Memo

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| To: | Troy Scevers |
| From: | Nathan Wiley |
| Date: | October 28, 2022 |
| Re: | Memo 4 |
|  |  |

This week I made a lot of progress, I also started an actual timesheet because it was getting hard keeping track of time. From now on I will include table of the breakdown of the hours worked.

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| --- | --- | --- | --- | --- |
| Day | Time Started | Time Ended | Total Hours | Description |
| Saturday | 12:00 PM | 5:00 PM | 5:00 | Started fitting hardware to base, drilled holes for Lazy Susan, purchased wood filler, started repair on tube rings |
| Sunday | 1:00 PM | 4:00 PM | 3:00 | Sanded tube rings and tube, primed turntable and tube, painted tube. |
| Monday |  |  | 0:00 |  |
| Tuesday |  |  | 0:00 |  |
| Wednesday | 8:30 AM | 3:00 PM | 6:30 | Cut and assembled legs for platform base, reassembled primary and secondary mirrors, eyepiece, and focuser |
| Thursday | 11:00 AM | 6:00 PM | 7:00 | Researched parts extensively, finished requirements doc, ordered parts |
| Friday | 10:00 PM | 11:00 PM | 1:00 | Wrote Memo |
| Week 4 | Weekly Total: | | 22:30 |  |

To continue from last week, I started with the repair on the tube rings. Using plastic wood, I gave the rings smooth surfaces again. I ran out of primer, so I will have to wait to paint these parts until I get some more.

All of the parts I ordered last week arrived, so I was able to start putting those pieces together. First, I drilled holes into the triangle base for the Lazy Susan. Then I drilled holes into the tube rings to attach the latches. Lastly for those parts, I build supports for the levelling legs to mount to.

I wrapped up my requirements document this week, along with the decision matrices for each part. I feel much more confident in the project as a whole, and I believe I will be able to meet some stretch goals as well.

**Below is the updated detailed schedule for this term with completed items in green:**



I made a lot of progress this week and even got a bit ahead. Next week I want to finish up the paint for all the pieces and start putting the scope on the base. To do that I need to run to the hardware store and get some more paint and primer. Also, for the tube rings to fit right, I need some rubber strips to grab onto the tube. I’ve been thinking of ways to incorporate the gearing of the motors to the vertical axis, and I might start by making a sketch in inventor to 3D print.

**Tube ring repair pictures below:**

|  |  |
| --- | --- |
| Before: | After: |
|  |  |

**Picture of levelling legs below: (Baby tested and approved)**

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| --- | --- |
|  |  |

**A picture containing floor, indoor, table, furniture

Description automatically generatedA picture containing floor, indoor, dining table

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**Tube restoration pictures: (Note water damage before)**

|  |  |
| --- | --- |
| Before: | After: |
|  |  |

|  |  |  |
| --- | --- | --- |
| Focuser, Eyepiece, and Star finder mounted: |  | Primary and secondary mirrors mounted. |
| A picture containing indoor, telescope  Description automatically generated |  | **A picture containing device, round  Description automatically generated** |

Since the mirrors and eyepiece was installed, I was able to go outside and point the thing by hand. I managed to see jupiter and its moons quite easily! I only have a 24mm eyepiece, which provides about 48x magnification, but if I were to get an eyepiece in the range of 5 – 8 mm, it would provide 150x – 200x+ magnification. It’s not necessary for the project, but I might get one just for fun.

The moon wasn’t out unfortunately, so I’ll have to wait a bit to take a picture of it.

Below is a picture I managed to take through the eyepiece of the telescope as I was aiming it at jupiter.

You can clearly see 4 of its moons!

Diagram

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