WebGPU GLTF Viewer

Milestone 3 Presentation
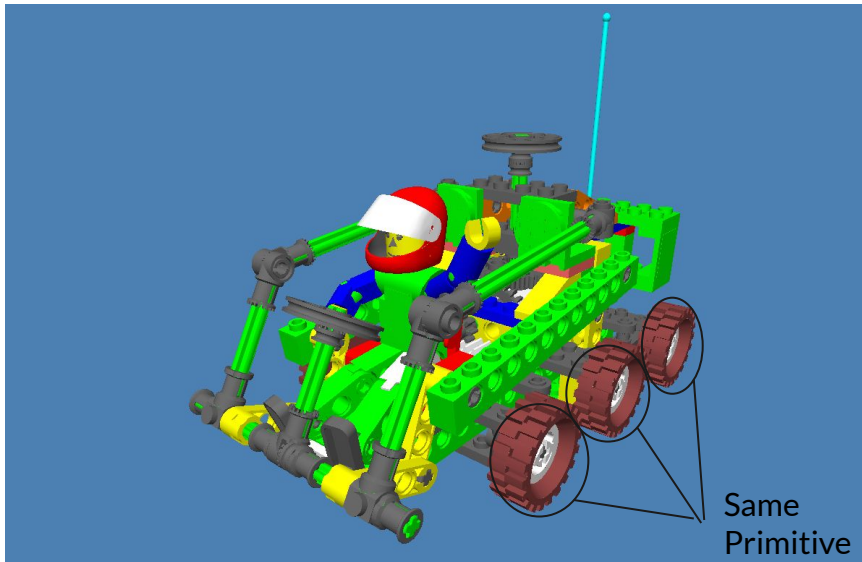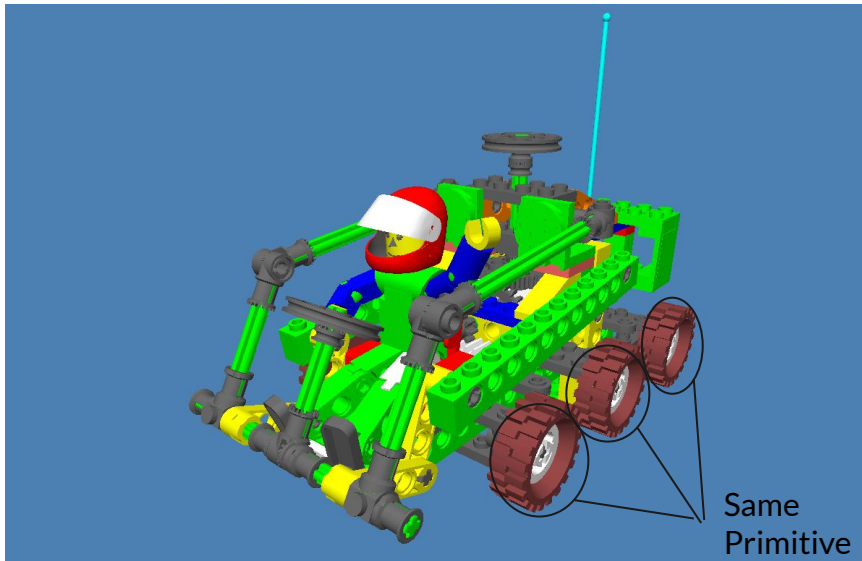
Team 6

Progress

- Proposed:

    - Loading interleaved buffers ✅

    - Properly display multiple instances of the same mesh ✅

    - Support more texture types ✅

    - Support transparent and cutout materials ✅ ❗

    - Animation and skinning ❌(In progress)

- Preset cameras
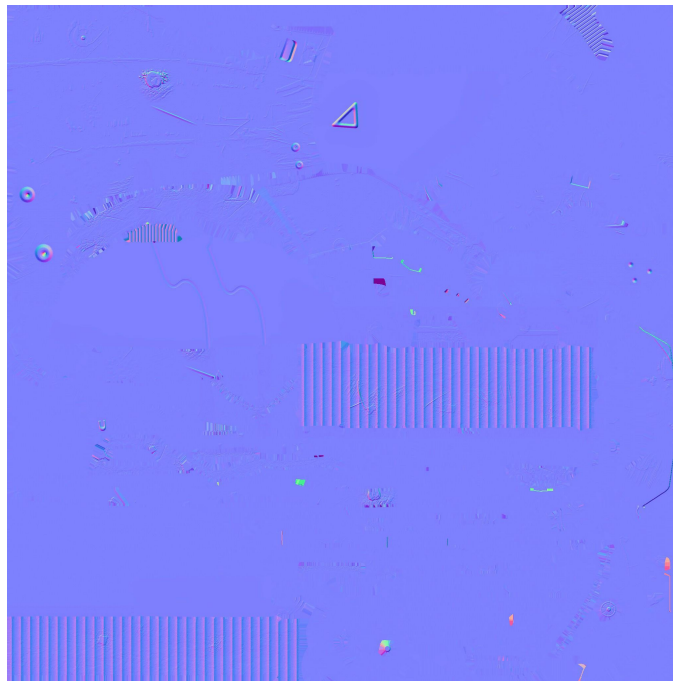
- Handling corner cases

Instanced Drawing

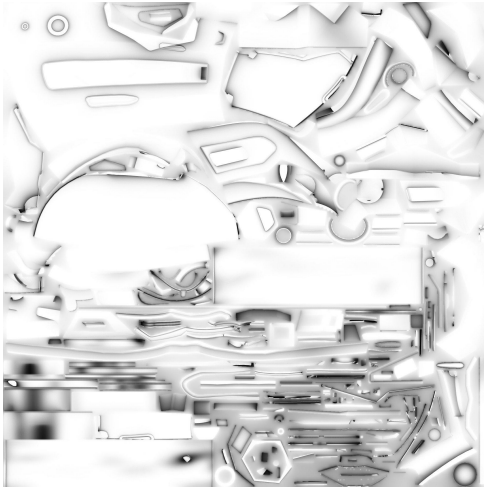Same Primitive

Instanced Drawing

Same
Primitive

- EXT_mesh_gpu_instancing

Normal Mapping
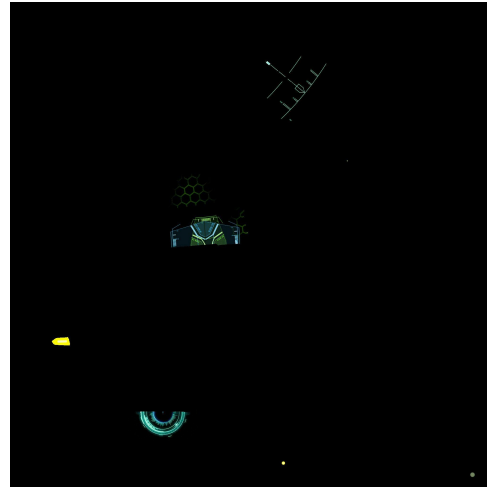
- Tangent space normal texture

- Tangent space to world space: TBN matrix

- MikkTSpace algorithm

Additional Textures

Occlusion Texture
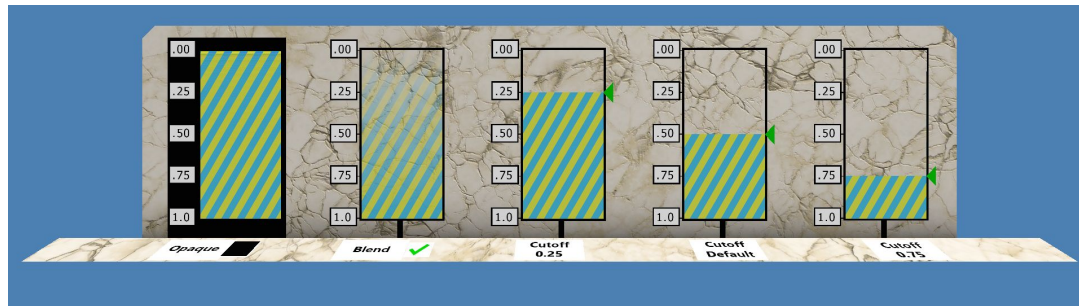

Emissive Texture
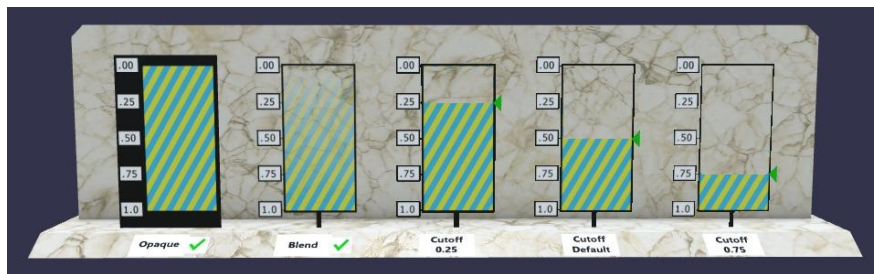
Milestone 2 Result   Current   Reference
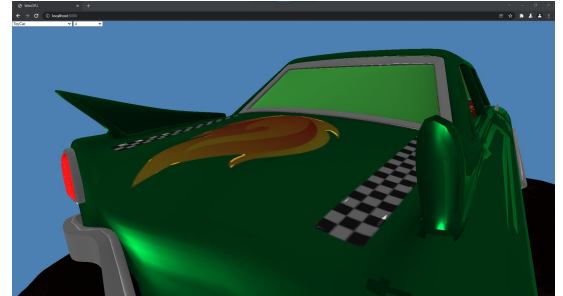
Blend Modes

- Cutout

- Alpha Blend

Result

Reference

glTF Cameras

Handling Corner Cases

- Current status: able to display all test models

- Caveat

    - Feature extensions are not implemented (some models might not have the proper material)

    - Animation and skinning are not supported

- Known issues:

    - Alpha blend test

    - Texture encoding test

Next Steps

- Animation and skinning

- Lighting extensions:

    - Image based lighting

    - Punctual lights

- Material extensions:

    - Custom index of refraction and specular strength

- Performance Analysis

Live Demo