

Fine Needle Aspiration, Project 23

Client: Dr. Frederick Kelcz

Team Members: Kristen Seashore (Leader)
Tu Hoang Anh Mai (Communicator)
Chris Goplen (BWIG)
Jason Tham (BSAC)

Date: 11/10/06 to 11/16/06

Problem Statement: Fine needle aspiration is a biopsy method of collecting tissue samples. The procedure is currently manual and requires repetitive low yield sampling to collect enough cells for testing. The goal of our project is to maximize tissue sample size in a single, timely procedure. We propose to develop a device that automates the current biopsy procedure using precise needle oscillation and vacuum techniques. The automation of the device will reduce operating time, cost and discomfort for the patient.

Restatement of Team Goals: Choose parts to order, continue research on final design, and begin construction.

Individual Goals for Next Week:

Kristen Seashore: Order materials and begin prototype construction.

Chou Mai: Finish background research and order parts.

Chris Goplen: Order parts, start modeling final design, and develop possible testing methods.

Jason Tham: Order materials and come up with preliminary patent work.

Summary of Accomplishments:

- The team met in class on Friday and discussed patent issues and coverage with Mitch before our client meeting. We are hoping to patent the ideas we have come up with so far to protect our ideas.
- The team met with our client on Friday and discussed our mid-semester presentation and paper. We also revised our final design ideas with him. The prototype can involve two people – one to operate a vacuum mechanism (i.e. a syringe) while the other performs the procedure. Also, this prototype is a device to test how a future device should operate. The frequencies and adjustable depths are suggestions, but our prototype can be much simpler.
- Each team member worked on researching parts to order and coming up with new ideas for the final prototype.

Statement of Team Goals: Order parts, begin patent work, revise final design, and begin construction.

Project Schedule: This week we will continue our research of final design materials. We hope to find more information and order parts early this week. We will also revise our final design to simplify it and chose parts to order for our prototype.

Difficulties: No difficulties this week.

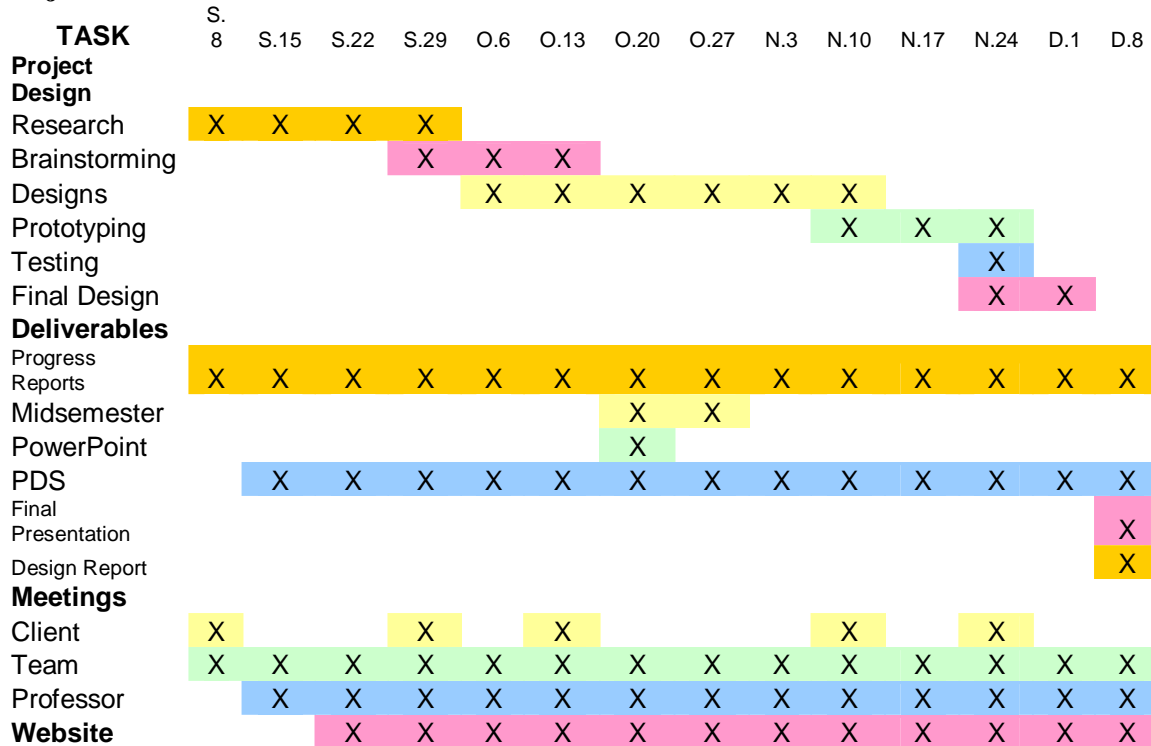
Activities:

11.10.06	Team met in class and discussed patent issues	30 min
11.10.06	Client meeting to review final design, mid-semester presentation, And patent issues	1 hr
11.12.06	Chou: Researched wheels for prototype	1.25 hr
11.13.06	Chris: Worked on notebook and researched parts	1 hr
11.14.06	Chou: Researched small motors	30 min
11.15.06	Jason: Brainstorming testing and patent work	1 hr
11.16.06	Kristen: Worked on progress report	45 min
11.16.06	Chris: Researched prototype parts	1 hr
11.16.06	Chou: Picked up revised paper from client	30 min
11.16.06	Chou: Researched FNA background	1.5 hr
11.16.06	Kristen: Researched small motors to order	30 min
11.16.06	Jason: Researched patent and claims information	1 hr

TOTAL HOURS THIS WEEK

11 hr 30 min

Project Time Line:



Expenses: No expenses this week.

Task Delegations/Time Lines:

Tasks	Member	Date Due
Research		
FNA	all - more Chou	1-Dec
	all - more	
Biopsies/Tissues Tested	Kristen	13-Oct
Tissue/Needle Forces	Kristen, Chris	13-Oct
Current Devices (why fail?)	Chris, Jason	13-Oct
Related Devices	all - Jason	13-Oct
Needle types	Chou	13-Oct
Clinical procedures	Jason	13-Oct
Sample collection	all - more	
testing/procedure	Kristen	13-Oct
Patents	Chris, Jason	13-Oct
Materials for prototypes	all	13-Oct
Construction/Testing methods	all	10-Nov
Designs		
Brainstorming	all	13-Oct
Alternate Designs (3)	all	13-Oct
Design Matrix	all	13-Oct
Prototyping		
Set up checking account	all	ASAP
Research materials	all	3-Nov
Order materials	all	17-Nov
Build prototype	all	17-Nov
Testing/Build phantoms	all	24-Nov
Revise prototype	all	1-Dec
Deliverables		
Mid - PowerPoint	all	20-Oct
Mid - Paper	all	25-Oct
Notebooks	all	25-Oct
Final - Poster	all	8-Dec
Final - Paper	all	15-Dec
Progress Reports	all	every week
PDS	all	often