COSC 3P98 Project – Martian Conflict

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Background

       In the distant future, humanity has successfully begun the terraforming process in Mars, resulting in the creation of an atmosphere. Various countries and large corporations have begun a largescale land grab race in order to cultivate swaths of land and claim its resources as their own. Disruption from competing parties has led to difficulty in maintaining satellites around the planet, leading to the use of Drones. A hover drone on a scouting mission discovers a base on the other side of a mountain range with a large satellite dish. A missile is dispatched to wipe out the competition and claim the resources under the mountain range for their own.
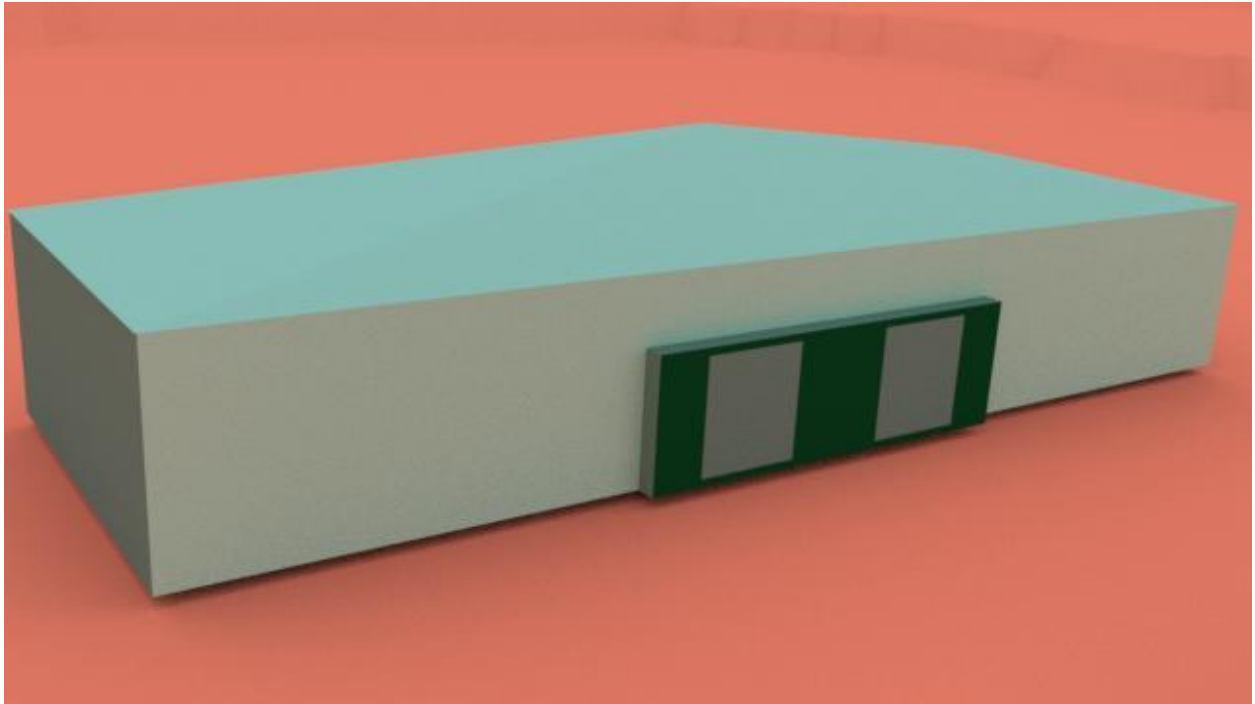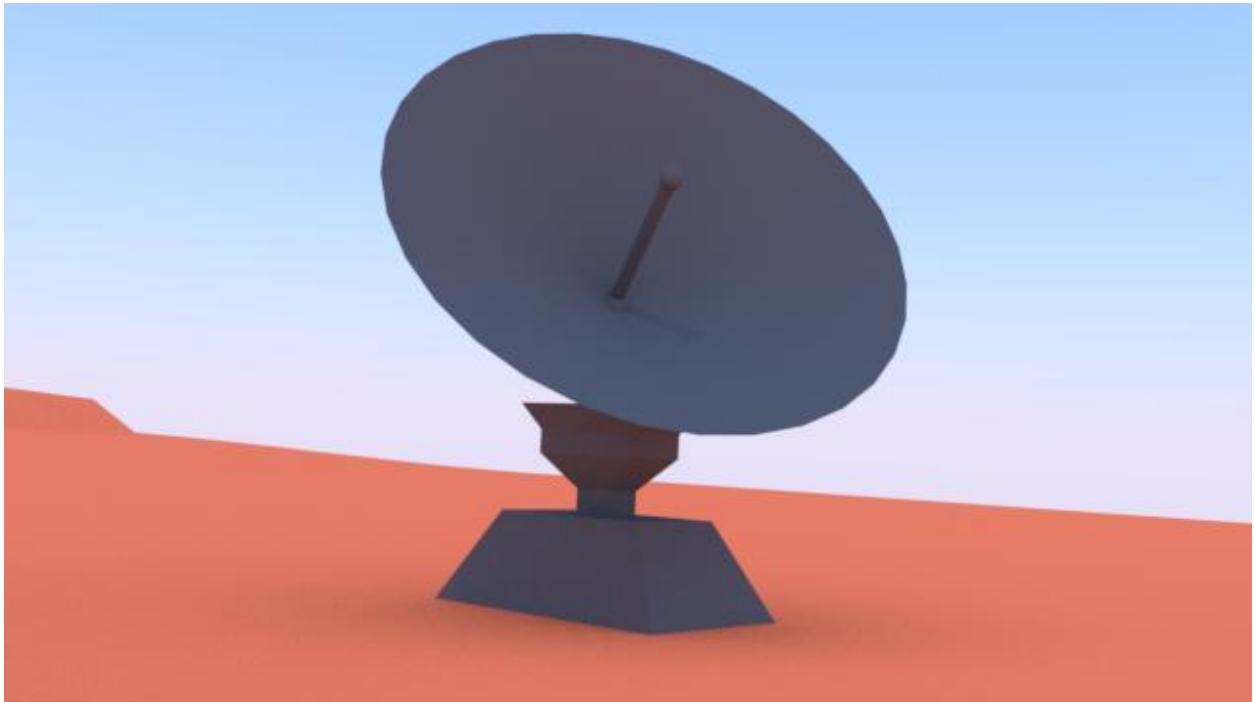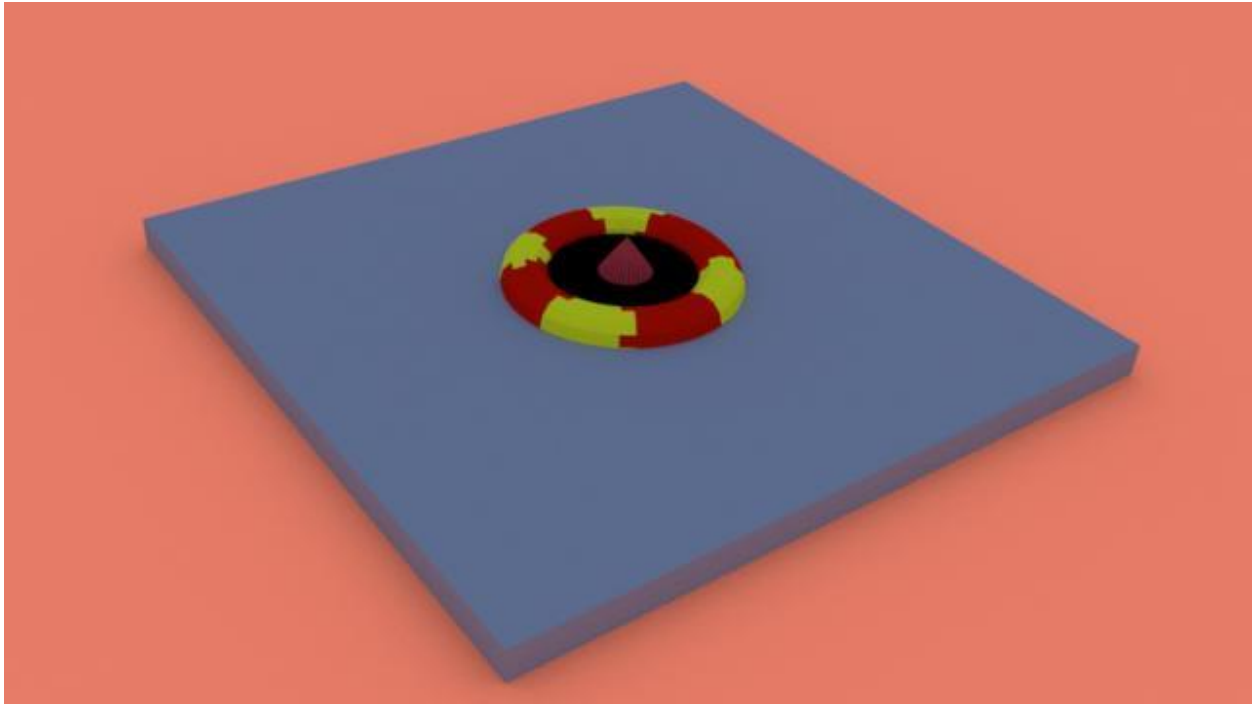

Models
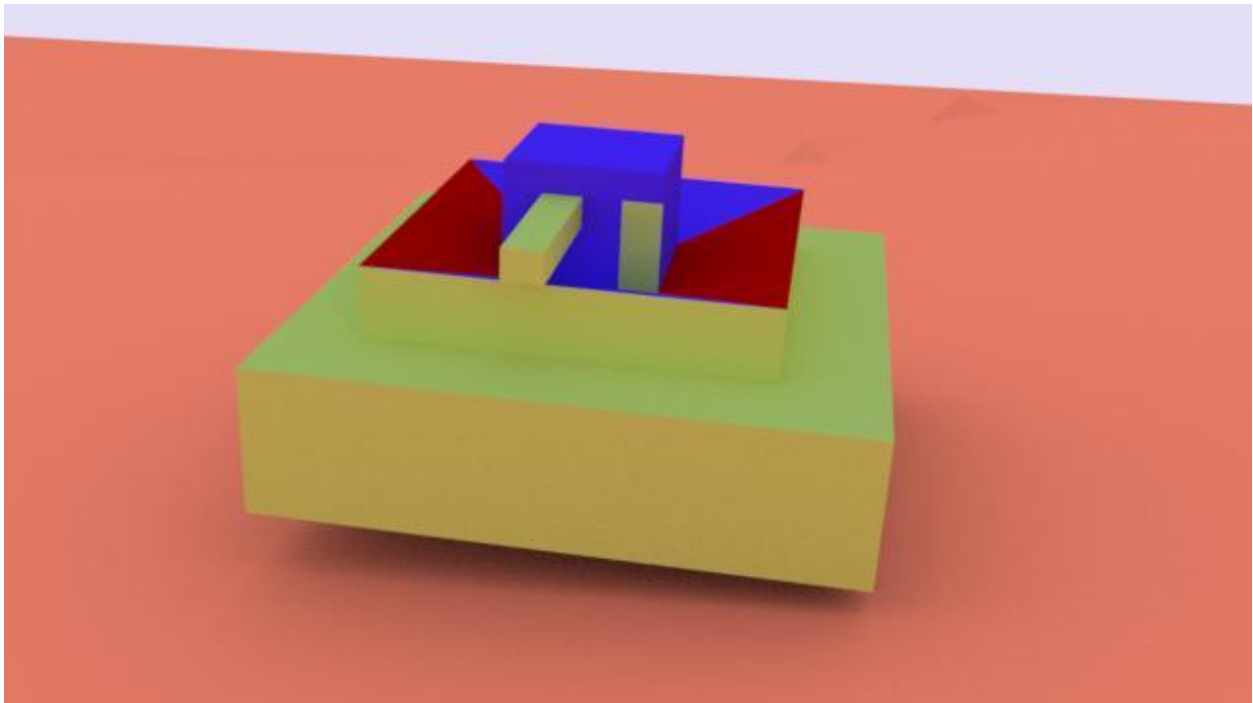
Hover drone - made with thick armor plating and equipped with various sensors

Private Military base – Large metal ware-house like structure, fully sealed with bay doors to maintain a livable atmosphere within its confines.
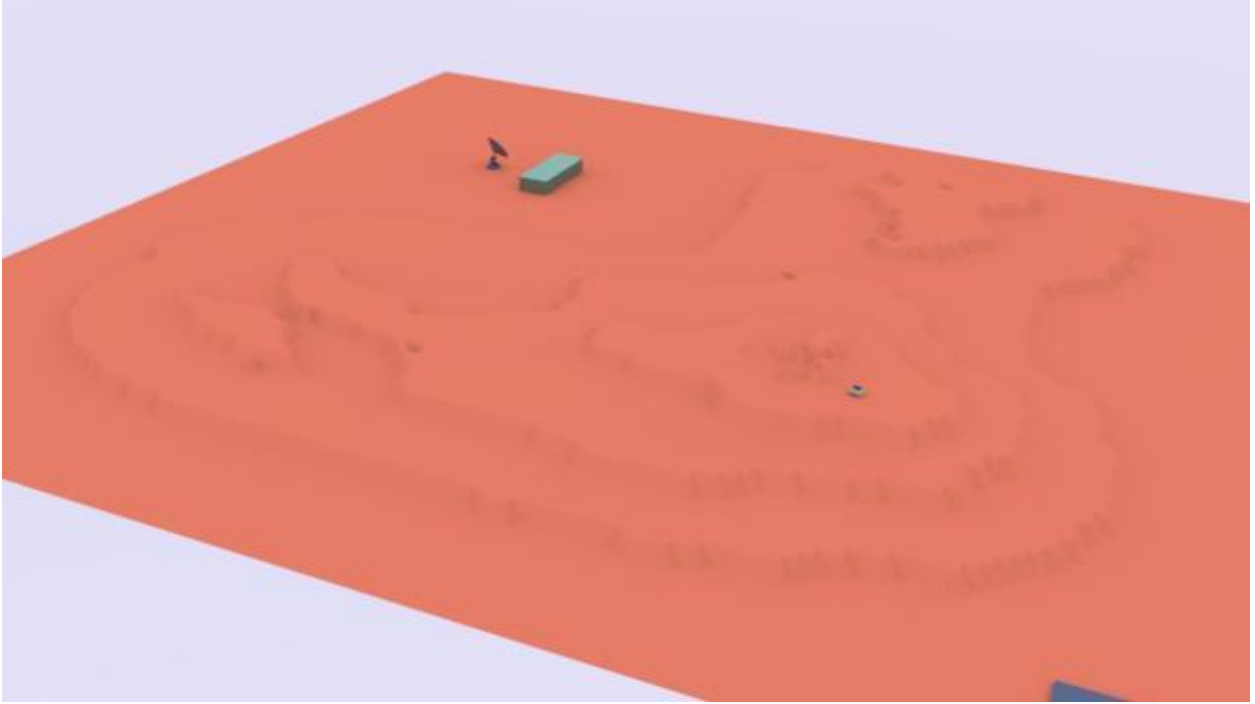

Satellite – Used for relaying data about the area

In-ground Missile Silo

Missile

Landscape

Animation System

Blender was used as the animation system for this project. All models were modeled within blender. A plugin, ANT-Landscape, was used to create the landscape through modifying various settings until a satisfactory result was achieved. The explosion effect on missile impact was created using particle effects, and smoke physics through domain and fluid objects.

Video Editing

Shotcut was used for basic video editing to add rudimentary sound effects as well as a sound track for the video output from Blender. No editing was done other than simple filters for the audio track cutting in and out.

Issues

Animation render time was longer than expected, taking initially over 48 hours for 1080p, lossless rendering by blender due to hardware constraints. After mistakes were discovered, the animation had to be re-rendered. Video resolution was scaled down to 720p with compression to accommodate for the time schedule. Initially, rendering of smoke trail effects for the missile was implemented. This was removed due to its severe impact on render time given a large domain containing the entire map. A domain was kept around the explosion target at the end of the animation. The particle effects of on the missile is still present, and a smoke trail can be re-implemented by adding a domain and defining adding the domain and flow under physics. With better hardware, reimplementing this would have been a desirable result.

Credits

Music used: Bjork – Army of Me

Sound effects obtained from www.freesound.org

- https://freesound.org/people/tommccann/sounds/235968/
- https://freesound.org/people/sandyrb/sounds/86295/
- https://freesound.org/people/rene___/sounds/56778/