Tiny’s Controls and Milestone Help

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Camera Movement | | |  | Camera Rotation | | |
| Q  (Down) | W (Forward) | E  (Up) |  | Right Ctrl  (Roll L) | Up Arrow  (Pitch +) | Keypad 0  (Roll R) |
| A  (Left) |  | S  (Right) |  | Left Arrow  (Yaw +) |  | Right Arrow  (Yaw -) |
|  | D  (Back) |  |  |  | Down Arrow  (Pitch -) |  |

Keys:  
(Note: If you toggle Fullscreen, You won’t see any of the Window Title Data)

|  |  |  |  |
| --- | --- | --- | --- |
| Toggle  Fullscreen | C:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\F49CB185.tmp | Toggle Infinite Perspective | C:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\41ED478.tmp |
|  |  |  |  |
| Camera Speed Increase | C:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\3DAEF7F2.tmp | Camera Speed Decrease | C:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\94A60CD0.tmp |
| Camera Zoom Increase | C:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\4BD29B5E.tmpC:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\C2D48B7D.tmp | Camera Zoom Decrase | C:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\4BD29B5E.tmpC:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\936E62DB.tmp |
| Nearplane  Increase | Image result for shift key C:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\C2D48B7D.tmp | Nearplane  Decrease | Image result for shift key C:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\936E62DB.tmp |
| Farplane  Increase | C:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\4C675CA1.tmpC:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\C2D48B7D.tmp | Farplane  Decrease | C:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\4C675CA1.tmpC:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\936E62DB.tmp |
|  |  |  |  |
| Toggle Planet Selection | C:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\92816D44.tmp |  |  |
| Look-At Planet | C:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\4C675CA1.tmp C:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\F0EC946.tmp | Teleport to Planet | C:\Users\Tiny\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\80849F8A.tmp |
|  |  |  |  |
| Attenuation Increase | Numpad + | Attenuation Decrease | Numpad- |

**Milestone 3 Help:**

**Lights demonstrate popular specular**

- Press "F2" Twice. This should switch planet view to "Earth"

- Press "T" to teleport to earth.

- This uses a specular map, The continents should not shine but the water does

**Space Theme:**

- Skybox is Space

- Looking at the Window Title, You can see "Mercury". Pressing F2 will toggle between Mercury to Pluto (And all other objects present!).

- Pressing (Ctrl+F) will allow you to look at the object selected, or (T) for Teleporting.

- Two Spaceships inside the sun, and one going around the orbit

- Earth Contains a moon.

**Milestone 2 Help:**

**Applying functional per pixel spot light to complex mesh** - The Color for the spot light is BLUE.- Hold Shift + Press (Numpad+/-) would adjust the outer cone’s attenuation  
 - Hold Ctrl + Press (Numpad+/-) Would adjust the inner cone’s attenuation  
 - Not Holding Shift/Ctrl will adjust the attenuation for Point Light (See Milestone I Help)

**Demonstate dynamic change in direction of directional lighting** - The Ships are adjusted based on the direction of the spotlight, rotating.  
 - Nice reminder that the directional light is GREEN.

**Demonstrate dynamic change in position and direction of spot lighting** - The floor should show both the position and direction of spot light. The Ships adjust to it.

**Normal Mapping (Full 3D Object)** - By Pressing T, you should be able to teleport to mercury to see the normal mapping.  
 - Mercury, Venus, Earth, Mars[Super Slightly] and Pluto have normal maps applied.

**Full FPS Style flythrough camera** - Z-Rolling should have been eliminated from previous comment.

**Milestone 1 Help:**

**Applying functional directional light to complex mesh (4)  
Applying functional point light to complex mesh (4)  
Combining 2 functional lights on the same drawn geometry (2)** - The Green light is the directional light.  
- The Red Light is the spot light  
- The Floor’s Normals is (0,1,0) and the lights should apply to the ships too.

**Demonstrates dynamic change in position of point light. (1)**  
- The Spotlight should be rotating around (0,0,0)

**Applying applicable color map texturing to drawn geometry (4)** - The pyramid and the ships should be textured on start.

**Infinite Skybox (3)** - The skybox is the blue-ish background with the white stars.

**Unique Shader that modifies outgoing data based on position, time and a wave (3)** - The Japanese Flag should demonstrate it. In “./shaders/GLSL” there should be a file called “vertFlag.vert” with the position, time sent, and sin as sine wave.

**Use Obj2Header to generate a complex mesh (3)** - The Ship in the middle should have the “HFILE” Mesh Drawn.

**Drawing proceduraly created 3D line mesh (2)** - The Grid should be seen on start

**Drawing indexed model loaded from file (4)** - The Ship on the right side is loaded from FBX loader. Also pressing “T” will teleport you to Mercury, which is also loaded from FBX Loader

**MSAA applied to rasterized geometry (2)**  
- It should be applied to all Geometry, as I force it to use the supported MSAA from device

**Camera Position and aspect ratio are preserved when window is resized or toggled to fullscreen (2)** -Press F11 to turn on Fullscreen

**Manually Adjust Camera Zoom Level / Near- & Far- Planes (1 + 1)**  
- Shift + Z/X Toggles Nearplane  
 - Ctrl + Z/X Toggles Farplane\*  
 - Alt + Z/X Toggles Camera Zoom  
 \* Toggle Infinite Perspective Off with F1 (Far Plane != Inf)

**Camera Tracks moving object using Look-At/Turn-To Algorithm (1)** - Hold Left Ctrl+F and it should look at the planet selected on window title