VMS CAN Bus Capstone Weekly Progress Report

Report date: Jan 20, 2023

- **Last Week (times in hours)**
  - Team Review
    - We planned for a short check-in meeting on Mondays and a working meeting on Thursday.
    - Had a meeting with the faculty advisor.
    - Gave everyone a role for the project.
    - Got into the VMS lab to look at the physical car and get supplies (STM32) needed to start coding.
  - Braeden Hamson
    - Contacted, via email, the faculty advisor, Roy, to introduce us as a team (0.5)
    - Gathered a list of sensors we need to get signals from (2)
    - Researched about the STM32 (2)
  - Pushpesh Sharma
    - Researched about CAN (3)
  - Alice Ma
    - Planned our meetings with Roy via email (.5)
    - Researched about CAN (3)
  - Jade Nguyen
    - Researched about CAN (3)
- **Next week**
  - Team Plan
    - Meeting with sponsors (other VMS team members) in person to get their opinion and requirements on the project.
  - Braeden Hamson
    - Order STM32 enough for the project (1)
    - Gathered a list of sensors we need to get signals from (2)
    - Start testing the CAN transceivers and STM32 for sending CAN messages.
  - Pushpesh Sharma
    - Set up our collaboration site on Github and added structure (3)
    - Learn about Altium (3)
  - Alice Ma
    - Start programming the STM32 and get familiar with the IDE (3)
    - Planned meeting with faculty advisor for bi-weekly Friday meetings (.25)
    - Start the template for the weekly progress reports. (1)
  - Jade Nguyen
    - Learn about CAN protocol (3)
    - Start programming the STM32 and get familiar with the IDE (3)
- **Blocked**
  - Braeden Hamson
    - Need to wait until more STM32 to get here so we can all start programming.
  - Pushpesh Sharma
    - Haven’t gotten access code for the Altium program
  - Alice Ma
    - No blocks
  - Jade Nguyen
    - No blocks

VMS CAN Bus Capstone Weekly Progress Report

Report date: Jan 27, 2023

- **Last Week (times in hours)**
  - Team Review
    - Originally planned to have a central STM32 that collected a lot of the data, but now we will use Raspberry pi.
    - Everyone has done good basic research of the topic
  - Braeden Hamson
    - Tested the STM32 boards and CAN transceivers (3)
    -
  - Pushpesh Sharma
    - Finished with Altium tutorials (3)
    - Started Altium files for Accumulator Schematic.
  - Alice Ma
    - Was able to write code to the STM32 board (3)
  - Jade Nguyen
    - Researched about CAN (3)
- **Next week**
  - Team Plan
    - We should divide our time as the programming team and the circuit design team.
  - Braeden Hamson
    -
  - Pushpesh Sharma
    - Design schematics, collect part specs for connectors and mates, work on symbol and footprint of STM32. Find the thermistor part. Design the voltage divider circuit.
  - Alice Ma
    - Be able to communicate between two STM32 through CAN protocol. (5)
  - Jade Nguyen
    - Learn about CAN protocol (3)
    - Start programming the STM32 and get familiar with the IDE (3)
  -
- **Blocked**
  - Braeden Hamson
    - Need to wait until STM32 to get here so we can all start programming.
  - Pushpesh Sharma
    - Waiting final specs on STM32, finding correct thermistors for the team.
  - Alice Ma
    - No blocks
  - Jade Nguyen
    - No blocks

VMS CAN Bus Capstone Weekly Progress Report

Report date: Feb 3, 2023

- **Last Week (times in hours)**
  - Team Review
    - Decided on using another STM32 dev board due to our current one only works with CANfd instead of CAN which makes stuff more complicated.
    - We will order more boards.
  - Braeden Hamson
    - Redesigned pedal control board, integrated STM32 (10)
    - Continued learning STM32 coding (3)
  - Pushpesh Sharma
    -
  - Alice Ma
    - Attempting to send CAN messages between two STM32 from CubeIDE(6)
  - Jade Nguyen
    - Trying the code for sending data inside the loopback mode (3)
- **Next week**
  - Team Plan
    - We need a CAN Architecture Documentation.
    - Have the CAN communication between CAN STM32 down
    - Order the new STM32 boards
    - Plan for error handling for the CAN bus.
  - Braeden Hamson
    - Learn STM32 coding
  - Pushpesh Sharma
    - Continued design for Accumulator boards. Meeting with E-train team to discuss board placement and any restrictions for components size or placement
  - Alice Ma
    - Communication between the new STM32 boards through the CAN bus
    - Update gantt chart
  - Jade Nguyen
    - Learn about the configuration and filter of CAN devices
    - Starting code for communicating between 2 STMs
  -
- **Blocked**
  - Braeden Hamson
    - Not enough boards to go around.
  - Pushpesh Sharma
    - Board placement and component preferences for SAE rules
  - Alice Ma
    - Need new STM32 boards.
  - Jade Nguyen
    - Waiting for more STM32

VMS CAN Bus Capstone Weekly Progress Report

Report date: Feb 10, 2023

- **Last Week (times in hours)**
  - Team Review
    - Was able to get new STM32s and start coding!
    - Getting board schematics started.
  - Braeden Hamson (10)
    - Helped others with projects
    - Worked on accumulator master board
  - Pushpesh Sharma
    - Accumulator Board redesign with new placement and pivoting to different size.
    - Researching new components and sending inquiries for component customization.
  - Alice Ma
    - Coding the new STM32 for CAN communication between two STM32, not achieved yet (6)
  - Jade Nguyen
    - Got blinking LED for receiving message by the Loopback mode, but can't check the exact message that was sent. (3)
    - Learnt about Can filter and Can ID code (1)
- **Next week**
  - Team Plan
    - Achieve CAN communication between two STM32s to send and receive CAN messages.
    - Update project proposal
  - Braeden Hamson
    - Determining HV and LV isolation method for accumulator boards
  - Pushpesh Sharma
    - Continue work on PCB schematics for Accumulator boards for front and backside of batteries
  - Alice Ma
    - Write code for sending messages from 1 STM and receiving messages for another STM.
  - Jade Nguyen
    - Write code for sending messages from 1 STM and receiving messages for another STM.

- **Blocked**
  - Braeden Hamson
    - None
  - Pushpesh Sharma
    - Waiting for clear comms on the size of connectors used for all wires. Waiting comms from manufacturer for customized thermistors for batteries.
  - Alice Ma
    - I have no idea why they are not sending CAN messages.
  - Jade Nguyen
    - No block

VMS CAN Bus Capstone Weekly Progress Report

Report date: Feb 17, 2023

- **Last Week (times in hours)**
  - Team Review
    - Midterm week so not much was done during the week
  - Braeden Hamson
    - Came to the conclusion that HV LV isolation will need to be done with spacing as any other method is overly expensive.
  - Pushpesh Sharma
    - Continue work on PCB schematics for Accumulator boards for front and backside of batteries
  - Alice Ma
    - Got the STM32 to send and receive messages through the CAN bus!(5)
  - Jade Nguyen
    - Wasn't able to make the STM receive messages even when the data was sent. (7)
- **Next week**
  - Team Plan
    - Week 7 and week 8 to prototype and finalize design for the board.
    - Before spring break, we should have the boards ready to be sent out.
  - Braeden Hamson
    - Work with an accumulator designer to figure out a new way to reduce the large number of wires in the accumulator.
  - Pushpesh Sharma
    - Continue work on PCB schematics for Accumulator boards for front and backside of batteries
  - Alice Ma
    - Research what messages to send on the CAN bus and how to send different messages.
  - Jade Nguyen
    - Continue working on STM communication

- **Blocked**
  - Braeden Hamson
    - None
  - Pushpesh Sharma
    - Waiting for clear comms on the size of connectors used for all wires. Waiting comms from manufacturer for customized thermistors for batteries.
  - Alice Ma
    - No block
  - Jade Nguyen
    - Can’t get the messages from CAN bus

VMS CAN Bus Capstone Weekly Progress Report

Report date: Feb 24, 2023

- **Last Week (times in hours)**
  - Team Review
    - It was the snowpocalypse this week so we weren't able to meet up and get more STM32 in person but we were able to meet online
  - Braeden Hamson
    - Worked with an accumulator designer to figure out a new way to reduce the large number of wires in the accumulator.
  - Pushpesh Sharma
    - Have further discussion with the e-train team on size and placement of PCBs inside the battery segments. Finalize measurements for our designs.
  - Alice Ma
    - Was able to get the STM32 to print out what is being received on a serial monitor and now we can see what we are sending and receiving. (5)
  - Jade Nguyen
    - Figure out one of the CAN transceiver was broken, that's why the STM couldn't receiving any messages from the CAN bus (6)
    - Got the STM communication by CAN bus (1)
- **Next week**
  - Braeden Hamson
    - Focus on data translator board
  - Pushpesh Sharma
    - Complete Schematic for top and bottom boards for Accumulator. Start on design for schematic for Accumulator Main board and Data Analyzer board.
    - Complete product spec for Thermistors and finalize invoice.
  - Alice Ma
    - Achieve CAN communication between multiple STM32s and be able to give priority to each SMT32.
  - Jade Nguyen
    - Get the code for the STMs both sending and receiving data at the same time.
    - Filter out STMs' ID to only receive the data that we want.
    - Try the code for requesting data from other STMs

- **Blocked**
  - Braeden Hamson
    - None
  - Pushpesh Sharma
    - Weather conditions halting in-person time with the team to continue progress on schematics.
  - Alice Ma
    - The snow didn't allow me to get another STM32 for testing.
  - Jade Nguyen
    - No block

VMS CAN Bus Capstone Weekly Progress Report

Report date: Mar 3, 2023

- **Last Week (times in hours)**
  - Team Review
    - Team continues to make progress on both hardware and software sides. Continued meetings with faculty advisor and industry sponsor for ways to improve and key factors that will help avoid delays.
  - Braeden Hamson
    - None
  - Pushpesh Sharma
    - Work on finding footprints for all components in the current boards. Top, Bottom and Shelf board have digikey files for footprint and 3D model to upload in Altium.
  - Alice Ma
    - Was able to debug the reason why my STM32 were freezing when I plugged them in.
  - Jade Nguyen
    - Got the STMs both sending and receiving data at the same time. (1)
    - Filter out STMs' ID to only receive the data that we want. (1)
    - Can receiving data from multiple STMs (2)
- **Next week**
  - Team Plan
    - Work hard
  - Braeden Hamson
    - None
  - Pushpesh Sharma
    - Continue finding, uploading the updating schematics for TOP, BOTTOM and SHELF boards with footprints before moving on with PCB layouts. Continue finalizing all other boards for this project
  - Alice Ma
    - Measure different voltages and convert it to temperature.
  - Jade Nguyen
    - Learning to use ADC in the STM32 to measure analog voltage
    - Figure out what data should be sent to the Data Translator

- **Blocked**
  - Braeden Hamson
    - Sick
  - Pushpesh Sharma
    - Information missing from other teams for components and parts going on Data Analyzer board. Pedal controller board being worked on by VMS team overall.
  - Alice Ma
    - BUGGG
  - Jade Nguyen
    - Can't requesting data from other STMs (however, we try to keep sending and update information of the battery temp every 2 seconds)
    - Will go back to this if we need it in the future

VMS CAN Bus Capstone Weekly Progress Report

Report date: Mar 10, 2023

- **Last Week (times in hours)**
  - Team Review
    - Continued progress.
  - Braeden Hamson
    - None
  - Pushpesh Sharma
    - Continued work with footprints for Top, bottom and shelf boards. Work with Braeden on DXF files for PCB layouts
  - Alice Ma
    - Read the voltage from the analog pin (2)
    - Set up multiple ADCs channel on STM32 using DMA (4)
  - Jade Nguyen
    - Read the voltage from the analog pin (2)
    - Set up multiple ADCs channel on STM32 using DMA (4)
- **Next week**
  - Braeden Hamson
    - None
  - Pushpesh Sharma
    - Finalize all footprints for the 3 current boards before moving on with PCB layouts using DXF files from Braeden.
  - Alice Ma
    - Send the measurements in CAN bus messages
  - Jade Nguyen
    - Still working on measuring multiple analog voltages
    - Be able to send and receive data by CAN bus

- **Blocked**
  - Braeden Hamson
    - Sick
  - Pushpesh Sharma
    - Data Translator board still missing some key information before working on schematic.
  - Alice Ma
    - Homework
  - Jade Nguyen
    - Can’t convert ADC values to a real voltages in the interrupt callback loop

VMS CAN Bus Capstone Weekly Progress Report

Report date: Mar 17, 2023

- **Last Week (times in hours)**
  - Braeden Hamson
    - None
  - Pushpesh Sharma
    - Finalized all footprints for the 3 current boards before moving on with PCB layouts using DXF files from Braeden.
  - Alice Ma
    - Able to convert the outputs of the STM32 from the range of ADC values (0 to 4095) to the real voltages in the main while loop (2)
  - Jade Nguyen
    - Be able to convert the outputs of the STM32 from the range of ADC values (0 to 4095) to the real voltages in the main while loop (2)
    - Got the STM to send data (analog voltage) from the thermistors connections to the CAN bus (3)
- **Next week**
  - Braeden Hamson
    - None
  - Pushpesh Sharma
    - PCB layouts starting for Top, Bottom and Shelf boards. DXF files received from Braden.
  - Alice Ma
    - We need to get the code for the thermistors done and start dividing up the work for coding for the other PCBs
  - Jade Nguyen
    - Get the STM32 could send and receive the data properly
    - Convert voltages to temperature
    - Start working on the mux in the main board, how does it work and be able to get information from it

- **Blocked**
  - Braeden Hamson
    - Sick
  - Pushpesh Sharma
    - Finals week.
  - Alice Ma
    - Waiting for more CAN transceivers to build a new CAN bus board so we don't have to take turn to keep it
  - Jade Nguyen
    - Can't receive the right information from the CAN bus
    - Waiting for more CAN transceivers to build a new CAN bus board so we don't have to take turn to keep it

VMS CAN Bus Capstone Weekly Progress Report

Report date: Mar 24, 2023

- **Last Week (times in hours)**
  - Team Review
    - We need to catch up during spring break
    - CAN transceivers finally arrived meaning we can divide up the work now.
  - Braeden Hamson
    - DXF files for Top and Bottom Boards for PCB Layouts
    - Made footprints for accumulator segment board components
    - Began schematic for data translator/datalogger board.
  - Pushpesh Sharma
    - Finalize all footprints for the 3 current boards before moving on with PCB layouts using DXF files from Braeden.
  - Alice Ma
    - Was able to convert raw ac voltage data to DC voltage and send it through the CAN bus. [7]
  - Jade Nguyen
    - Got the right information from the CAN bus [4]
    - Was able to to convert voltages from the battery segments to temperature
- **Next week**
  - Braeden Hamson
    - Focus on system integration. I'll be working to make sure that we're not missing any systems and that we're on track to meet our goals. I'll make a detailed list of tasks and goals.
    - Finish data translator schematic
    - Create an unrouted pcb and layout components for the DT. Send the 3d model to the designer responsible for its placement in the car. Adjust if needed, and route.
  - Pushpesh Sharma
    - Continuing work on PCB layouts for the boards we have in progress. Working on schematic for Data Analyzer board with new information from the VMS team.
  - Alice Ma
    - Start working on the data translator.
  - Jade Nguyen
    - Working on the selected bits for the MUXs in segments board

- **Blocked**
  - Braeden Hamson
    - Translation issues with thermistor suppliers around connector terminology.
  - Pushpesh Sharma
    - Spring break
  - Alice Ma
    - Spring break
  - Jade Nguyen
    - Spring break

VMS CAN Bus Capstone Weekly Progress Report

Report date: Mar 31, 2023

- **Last Week (times in hours)**
  - Braeden Hamson
    - Worked on accumulator boards
  - Pushpesh Sharma
    - New information VMS team requiring complete redesign of Top / Bottom and Accumulator shelf board
  - Alice Ma
    - Attempting to communicate with two STM32s through I2C (6)
    - Talked with the guy in charge of the RBP to ask for help on I2C (3)
  - Jade Nguyen
    - Configured the pins and the logic code for the 8x1MUXs and 2x1MUXs on the segment board [6]
- **Next week**
  - Braeden Hamson
    - Finalize accumulator board
  - Pushpesh Sharma
    - Meetings with VMS team for new dimensions and changes to 3 boards. Redesign, routing and PCB layouts.
  - Alice Ma
    - Have I2C communication working on STM32
    - Figure out whether data translator board is master or slave
  - Jade Nguyen
    - Checking temp to make sure it is under 60C and send signal to BSM
    - Start working with messages from BSM

- **Blocked**
  - Braeden Hamson
    - Waiting on accumulator designer
  - Pushpesh Sharma
    - Waiting further confirmation from VMS team.
  - Alice Ma
    - Could not get I2C to work for some reason.
  - Jade Nguyen
    - None

VMS CAN Bus Capstone Weekly Progress Report

Report date: Apr 7, 2023

- **Last Week (times in hours)**
  - Braeden Hamson
    - Finished segment boards
  - Pushpesh Sharma
    - Completed redesign for Top / Bottom / and Shelf boards with new layouts and PCB designs
  - Alice Ma
    - Was able to establish communication between I2C as master transmit and slave receive
    - Started on implementation with CAN running at the same time.
  - Jade Nguyen
    - Got the OK signal send to BSM
- **Next week**
  - Braeden Hamson
    - Send boards to FAB
  - Pushpesh Sharma
    - Finalize these boards and develop fabrication files to send boards out for manufacturing.
  - Alice Ma
    - Data logger needs to be slave and RBP master request receive
  - Jade Nguyen
    - Still work on the BSM signals

- **Blocked**
  - Braeden Hamson
    - None
  - Pushpesh Sharma
    - Any further information from the VMS team before finalization.
  - Alice Ma
    - Problem with CAN and IC2 not working at the same time
  - Jade Nguyen
    - The STM32 does not enough GPIO pins for 9 signals coming at the same time

VMS CAN Bus Capstone Weekly Progress Report

Report date: Apr 14, 2023

- **Last Week (times in hours)**
  - Braeden Hamson
    - Sent boards to fab
  - Pushpesh Sharma
    - Boards finally finalized. Started creating fab gerber files for Top, Bottom and Shelf boards.
  - Alice Ma
    - I2C is Baddddd
  - Jade Nguyen
    - Cut out the pins that used to print out what is being sent on a serial monitor and use it for the BSM
    - Receiving to many signals from BMS affects the pins that reading temperature from the thermistors
- **Next week**
  - Braeden Hamson
    - Work on “PDAC” accumulator board, main contactor controller
  - Pushpesh Sharma
    - Gerber files created. Create BOM files for components on Top, Bottom, and Shelf boards for the VMS team to order. Start working on the Data Translator Board.
  - Alice Ma
    - I don’t know what to do with I2C
  - Jade Nguyen
    - Still working on the BSM signals

- **Blocked**
  - Braeden Hamson
    - None
  - Pushpesh Sharma
    - None
  - Alice Ma
    - None
  - Jade Nguyen
    - The inputs Pins for the thermistor now outputs some voltages, I don’t know where it came from

VMS CAN Bus Capstone Weekly Progress Report

Report date: Apr 21, 2023

- **Last Week (times in hours)**
  - Braeden Hamson
    - Working on PDAC
  - Pushpesh Sharma
    - Top, Bottom, and Shelf board gerber files sent to the VMS team to send to fab. BOM file for these boards created and sent to the VMS team. Files received from Braeden for DataTranslator board.
  - Alice Ma
    - Research about I2C communication
  - Jade Nguyen
    - Figured out that there were 3 pins can not be used to read the signals from BMS
    - Decided to reduce the number of signals gonna run to the accumulator board to 6
- **Next week**
  - Braeden Hamson
    -
  - Pushpesh Sharma
    - Continued work on DT board based on changes from the VMS team. Needs schematics updated with actual parts, PCB layout finalized and routing done.
  - Alice Ma
    - Work on I2C to send message to Raspberry Pi
  - Jade Nguyen
    - Finishing the code for the accumulator board

- **Blocked**
  - Braeden Hamson
    - None
  - Pushpesh Sharma
    - None
  - Alice Ma
    - None
  - Jade Nguyen
    - None

VMS CAN Bus Capstone Weekly Progress Report

Report date: Apr 28, 2023

- **Last Week (times in hours)**
  - Braeden Hamson
    - Working on PDAC
  - Pushpesh Sharma
    - Continued work on DT board with routing and components. Needs finalized then gerber files created.
  - Alice Ma
    - Working on CAN filters with Braeden to be able to filter for three specific headers from the car.
  - Jade Nguyen
    - Insteads of using ADC to receiving messages from BMS, we changed to shifts register so we can read up to 16 signals serially
- **Next week**
  - Braeden Hamson
    -
  - Pushpesh Sharma
    - DT board finalized with gerber files created. BOM for that board too.
  - Alice Ma
    - Establish I2C communication
  - Jade Nguyen
    - Working on the code for the shift register

- **Blocked**
  - Braeden Hamson
    -
  - Pushpesh Sharma
    - I think the DT board will need an overhaul based on new information from VMS
  - Alice Ma
    - One of my STM32 could not use CAN for some reason so I needed to use another STM32
  - Jade Nguyen
    - None

VMS CAN Bus Capstone Weekly Progress Report

Report date: May 5, 2023

- **Last Week (times in hours)**
  - Braeden Hamson
    - Finished PDAC, sent to FAB
  - Pushpesh Sharma
    - Continued work on DT board. Routing done, PCB layout finalized. Waiting approval before gerber files created. New information from VMS team. DT board needs few things redesigned. Board needs schematic lookover with entire capstone team for confirm pin assignments.
  - Alice Ma
    - I2C communication doesn't work so we need to switch to UART.
  - Jade Nguyen
    - Got the shift register work well, tested by oscilloscope to get a suitable frequency
- **Next week**
  - Braeden Hamson
    - Hope to get segment boards
  - Pushpesh Sharma
    - DT board fixed based on new discoveries. Schematic updated, PCB layout changed and routing fixed. Gerber files created. Board sent out. BOM being worked on.
  - Alice Ma
    - Write a program for communication between UART to raspberry pi
  - Jade Nguyen
    - Starting with the pedal control code to get messages from the motor controller via CAN

- **Blocked**
  - Braeden Hamson
    -
  - Pushpesh Sharma
    - None
  - Alice Ma
    -
  - Jade Nguyen
    - None

VMS CAN Bus Capstone Weekly Progress Report

Report date: May 12, 2023

- **Last Week (times in hours)**
    - Braeden Hamson
        - Assembling segment boards
    - Pushpesh Sharma
        - Gerber files for all boards sent to the VMS team to be sent for manufacturing. BOMs for each board sent to VMS team to be ordered as well.
    - Alice Ma
        - Establish UART communication to Raspberry Pi
    - Jade Nguyen
        - Working on the code for the filters of the CAN to get the needed messages.
- **Next week**
    - Braeden Hamson
        - Assess segment boards
    - Pushpesh Sharma
        - Start on documentation while waiting on PCBs to arrive. Rough draft of final report, capstone poster. Prep for assembly of boards. Documentation continued with Poster Design and Final Report.
    - Alice Ma
        - Organize all the data needed to be sent to UART raspberry pi
    - Jade Nguyen
        - Still working on the filters and decoding message from the motor controller

- **Blocked**
    - Braeden Hamson
        - Put wrong fuse footprint on segment boards
    - Pushpesh Sharma
        - Fab time for boards
    - Alice Ma
        - None
    - Jade Nguyen
        - Stuck on the logic for the filters

VMS CAN Bus Capstone Weekly Progress Report

Report date: May 19, 2023

- **Last Week (times in hours)**
    - Braeden Hamson
        - Project management, helping with projects
    - Pushpesh Sharma
        - All boards sent to be fabricated. All parts ordered as well. Boards will need to be assembled as soon as they come in.
    - Alice Ma
        - Format the data that will be sent to the raspberry pi
    - Jade Nguyen
        - Alice helped to get the filters work
- **Next week**
    - Braeden Hamson
        - Designing boards
    - Pushpesh Sharma
        - Start assembling boards. Components are coming in as well. Documentation continued with Poster Design and Final Report.
    - Alice Ma
        - Final testing with the raspberry pi to send all the data and format.
    - Jade Nguyen
        - Decoding the messages from the motor controller to meaningful number, store it to local variable for the other capstones group to use
        - Combining our code with their code.

- **Blocked**
    - Braeden Hamson
        - None
    - Pushpesh Sharma
        - Accumulator Main Board was not ordered due to miscommunication. Still waiting on that one to be ordered.
    - Alice Ma
        - Waiting to test on the board
    - Jade Nguyen
        - None

VMS CAN Bus Capstone Weekly Progress Report

Report date: May 26, 2023

- **Last Week (times in hours)**
  - Braeden Hamson
    - Finishing pedal control board assisting with all projects
  - Pushpesh Sharma
    - Started assembling boards with Braeden. Top and Bottom Segment boards first using stencils. Polycarb segments are available for mounting those
  - Alice Ma
    - Finished testing the UART communication to the raspberry pi with Nate. Everything worked!!
  - Jade Nguyen
    - Tried to understand the code from the other group
    - Got the code working together but we haven't got the result that we want
- **Next week**
  - Braeden Hamson
    - Sending pedal control to FAB
  - Pushpesh Sharma
    - Continuity tests for all boards as they get assembled. Data Translator board assembled as it arrives. Documentation continued with Poster Design and Final Report
  - Alice Ma
    - Help with final report and work start finalizing the data translator code
  - Jade Nguyen
    - Work on final report, finish the code for the pedal controller

- **Blocked**
  - Braeden Hamson
    - None
  - Pushpesh Sharma
    - Accumulator Main board still needs ordered. May have to be sent to a local manufacturer.
  - Alice Ma
    - None
  - Jade Nguyen
    - Need to check APPS_OK signal and send to the CAN bus but still lost in the code

VMS CAN Bus Capstone Weekly Progress Report

Report date: Jun 2, 2023

- **Last Week (times in hours)**
  - Braeden Hamson
    - Assembling boards.
  - Pushpesh Sharma
    - Assembled Top and Bottom Segments completely with thermistors and connectors. Kapton tape to keep thermistors in place. Data Translator Board assembled by Braeden.
  - Alice Ma
    - Help assemble the data translator with Braeden.
  - Jade Nguyen
    - Got the pedal controller code to work well. Be able to received messages from the motor controller and send checking signal to Data translator via CAN
    - Tested it on the real pedal control board in the EV
- **Next week**
  - Braeden Hamson
    - Assembling boards
  - Pushpesh Sharma
    - Hopefully Accumulator Main Board comes in. That will be assembled, tested and wired. Wiring harness will be created for each board as it gets integrated into the existing chassis for CAN testing. Documentation continued with Poster Design and Final Report
  - Alice Ma
    - Assigning headers to CAN messages that will be received. Working on posters.
  - Jade Nguyen
    - Working the final report

- **Blocked**
  - Braeden Hamson
    -
  - Pushpesh Sharma
    - Waiting on Oshpark for Accumulator Main Board.
  - Alice Ma
    - None
  - Jade Nguyen
    - Waiting for Accumulator Main Board.

VMS CAN Bus Capstone Weekly Progress Report

Report date: Jun 9, 2023

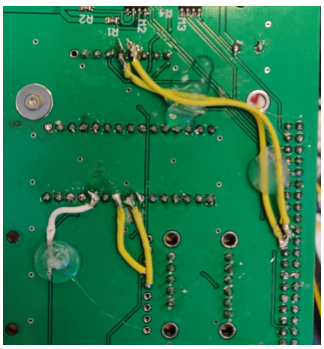
- **Last Week (times in hours)**
  - Braeden Hamson
    - Assembling boards
  - Pushpesh Sharma
    - Accumulator Main Board finally arrived. Board assembled and continuity test complete. Wiring will need to be done with the rest of the team during the integration process.
  - Alice Ma
    - Decoding the messages received from the Motor Controller.
  - Jade Nguyen
    - Assembled and made harnesses that connect battery segment and accumulator board (only have 1 segment board)
    - Ran and tested the code, missing 5V trail to run the board
    - Decided to connect to the laptop for the demo

- **Next week**
  - Braeden Hamson
    - Assembling and testing boards
  - Pushpesh Sharma
    - Wiring for Top and Bottom Segments as well as the Accumulator Main Board for testing. Documentation continued with Poster Design and Final Report
  - Alice Ma
    - Finalizing the changes made to the code for the data translator
  - Jade Nguyen
    - Working on the final report

- **Blocked**
  - Braeden Hamson
    - None
  - Pushpesh Sharma
    - None
  - Alice Ma
    - Boards not complete
  - Jade Nguyen
    - None

VMS CAN Bus Capstone Weekly Progress Report

Report date: Jun 16, 2023

- **Last Week (times in hours)**
  - Braeden Hamson
    - Tidying car wiring, helping with debugging. BODGING BODGING BODGING, dying on the inside.
    - 
  - Pushpesh Sharma
    - Complete documentation with Poster Design and Final Report. Assist with integration and testing. Prep presentation for VMS team with Roy.
  - Alice Ma
    - Integration all the boards and final edits and testing for the boards
  - Jade Nguyen
    - Integration all the boards together
- **Next week**
  - Braeden Hamson
    - Laying around, chips, zoning out, finding an effigy to burn for a cathartic release.
  - Pushpesh Sharma
    - Final Report. VMS team presentation with Roy. Poster Presentation.
  - Alice Ma
    - Nothing 🙂
  - Jade Nguyen
    - None

- **Blocked**
  - Braeden Hamson
    - None
  - Pushpesh Sharma
    - None
  - Alice Ma
    - A lot of board problems
  - Jade Nguyen
    - None