Joshua:

* Organization: Brushless DC Motor Drivers
* Position: Applications Engineer
* Advice: Work on your own subsystems but together in the same room. Don’t be daunted, ask for help. Possibly combine projects and everyone works together.

Signal Chain:

MCU -> Motor Driver -> Motor

Voltage:

24V-48V (Stepdowns, Regulators)

Load:

Pick a midrange load (between 15-40)

However, Joshua said somewhere between 5-7, didn’t mention

Look into Universal Robotics (company that makes cobots)

Use Cases: Semiconductor Industry, Medical Industry, Automotive Industry

* Handling Wafers, Automation, can’t get human inside

How often meet:

Weekly sync with Joshua on Team chat.

Wherever you have a question send an email, will give a phone number.

Subsystems:

* Power (Emily)
  + Power between motors
  + Communication between motors
* MCU/Processing (Adrian)
  + Physical hardware
  + MCU connectivity/ pin in/ pin out
  + Cobot physical design
* Wireless Connectivity / Interface (Jaishil)
  + Design physical controller (design software to map controller)
  + Code compository
  + 3d design for case and robot
* Motor Driving Subsystem (Ethan)
  + Communication between motors
  + Software integration

Power:

* Bluetooth/MCU -> low power
* Motor Driver -> high power
* Partition out the systems

MCU:

* Motor control with 6 inputs (3.3v), 3 current/voltage sensors (12 ports on MCU)
* Bluetooth (4-8 pins)
* 1to1 motor driver to motor. 3x (8161) motor drivers per motor
* ESP-32 Bluetooth connectivity

Wireless Connectivity:

* Wifi vs Bluetooth device/Bluetooth Driver or Wifi card
* Find out how to give off a Wi-Fi signal from machine -> device
* Swift or C++ (only iPhone connection or all device friendly)

Motor:

* Brushless motor has 3 phases
  + 3 phase input is good, can do it (BLDC) -> use brushless
  + Brushless servo motor (look into) (higher level of control)
  + Brushed motors only 2 phases