**Meeting Agenda**

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| Start Meeting  Determine Meeting Schedule | Monday, March 23, 2020  At home -Virtual WebEx meeting  Client & Staff Meeting   * Present:   + Dr. Bowman   + Dr. Trevas   + Andrew Acosta   + Sultan Almarzouqi   + Sam Armstrong   + Karissa Barroso   + Scott Sprauer |
| Upcoming Assignments | **Actions/Notes:**   * Upcoming deadlines/goals * Obstacles with a virtual class * Testing? |
| Next Meeting | Next Staff meeting: April 6, 2020 |

**Notes:**

Since our last meeting the team has completed most of the final product. Before break, we had ordered some parts to make adjustments to the current design because we were having issues with developing the linear actuator and getting the drill to correctly move up and down. We decided to stick with our original design and get two ball/screw rods controlled by motors on both sides of the drill. These motors will run at the same speed simultaneously to move the drill up and down.The code for the electronics was almost completed, we just needed to make adjustments with the caching system servo motors and the distance sensor that cues the movement of the caching system.

Unfortunately, due to the COVID-19 outbreak, our class has since been moved online and working as a group is not advised. Therefore, we may not be able to complete the hardware and electronics. Leaving us without a caching system. The team decided with the obstacles now presented, we would only represent this caching system in our CAD modeling program, and not in our actual final product. We will leave the final product as is (but with the new parts that are already available to us) and will just not perform testing with it. We will instead follow these analysis questions presented by Dr. Trevas instead:

What force is required to drill into the asteroid at a given rate?

What torque is required by the motor turning the lead screw to achieve that force?

How much electromagnet pull is needed to hold the apparatus in place?

What current is required?

We will, however, work as a team to develop a detailed CAD of every subsystem that we need to create an operable and sufficient final product. The rest of the semester will include analysis based on this CAD and operations/assembly based on the CAD. The team will then work together (from home) to create a final presentation using powerpoint voice overs that Sultan will edit.

**DISCLAIMER**

This work was created in partial fulfillment of Northern Arizona University’s Capstone Course “ME 486C″. The work is a result of the Psyche Student Collaborations component of NASA’s Psyche Mission ([https://psyche.asu.edu](https://psyche.asu.edu/)). “Psyche: A Journey to a Metal World” [Contract number NNM16AA09C] is part of the NASA Discovery Program mission to solar system targets. Trade names and trademarks of ASU and NASA are used in this work for identification only. Their usage does not constitute an official endorsement, either expressed or implied, by Arizona State University or National Aeronautics and Space Administration. The content is solely the responsibility of the authors and does not necessarily represent the official views of ASU or NASA.