

Journal 7

3/10/25

Megan Dalton

Structure -

I started the structure search by exploring what would a mars shelter be made up of. Since there currently isn't an existing habitat most of the work is experimental or theoretically. The biggest problem seems to be the cost to transport material. It is estimated it would cost \$2 million to ship a single brick to Mars. To counter this issue much work is being done with using local materials. Specifically regolith to shield against the radiation or even ice to work as windows. Through my research I found a competition hosted by NASA that proposed how 3D printing might utilize this material. These images are the winning proposal and starts to get at the idea of the structure. Moving forward I would like to use these results to more influence my own design.

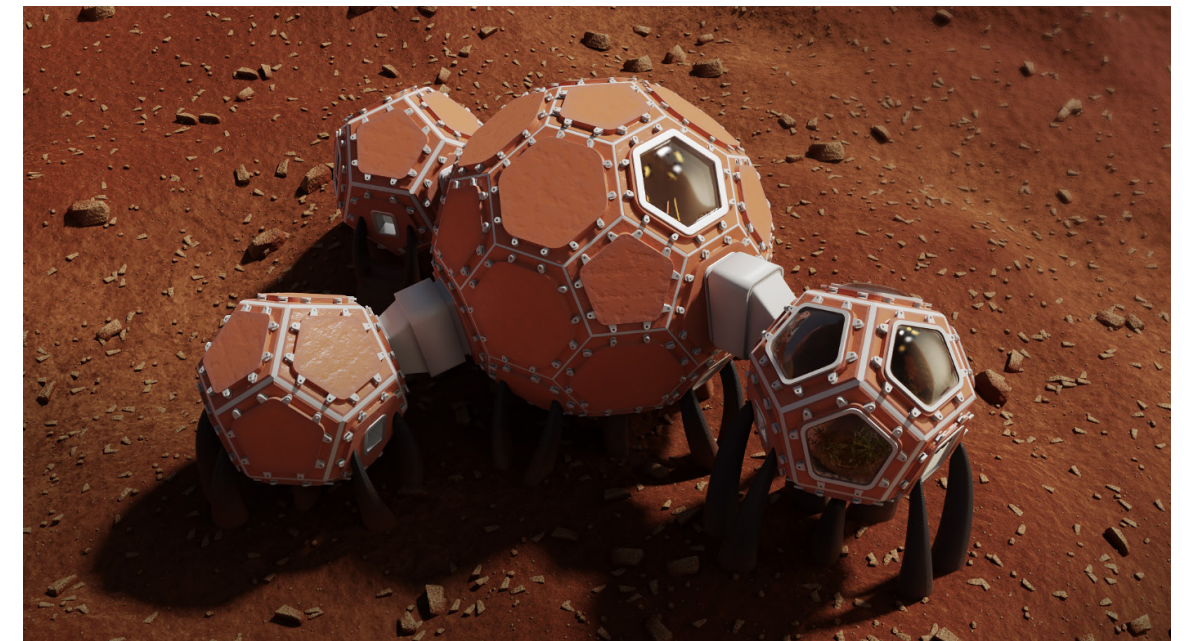
Another thing I discovered in my research is the type of plant/food being proposed to be grown on Mars are Duckweed and Water Fern



Team SEArch+/Apis Cor of New York won first place in Phase 3: Level 2 of NASA's 3D-Printed Habitat Challenge. For this level, they printed a foundation and subjected it to various tests, including dropping a shotput on it to simulate a meteor strike.



Team Zopherus of Rogers, Arkansas, is the first-place winner in NASA's 3D-Printed Habitat Challenge, Phase 3: Level 1 competition.



The virtual design from team Mars Incubator won third place in the Phase 3: Level 4 software modeling stage of NASA's 3D-Printed Habitat Challenge.

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Rhino Inside -

My main goal for this journal was to get my design as it is into Revit. I quickly ran into a problem. After opening a new Revit file and pushing run on Rhino inside, nothing happened. After waiting 20 minutes, I restarted my computer and tried again. Another 20 minutes passed with nothing besides the program loading. I then tried uninstalling the program and reinstalling it. Yet another 20 minutes passed with no change. I am planning to watch some tutorials and talk with Chris to hopefully resolve the issue. Pictured to the right is all I was seeing while the program was loading for 20 minutes without anything happening.

As for the design now that I have a better understanding of how a Mars shelter might be assembled, I am planning to do a second pass at the design. The NASA competition as well as several concept sketches have been very influential.

Unable to get Rhino Inside to work

