

Progress Report for Week 12 &13 of BME 200/300

Face Mask

Dr. Kurt Sladky (client); Dr. Steve Johnson (client); Katy Reed (group leader); Kristen Seashore (communicator); Steven Skroch (BWIG); Janelle Anderson (BSAC)

Date: 11/17/05 to 11/30/05

Problem Statement: Develop a face mask for use in reptile pneumotachometry. The face mask must be air tight and have separate input and output ports so they can be connected to pressure regulating and monitoring equipment. The masks will be used multiple times and will need to be cleaned.

Restatement of Team Goals: To develop separate air tight mask for a corn snake and a bearded dragon with input and output ports.

Team Goals for Next Week: Present poster, deliver product to client and finish final design paper.

Individual Goals for Next Week:

Katy Reed: Work on note book.

Kristen Seashore: Work on note book.

Steven Skroch: Work on note book.

Janelle Anderson: Work on note book.

Summary of Accomplishments:

- Friday (18) during class we met with our advisor and talked about what needed to get done before the end of the semester (collect data). We also took measurements of the bearded dragon masks, divided up the sections of the final paper, and set up some meeting times for the next week.

- Sunday (20) Katy reviewed the student comments from the mid-semester presentation and wrote part of the final paper. Kristen made sure the membranes were securely attached to the snake masks. Janelle went shopping for the final pieces of the bearded dragon mask (PVC pipe fittings, washers, wing nuts, and bolts) and worked with solid works, trying to draw mask designs but was not successful.

- Monday (21) the team worked on the second bearded dragon prototype, the Plexiglas seal pieces were cut out, filed (since the scroll saw had been removed from the shop the hole in the piece of the mask had to be drilled and filed out so there were some problems with cracking), the Plexiglas end pieces were cut and glued to both masks, and output ports were cut and glued into place. Kristen and Janelle spent time working on their paper sections.

- Tuesday (22) the team met to continue construction of the bearded dragon mask. The animal holding boxes were cut to hold the masks, the rest of the Plexiglas

pieces and ports were cut. The snake masks were sanded to remove excess glue and rough edges.

- Wednesday (23) Katy and Kristen worked on the bearded dragon masks attaching the sticky gelatinous polymer (SGP) and putting a foot on the bearded dragon masks so they will be level when placed in the holding box.

- Friday (25) Kristen bought two more holding cages and cut an opening for the corn snake mask.

- Saturday (26) Katy and Janelle met to work on the poster content and to put together the different sections of the final paper. Katy blocked the snake mask membranes and bearded dragon masks and painted them.

- Sunday (27) the team met to update the PDS with information from the client's protocol and changes from the client. We also set the poster lay out and began filling in information.

- Monday (28) Katy went over the PDS again and finished the snake mask (glued on a leveling foot, blocked and painted). Steve finished putting on the pre-compiled information on the poster and improved the formatting.

- Tuesday (29) Katy cleaned the snake masks and matched the membranes to the masks before the client meeting. Kristen and Steve met with the client to test the corn snake and bearded dragon masks. The corn snake mask made and air tight seal, good data was collected, and the client liked the final design. The bearded dragon mask was air tight but returned low readings. The client said this may be due to dead space issues but further experimentation is required to determine this. During the meeting the client suggested a new design for the bearded dragon mask, however there is not enough time to build the design before the end of the semester. Steve tried drawing the new design in solid works.

- Wednesday (30) our team met to finish the poster, the testing/analysis and abstract sections were finished and pictures were added. During this time Janelle compiled the hours for the last two weeks and Steve completed a drawing of the new bearded dragon mask design in solid works. Steve worked more on the formatting and printed a copy of the poster so we can check for mistakes.

Statement of Team Goals: To create a mask that can be connected to a pneumotachometer and a regulator for a Corn Snake and another for a Bearded Dragon.

Project Schedule: The past two weeks we completed construction and tested the final snake masks and second bearded dragon prototype, started the final design paper and made a poster for the final presentation. Next week we will finish the final design paper.

Difficulties: At the last client meeting the client suggested a new design for the bearded dragon mask and there is not enough time left in the semester to build this design. If we had another week we could get the mask done.

Activities:

- Team spent 1h in class meeting with our advisor, measuring face mask design, and dividing final paper into sections for writing (Friday 18). Katy (4h 40 min), Kristen (3h 20 min), Steve (2h 55 min), and Janelle (1h 50 min) met to work on

Final design presentation & poster												X	X	X		
Design report												X	X	X	X	
Meetings																
Client		X		X		X	X				X			X		
Group		X		X	X	X	X	X	X	X	X	X	X	X		
Professor	X	X	X		X	X	X	X	X	X	X	X		X	X	X
Website		X	X	X	X	X	X	X	X	X	X	X		X	X	X

Expenses:

ITEM	COST
PVC coupling (1")	\$0.78
Replacement flapper	\$3.79
Plastic Welder Glue	\$4.49
J-B Kwik Bonding Compound	\$5.79
Nylon gaskets	\$1.50
Power Clamp	\$2.38
Chair leg ends	\$0.98
Rein hose	\$2.99
PVC tubing	\$0.79
Large chair leg ends	\$0.79
PVC coupling (3/4")	\$0.29
TAX	\$1.35
PVC pipe fitting	\$0.69
PVC pipe fitting	\$0.53
PVC pipe fitting	\$0.38
Silicone tape (clear)	\$5.29
Caulk cord	\$4.04
TAX	\$0.60
O-rings x4	\$1.55 each
TAX	\$0.34
Krazy Glue	\$2.69
TAX	\$0.15
Sticky Hands x10	\$0.15 each
TAX	\$0.08
Shipping	\$5.95
Glue x4	\$ 3.97 each

PVC pipe fitting x3	\$ 0.42 each
PVC pipe fitting x7	\$ 1.01 each
Sandpaper	\$1.47
TAX	\$1.41
Spray paint	\$ 4.77
PVC pipe fitting x2	\$ 0.79 each
Washers x4	\$ 0.40 each
Wing nuts x2	\$ 0.98 each
Bolts	\$ 0.98 each
TAX	\$ 0.56
Krazy Glue	\$ 2.69
TAX	\$0.15
Gerbil cages x5	\$4.99
TAX	\$ 1.63
TOTAL (including tax)	\$ 122.32