-- Diary --

Week 8:

Initiated the development of a WebGPU-based 3D rendering workflow involving interconnected components.
Set up the index.html file to act as the entry point for user interactions by establishing the WebGPU canvas and linking the necessary JavaScript files.
Researched material baking processes and resolved texture import issues while exporting Blender scenes to GLTF and GLB formats.

Week 9:

Progressed with loading 3D models into the Chrome browser using WebGPU workflows.
Began implementing gltf-demo.js to manage high-level logic, including model loading, handling user inputs, and orchestrating scene updates.
Cleared unused objects in Unreal Engine to ensure clean model exports for seamless rendering.

Week 10:

Focused on parsing the GLTF/GLB files using the TinyGltfWebGpu class to extract structures like nodes, meshes, and attributes.
Organized objects hierarchically by processing the scene graph and computing world-space transformations to ensure proper positioning of the models.
Finalized model export with proper resizing and verified texture quality in Blender.
Added interactive features such as raycasting and on-click events for meshes to enhance user interaction.

Week 11:

Worked on creating GPU buffers to hold geometry data like vertex and index information, ensuring efficient rendering in WebGPU.
Debugged issues with event listeners and matrix inversion in raycasting for seamless interactions.
Implemented a skybox using WebGPU fundamentals and open game art resources, enhancing the visual appeal of the scene.

Week 12:

Set up materials and bindings, enabling default appearances for objects even without textures.
Rendered 3D models in the WebGPU scene by drawing their vertex and index buffers, ensuring they were visible and ready for interaction.

Experimented with hosting solutions using Firebase, Vercel, and Netlify, successfully deploying the application on Netlify for broader accessibility.

-- Weights --

Areej: 100%
Saad: 100%
Imaad: 100% (Me)
Total: 300% (final sum = number of members × 100)