
WEEKLY SPONSOR COMMUNICATION

TO: VICTOR NUNEZ, AESCULAP
FROM: CASSIE CHRISTMAN
EDITOR: JADON SARGEANT
TEAM NAME AND NUMBER: AESCULAP 1
DATES COVERED IN THIS COMMUNICATION: FEBRUARY 29, 2016 TO MARCH 6, 2016
WEEK NUMBER: 5 OF 15

Overview

On behalf of our team, thank you for hosting Christian, Cassie, Brian, Jadon and myself on Wednesday afternoon. We greatly appreciate you taking time out of your day to answer our questions and to give us another tour of the Aesculap facility. Also, thank you for the saw-bones; they will be an important part of our midterm presentation.

As a general note, we will not be sending a brief next week because we will be on spring break. The progress we make next week, as well as feedback from our midterm presentation will be included in the brief sent to you on March 25th.

This week we finished the research for our midterm and compiled it into a powerpoint, which we will present on Tuesday, March 8th.

Accomplishments

1. The additional progress we made on our midterm presentation topics is depicted below:
 - Industry, Company, and Project Description: Cassie Obzud
Cassie continued her research on the medical device industry and its impact on our product. She also researched activL competitors and the industry opportunity for our distractor.
 - Mission Statement: Brian Loughran
Brian finished our mission statement, which is as follows: "Our mission is to provide a parallel distractor to be used by orthopedic surgeons in an effort to increase quality of life for patients with severe degenerative disk disease in the spine".
 - Intellectual Property Research: Christian Davis
Christian conducted research regarding competitive benchmarks by examining the distractor in the surgical package for the ProDisc-L implant offered by DePuy Synthes. He found that those distractor are nearly identical to the distractor currently included in the activL package, and therefore, the improvements made on Aesculap's current distractor will also be improvement over the competition.

- Standards Research: Christian Davis, Alexis Haupt and Cassie Christman
I learned that hospitals must comply with regulation 42 CFR 482.42(a) set by the Department of Health and Human Services with regards to infection control; thus, our distractor will need to be cleanable and sterilizable through both steam sterilization and IUSS sterilization.
 - Customer Needs: Alexis Haupt and Cassie Christman
I contacted the surgeon offices in the Lehigh Valley area that I looked up last week and emailed the questions I developed to two of those offices. I spoke to Dr. P. Mark Li's, Chief of Neurological Surgery at Lehigh Valley Health Network, coordinator and also emailed her the questions. She relayed that Dr. Li has great interest in our project and is enthusiastic about helping us establish surgeon needs for the product. I will hopefully be receiving his responses to my questions early this upcoming week. I also researched some requirements for the device hospitals/insurance companies may have, as well as general parameters the surgeons may want the device to have in order to relate those needs to the product specifications you initially gave us.
 - Target Specifications: Jadon Sargeant
Jadon compared the metal alloys included in the "corrosion resistance vs hardness" slide of your presentation to other commonly used alloys. He then compared the relative costs of those alloys, including several titanium alloys, which are significantly more expensive. He investigated the regulatory standards for multiple potential materials to determine which may be viable alloys for the distractor.
2. We compiled the research we collected the last few weeks and organized the information into the powerpoint we will use for our midterm presentation.
 3. The budget Jadon created for this and next semester was approved by our faculty advisor. This budget can be found in the Appendix A.
 4. Brian also experimented with using the 3D printers we have on campus to become more familiar with the process of creating a 3D model in Solidworks and converting the model to a compatible file for the Ultimaker 3D Printer. Since we will soon be developing mock-ups of our product, being familiar with this process will be beneficial for us.
 5. Christian and I also created sketches for ideas we have for different components of the distractor. Christian's design focuses on the overall design on the distractor, whereas mine focuses on the ease of removal of the impaction handle. Both of these sketches are included in Appendix B and Appendix C, respectively.

Next Steps

1. We will make final adjustments to our midterm presentation and rehearse it in preparation for our presentation on Tuesday, March 8th .
2. Once we return from spring break, we will complete any remaining research for customer needs, IP analysis and the needs matrix. This information will help us develop design concepts to be used for our first mock-ups.

Appendix A: Approved Project Budget

IPD Team Budget

TEAM: Aesculap 1

Budget Period: SPRING or SPRING AND FALL or FALL

Faculty Advisor: Lauren Purdom

Faculty Advisor Signature: _____ Date: _____

Submitted by team member: Jadon Sargeant

Email: jts317

Date: February 21, 2016

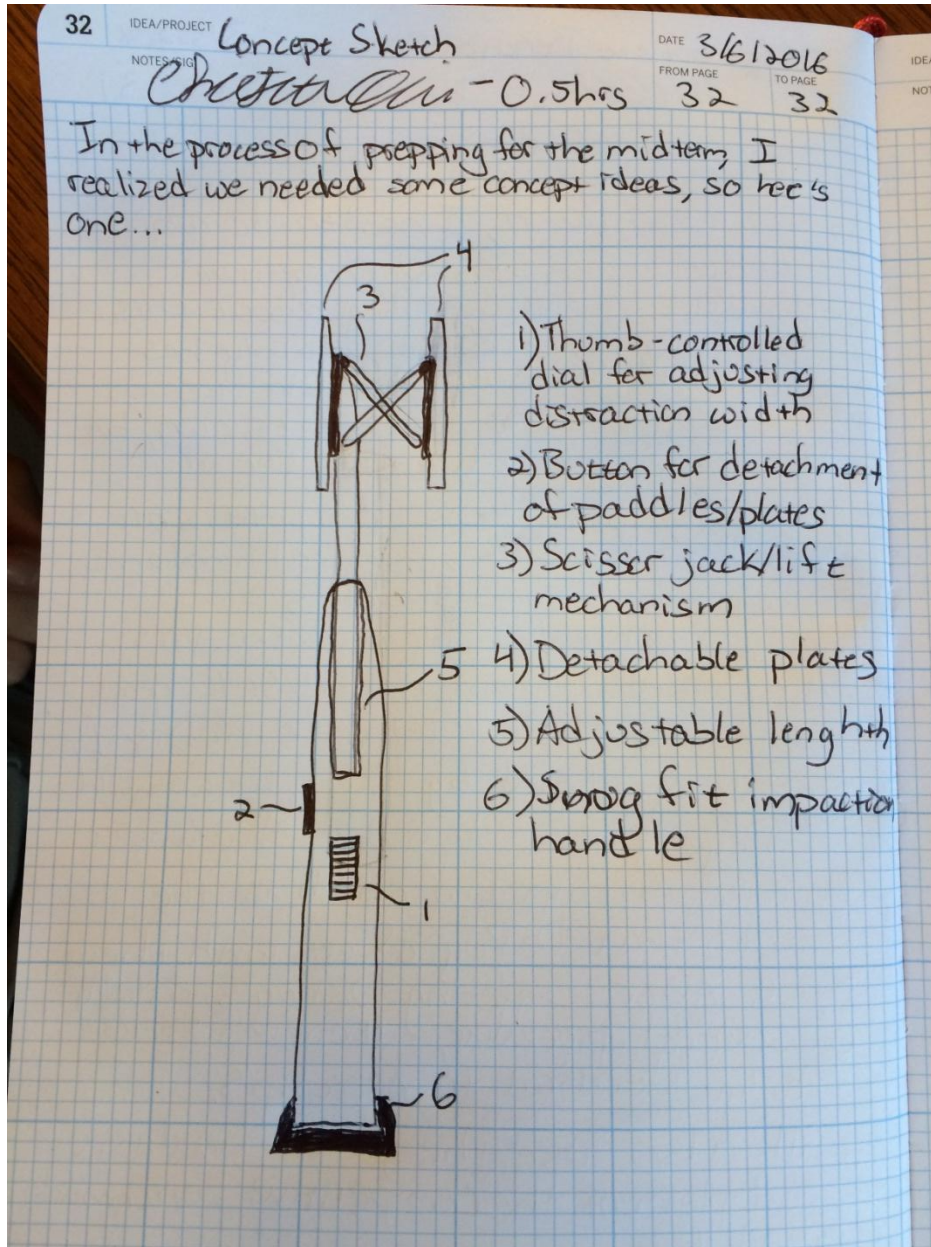
| Expense | Amount | Example |
|-------------------|---------------|---------------------------------------|
| Pre-Design | \$ 200 | 3D print, woodshop materials, mock up |
| Prototyping | \$ 500 | Expert help, 3D print, water jet |
| Post Modification | \$ 200 | Lazer cutter, ergonomic consult |
| Lab/Shop Fees | \$ 150 | Packer Lab, Chandler Ulman |
| Prototype Testing | \$ 350 | MTS, Cylic S/N |
| Travel | \$ 100 | Gas, Tolls |
| | | |
| Total | \$ 1,500 | |

1. This budget is a generalization to give you an idea of what to consider for your team's budget. Develop your budget based on these guidelines and information presented in class with expenses specific to your team's project.
2. After your team has developed a budget, have your faculty/advisor approve the budget. Once it has been approved, bring it to the IPD Office for final approval.
3. You may complete your budget for the spring semester only, or for the both the spring and fall semesters. Each team is allotted a total of \$1,500 for the year.

4. As a general rule, most teams spend less in the spring semester than in the fall.
5. No purchases or reimbursements can be made until the approved budget is on file with the IPD Office, with the exception of travel reimbursement/expenses for sponsor site visits.
6. Meals for team members, faculty advisors, or sponsors are not an allowable expense, neither is expedited shipping, so plan ahead.

Budget revisions can be made at anytime, with faculty advisor approval.

Appendix B: Christian's Distractor Mechanism Design Concept



Appendix C: My Impaction Handle Design Concept

