Pelvic floor Biofeedback Design

Client: Dr. Patrick McKenna, UW Urology Department

Advisor: Dr. Amit Nimunkar

Team: Sam Lines (Leader)

Michael Simonson (Communicator)

Shawn Patel (BWIG)

Andrew Vamos (BSAC&BPAG)

Date: 9/8/2014-9/12/2014

Problem Statement

Pelvic floor muscle biofeedback systems have been used to educate and train people how to correctly control the process of urination in children and elderly patients. As devices slowly fail or get outdated, a new device and interface system that can be used in conjecture with videogame like training programs is desired. With the completion of a basic EMG biofeedback system, our goal is to continue to improve the functionality of the software while simultaneously designing hardware with commercial standards in mind. This product will be designed and tested so that use in a hospital will be safe for both the hospital staff and the patients.

Last Week's Goals

- Introduce new members to the project
- Show Shawn and Andrew the current materials

Summary of Team Role Accomplishments

- Leader (Sam): Finished progress reports as well as working on the outline for the semester and basic hardware design choices
- Communicator (Michael): Built new EMG as well as working on the outline for the semester and basic hardware design choices
- BWIG (Shawn): Worked on determining outline for the semester and basic hardware design choices
- BPAG And BSAC(Andrew): Worked on determining outline for the semester and basic hardware design choices

Summary of Design Accomplishments

- We had our first team and adviser meetings and determined the main goals for the semester.
- In our team meeting we decided tentative deadlines for our work.
    - We will have hardware decisions made by the preliminary report deadline.
    - We will have the hardware tested within two weeks of final hardware decisions.
    - We have scheduled software decisions and work to be complete by the end of the semester.

Project Difficulties

- There is a lot of testing that needs to occur to ensure the safety and reliability of our final product. However for that to occur we need to finalize our hardware design parameters.

This Week's Goals

- Finish the current EMG design on a bread board in the lab so that we can begin comparing our EMG to industry standards.
- Begin research on industry standards for EMGs.
- Decide if we want to use an Arduino or if we want to code our own microcontroller.

Activities

Person(s)	Task	Time (hrs)	Week Total	Semester Total
Sam	Team meeting Worked on EMG	1 1	2	3
Michael	Team meeting Built on EMG	1 1	2	3
Shawn	Team meeting	1	1	2
Andrew	Team meeting	1	1	2

Timetable

Pelvic Floor Biofeedback Games															
Month	September				October					November				December	
Week	5	12	19	26	3	10	17	24	31	7	14	21	28	5	12
R&D															
Prototyping															
Testing															
Deliverables															
Reports	x	X													
Papers															
Posters															
Meetings															
client															
Adviser		X													
Team		x													
Website															

*Note that once schedule is determined, there will be indications of when certain parts will be finished on this table

Expenses

- No current expenses