PROGRESS UPDATE

December 1, 2018

As the academic quarter comes to a close, all areas of the team have made significant progress. One of the most important progress updates is the successfully qualification of the physical printing qualifier. Due in November, it required the team to demonstrate three things: complete autonomy (every interaction is a point deduction), demonstration of the printing process, such as the ability to print multiple layers, and with a print of any size and shape. The materials team alongside the 3D printing team successfully modified the existing cement printer and materials composition and recorded their successful results to submit to NASA.

Meanwhile, the habitat team has been hard at work updating the model to accommodate for the new crawl space and preparing the model for the January submission. The floor plan and layout for the habitat has been redesigned to allow for more efficient use of space. Furthermore, most of the mechanical, electrical and plumbing systems have been modelled, designed, and implemented to the necessary design standard into the crawl space. Furniture is slowly being implemented and designed in order to utilize space efficiently. Lastly, custom lighting is being added into the model, a big aesthetic improvement from the previous model.

To conclude, the robotics programming team has been hard at work further developing the interfaces for the multi-axis robot. Currently the team has been coding sensors to detect whether or not the hopper providing materials is empty for the robot to automatically refill. Additionally, the team has been continuing their simulation work in order to successfully model the multi-axis robot printing out walls and other objects.