Project Name: My Dream House

Date:5th February, 2026

Software Used: Blender (Modeling), VS Code (Coding works)

INTRODUCTION

This document explains how I made a detailed 3D model of my dream house using A-Frame. I wanted it to look more realistic featuring a sleek main building, a swimming pool, detailed landscaping and outdoor decor. The primary goal was to capture thay peaceful vibe of a fancy place to chill that's right in nature, making sure the textures and lighting felt real.

DESIGN CHOICES

The design direction was guided by the principles of modern architecture and the desire to have an indoor-outdoor connection.

Style: I picked the A-Frame shape because it looks cool and fits into woody areas. Changed it up a bit by adding a big glass wall to let in lots of light and get a great viewof the pool and nature. For the outside, I used warm wood to match the trees, plus a strong flooring design to make it feel solid.

Setting and Light: I set the scene at twilight to make it feel both dramatic and calm. The sky makes the warm light from inside the house shine even more through the windows. This makes the place look like a warm, bright spot .

Yard and Decorations: The woods around the house use nice plants to make it look deep and real without taking away from the main house. The pool works like a mirror, reflecting the house and sky. We put bench and exterior lighting lamps to make it seem like people live there and to show how big things are.

TECHNICAL CHALLENGES AND SOLUTIONS

Creating something this complex had several tech problems with both the model and how it looked.

Problem 1: Tricky Roof Stuff

Problem: A-Frame roofs slope, which made weird angles where they meet the walls. When I tried to model it the usual way, the walls would poke through each other, or there would be ugly gaps.

Solution:

I fixed this by using a trick in Blender that allowed,changing things without messing up the whole model. Instead of trying to push things together, the walls and roof were made as separate pieces. This made sure everything fit right without looking bad and kept the model clean.

Problem 2: It Was Complex to develop

Problem: Making a VR thing needed us to know 3D modeling, coding, and how to make it run well.

Solution: The jobs were first of all broken down into parts and worked upon bit by bit to make it easier to build.

Problem 3: Hard to Move Around

Problem: At first, people couldn't move around the world very well.

Solution: We put in simple controls and made the space easy to understand and enhance usability.

Problem 4: Bugs and Visual Glitches

Problem: Things like objects sticking through each other and weird lighting took away from how real it looked.

Solution: We tested and fixed it over and over to get everything in the right place and set up the scene right.

FUTURE ENHANCEMENTS

While the final render achieves a high level of realism, there are several ways for future development and better enhancement.

Enhanced Audio Integration: Adding spatial sound effects would make it feel more realistic.

Multi-user Capability: Allowing multiple users to explore the environment simultaneously would

improve collaboration and engagement.

More Interactive Objects: Future versions could allow users to open doors, interact with furniture or customize room layouts.

Better Pictures : Using clearer images and advanced rendering techniques

Interior Detailing: The current model focuses on the exterior. A big step would be to model the interior with lights, furniture and decorations making the villa feel like a real and complete home