* **Push code from NUC**
* Need for someone to use on open days
  + **(misc) stop armrest cable dragging on the ground**
  + **(pwr fb) increase the average and properly set the peak current limits after changing the current measurement circuit. E.g. average limit = 35a, peak limit 80a**
  + **(misc) put on/off labels on armrest**
* Need for full functionality
  + **(ros sw) fix shutdown and vibrate not working if run through procmon**
  + **(ros sw, int fw) Make sure all status items are correct: ctemps, errors, currents** 
    - **Should be fixed in latest firmware, not flashed to boards**
    - **Seems like 1 and 2 are correct, 3 and 4 are giving bad data (unchanging)**
    - **Points towards input capture settings**
  + (ros sw) Reinstate velocity control
  + **(pwr hw, int fw, ros sw, pwr fw) Switch to INA240A1 and 0.5mohm instead of INA240A2 and 1mohm - need to then update fw/sw to give correct readings and use sensible dynamic range for ppm interface**
    - **These components are in the far cupboard in EE337**
  + (int fw or ros sw) Have limp mode where it is open loop and power limited, used when battery is low or an encoder is bad
  + (ros sw, misc) have two controller vibrate settings, to indicate startup and error
  + (misc) get copy of key cut
  + (ros sw) when couch\_controller connects or reconnects successfully, vibrate the controller
* Luxury
  + (int fw) implement lora on int
  + (estop) Make new lora handheld estop
  + (misc) rebuild gearboxes as back left and front right seem to draw a lot more current
  + (int fw, pwr fw) Int can reset errors in pwrs, e.g. by sending a specific overly long pulse
  + (misc) mount velodyne
  + (pwr fw) fix left thermistor temperature measurement (try changing debug icsp assignment in config)
  + (int fw) webserver, showing battery V, temperatures, error codes, ???
  + (int fw) remove gpio debugs from int
  + (ros sw) Make exceptions sensible in ros driver
  + /(int fw) fix encoder index rounding
    - Should be fixed, check
  + (ros sw) Clean up ros driver - consistent naming scheme!
  + (ros sw) Comment code more
  + (misc) Fix incorrect label for encoder pins on int rc (label maker)
  + (ros sw) add low pass filter to velocity measurements (software)

Notes 11/1/18:

* ~~While moving quickly left, a motor controller will often trip causing the couch to veer right~~ *~~(when the estop arm is at the front)~~*~~. Error reporting shows an average current trip on motor 2 (back left) which makes sense~~ *~~(???)~~*~~. This happened numerous times, sometimes at very low speed/load~~
  + **~~Try to replicate on blocks, look at debug output~~**
* ~~Fault status and currents for motors 3 and 4 always invalid (unknown error, -66a). Currents for 1 and 2 seem to be correct~~
* After sustained use, the back left and front right motors and controllers heat up very significantly more than the front left and back right. No indication that these motors were not running significantly less than the others, but need reliable readout of faults to be sure. Noticed on open day as well
* Significant lag in accelerating and decelerating - way more than safe, presumably this is from the soft start and this needs to be sped up