Project Title: Animal Ventilator

Team Members:
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Date: 11/2/2006

Problem Statement:
Redesign a MRI-compatible small animal ventilator to deliver a variable volume of hyperpolarized helium and oxygen gas at user-specified frequencies. The device should be compatible with the current system in place.

Restatement of team goals:
1. Calibrate first generation prototype
2. Finalize design plans for second generation prototype
3. Order parts for second generation prototype
4. Begin construction of second generation prototype
5. Calibration and testing of second prototype
   a. Volume output
   b. Timing
   c. Gas mixture

Summary of Team Accomplishments:
1. Finished clamping mechanism for syringe retraction
2. Decided on new model design per client’s interest
3. Improved Solidworks model for machining use
4. Completed mid-semester presentation
5. Completed and turned in design notebooks

**Summary of Individual Accomplishment:**
1. Micah wrote the progress report
2. Entire team has been researching possible materials to be used for the second generation prototype

**Statement of Team Goals:**
1. Fix the pneumatic valve timing issue in the LabVIEW code.
2. Develop the chosen design for the new prototype.
3. Finalize Solidworks drawings to prepare for the next parts order.
4. Order parts for second prototype
5. Begin prototype construction

**Project Schedule:**
9/15-9/29 Finish first device calibration
9/29-10/13 Research and design development of second gen. device
10/13-10/20 Finalization of new design
10/20-11/17 Manufacture of new design elements and device assembly
11/17-11/24 Software modifications
11/24-12/8 Testing and calibration of second device
12/8 Second prototype delivery
12/8 Semester Write-up
12/8 Final Presentation

**Difficulties:**
Finding inexpensive materials that meet our needs for the second generation prototype has been a little difficult. The timing issue for the pneumatic valves still remains.

**Activities:**
(Since device delivery)
Chris: 2.0 – team meeting, machining
Ashley: 2.0 hrs – team meeting, machining
Matt: 2.0 hrs – team meeting, machining
Micah: 2.5 hrs - team meeting, machining, progress report

**Team Total Hours for this week:** 8.5 hrs
**Cumulative Team Hours for Fall 2006:** 65.0 hrs
**Cumulative Team Hours to date:** 211.5 hrs