

We really need this car as soon as possible cause a lot of the software stuff we're gonna try needs all the correlating data from the car to line up and make sense, which is very hard to fake for testing.

- Car
  - Car go speedy zoom zoom yes
- Compute
  - Compute also go speedy zoom zoom
  - Probably just use the Jetson we already have or get tfraz to buy the BBC one for cheap
- More than 1 USB port on the compute
  - Things that might use USB:
    - Wifi dongle
    - Pose camera -> Needs to be USB 3
    - Keyboard (it'd be nice to be able to use wifi and a keyboard at the same time lmao)
    - Mouse
    - A spare port or 2
      - For things like plugging in a USB to transfer data off the car - which will be a big requirement
- HDMI out on the compute
- Wifi connection on the compute
  - For ssh and other fun things
- Serial connection from compute to a low level controller
- Pose tracking camera
  - Suggested t265 Intel realsense
  - Open to other ones if they track pose
  - **This is probably highest priority from software perspective to be ordered quickly as it will take the longest to muck around with and get set up properly**
    - Also, if we have this we can also get a head start on testing by strapping it on the car we currently have and running that around
- Wide AF forward facing RGB camera (aka the one we already have on the car will do i think)
- Something to measure velocity
  - **Not an IMU** or anything down that line of fuckery - the pose camera already has an IMU in it
  - Mouse sensors are a good idea if we make the assumption that the ground is going to be flat
    - Which seems like an ok assumption to make
    - Plus if they don't work we just turn them off
    - Do we need 2 so we can differentiate between forward and turning motion?
  - Encoders?
    - Apparently might be hard to do on our current car?

- Might need one on either wheel or both rear as they can differentially drive
- Something to remotely start and stop
  - Not really something we're worried about, so long as it maybe sends a 'stop' packet up the line from the low level controller to the compute module
  - We could also easily implement it into our stuff on the compute too if yall want that as an option (i.e. plug it into the jetson not the microcontroller)
- Wireless data logging so we have critical information while the car is in motion (Perhaps combined with point above)
  - RF?
    - Needs to be able to act as both transmitter and receiver
    - Needs USB -> Serial converter so I can plug it into my laptop for 'logging' side
  - Wifi or BLE
    - Probs not as reliable as RF in competition
    - Potentially easier to implement? No need for 'logging' side board