/definition objects to be more accurate to the expected data and to be more user friendly ● Created default label json files	16	55
Nate Trotter	● Worked on sending labels from testing device to client ● Attempted to help fix file issue ● Has been in charge of communication with the client and advisors	14	53

o **Plans for the upcoming weeks**

The flutter app side of the team will continue working on making progress with the app, specifically bridging the gap between data received from the microcontroller and presenting it, as well as consolidating work into a single branch. On the firmware side, we plan completing a filter for labels, either through hardcoding a filter or fixing the file reading error.

- **Diagrams and Figures**