PRESIDENT UNIVERSITY

3D CGA - Project Report

“Project Name”

I. Character Profiles

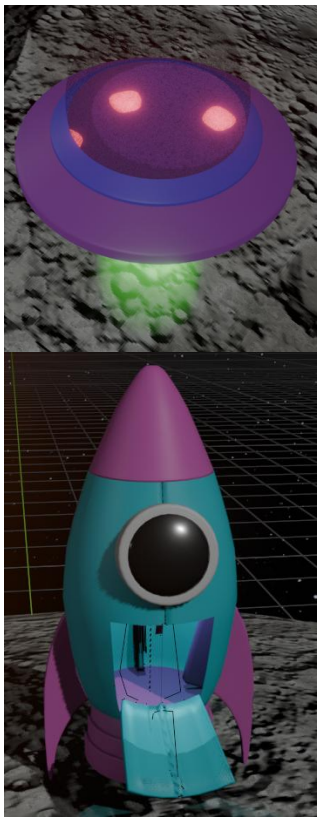
A. Main Character

	**Character Name:** **ASTRONAUT** **Description:** An astronaut lands on the Moon as part of a routine exploration mission. While surveying the surface, he stumbles upon something unexpected: an alien named Pedro. Pedro, a friendly and curious being, has been living on the Moon for years, hidden from human sight. Surprised by the encounter but intrigued, the astronaut and Pedro communicate, both amazed by their first contact. With a mix of wonder and caution, the astronaut realizes this is the beginning of an extraordinary new chapter in humanity’s exploration of space..

B. Companion

	**Companion Name:** **PEDRO** **Description:** Pedro arrives in his sleek UFO, which lands shortly after the astronaut touches down on the Moon. The craft is compact but advanced, with smooth curves and a shimmering surface that seems to blend with the surroundings. As he steps out, his presence is both mysterious and peaceful, carrying an aura of wonder and otherworldly wisdom. Despite his alien origins, Pedro exudes a calm energy, eager to make contact with the astronaut and explore the possibilities of this unexpected meeting

C. Props



Props Name:

Description (optional):
The astronaut's rocket is a cutting-edge, sleek spacecraft designed for deep space exploration. Its exterior is a polished metallic silver, reflecting the harsh lunar environment as it stands tall on the Moon's surface. The rocket has a streamlined, aerodynamic shape, tapering to a sharp point at the top, with large thrusters at the base designed for smooth landings and takeoffs. The body is marked with bold, futuristic symbols, a blend of white and blue, representing the astronaut's mission to the Moon.
The UFO that Pedro uses is a sleek, mysterious craft with a smooth, metallic surface that shimmers under the light of the Moon. Its design is unlike anything human technology has produced, with an organic, fluid shape that seems to ripple and pulse with energy. The UFO has a rounded, disc-like body with soft, glowing edges, giving it an almost ethereal appearance. The surface is a mix of dark silver and deep green, blending seamlessly with the lunar landscape, as if it were part of the environment itself.

D. Background Story

Background Story:

In the year 2075, humanity has successfully established its first permanent lunar base, marking a new era of space exploration. Astronaut Captain Alex Carter, part of an elite mission to map uncharted regions of the Moon, is sent on a solo expedition to explore a remote crater on the far side of the lunar surface. As he lands his sleek spacecraft, he begins his survey of the area, unaware that his journey will soon lead to an extraordinary encounter.

Shortly after his landing, an unusual glow catches his attention, and to his amazement, a UFO quietly descends from the sky. The craft's smooth, metallic surface shimmers in the stark lunar light, and out steps Pedro, an alien with vibrant green skin and large, curious eyes. Pedro, a traveler from a distant star system, has been observing Earth for centuries, quietly studying humanity's progress from afar.

The two beings, one human and one extraterrestrial, meet on the Moon's desolate surface, marking the first contact between their species. Pedro explains that his race has been monitoring the Earth for millennia, waiting for the right moment to reveal themselves. With a mix of wonder and caution, Captain Carter listens as Pedro shares

knowledge of the universe, offering glimpses of a far greater cosmic reality than humanity could ever imagine.

In that quiet, otherworldly moment, the astronaut realizes that humanity's exploration of space is no longer just about scientific discovery, but about the potential for deeper connections with intelligent life beyond Earth. The encounter leaves Carter with a new understanding of the universe, one that will shape the future of space exploration for generations to come.

II. Technical Aspects

A. Modeling Approach

We used hard surface modeling with extrusions and bevels for the rocket's precise, aerodynamic shape, and Subdivision Surface and Boolean operations for the UFO's sleek, organic design. The astronaut's proportions were adjusted using proportional editing, while the alien's features, like its elongated head and large eyes, were sculpted with Dynamic Topology to achieve exaggerated shapes. These techniques allowed us to create clean, detailed models with accurate proportions.

B. Texture/Material

Model Details (Short Version)

The astronaut's suit uses a fabric material with roughness and gloss to mimic a real space suit, with detailed seams and folds. The helmet is made of reflective glass with a matte interior, simulating a visor. The gloves and boots have a leather-like material with slight reflections and scuff marks for added realism.

Pedro, the alien, has smooth, glossy green skin with veins and texture to give it an organic, lifelike feel. His eyes are glowing with a reflective material, adding a luminescent effect. His clothing is made from a light fabric material with subtle sci-fi patterns.

The rocket's body is textured with a metallic material that has a gloss finish, showing weathering and scuff marks. The thrusters are made from heated metal with glowing orange-red emissions to simulate exhaust. The cockpit is made of clear glass, reflecting the lunar surface.

The UFO has a smooth, reflective metal surface with glowing edges, created using emissive materials. The central dome is transparent with a glass-like, glossy finish, while the lights around the UFO use emissive material to create a glowing effect.

Overall, the materials used—ranging from fabric and metal to glowing emissive effects—enhance the models' realism, making them fit the theme of space exploration and alien encounter.

III. Final Reflections

A. Team Contribution

Summarize the role of each team member and their specific contributions to the project (e.g., modeling, texturing, rigging, animation).

Name	Contribution
RIBATHULLAH AHMAD YASIN	-Model for the astronaut and the flag -animation for astronaut -rigging the astronaut
FAREL DANTO SOEDIRGO	-make the environment, sun, and the moon -The booster -animation for the rocket and the ufo
VICKY CHANDRA	-model for the alien -animation for alien -rigging the alien
FRANCIS EBEN HAEZER RAJAGUKGUK	-model for the UFO and rocket -powerpoint and documents presentation

B. Learning Outcomes

Reflection on Skills and Knowledge Gained

Through this project, we gained valuable skills in both creative and technical aspects of 3D modeling.

Creative Process: We improved our ability to bring concepts to life through storytelling and design, ensuring each element served the scene's narrative. This process enhanced our skills in composition and visual balance.

Technical Skills: We honed our modeling techniques with **hard surface modeling** for the rocket and UFO, and **sculpting** for the astronaut and alien. We also learned how to apply realistic **textures** and materials and refine our **UV unwrapping** and **rendering** techniques using **Cycles Render**.

Key Takeaways: We learned problem-solving as a team, tackled challenges like proportions and textures, and understood the importance of **detail** in making models realistic. This project helped us grow creatively and technically, enhancing both our design and 3D modeling skills.

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C. Challenges

Key Challenges and How We Overcame Them

One of the main challenges was ensuring the correct proportions between the astronaut, alien, rocket, and UFO. Achieving a believable scale for each model was crucial for visual harmony. To address this, we used reference images and real-world comparisons to guide the proportions, and through regular team discussions and adjustments, we fine-tuned each model's size and placement.

The rocket and UFO required advanced hard surface modeling techniques, such as Boolean operations and Subdivision Surface, to achieve smooth, precise shapes. These posed difficulties in maintaining clean geometry. To overcome this, we divided tasks based on individual strengths, with one person focusing on hard surface modeling while others refined details. We collaborated to troubleshoot geometry issues and used add-ons to streamline the process.

Creating realistic textures and materials, especially for the astronaut's suit and the glowing effects on the UFO, was another challenge. Balancing glossiness, roughness, and emissive materials required constant iteration. We experimented with different textures, shared feedback, and used reference images to get the right balance of realism and effect.

Given the time constraints, completing all models with the desired detail was challenging. To manage this, we set clear milestones and worked in parallel on different tasks. This allowed us to make steady progress, prioritizing key elements first and refining details later.

Finally, setting up the correct lighting to match the lunar environment and enhance the realism of the reflective materials and glowing elements was tricky. We experimented with HDRI lighting and spotlights, adjusting intensity and position to achieve the desired mood. Using Cycles Render, we fine-tuned the lighting and materials in the final render.

Through collaboration, problem-solving, and sharing expertise, we overcame these challenges and successfully brought our vision to life.