APOLLO 11 MISSION

- Apollo 11 launched on July 16th, 1969 from the Kennedy Space Center in Florida
- The Lunar Module descended to the surface of the Moon in the "Sea of Tranquility", about 4 miles past the expected touch-down area
- 109 hours, 42 minutes after launch, Neil Armstrong took the first steps on the Moon
- During the Moon walk, the astronauts ventured up to 300 feet from the lunar lander during their 2 ½ hour walk
- 195 hours, 18 minutes, and 35 seconds after the initial launch, Apollo 11 splashed into the Pacific Ocean

OMSI

The Oregon Museum of Science and Industry (OMSI) requested this animation of the Apollo 11 Mission so that it could be displayed in the Harry C. Kendall Planetarium this Summer to commemorate the 50th anniversary of the mission. With direction from Jim Todd, the Director of Space Science Education, our team created the animation with the goal to educate and inspire viewers of all ages and backgrounds.

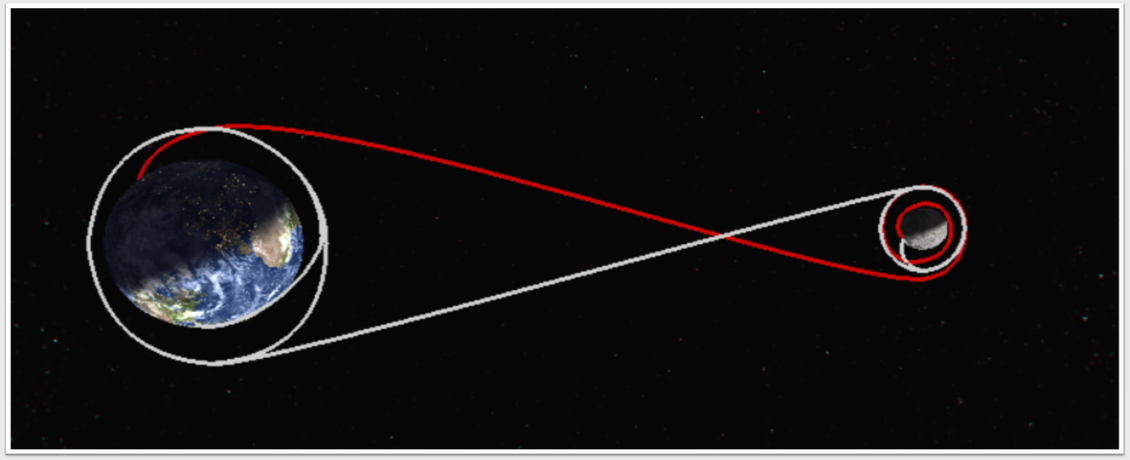
OUR GOALS

- To educate and inspire various audiences about astronomy
- Provide viewers with a realistic and interactive experience of the Apollo 11 Mission
- Provide historical about the mission context through historic video/audio
- Illustrate how large of an undertaking the Apollo 11 was, especially for its time

Oregon State University

APOLLO 11: 50TH ANNIVERSARY

Recreating the historic mission that landed the first human on the Moon

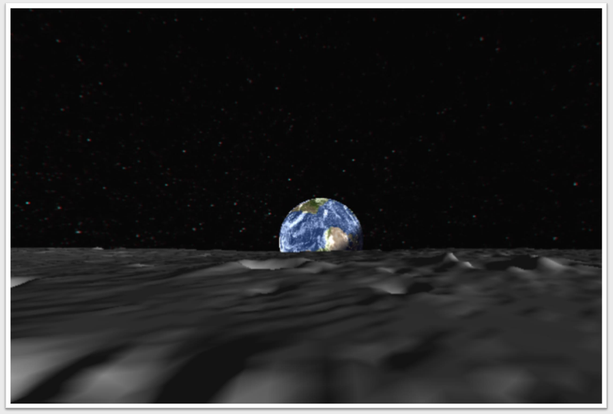


Apollo 11 Flight Path

Just like NASA, we had to determine the flight path based on the Moon's position and orbit.

Lunar Module – "Eagle"

While we found the object for the Lunar Module, the textures had to be manually applied. Also, with many different objects used from many different sources, accurate scaling and positioning was key.



What a View

3D animation allows viewers to see what astronauts saw while they were on the Moon, as well as having more freedom to move a camera around the scene.

TECHNICAL DETAILS

- The animation was programmed using OpenGL, an open source graphics library, and C++
- Computer graphics techniques used:
  - -Key-Frame Animation
  - -Texture Wrapping
  - -Per-Fragment Lighting
  - -Shaders
  - -Parametric Curves
- Accurate depictions of the Earth/Moon position, axis, rotation, etc.
- 10 different viewpoints throughout the animation with full ability to adjust the scene
- The objects were taken from different sources and had to be scaled, positioned, and textured individually to the correct proportions.

'THE APOLLOERS'

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