

## ***Physical Function Testing Apparatus for Monkeys***

Client: Dr. Ricki Colman

Advisor: Dr. Elizabeth Meyerand

Team: Benjamin Ratliff bratliff@wisc.edu (Team Leader)  
Benjamin Myers bmyers4@wisc.edu (BWIG and BPAG)  
Eli Stanek estanek@wisc.edu (Communicator)  
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Date: February 9 to February 16, 2017

### **Problem Statement**

We are looking to have equipment designed/developed that will allow us to test physical function, specifically muscle strength in macaque monkeys. For over 25 years we have been studying the effects of diet on aging in rhesus monkeys. We have learned that like humans, rhesus monkeys lose muscle mass with advancing age. We have shown that long-term intake of a reduced calorie diet can delay this decrease in muscle mass. While we have the ability to measure muscle mass, we are not currently able to measure muscle function or strength, our true outcome variable of interest. We can often use equipment that has been designed for humans with our monkeys. In this case, we are concerned that the muscle strength testing equipment that is commercially available requires the patient to willingly perform at their maximum level. Ideally we would have equipment that would entice the monkeys to perform at their maximum and allow us to determine muscle strength for both hind limbs and fore limbs separately.

### **Last Week's Goals**

- Finish the mid-semester presentation
- Begin to accumulate list of materials needed for prototype
- Work on paperwork for facility access
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### **Summary of Team Role Accomplishments**

- Naren – Attended BSAC meeting, created materials design matrix, presentation
- Eli – Set up meeting with client, worked on presentation
- Ben M. – Worked on the presentation
- Ben R. – Worked on the presentation
- Team – Completed the presentation, decided the design we will fab this semester

### **Summary of Design Accomplishments**

- We have decided on the design we plan to fabricate moving forward

### Activities

Date	Person(s)	Task	Time (hrs)	Weekly Total	Semester Total
2.13.2017	Ben R.	Presentation	2	2	5
2.13.2017	Eli	Presentation / Design Matrix	2	2	5
2.13.2017	Ben M.	Presentation	2	2	6
2.13.2017	Naren	Presentation / Design Matrix	2	2	4

### Statement of Team Goals

- Create a list of materials that we need to order before we can begin fabrication
- Look into getting TB tests as a part of gaining access to working with the monkeys
- Complete paperwork for lab access

### Individual Goals

- Ben Ratliff: Complete paperwork for lab access
- Ben Myers: Complete paperwork for lab access
- Eli Stanek: set up next meeting with client next week, paperwork
- Naren Chaudhry: Complete paperwork

### Difficulties

- None

### Project Schedule

- We need to send our materials list to our client so that we can order our supplies in the next week or so

### Expense

Date:	Item:	Cost:	Comments:
9/9/2016	LabArchives Team Notebook	\$10.00	One time purchase for team

**Total Cost:** \$10.00