Needs to be done

* Wire management
  + Replace motor wires
  + Fix the motor driver wires to the chassis
  + Replace the SMD XT connectors with normal ones
  + Replace all data cables
  + Rearrange PCBs and drivers to include and make space for robotic arm drivers
* Modify PCBs to try and power ESPs
* Make new PCB for controller
  + Will have a new layout.
  + Includes batteries and bms.
* Prepare for interviews and sessions
  + Interviews have one problem statement. Like making a simple circuit. We’ll how juniors research and how much they learn about it and how far they get into making it.
  + Sessions: keep the basics sessions short. Insist juniors that they buy Arduino/esp. design projects and make a list of things they’d have to buy to learn the basics. Make a list of the basics.
* Fix encoders
  + Is used for microros, but can also be used for gradual increase -which would be part of traction control if we implement it
* LoRa duplex
  + For now the main data that the controller needs to send back is which mode it is in.
  + With further implementation it could send back data like battery levels, imu data
  + GCS is making a gui. we could have the controller connect to the gui, and give data such as rob arm encoder readings to make a visualization of the robotic arm.

Could be made:

* Change topology: make receiver and microros pcb separate from traversal pcb
* Work on a BMS
* port all codes from esp32 to stm32.

new ideas (not for ARC):

* **slottable PDB**: PDBs such that you can slot the motor drivers and control PCBs to them instead of connecting all these with wires. Could be done with even just XT60 for power and some jst for data, you don’t have to find new connectors or anything
* **different microcontrollers** for different uses: we mostly don’t have to switch from esp32, but there are some use cases where others need to be used, like using a more powerful teensy for microros or more importantly atmel chips for their superior adc if we’re using pots and joysticks
* **traction control** :if we prevent slipping while trying to go up slopes. Would help in slippery terrain. How much it will, we’ll have to test. But it’s just some easy sensor work