Introduction to 3D Game Programming with DirectX 9.0c: A Shader Approach

Errata

Chapter 1

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

- In Exercise 7, it should be $b^2 = \left\|\vec{v}\right\|^2$, not $b^2 = \left\|\vec{v}\right\|$. 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: $z' = r\cos\left(\alpha + \theta\right) = r\cos\alpha\cos\theta - r\sin\alpha\sin\theta = z\cos\theta + y\sin\theta$.

- Page 56. The text reads, "Then, we compute the signed distance as before, that is, $-\left(\vec{n} \cdot \vec{p}_0\right) = d$," 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 $R_y R_y^T = R_y^T R_y = 1$. The '1' should be an I for identity matrix; that is, it should be: $R_y R_y^T = R_y^T R_y = I$.

Chapter 4

- Page 99 in the top code block, the application constructor should be:
```
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*

Chapter 5

Chapter 6

- Page 163, Figure 6.16. It should be $\vec{r} = \dfrac{\vec{w} \times \vec{f}}{\left\| \vec{w} \times \vec{f} \right\|}$, 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_1 when it should be a_i.

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

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

should read

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

Chapter 11

Chapter 12

Chapter 13

Chapter 14

Chapter 15

Chapter 16

Chapter 17

Chapter 18

Chapter 19

Chapter 20

Chapter 21

Chapter 22

Appendix A

Appendix B