Cameron Bierwagen

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CPTR 355: Computer Graphics

18 March 2020

<div align="center">Final Project Features</div>

From the rubric for the final project, I have made bold the features that I implemented in my

project, "Interactive Piano":

- Babylon.js Basics (1-6 points each)

  - **Shapes**

    - Box for keys and pedal

    - Ground

  - **Position, rotation, scaling**

    - All meshes contain some or all of these transformations

  - **Materials**

    - Basic solid-color materials for piano

    - Emissive material for lightbulb

    - Texture and lightmap for floor

  - **Cameras**

    - ArcRotate Camera

  - **Lights**

    - Point Light

  - **Animation**

- - - Piano Keys and Sustain Pedal
  - Collisions
  - **Raycasts**
    - The triggers "OnPointerOverTrigger" and "OnPickTrigger" both use raycasting, although I'm not sure if you'll consider those a direct implementation of the concept.
  - Sprites
  - Particles
  - **Environment**
    - Changed the scene's clear color to black.
  - Height map
  - **Shadows**
    - The piano casts a shadow.
- Advanced Babylon.js (2-10 points each)
  - **GUI and events**
    - Actions for hovering over piano keys, clicking the sustain pedal, and pressing keys on the computer keyboard
    - GUI TextBlock telling the user what octave the keyboard is currently set to
  - **Sounds and music**
    - ...
  - Physics

- Other Tools (2-10 points each)

  - Gimp

  - Inkscape

  - **Blender**

    - Used for cleaning up and exporting 3d models downloaded from TurboSquid (piano and lamp)