Errata

Chapter 1

- In Exercise 6, we should also let \( \vec{w} = (w_x, w_y, w_z) \).

- In Exercise 7, it should be \( b^2 = \|\vec{v}\|^2 \), not \( b^2 = \|\vec{v}\| \). Also, the law of cosines is: \( c^2 = a^2 + b^2 - 2ab \cos \theta \).

Chapter 2

Chapter 3

- Page 44, the second line from the top of the page should be:
  \[ z' = r \cos(\alpha + \theta) = r \cos \alpha \cos \theta - r \sin \alpha \sin \theta = z \cos \theta + y \sin \theta. \]

- Page 56. The text reads, “Then, we compute the signed distance as before, that is, \( - (\vec{n} \cdot \vec{p_0}) = d \),” but it should be noted that it is only the signed distance if the normal vector has been normalized; otherwise the distance will be scaled.

- Page 59, Exercise 4. It says \( R_y R^T_y = R^T_y R_y = 1 \). The ‘1’ should be an \( I \) for identity matrix; that is, it should be: \( R_y R^T_y = R^T_y R_y = I \).

Chapter 4

- Page 99 in the top code block, the application constructor should be:
  ```c++
  HelloD3DApp app(  
      hInstance,  
      "Hello Direct3D",  
      D3DDEVTYPE_HAL,  
      D3DCREATE_HARDWARE_VERTEXPROCESSING);
  ```

- Page 103 in Section 4.7: "Beginning with the August 2006 SDK, the DirectX® Control Panel has been removed from the Microsoft® Control Panel. You can
now find the DirectX Control Panel in the Start menu under All Programs, Microsoft DirectX SDK, DirectX Utilities.

In addition, the control panel executable has been renamed from directx.cpl to dxcpl.exe; it can be found in both the %DXSDK_DIR%\utilities\bin\x64 and %DXSDK_DIR%\utilities\bin\x86 folders.”  -MSDN

Chapter 5

Chapter 6

• Page 163, Figure 6.16. It should be \( \vec{r} = \frac{\vec{w} \times \vec{f}}{\|\vec{w} \times \vec{f}\|} \), which follows from the left-hand-thumb rule. The book had it backwards, i.e., \( \vec{f} \times \vec{w} \), which would have the vector pointing left instead of right.

• Page 164, first line below Figure 6.17, the formulas should be: \( \tan(\alpha/2) = d/n \) and \( \tan(\beta/2) = c/n \). Otherwise the equations don’t make any sense.

Chapter 7

Chapter 8

Chapter 9

• In chapter 9.2 (page 229) the 4th line in the first code listing is

VertexCol(float x, float y, float z, D3DCOLOR c)
pos(x,y,z), col(c) {}           

it should be (note colon for initialization list):

VertexCol(float x, float y, float z, D3DCOLOR c)
: pos(x,y,z), col(c) {}           

Chapter 10

• Page 273, some of the summations have \( a_i \) when it should be \( a_l \).

• Page 253, At the top in the vertex shader:

float s = max(dot(gLightVecW, n), 0.0f);
should read

```cpp
float s = max(dot(gLightVecW, normalW), 0.0f);
```