

1. Customer has a dynamometer already built for the lathe, but needs one for the mill and drill
 - a. Frequency is important
 - b. Has a paper containing information that we can base design on; we can accommodate for the mill and drill
 - c. He doesn't care too much about the process, the results are the most important thing
 - d. Risk analysis, make schedule (gannt)
2. Attachment and other stuff need to be strong
 - a. Students & Researchers will be using this device
3. Lab, proof of concept
4. Why strain gauges? Why not load cells?
 - a. Z load cell may not fit constraints
 - b. Side loads (X and Y) could be affected by the moment when pushing on the working material
 - i. We should combine the ideas for XY load measurement and z load cell measurement
 - ii. There are other papers we can use
 - iii. Should re-discuss design ideas with him soon. He is open to other ideas.
 - c. Rigidity is important:
 - i. Too weak, could cause displacement on the cutting tool
 - ii. Too strong, can't get a good measurement
 - iii. Build a chamber to protect yourself while testing
5. Structure can't be that big
 - a. small
6. What resources are available?
 - a. We have some strain gauges
 - b. Can order strain gauges through the machine shop
7. How is it powered?
 - a. Battery - strain gauges
 - b. 5v for the DAQ or microprocessor
 - c. Battery for the chip
8. How accurate does the data need to be?
 - a. Is not concerned about accuracy (can be between 1-2 units)
 - i. More concerned about the range
 - ii. This is more of a proof of concept for the hopper machine
9. interchangeable?
 - a. Yes
10. Live data acquisition?
 - a. Use SD card
 - b. If we can do real time we should but if we can't we need a plan b
 - c. We don't have free labview software
 - i. Would have to go through the school

- ii. We don't have labview
 - iii. We a have a MC daq available
 - d. Can accommodate us with a wireless transfer bus
- 11. Works for normal use only
- 12. Meet each thursday afternoon
 - a. He will be in office 7 days a week

Action items:

- Need to retrieve paper from Dr. Liu