Arm

* SCARA or 4 linkage or Parallel (?)
* We gon use SCARA :))

Motor

* Biggest motor should be the shoulder
* Motor gets progressively smaller
  + Debby (pg 82): 35.6mm length, 14mm diameter, kT = 10.9 mNm/A
  + Harsh: 34.2 mm length, 12 mm diameter (Page 87) - kT = 17.8 mNm/A
  + Ebi: 34.2mm length, 22mm diameter, kT = 9.18 mNm/A (at 12V)
* (Ebi to elaborate on his point) more specific constraints?

Gearhead

* Amplifies torque, at the cost of rpm - shoulder motor should move slowest with most torque

Solidworks:

* Make or source gearheads and gears and nuts and bolts
* Make arms, choose materials
* Design housing for the electrical part - see e391proj2021

Electrical -

* Work off Harsh’s Multisim design :))
* One PCB for each motor?? (THREE??!)
* Arduino -> outputs to 3 pins
* We can use the same PID modules (CalcErr and RunPid) for all 3 motors

Marshmallow/conveyer belt

* Did Leo specify where exactly it’ll be relative to the motor???
* Are we supposed to model our own marshmallows

PID controller:

* Kp, Ki, Kd: maximize the ratios to get **0% overshoot**
* Debby propose using MATH to find the 0% overshoot K values - Ebi/Debby/Harsh to check their note (are there equations)
* **How do motors communicate???? (To research/ask Stocco)**
  + Ideas:
    - Vector of x, y, theta coordinates
    - Arduino controlled somehow??

Sensor/Encoder

* How does the optical **encoder** fit into the project?
* To do after we decide for sure which motors to use