## **MEETING MINUTES**

## **Topic: Capstone Northrop Grumman Handling Arm**

Monday, 11/5/2018 Room 323, Engineering Building

6:30pm-8:15pm

Minutes recorded by: Sami Scarcello

Meeting called by: Savannah Hillebrand

Attendes: Rayne Dobson, David McNealy, Tyler Schafer, Keven Benavente, Sami Scarcello, Savannah

Hillebrand

Please bring: Laptops

## Table 1. Record of meeting.

| 6:30 pm to | Introduce everything needed to be done in the next couple of weeks      |             |  |  |
|------------|---|-------------|--|--|
| 6:35 pm    | <ul> <li>BOM</li> <li>CAD Package</li> </ul>                            |             |  |  |
|            | <ul><li>Prototype</li></ul>   | 323         |  |  |
|            | • Presentation 3  |             |  |  |
| 6:35 pm to | Make sure everyone's individual analyses are completed                  |             |  |  |
| 6:55 pm    | <ul> <li>Answer questions</li> </ul>                                    | Room<br>323 |  |  |
|            | Set up meeting times with Dr. Oman when needed                          | 323         |  |  |
| 6:55 pm to | Split up BOM, CAD Package, Prototyping                                  |             |  |  |
| 7:00 pm    | BOM done by Tyler and Sami  | Room        |  |  |
| _          | <ul> <li>CAD Package by Savannah and David</li> </ul>                   | 323         |  |  |
|            | Gather materials for prototyping by Keven and Rayne                     |             |  |  |
| 7:00 pm to | Discuss Prototyping ideas   |             |  |  |
| 7:07 pm    | Make sure 3D printer material can support arm                           | Room        |  |  |
| _          | <ul> <li>Discuss updates on Titan arm</li> </ul>                        | 323         |  |  |
|            | <ul> <li>How it will be represented in Presentation 3</li> </ul>        |             |  |  |
| 7:07 pm to | Discuss Presentation 3 Final Design                                     |             |  |  |
| 7:15 pm    | Should we use our first final design or design with modifications       | Room        |  |  |
| 1          | Savannah will email Dr. Oman  | 323         |  |  |
| 7:15 pm to | Finalize Final Design   |             |  |  |
| 7:45 pm    | Rotational movement for rack and pinion                                 |             |  |  |
| *          | <ul> <li>Inspiration from Diopter Adjustment from binoculars</li> </ul> | Room        |  |  |
|            | <ul> <li>Pin System with rack and pinion</li> </ul>                     | 323         |  |  |
|            | <ul> <li>Set screw on ring bearing</li> </ul>                           |             |  |  |
|            | Discuss different head ideas  |             |  |  |

|                       | Most focus on the tripod clamps and how they work  |             |
|-----------------------|--|-------------|
| 7:45 pm to<br>8:00 pm | <ul> <li>More Prototype Discussion</li> <li>What needs to be 3D printed</li> <li>What to use as clamp</li> <li>How much PVC pipe, possibly flexible joints</li> <li>BOM for Prototype</li> <li>How to model head attachments</li> <li>Caulking?</li> </ul> | Room<br>323 |
| 8:00 pm to<br>8:15 pm | <ul> <li>Decide who does what for Presentation 3</li> <li>◆ Assign each person to a section</li> </ul>   | Room<br>323 |

Table 2. Tasks Assigned.

| Task  | Person<br>Assigned | <b>Due Date</b> | Date<br>Complete |
|---|--------------------|-----------------|------------------|
| Complete Analytical Analysis (Majority)             | Everyone           | 11/4/18         | 11/4/18          |
| Explore Vertical Adjustment Methods                 | Everyone           | 11/5/18         | 11/5/18          |
| Check on Purchasing                                 | Tyler              | 11/2/18         | 11/2/18          |
| Email Sketches to Steven                            | David              | 10/30/18        | 10/30/18         |
| Check on Reimbursement                              | David              | 11/2/18         | 11/2/18          |
| Finish Bio  | Sami               | 10/31/18        | 10/31/18         |
| Email Dr. Oman about Final Design in Presentation 3 | Savannah           | 11/5/18         | 11/5/18          |
| Create Institutional Excuse for CDR                 | Rayne              | 11/6/18         |                  |
| Finish Individual Analyses                          | Everyone           | 11/9/18         |                  |
| Finalize Final Concept                              | Everyone           | 11/14/18        |                  |
| Complete CAD Package                                | Savannah,<br>David | 11/12/18        |                  |
| Obtain Prototype Materials                          | Keven, Rayne       | 11/11/18        |                  |
| Complete Prototype                                  | Everyone           | 11/12/18        |                  |
| Finalize Presentation 3                             | Everyone           | 11/14/18        |                  |

| Complete BOM                     | Tyler, Sami | 11/12/18 |
|----------------------------------|-------------|----------|
| Finalize CDR                     | Everyone    | 12/3/18  |
| Edit Preliminary Report          | Rayne, Sami | 11/19/18 |
| Assign Sections for Final Report | Everyone    | 11/12/18 |

Next formal meeting: 11/12/2018, room 323, Engineering Building at 6:30pm.