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COURSEWORK – END OF SEMESTER PRACTICAL EXAMS
Dream House VR Project – Design & Reflection

🏡 Design Choices

For this project, I envisioned a modern villa that blends style with functionality and nature. My goal was to create a space that feels realistic yet luxurious, providing both comfort and immersive interaction in a virtual environment.

Main House

I designed a sleek, modern home structure with a black metal roof and stone-textured walls to strike a balance between minimalism and natural aesthetics. The house features large windows to allow in plenty of light, helping the space feel open and alive.

Outdoor Features

To bring the dream house to life, I added interactive and visually rich elements outside:

- A relaxing swimming pool
- A parked car and horse under a roof to compleme the house's lifestyle feel
- Coconut trees to add beauty and a touch of serenity

Technology Used

I used **A-Frame**, a web framework for building virtual reality experiences. A-Frame made it easier to work with 3D models directly in the browser, allowing me to focus more on design, lighting, animations, and interactivity without diving too deep into low-level graphics programming.

Technical Challenges & Solutions

1. Object Positioning & Scaling
Challenges:

- Aligning different 3D objects like the house, cars, and pool precisely

- Keeping object proportions realistic relative to each other
- Avoiding overlap or clipping issues with the ground

Solutions:

- Carefully adjusted each object's position, rotation, and scale attributes in A-Frame
- Used coordinate-based fine-tuning to achieve proper alignment and spatial relationships

2. Visual Performance & Realism
Challenge:

- Balancing visual realism with smooth performance, especially with outdoor features like trees

Solution:

- Tweaked the sky and lighting settings for a better visual experience
- Optimized object counts and materials to avoid lag while still keeping the world engaging

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