

Physical 3D model of the larynx with moving parts

Client: Sherri K. Zelazny

Team Members: Kevin Hanson (BSAC)
Nick Ladwig (Communicator)
Jonathan Meyer (Leader)
Ken Roggow (BWIG)

April 18 to April 24, 2008

Problem Statement

The goal of this project is to develop a physical 3D laryngeal model, with moving laryngeal cartilage, bones, membranes and muscle, to demonstrate nerve/muscle action and interaction in the larynx for voice, airway and swallowing. The model is to be used as a clinical tool for patient education for improved understanding of the laryngeal mechanism; and to plan treatment based on diagnosis of voice, airway and/or swallowing disorder.

Last Week's Goals

- Finalize cartilage structure
- Attach muscles and motors
- Build frame

Summary of Accomplishments

- Cast model
- Created muscles
- Built circuits and timers
- Created framework and attached individual parts to model

This Week's Goals

- Finish model
- Run tests
- Formulate and administer "realism quiz"
- Work on final presentation

Project Difficulties

Activities

Kevin Hanson

4/18/08	Team Meeting	1.50 hr
4/23/08	Team Meeting (Shop)	1.75 hr
4/23/08	Team Meeting	2.50 hr

Nick Ladwig

4/18/08	Team Meeting	1.50 hr
4/04/08	Finishing molds	1.50 hr
4/24/08	Team Meeting (Shop)	1.50 hr
4/23/08	Team Meeting	2.50 hr
-----	Casting	4.50 hr
-----	Progress Report	0.50 hr

Jonathan Meyer

4/19/08	Building circuit	7.00 hr
4/21/08	Testing/improving circuit	3.00 hr
4/23/08	Testing circuit	1.00 hr
4/23/08	Team Meeting	2.50 hr
4/24/08	Team meeting (shop)	3.00 hr
4/18/08	Team Meeting	1.50 hr

Ken Roggow

4/18/08	Team Meeting	1.50 hr
4/23/08	Team Meeting	2.00 hr
4/23/08	Constructing base	3.50 hr
-----	Website	0.50 hr

Project Schedule

Tasks	Jan.	February					March				April					May	
	25	1	8	15	22	29	7	14	21	28	4	11	18	25	30	2	7
Research and Development																	
Research																	
Brainstorm																	
Develop Prelim. Design																	
Detail/evaluate design																	
Build Prototype																	
Test Prototype																	
Website		Ken															
Deliverables																	
Mid Semester Presentation																	
Mid Semester Report																	
Final Presentation																	
Final Report																	
Progress Reports	Jon	Nick															

Expenses