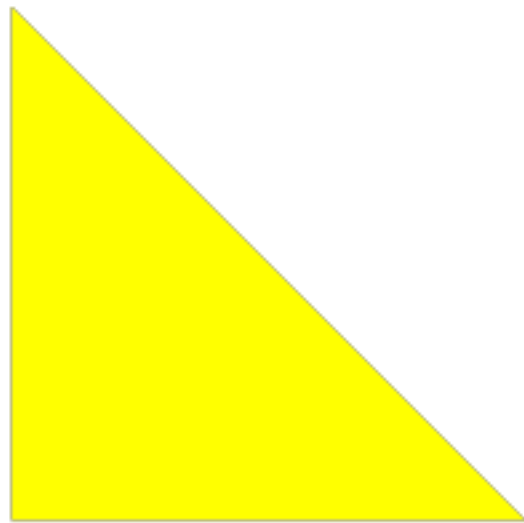




Vertex 0
(-2, 2, 0)

Vertex 1
(-2, -2, 0)

Vertex 2
(2, -2, 0)



Texture Coordinate (0, 1)

Vertex 0 (-2, 2, 0)

Texture Coordinate (1, 1)

Vertex 3 (2, 2, 0)



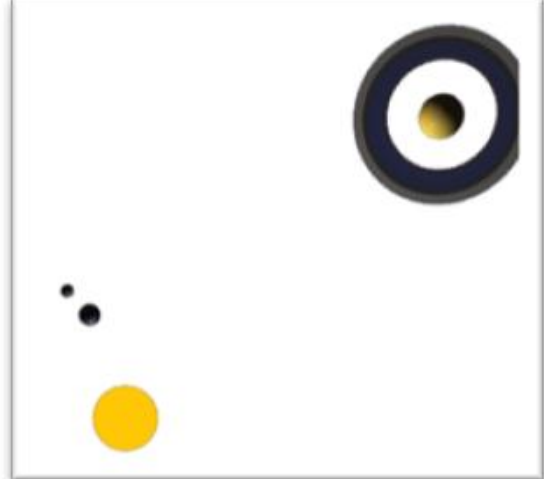
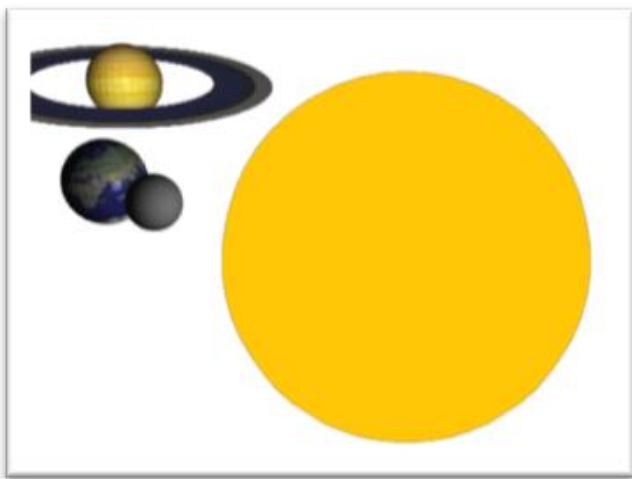
Vertex 1 (-2, -2, 0)

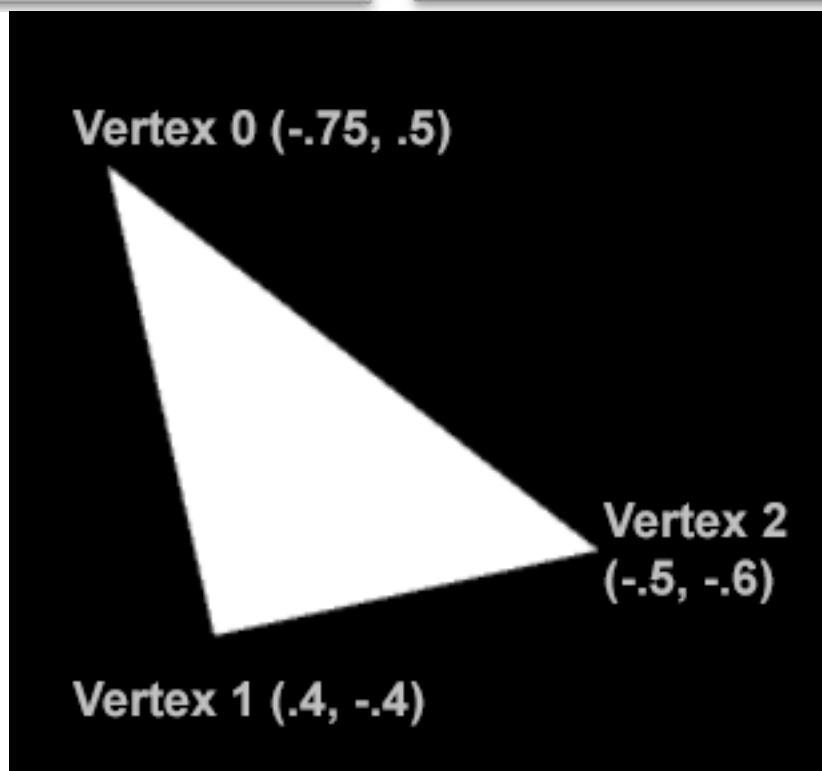
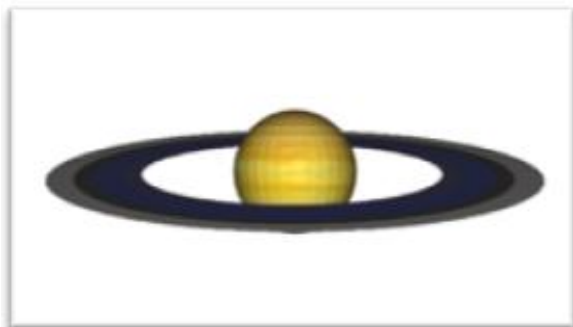
Texture Coordinate (0, 0)

Vertex 2 (2, -2, 0)

Texture Coordinate (1, 0)







Vertex 2 (1.0, 1.0, 1.0)
texture coord (1.0, 1.0)

Vertex 3 (-1.0, 1.0, 1.0)
texture coord (0.0, 1.0)



Vertex 1 (1.0, -1.0, 1.0)
texture coord (1.0, 0.0)

Vertex 0 (-1.0, -1.0, 1.0)
texture coord (0.0, 0.0)



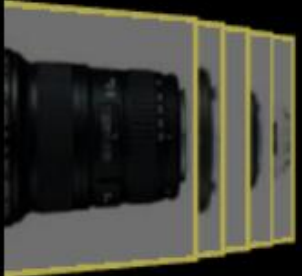
Green

Blue

RED



HOOPER
CAMERA & IMAGING





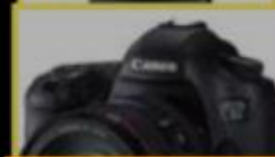
HOOPER
CAMERA & IMAGING



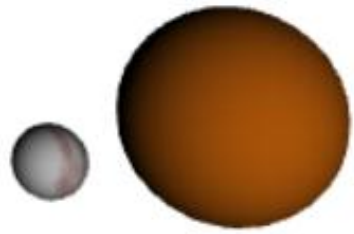
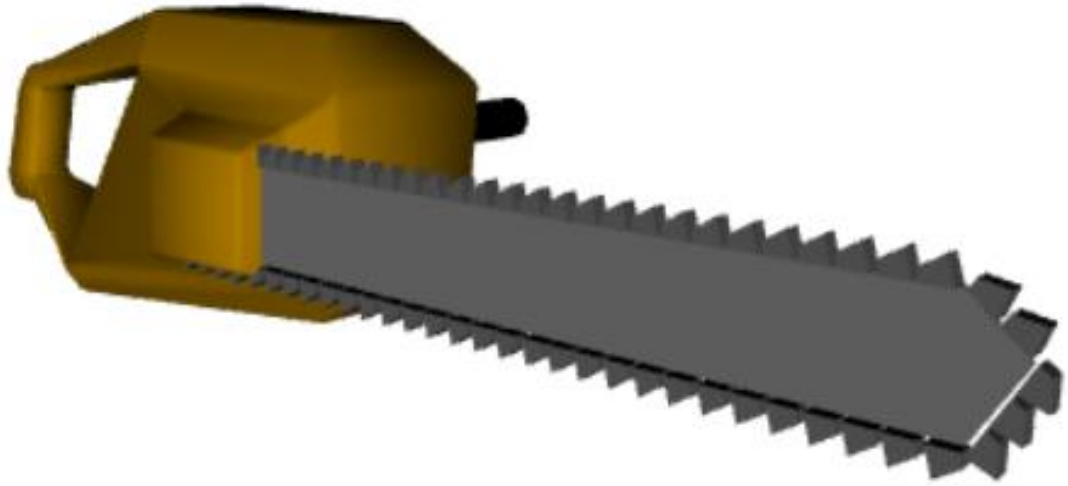
Canon EOS 5D Mark III - Body Only - Black

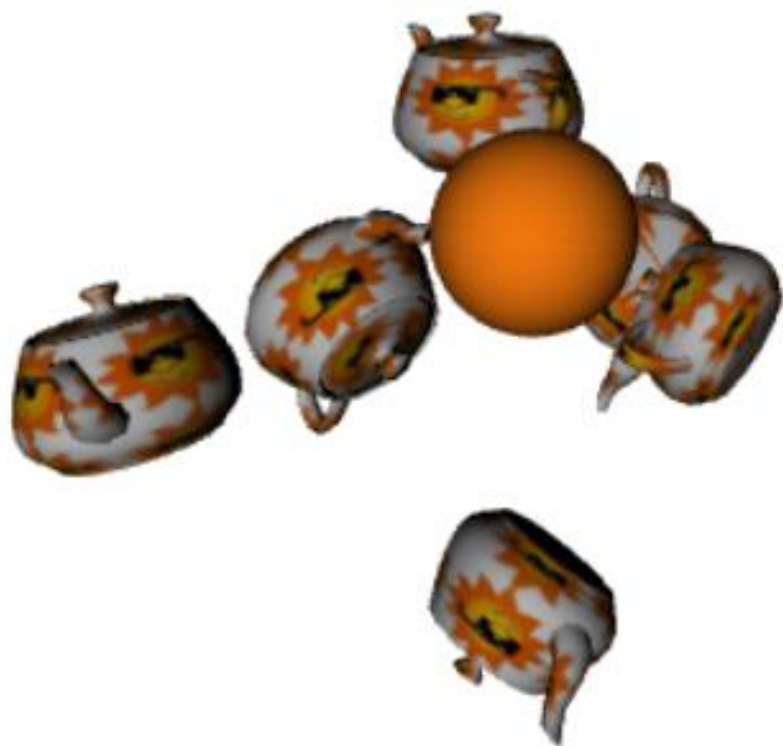


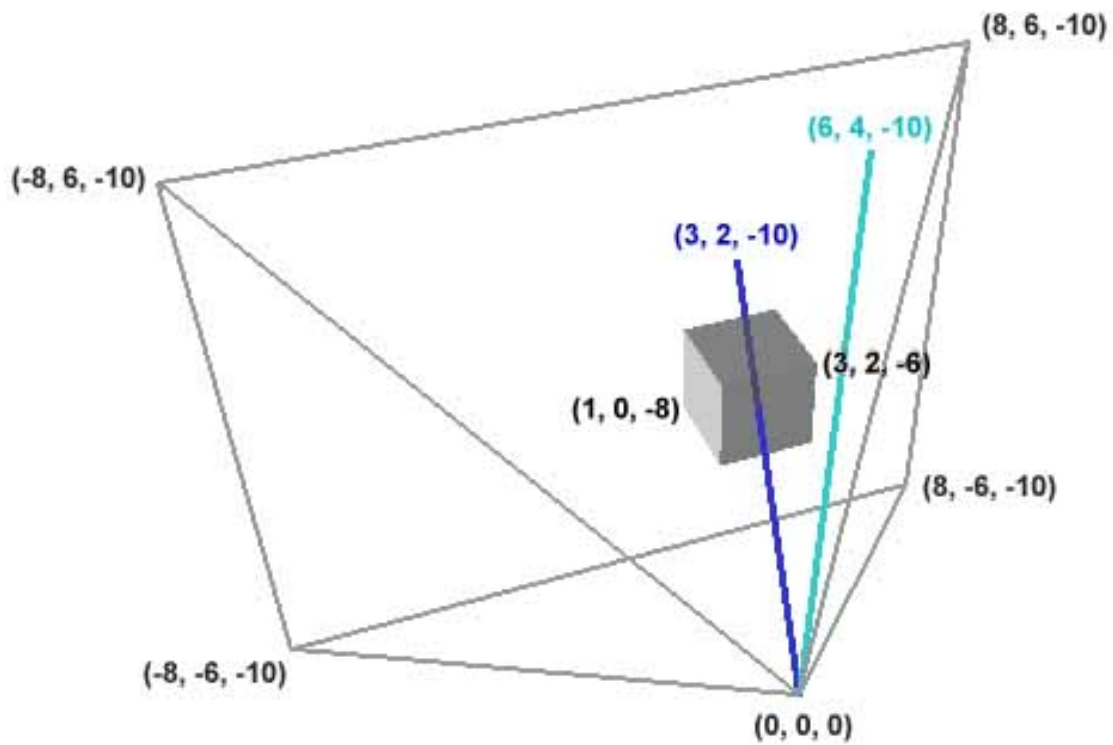
HOPPER
CAMERA & IMAGING



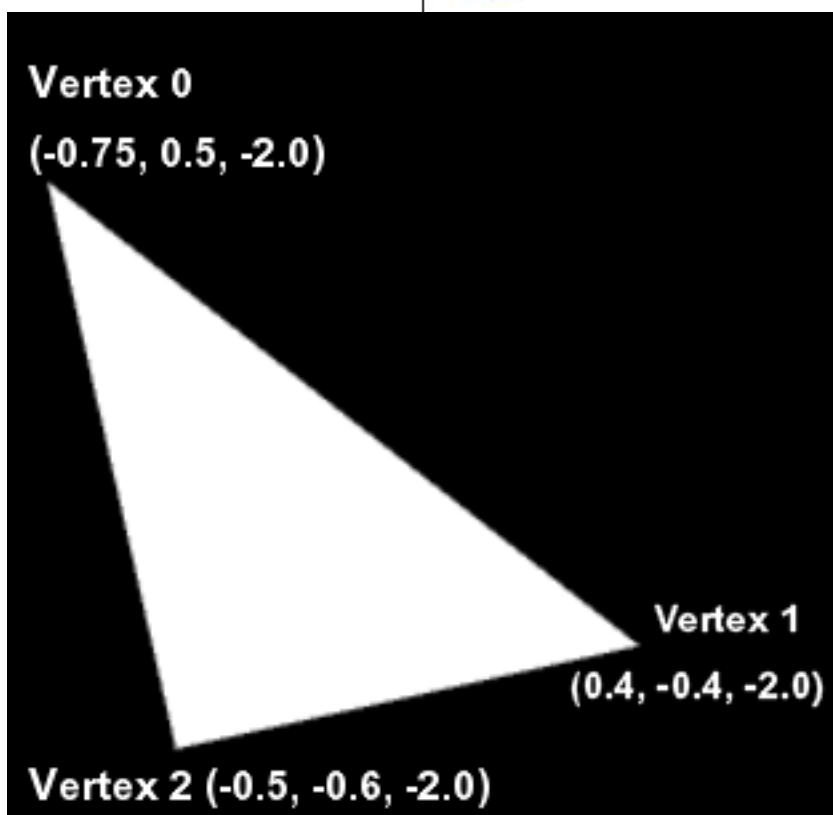
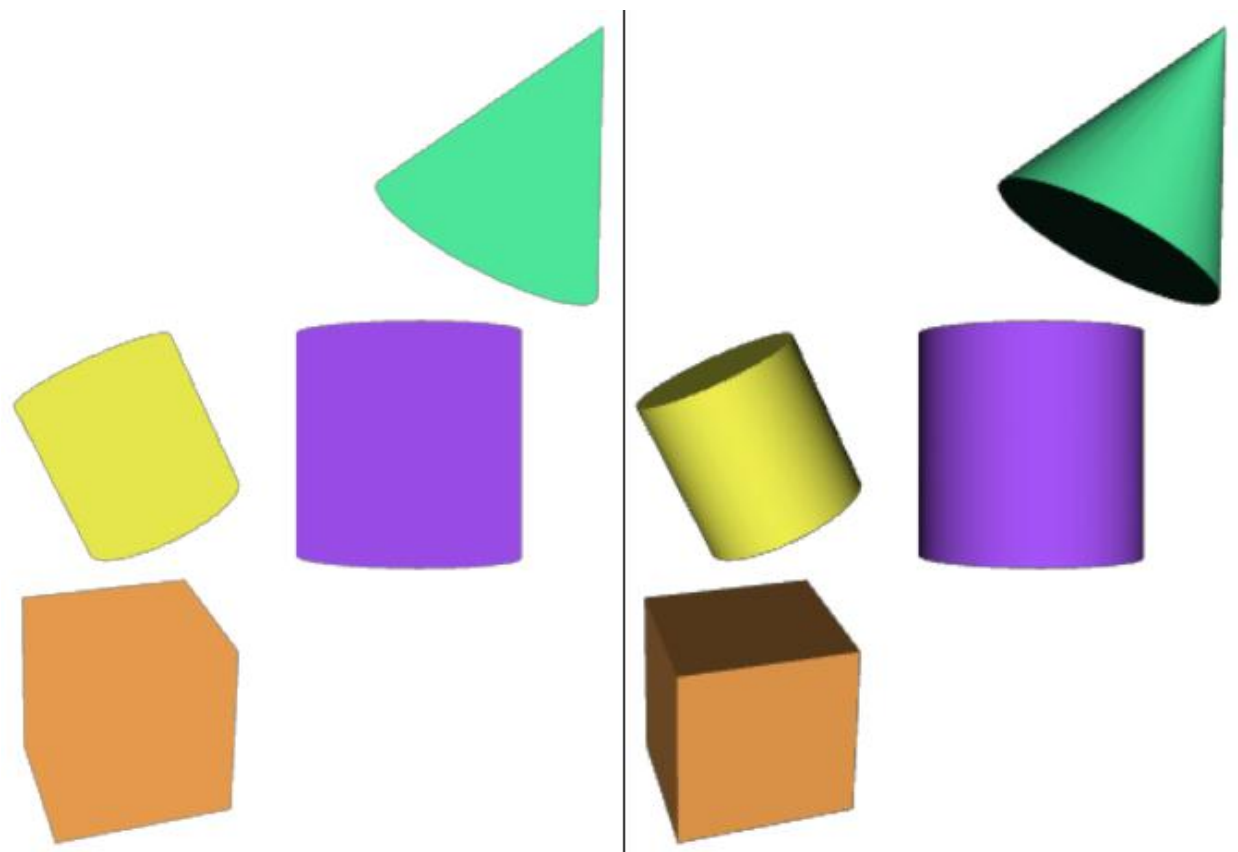
Canon EF 16-35mm F2.8L II USM







Blue Ray	Cyan Ray
$x_{\text{Min}} = 1 / 3 = .333$ $x_{\text{Max}} = 3 / 3 = 1$	$x_{\text{Min}} = 1 / 6 = .167$ $x_{\text{Max}} = 3 / 6 = .5$
$y_{\text{Min}} = 0 / 2 = 0$ $y_{\text{Max}} = 2 / 2 = 1$	$y_{\text{Min}} = 0 / 4 = 0$ $y_{\text{Max}} = 2 / 4 = .5$
$z_{\text{Min}} = (-6) / (-10) = .6$ $z_{\text{Max}} = (-8) / (-10) = .8$	$z_{\text{Min}} = (-6) / (-10) = .6$ $z_{\text{Max}} = (-8) / (-10) = .8$
t_0 (maximum Min value) = .6 t_1 (minimum Max value) = .8 since $t_0 \leq t_1$, an intersection	t_0 (maximum Min value) = .6 t_1 (minimum Max value) = .5 since $t_0 > t_1$, no intersection



Thirst



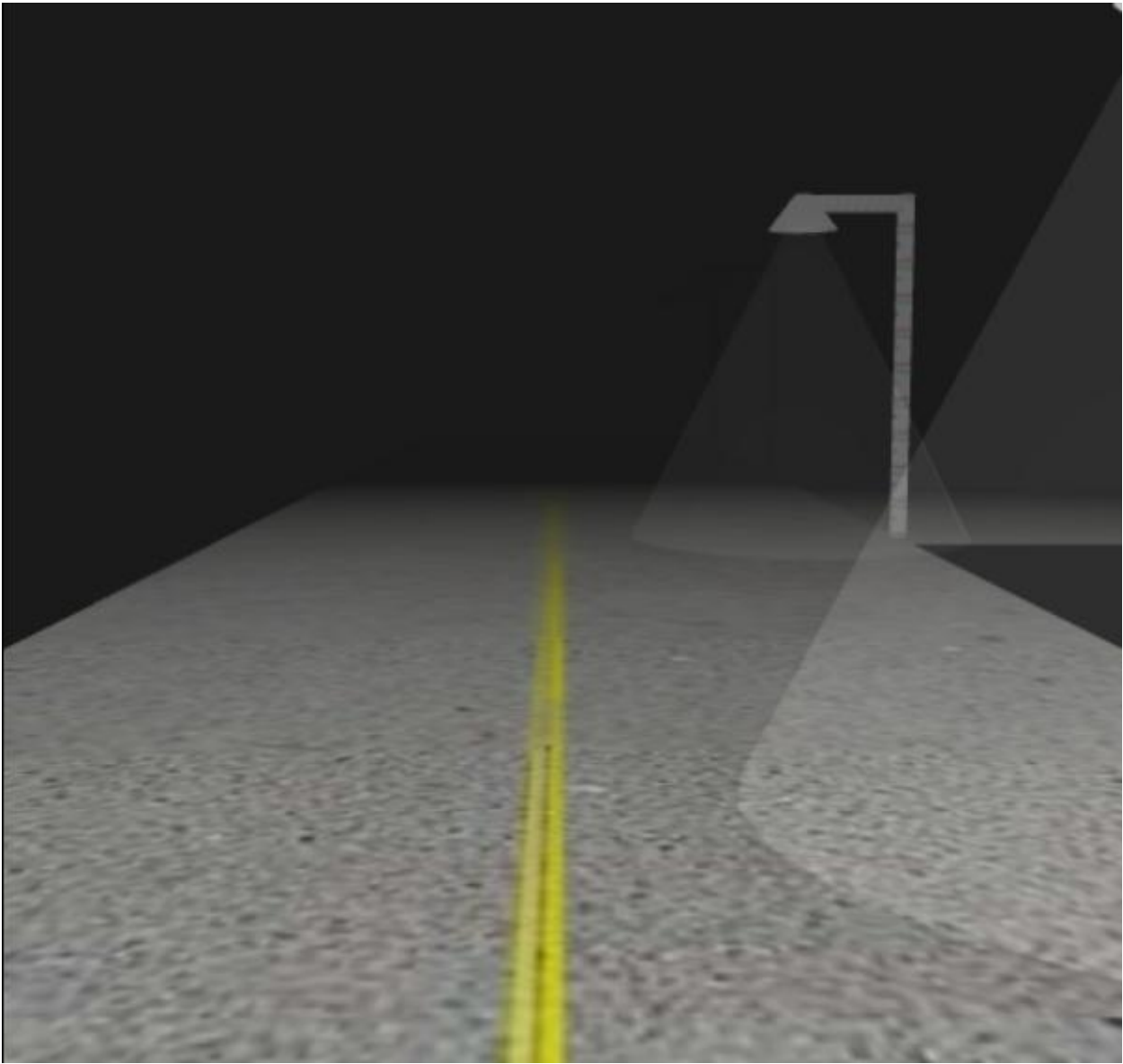
Refreshment
Thirst

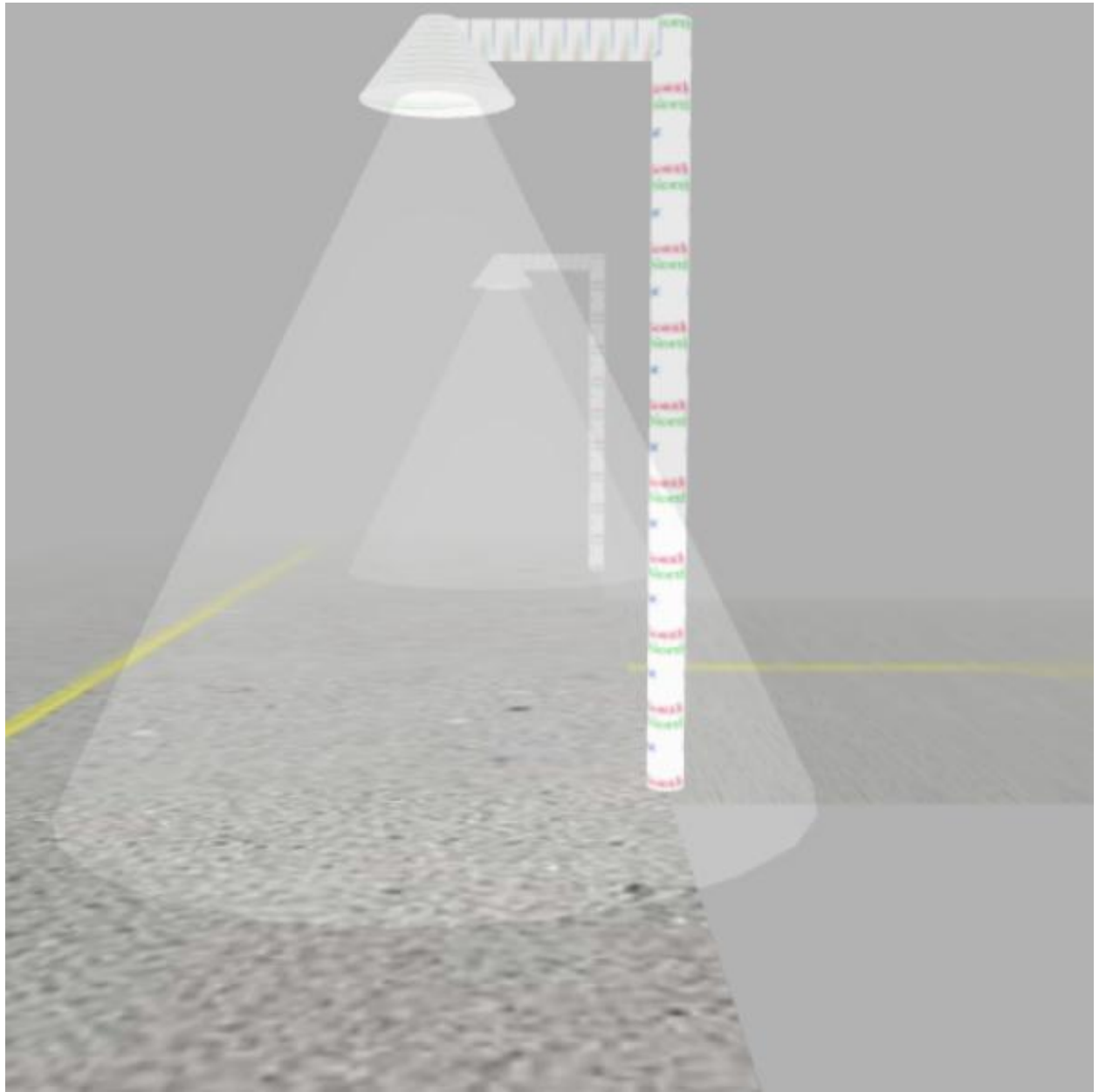


Refreshment





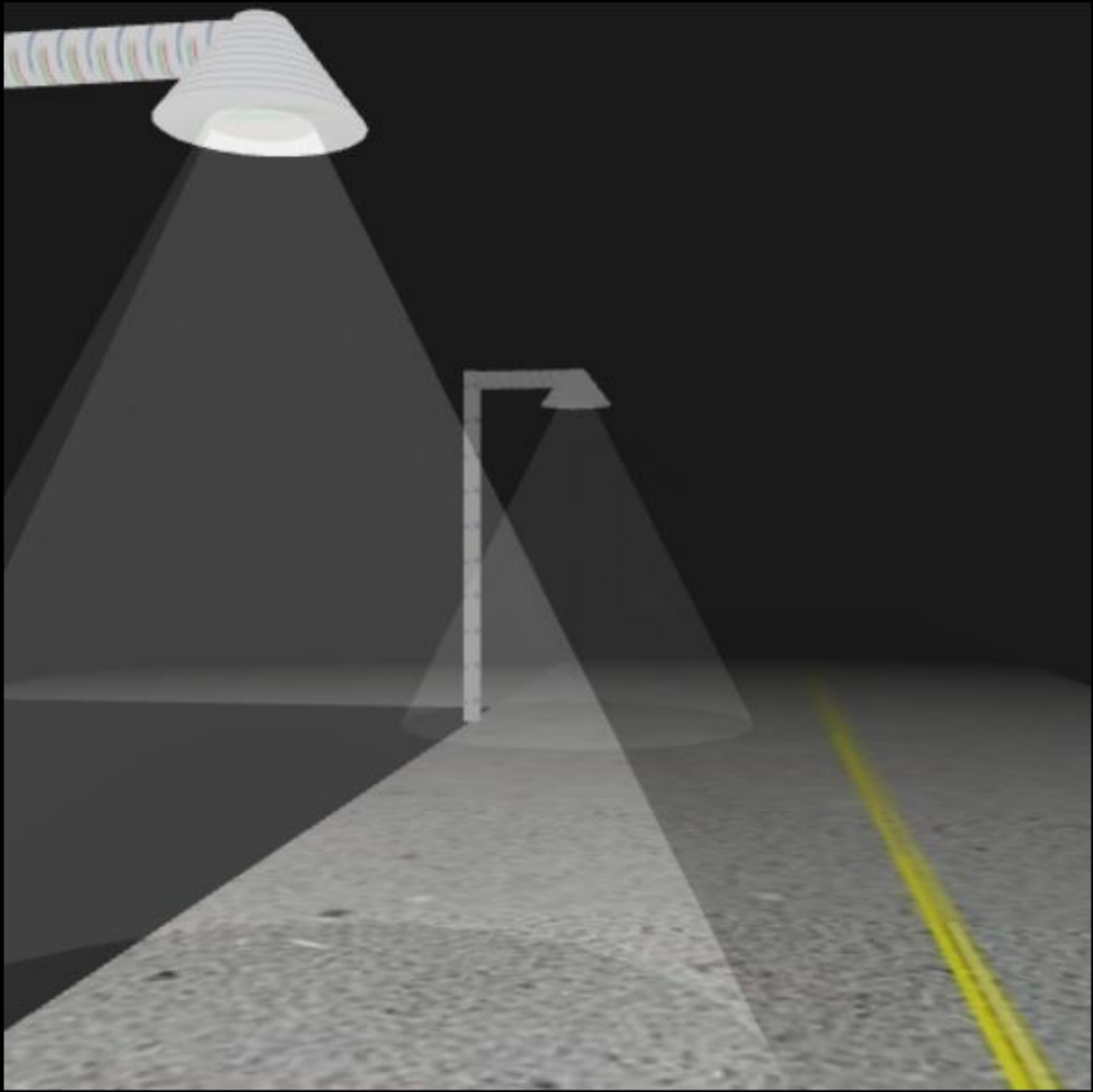


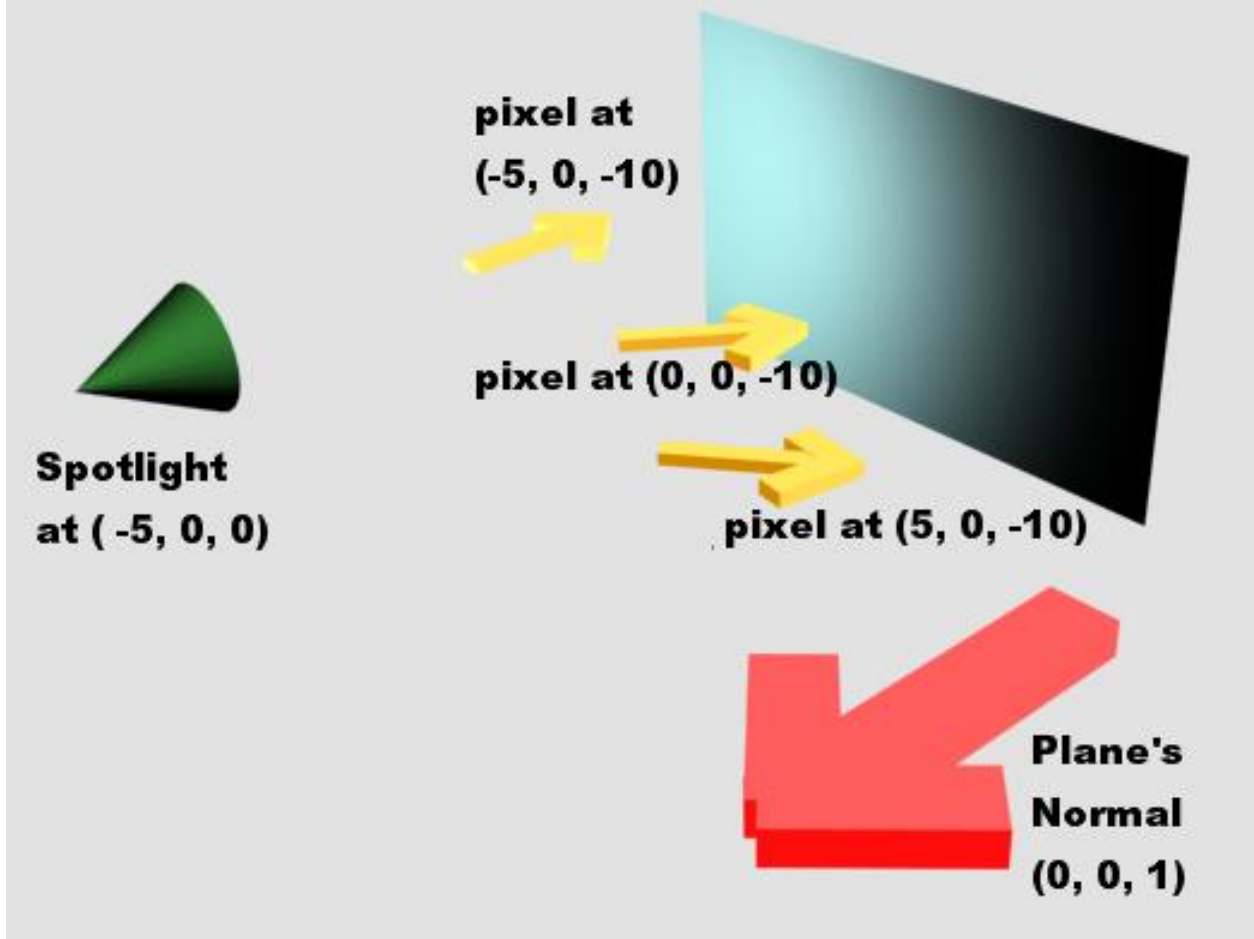
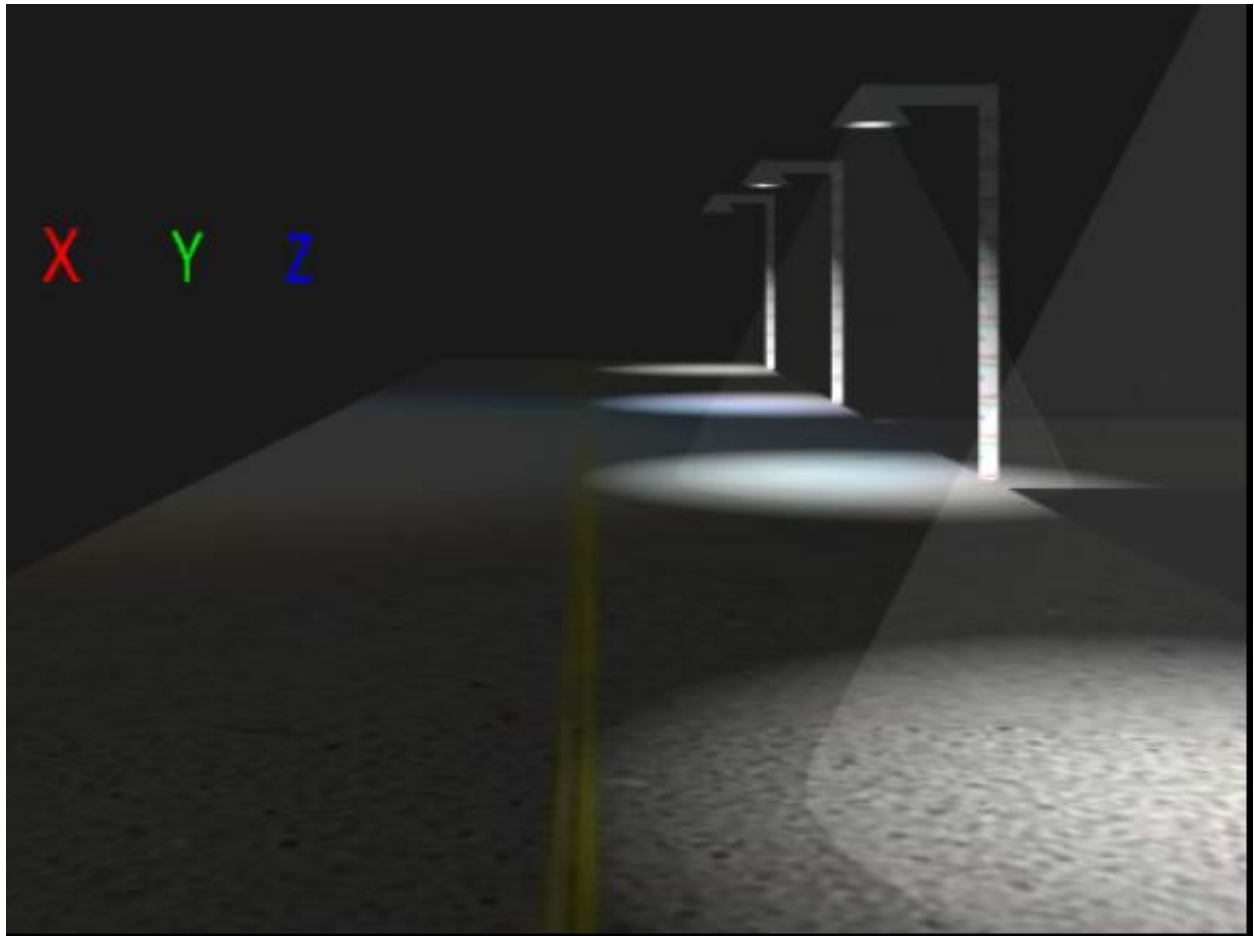


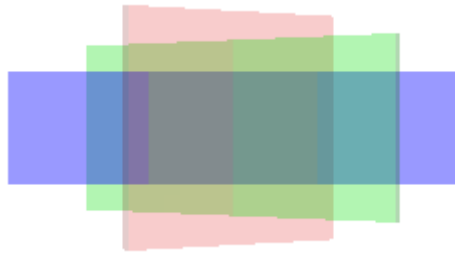
Render transparencies in furthest-to-closest order: ■



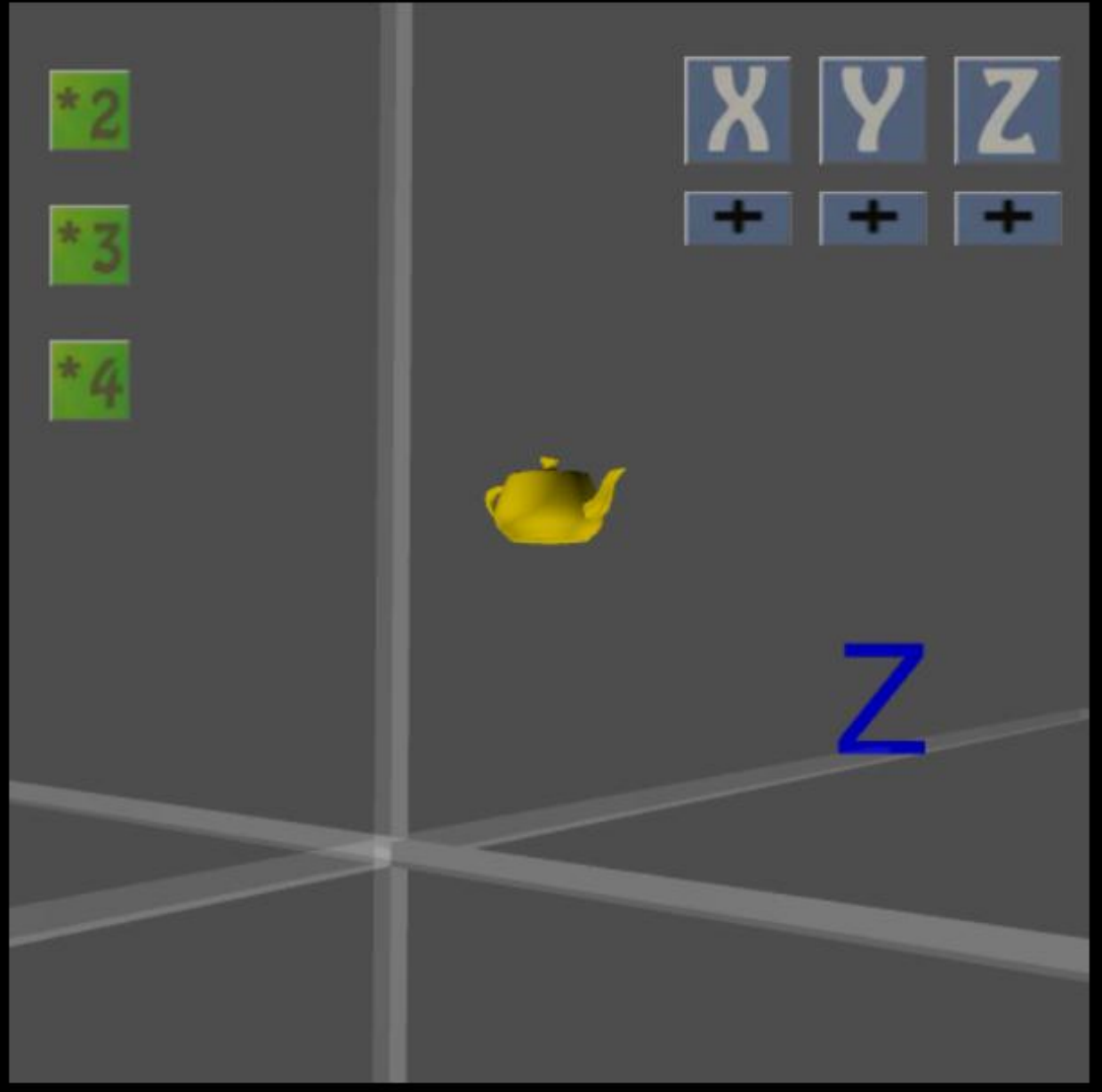
Render transparencies in furthest-to-closest order:



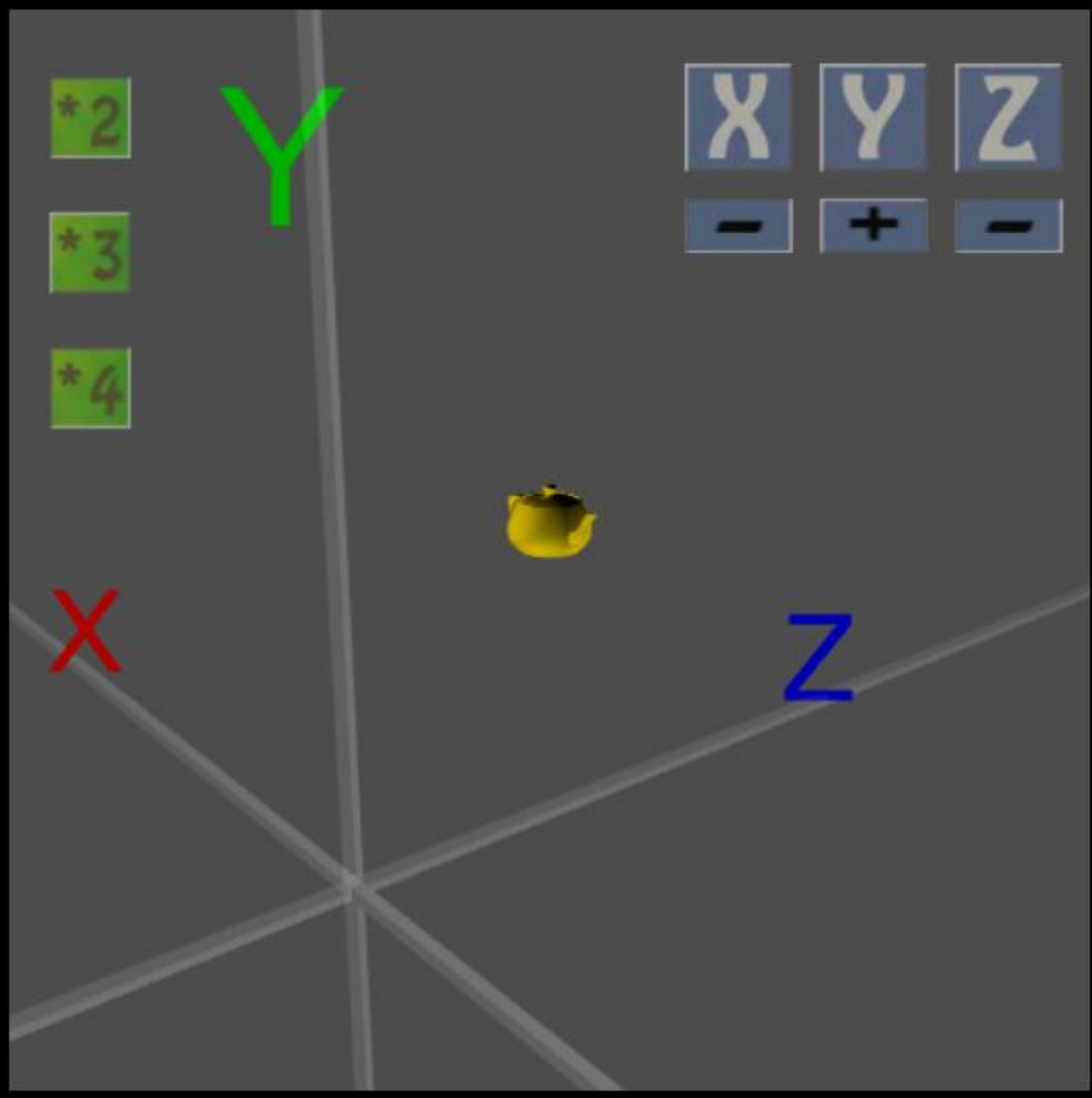




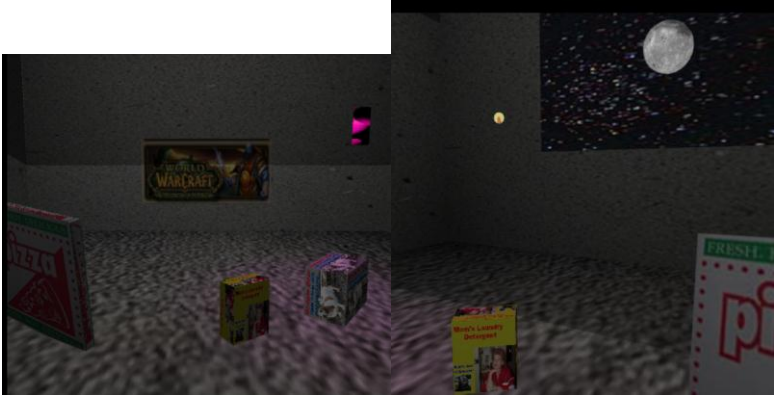
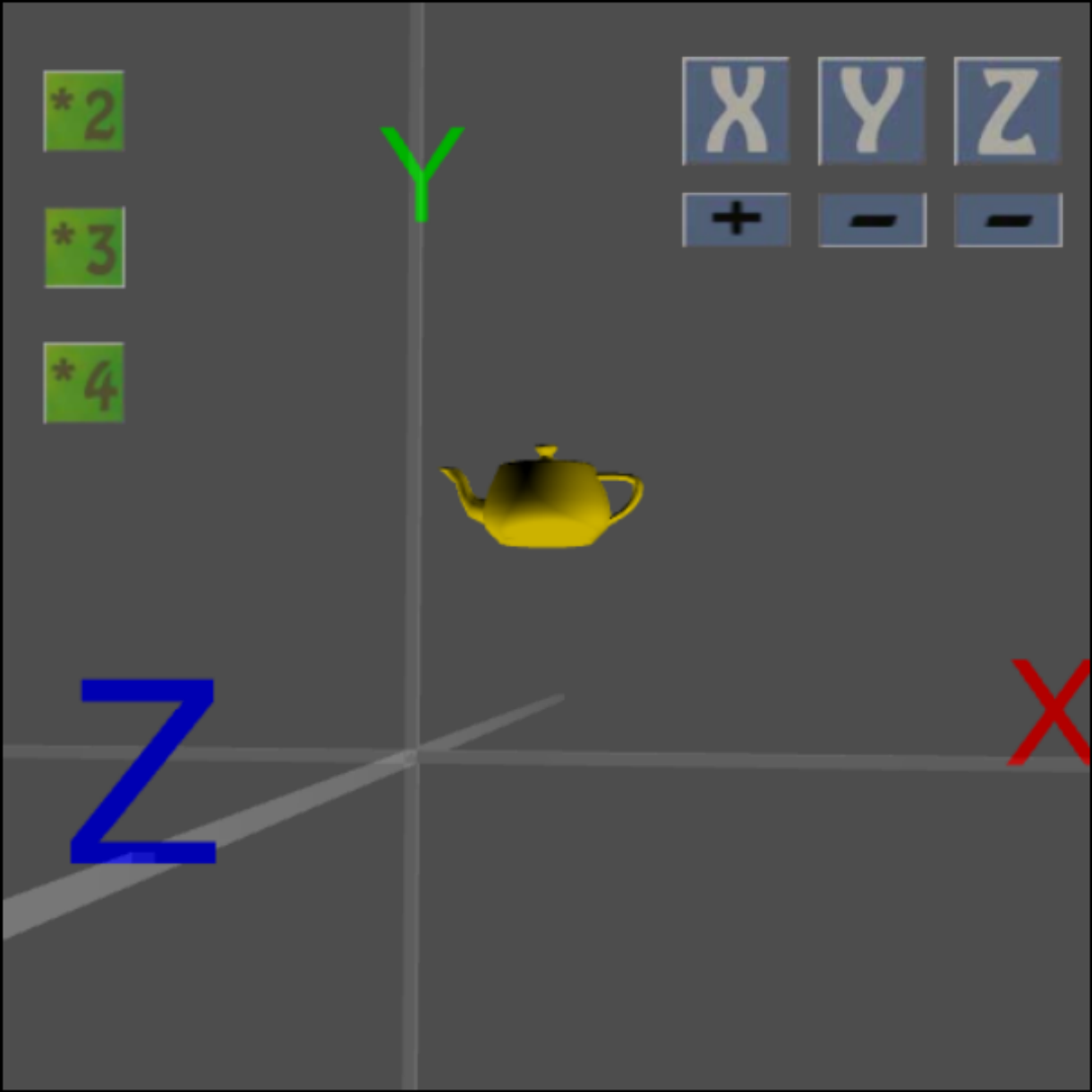
Current Position: (8, 2, 8) Goal: (-3, 3, -6)

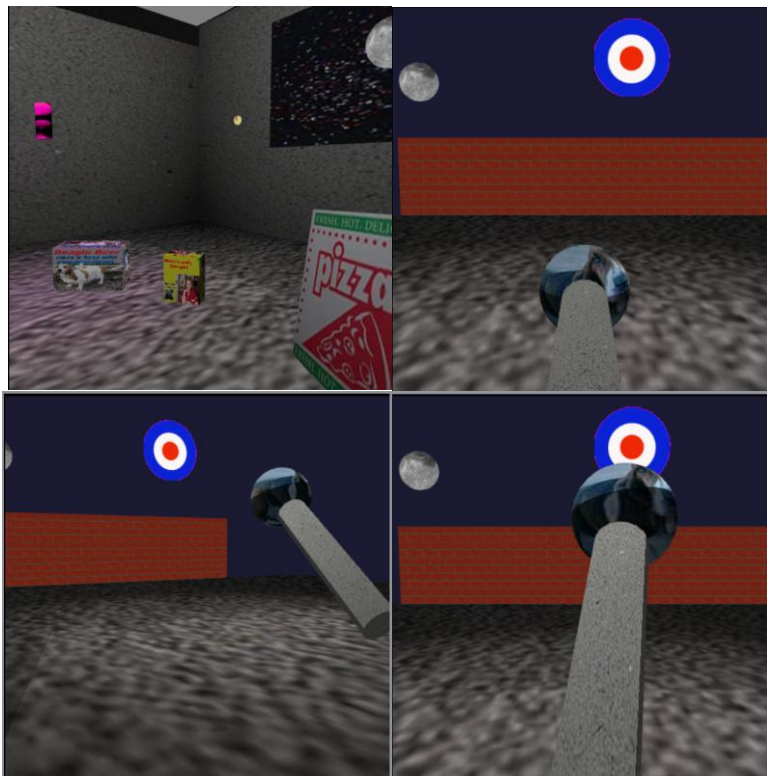
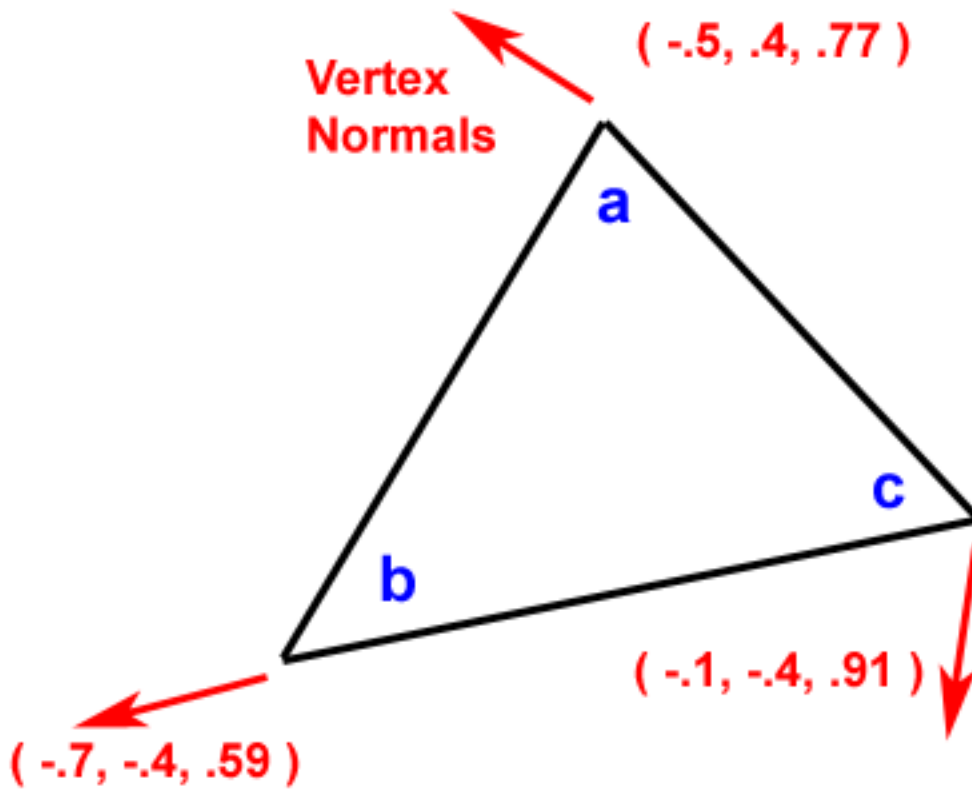


Current Position: (14, 10, 8) Goal: (-3, 3, -6)



Current Position: (-5, 2, -21) Goal: (-3, 3, -6)







Create a New App

Get started integrating Facebook into your app or website

Display Name

Namespace

Category

Choose a Category ▾

- ✓ Choose a Category
- Apps for Pages
- Books
- Business
- Communication
- Education

the Facebook Platform Policies

Cancel

Create App

and reach over 1 billion people

https://developers.facebook.com/apps

facebook developers Search Facebook Developers

Search Apps

Apps ▾ [View Facebook Developers](#)

Settings

App ID/API Key
16765

App Secret
Show

App Namespace
@test

Sandbox Mode
On

Listed Platforms
Website with Facebook Login, App on Facebook

GET Submit

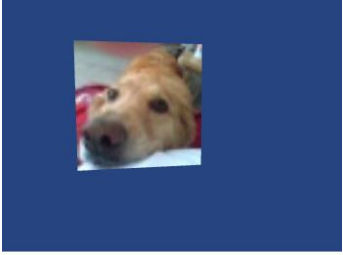
Learn more about the Graph API syntax.

Node: 140073828

- picture
- + -----
- + -----

```

{
  "id": "140073828",
  "picture": {
    "data": {
      "url": "https://fbcdn-profile-a.akamaihd.net/hprofile-ak-ash2/t5/1117877_140073828_2105399124_q.jpg",
      "is_silhouette": false
    }
  }
}
            
```



See Dee Williams uses [this picture](#).



Graph API Explorer

GET Submit

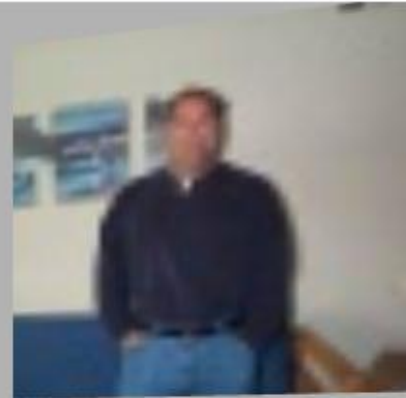
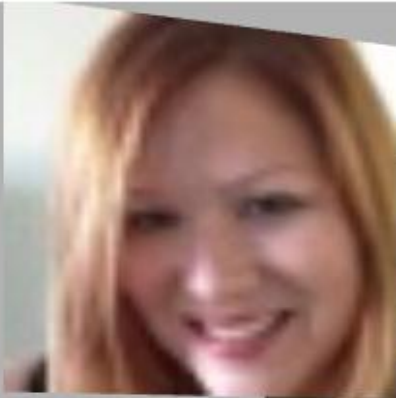
Learn more about the Graph API syntax.

Node: 140073828

- photos ← →
- + -----
- birthday
- hometown
- favorite_teams
- + -----

```

{
  "hometown": {
    "id": "114986761849476",
    "name": "Encino, California"
  },
  "favorite_teams": [
    {
      "id": "177083695980",
      "name": "Bring Back the Los Angeles Rams"
    },
    {
      "id": "133959776674219",
      "name": "Official Edmonton Oilers Octane"
    },
    {
      "id": "63958787144",
      "name": "Vancouver Canucks"
    }
  ],
  "id": "140073828",
  "photos": {
    "data": [
      {
        "id": "10202709815648825",
        "from": {
          "name": "Deez Bees",
          "id": "1302058824"
        },
        "name": "Deez Bees",
        "picture": "https://fbcdn-photos-h-a.akamaihd.net/hphotos-ak-frc3/t1/1507735_10202709815648825_489982123_n.jpg",
        "source": "https://scontent-b.xx.fbcdn.net/hphotos-frc3/t1/s720x720/1507735_10202709815648825_489982123_n.jpg",
        "height": 720,
        "width": 640,
        "images": [
            
```



Dee Dee Williams uses
Virtualbeachtest05.





XML



RSS

<table border="1"> <tr><td colspan="2">AAPL</td></tr> <tr><td>Last</td><td>501.114</td></tr> <tr><td>Change</td><td>+2.434</td></tr> <tr><td>% Change</td><td>0.49%</td></tr> <tr><td>Volume</td><td>8,967,040</td></tr> <tr><td colspan="2">As of: 16 Oct 2013 16:00:00 EDT</td></tr> <tr><td colspan="2">View: Stock Quote News</td></tr> </table> <p style="text-align: center;">▲</p> <p>Stock price: 501.114 Price change: +2.434</p>	AAPL		Last	501.114	Change	+2.434	% Change	0.49%	Volume	8,967,040	As of: 16 Oct 2013 16:00:00 EDT		View: Stock Quote News		<table border="1"> <tr><td colspan="2">YHOO</td></tr> <tr><td>Last</td><td>33.089</td></tr> <tr><td>Change</td><td>-0.291</td></tr> <tr><td>% Change</td><td>0.87%</td></tr> <tr><td>Volume</td><td>44,818,214</td></tr> <tr><td colspan="2">As of: 16 Oct 2013 16:00:00 EDT</td></tr> <tr><td colspan="2">View: Stock Quote News</td></tr> </table> <p style="text-align: center;">▼</p> <p>Stock price: 33.089 Price change: -0.291</p>	YHOO		Last	33.089	Change	-0.291	% Change	0.87%	Volume	44,818,214	As of: 16 Oct 2013 16:00:00 EDT		View: Stock Quote News	
AAPL																													
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As of: 16 Oct 2013 16:00:00 EDT																													
View: Stock Quote News																													

[YHOO](#)

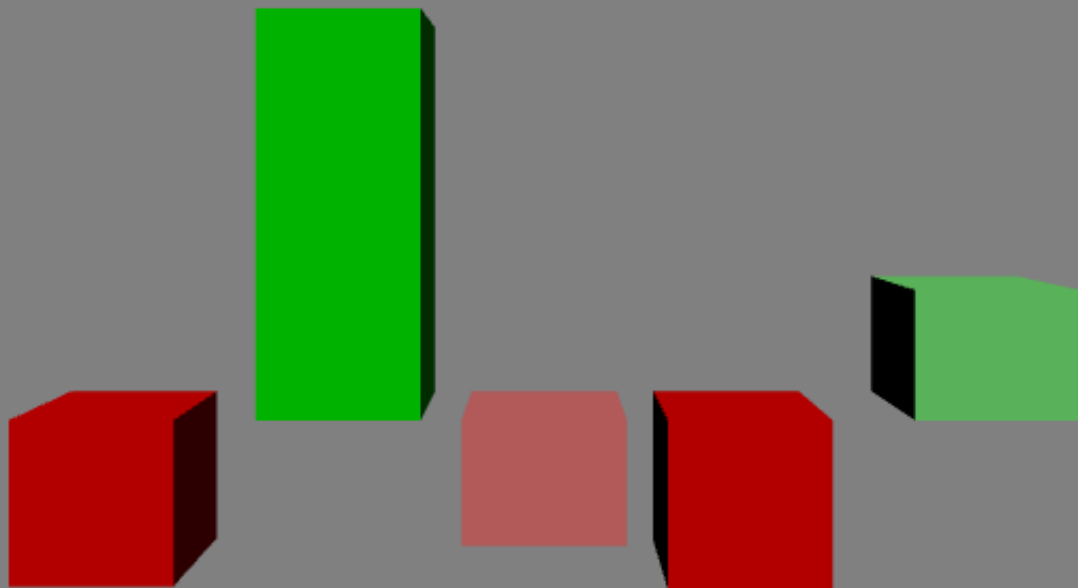
Last	33.089
Change	-▼0.291
% Change	0.87%
Volume	44,818,214

As of: 16 Oct 2013 16:00:00 EDT

View: [Stock Quote](#) | [News](#)

[EBAY](#)

Last	51.67
Change	-▼0.53
% Change	1.02%
Volume	11,095,732

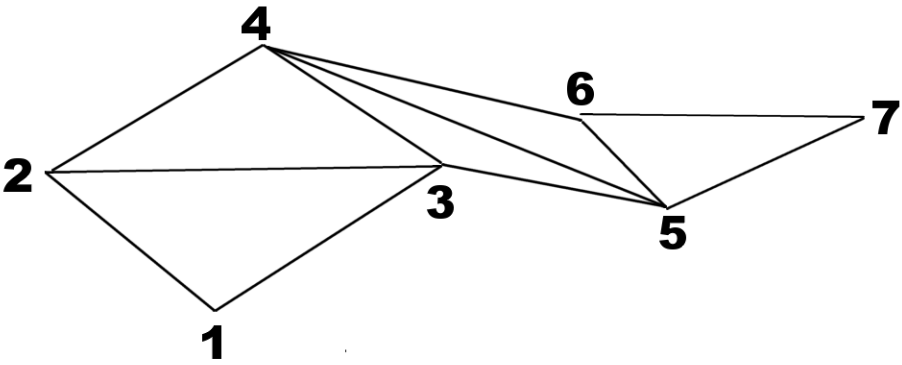
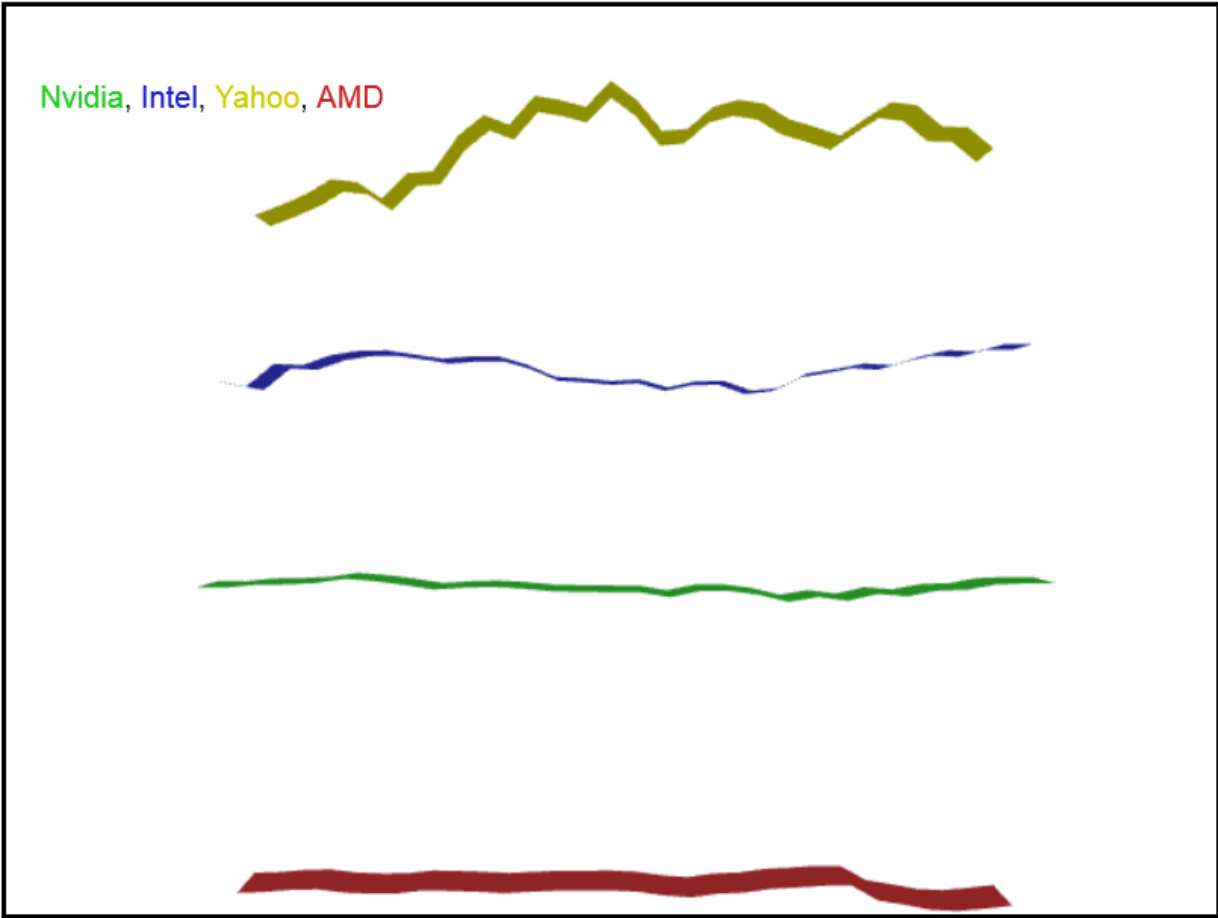


AAPL

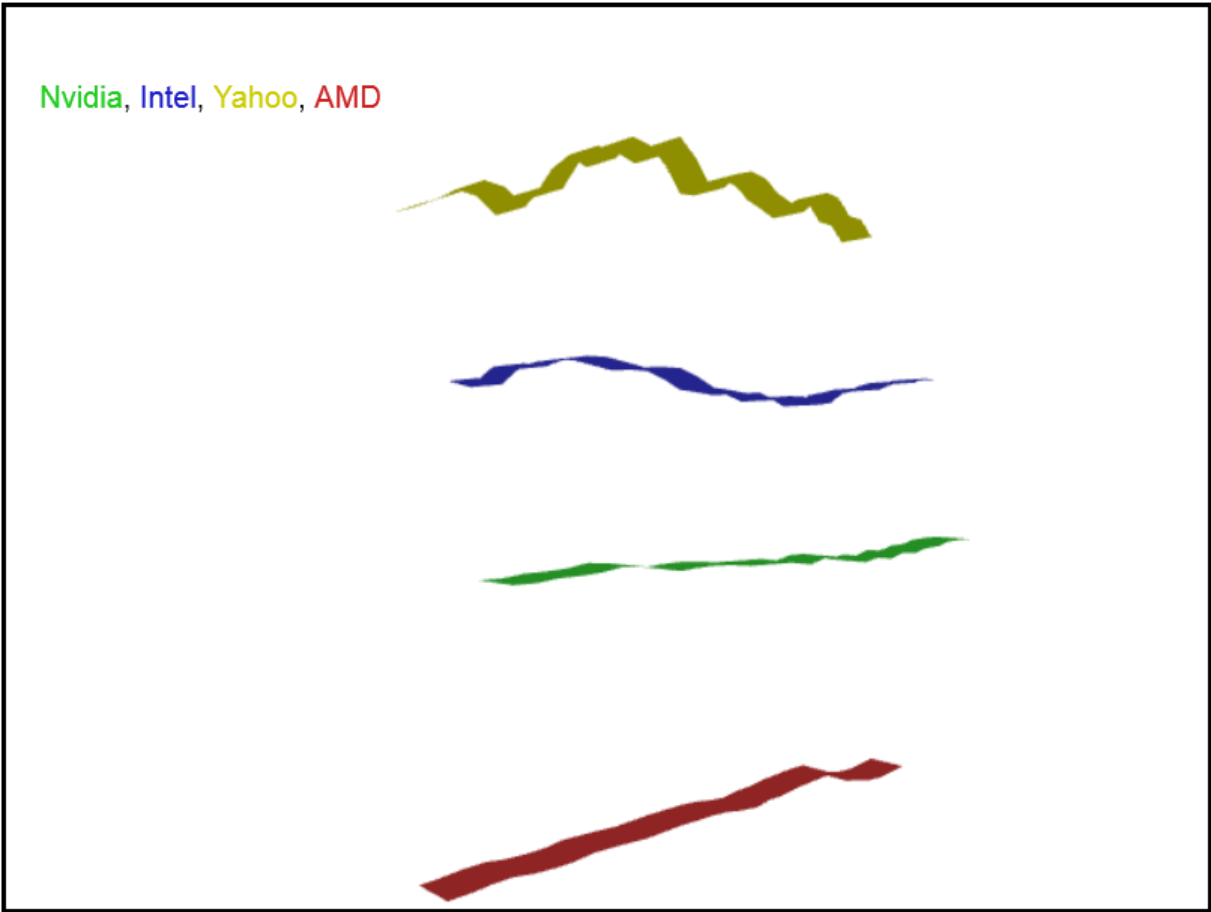
Last	521.92
Change	+▲13.03
% Change	2.56%
Volume	11,891,240



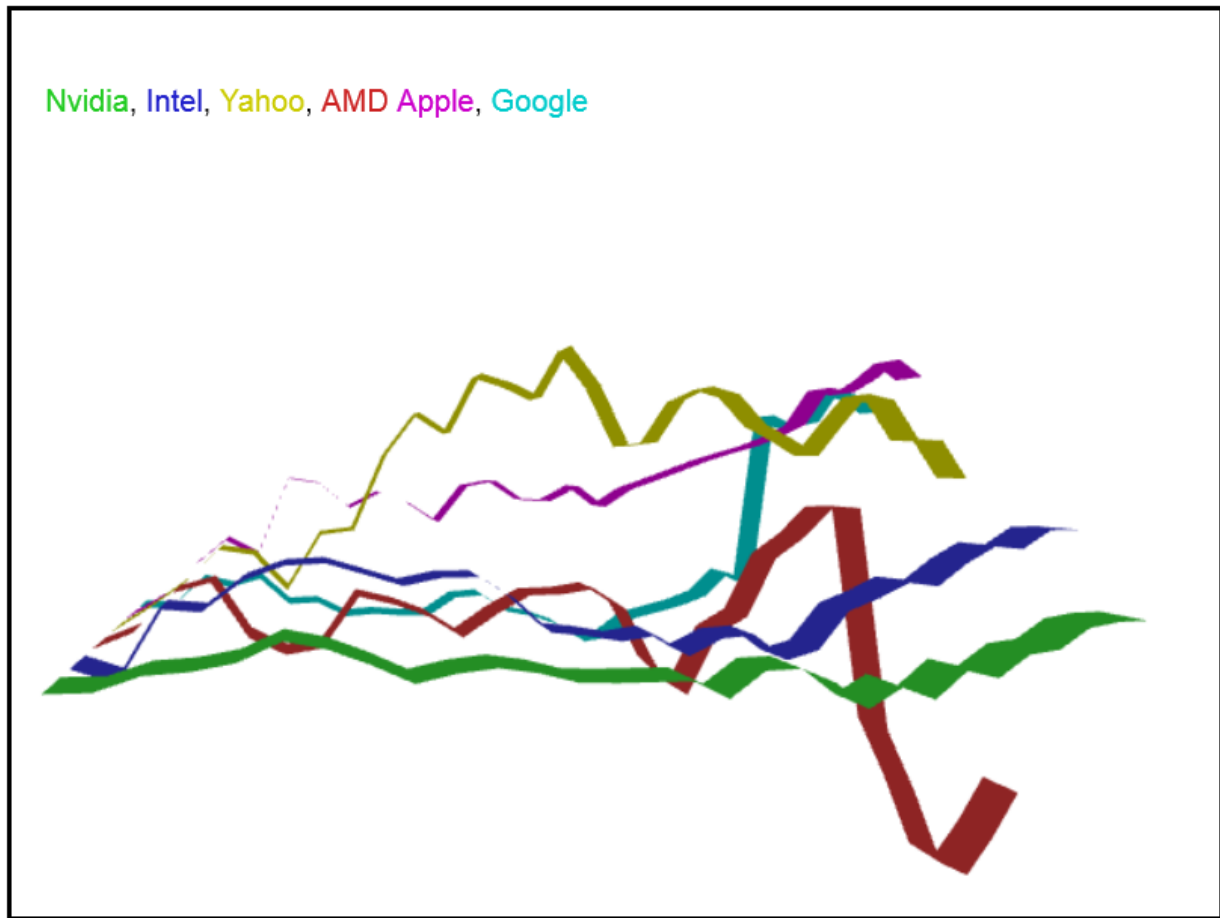
Use arrow keys to move forward/backwards and turn. Use W and S keys to go up and down



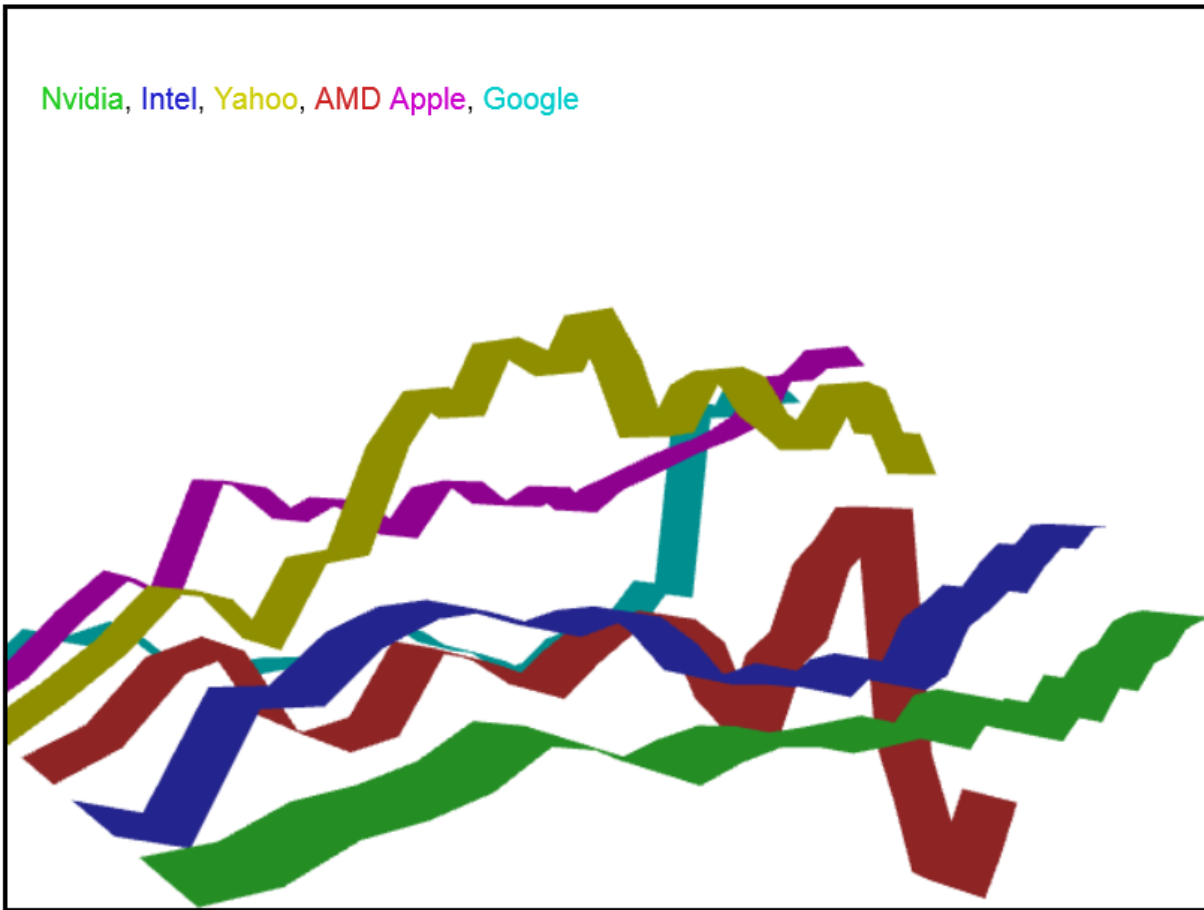
Use arrow keys to move forward/backwards and turn. Use W and S keys to go up and down



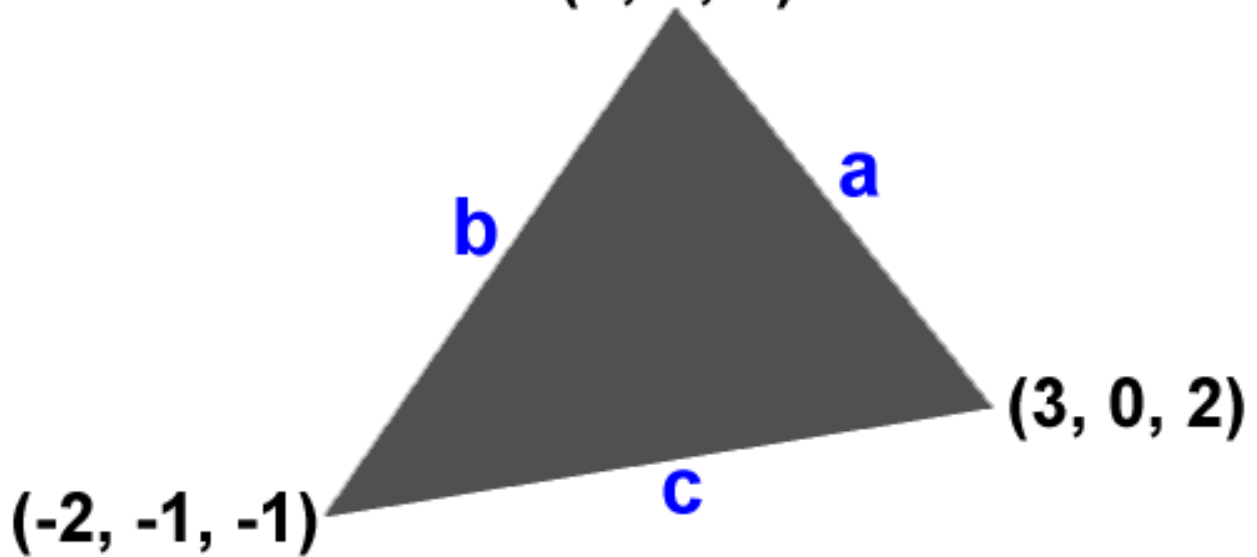
Use arrow keys to move forward/backwards and turn. Use W and S keys to go up and down

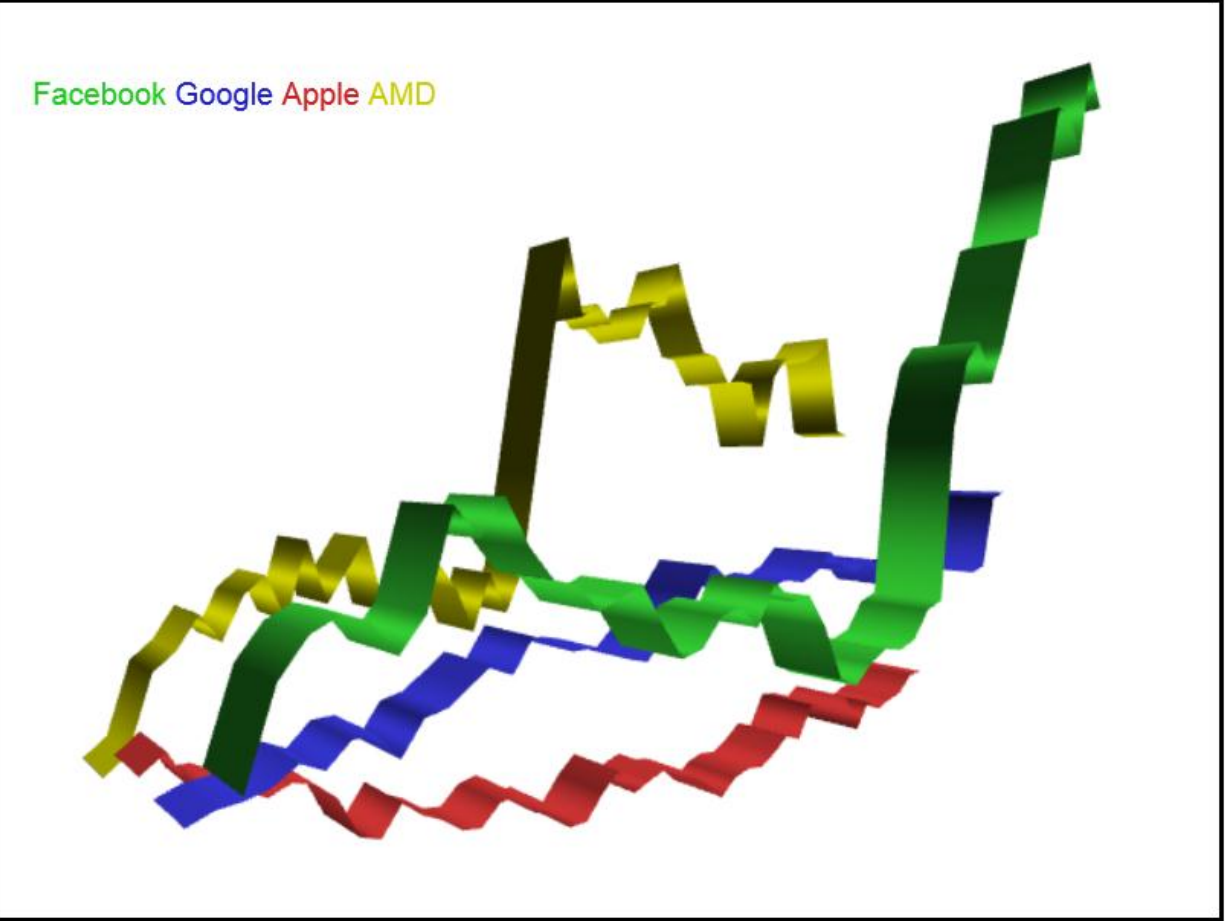
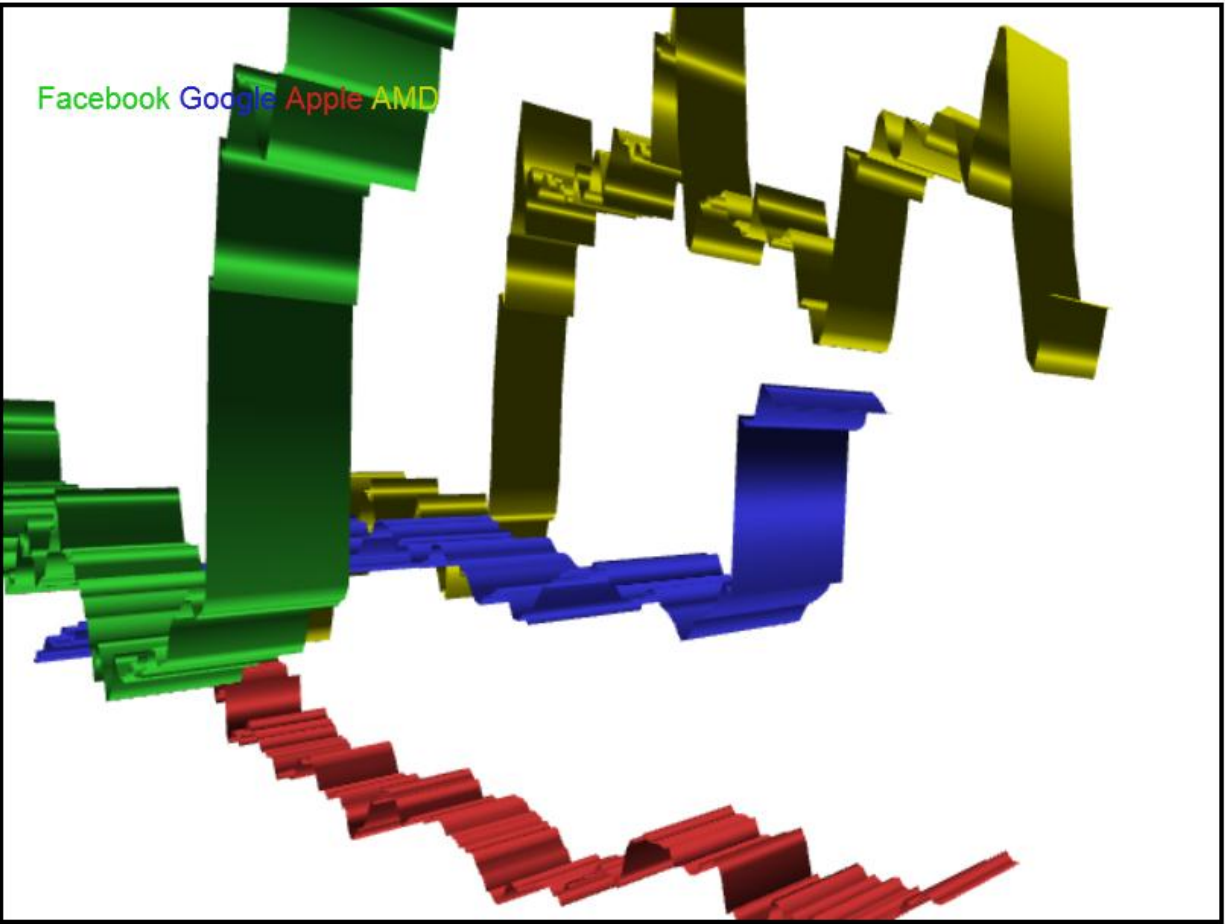


Use arrow keys to move forward/backwards and turn. Use W and S keys to go up and down

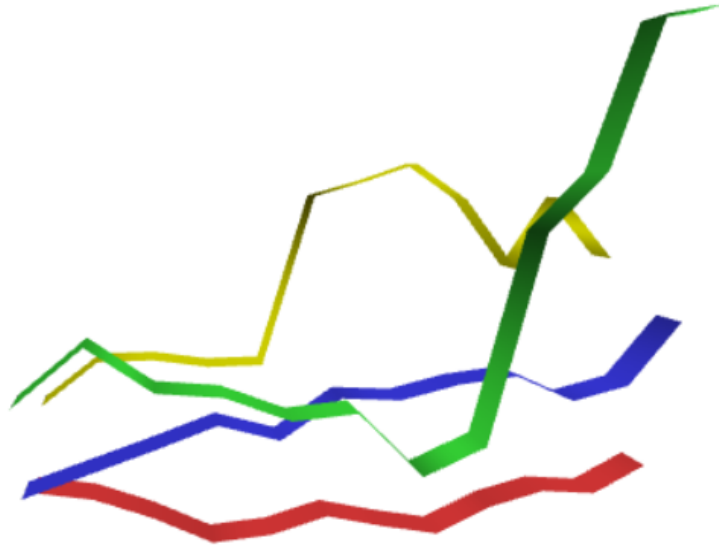


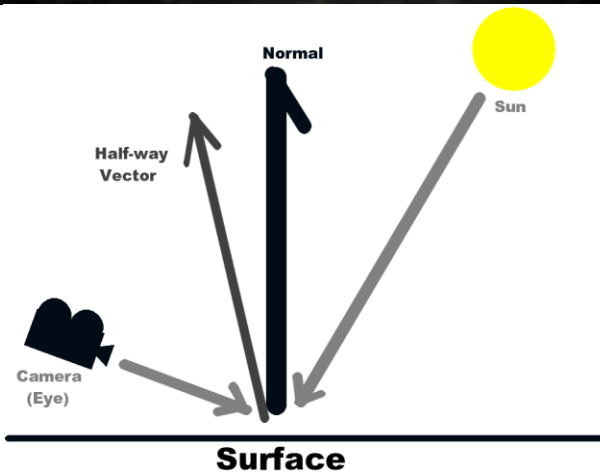
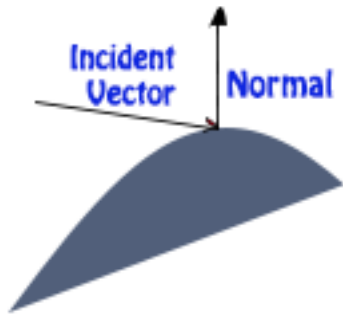
$(1, 3, 1)$





Facebook Google Apple AMD

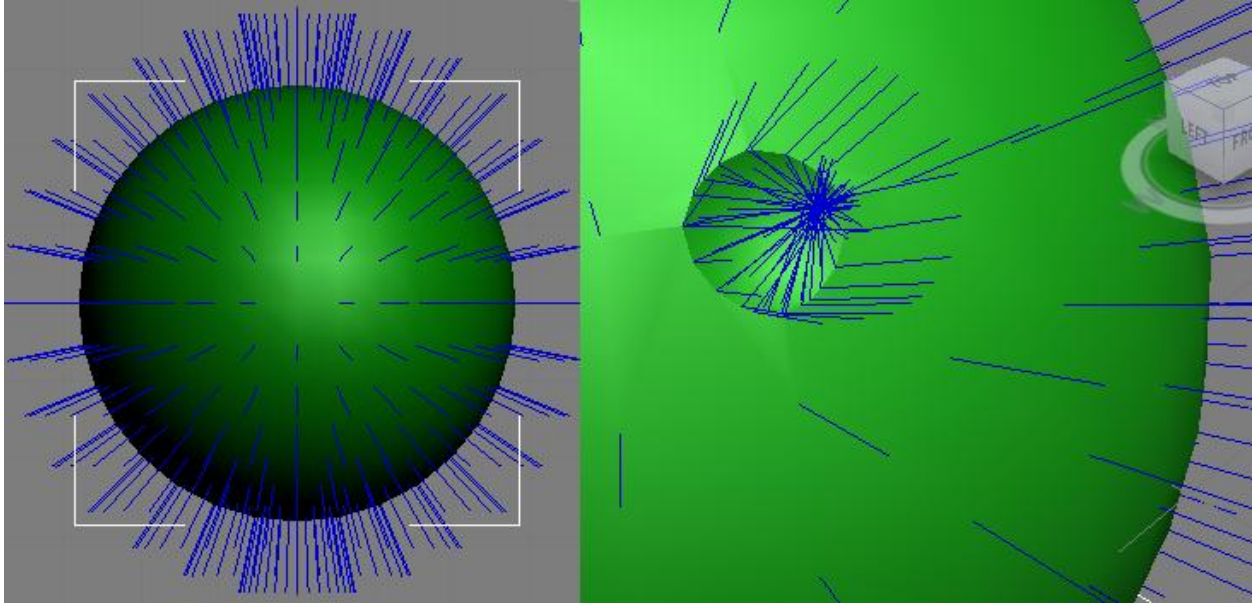


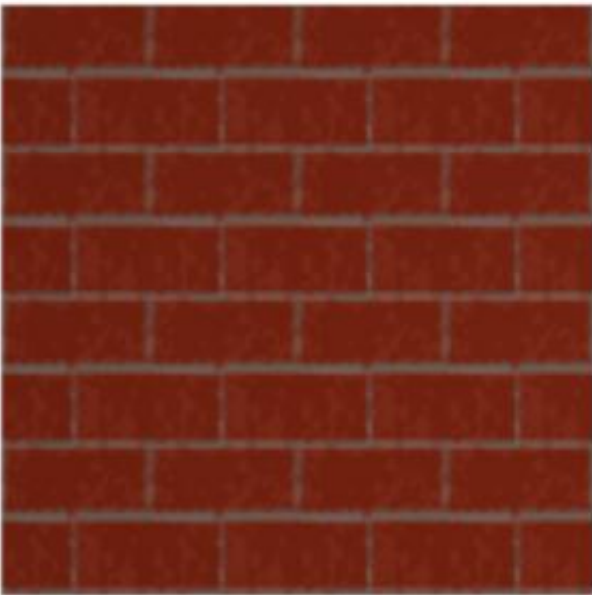
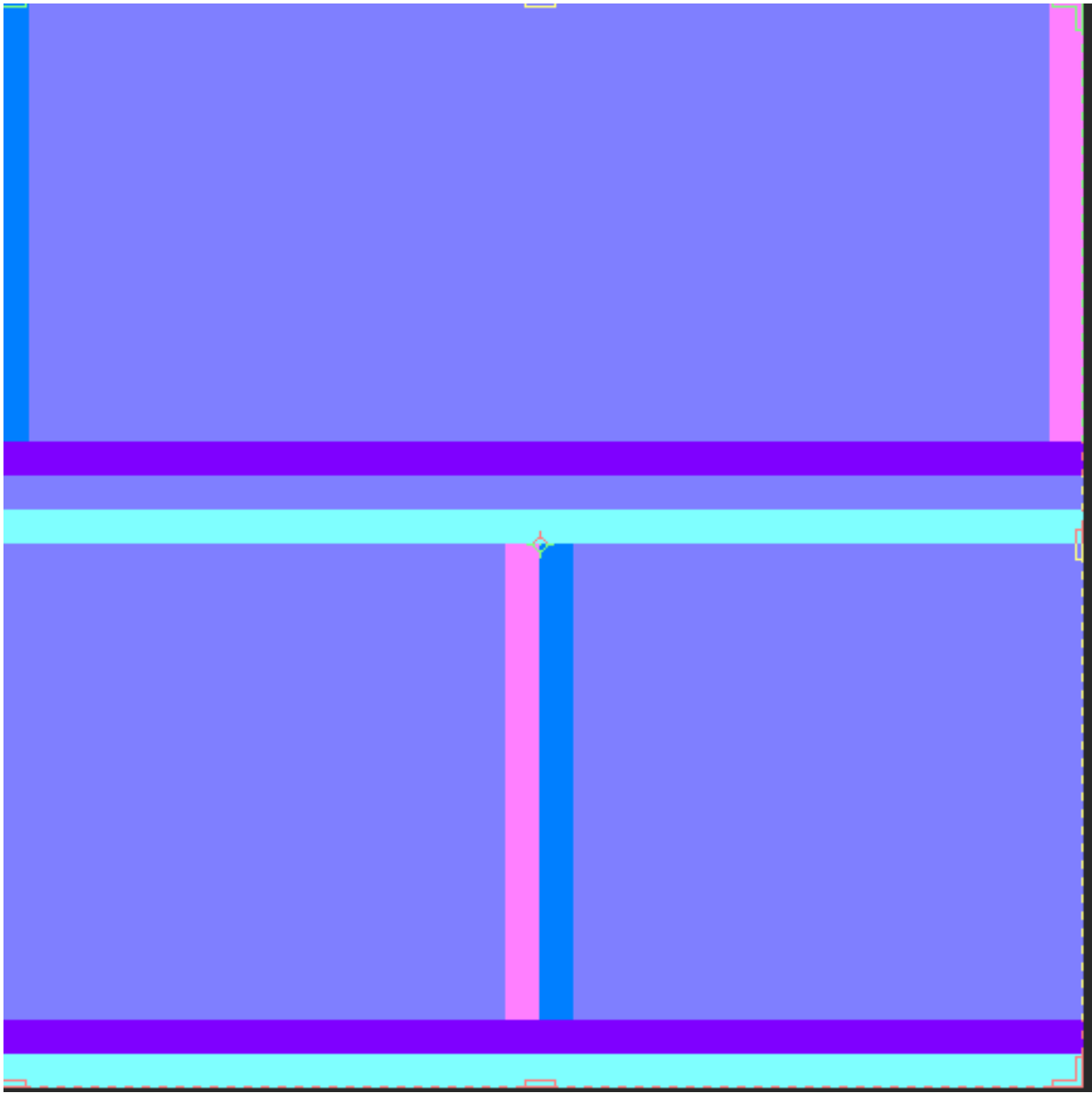


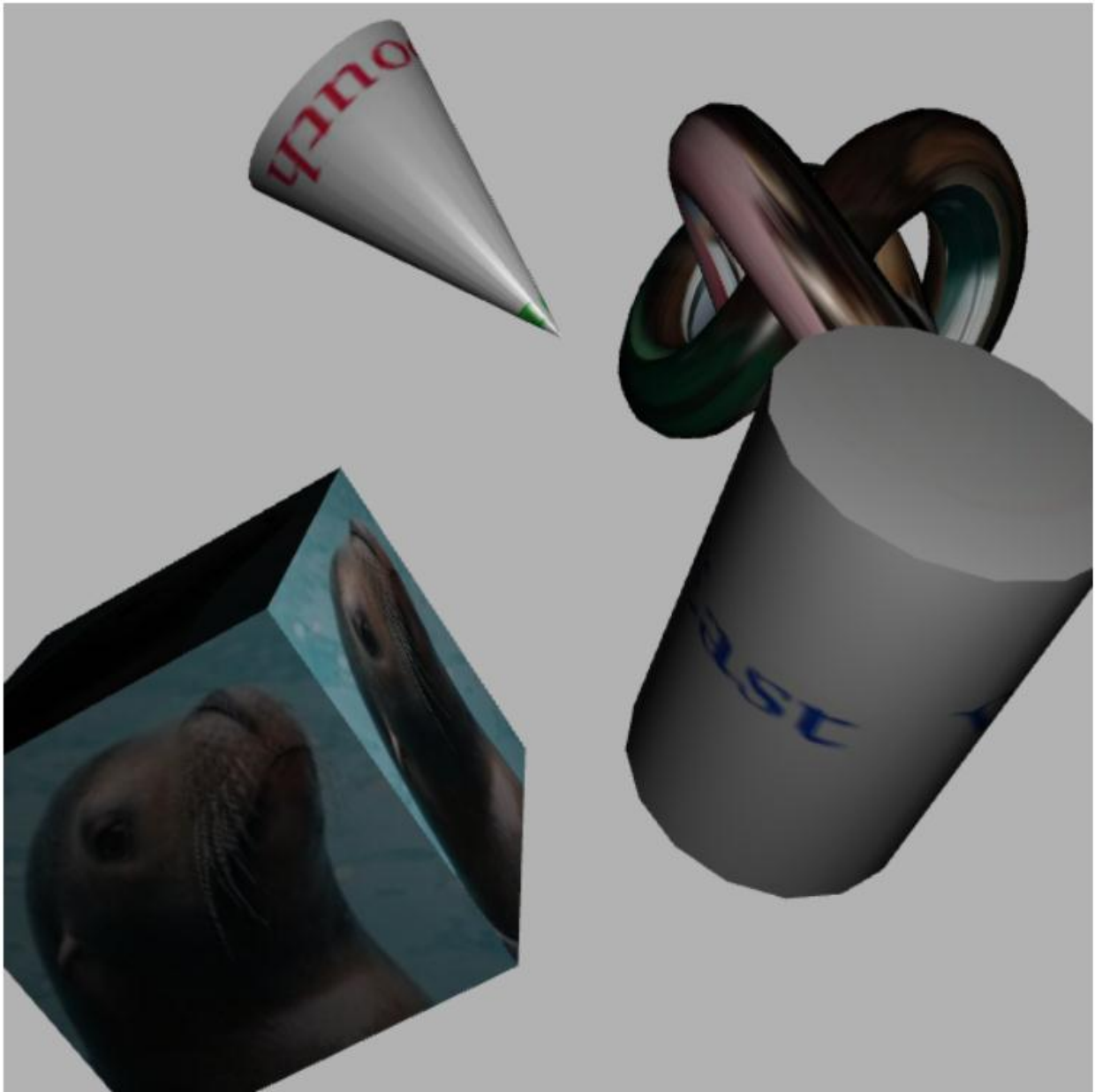








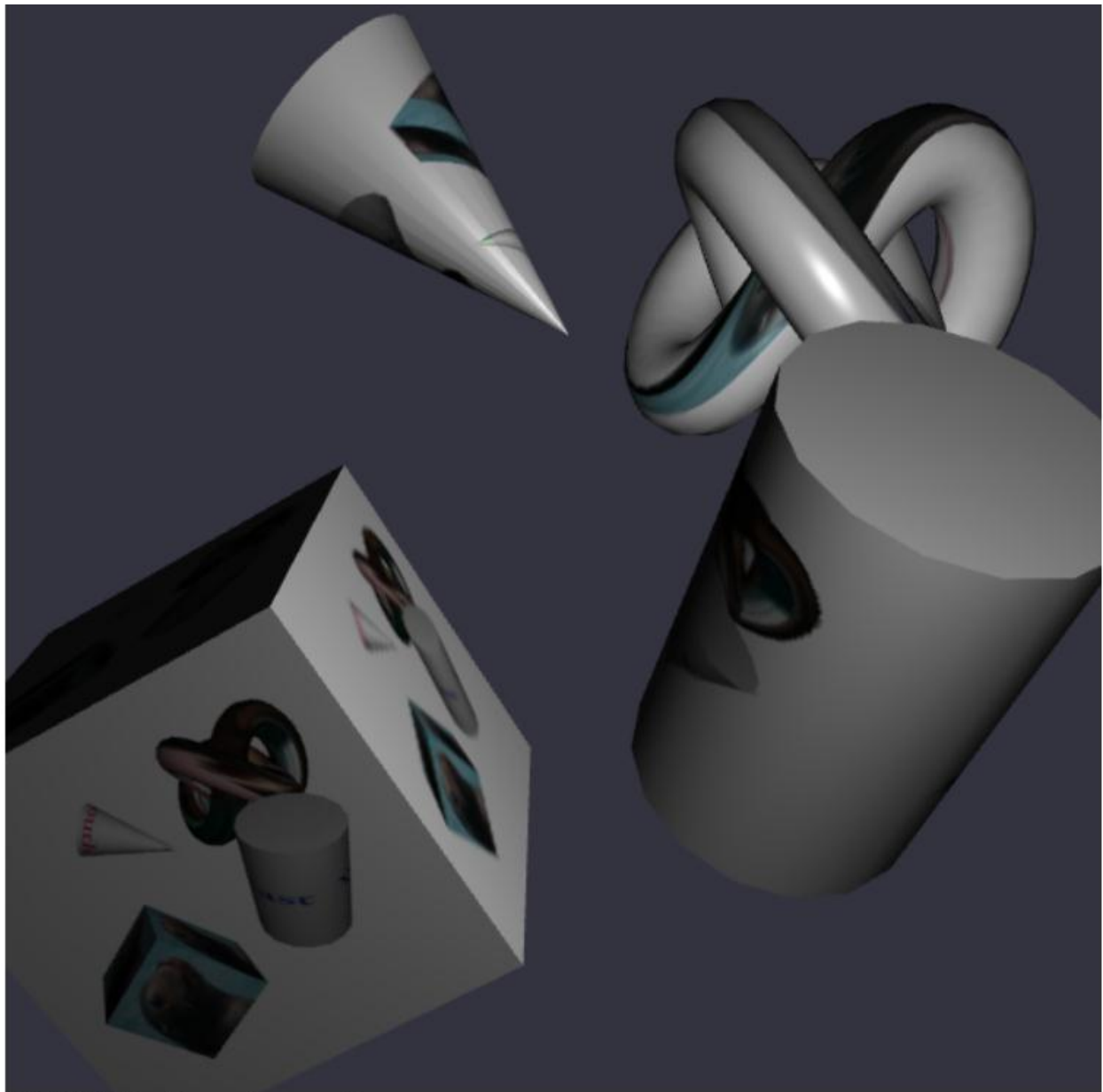




WebGL Hotshots, chapter 7

Raster Render to Texture

Frame Rate fps



WebGL Hotshots, chapter 7

Raster Render to Texture

Frame Rate fps

3D-Online

3D-Online - the only 3D home page on the Internet

3D-Online develops Interactive 3D for:

- ecommerce
- data visualization
- product demo's
- e-training
- 3D advertising
- marketing
- web design

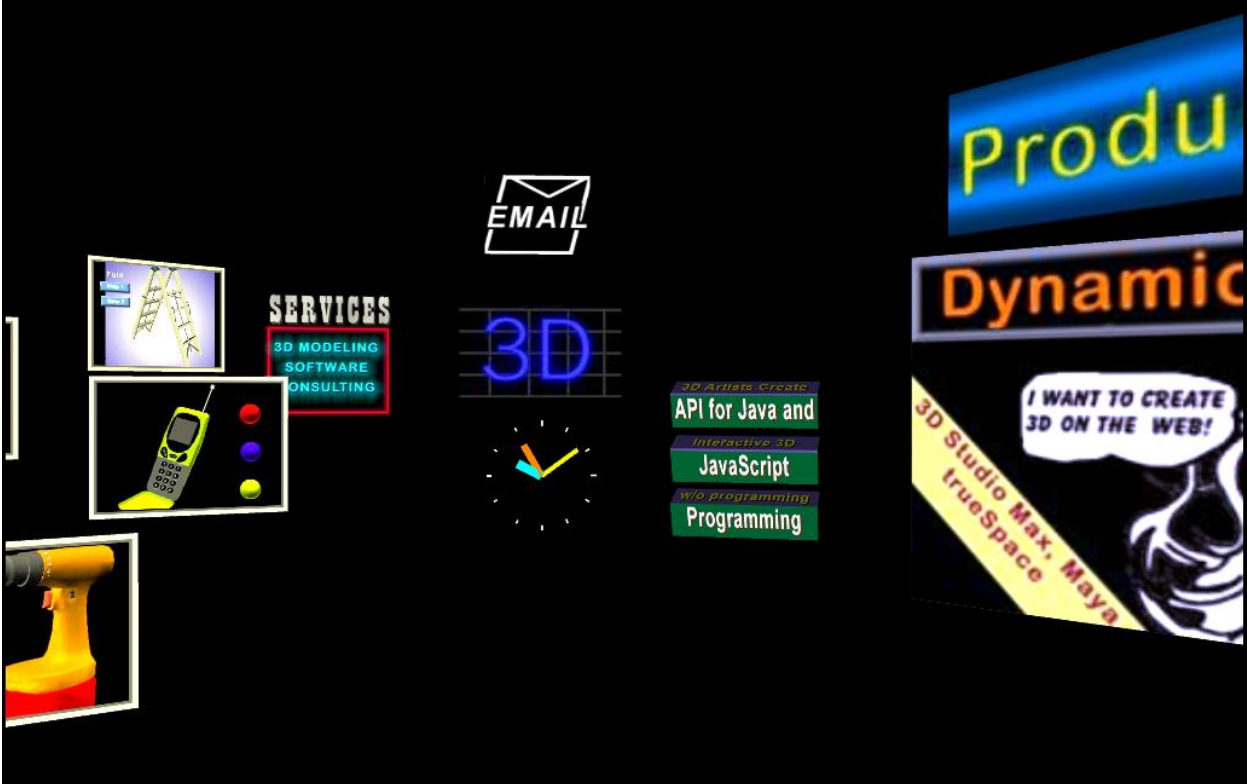
We enable artists to easily create Interactive Web 3D without plug-ins.



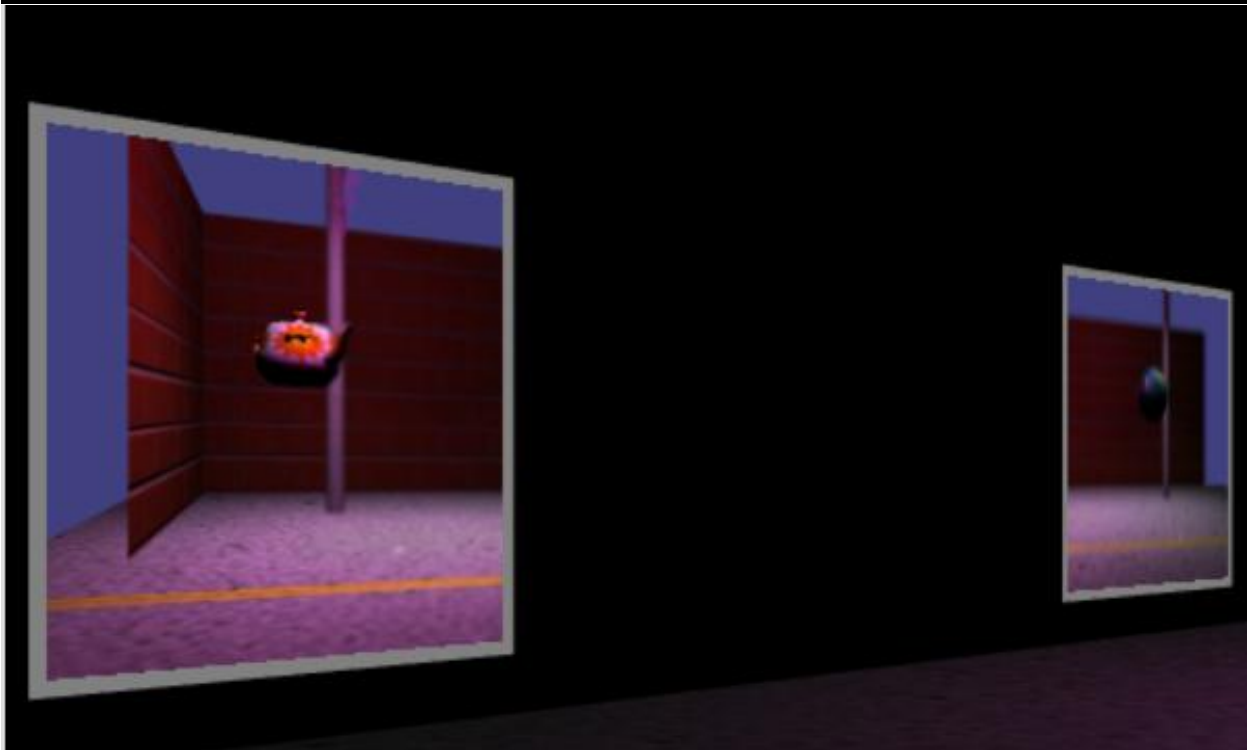
[Products](#)
[Services](#)

[Gallery](#)
[Events](#)
[Web 3D FAQ](#)

[About Us](#)
[Careers](#)
[EMail Us](#)



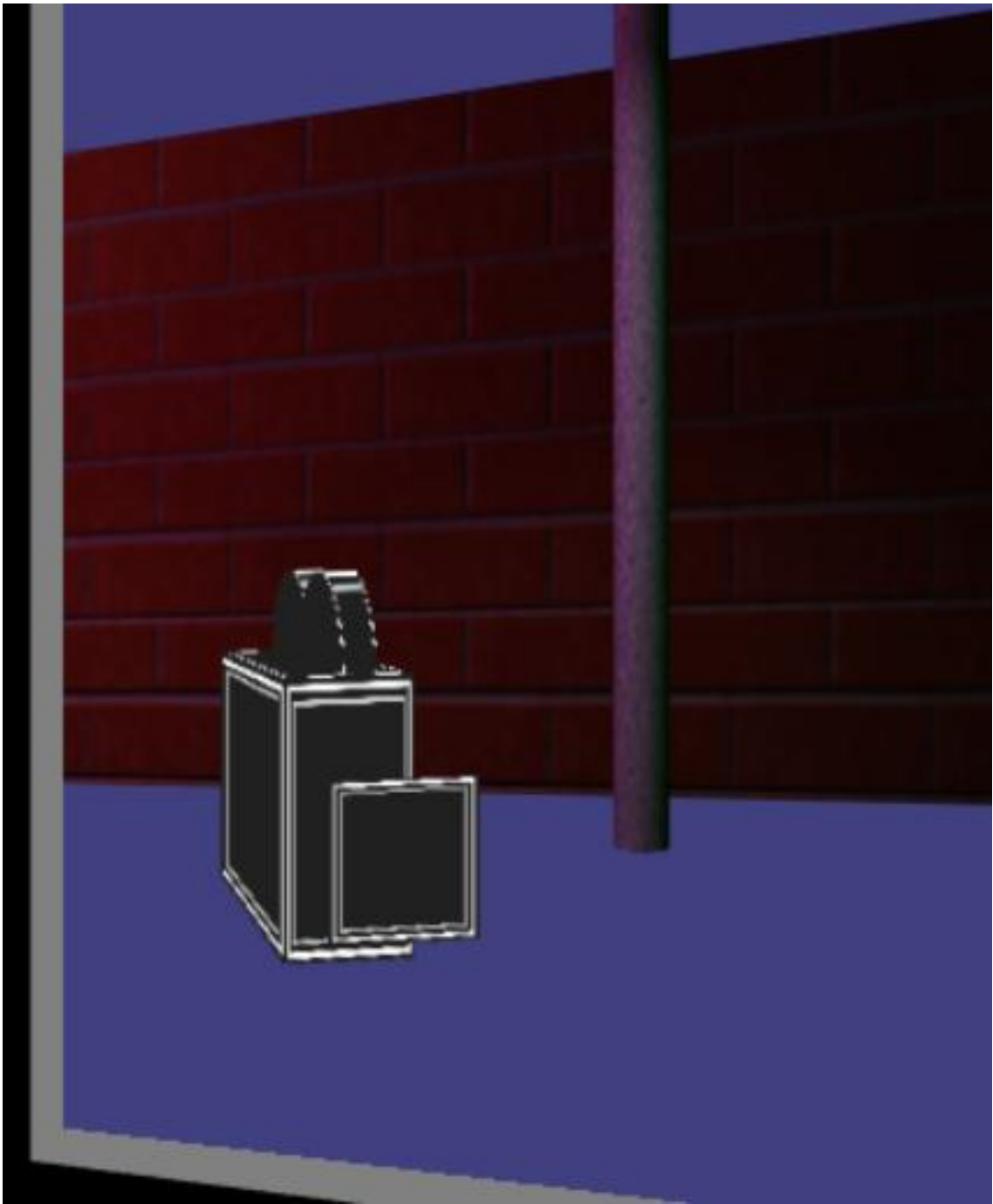


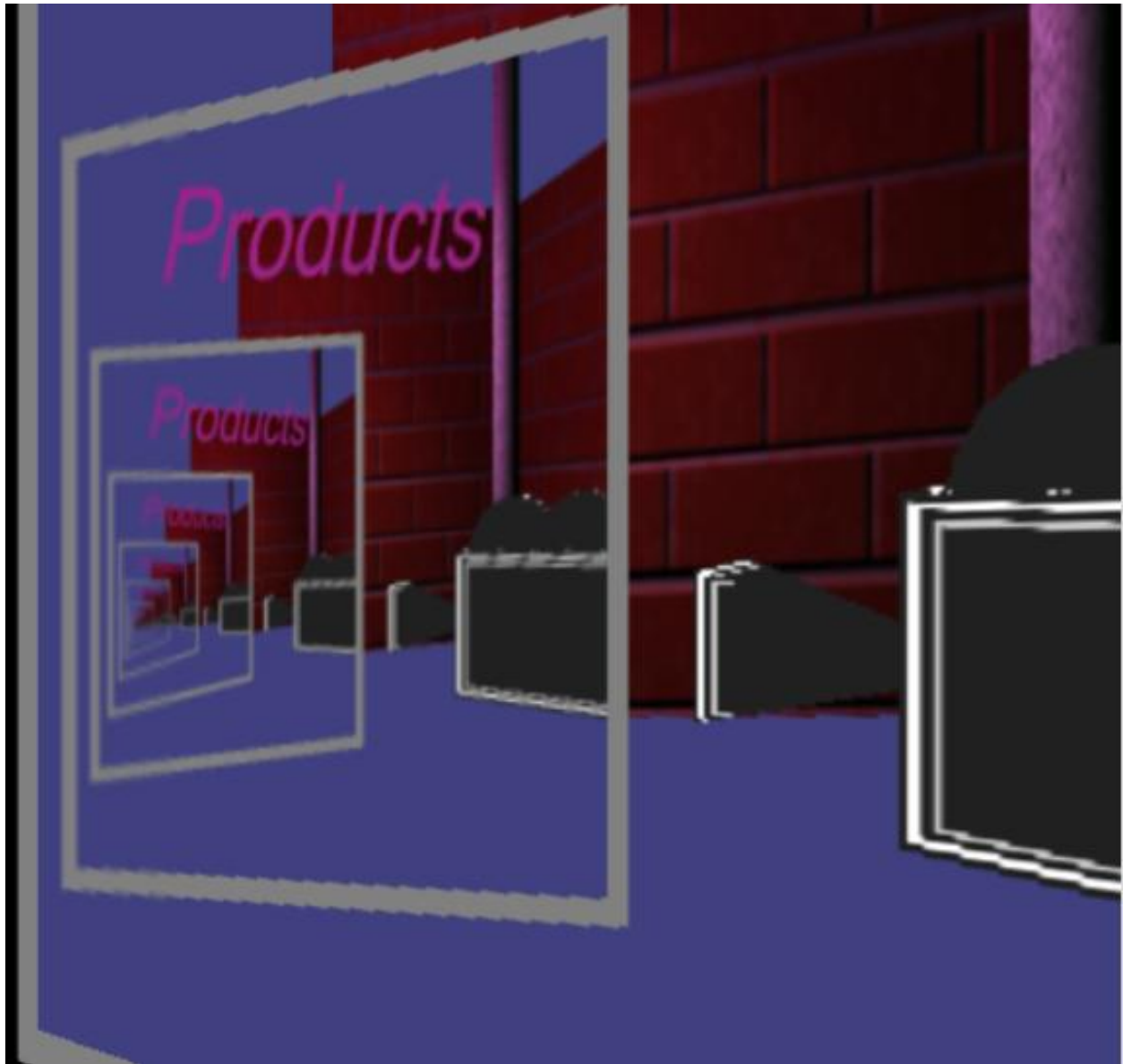




Products







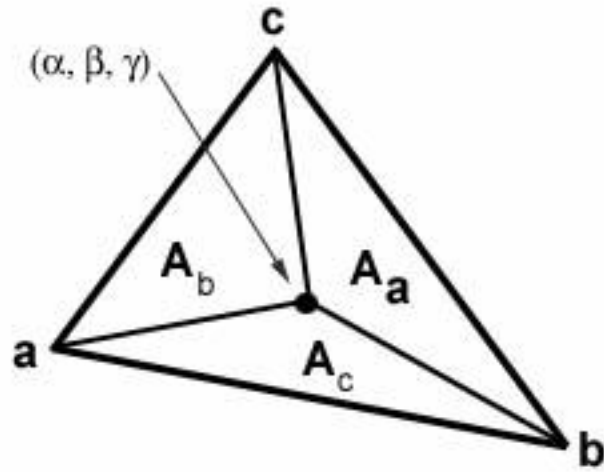
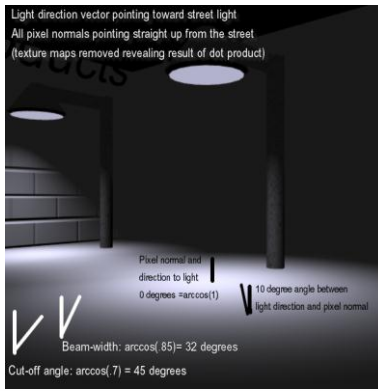
Normal Maps:
Brick wall using Normal
Texture Map to create
indentation pattern.

Texture color $(0.5, 1.0, 1.0) * 2.0 - 1.0$
 $= (0.0, 1.0, 1.0)$ Normal
 $= (0.0, .707, .707)$ normalized

Texture color $(0.5, 0.5, 1.0) * 2.0 - 1.0$
 $= (0.0, 0.0, 1.0)$ Normal

Texture color $(0.5, 0.0, 1.0) * 2.0 - 1.0$
 $= (0.0, -1.0, 1.0)$ Normal
 $= (0.0, -.707, .707)$ normalized

Direction of three Normals
created from a texture map



2 x 2 matrix

$$\begin{bmatrix} a & b \\ c & d \end{bmatrix}$$

determinant: $ad - bc$

3 x 3 matrix

$$\begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix} = a \begin{bmatrix} e & f \\ h & i \end{bmatrix} - d \begin{bmatrix} b & c \\ h & i \end{bmatrix} + g \begin{bmatrix} b & c \\ e & f \end{bmatrix}$$

determinant:

$$a(ei - hf) - d(bi - ch) + g(bf - ce) = \\ aei - ahf - bdi + bfg + cdh - ceg$$

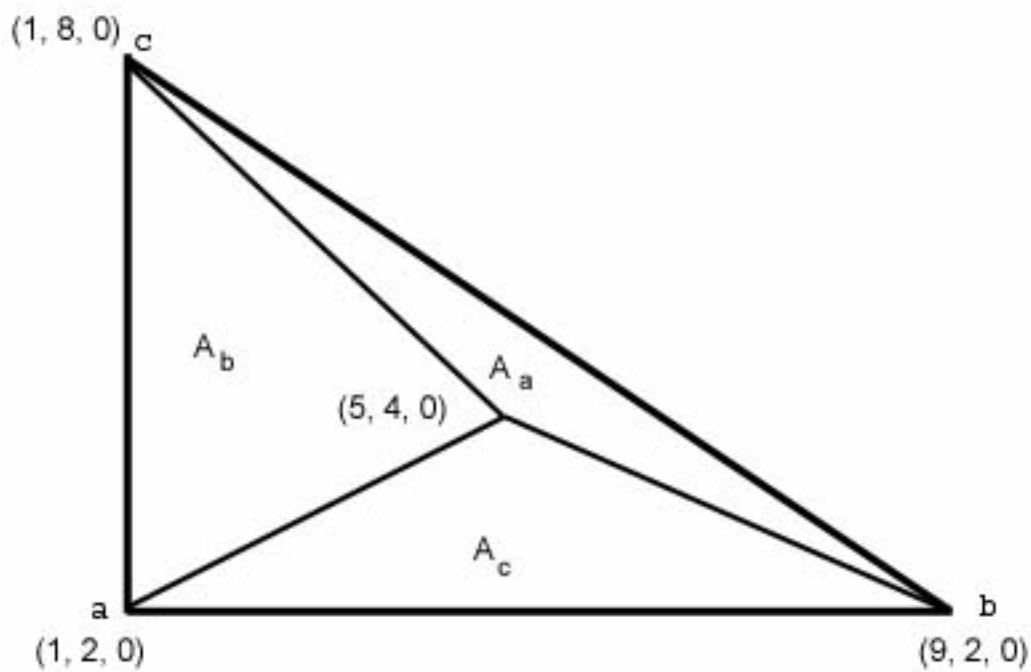
$$A = \begin{bmatrix} a_x - b_x & a_x - c_x & d_x \\ a_y - b_y & a_y - c_y & d_y \\ a_z - b_z & a_z - c_z & d_z \end{bmatrix}$$

$$\beta = \begin{bmatrix} a_x & a_x - c_x & d_x \\ a_y & a_y - c_y & d_y \\ a_z & a_z - c_z & d_z \end{bmatrix}$$

A

$$\gamma = \begin{bmatrix} a_x - b_x & a_x & d_x \\ a_y - b_y & a_y & d_y \\ a_z - b_z & a_z & d_z \end{bmatrix}$$

A



Note: polygons need not be right angles, this was done for simplicity

$$t = \begin{bmatrix} a_x - b_x & a_x - c_x & a_x \\ a_y - b_y & a_y - c_y & a_y \\ a_z - b_z & a_z - c_z & a_z \end{bmatrix}$$

A

Alkali Metals

Alkaline Earth Metals

Transition Metals

Other Metals

Non-metals

Noble Gases

Lanthanoids

Actinoids

Chart Key:

element name	atomic number
symbol	atomic weight

solid liquid gas synth

C	Br	He	Tc
---	----	----	----

Alkali Metals

Alkaline Earth Metals

Transition Metals

Other Metals

Non-metals

Noble Gases

Lanthanoids

Actinoids

Chart Key:

element name	atomic number
symbol	atomic weight

solid liquid gas synth

C	Br	He	Tc
---	----	----	----

oxygen

8

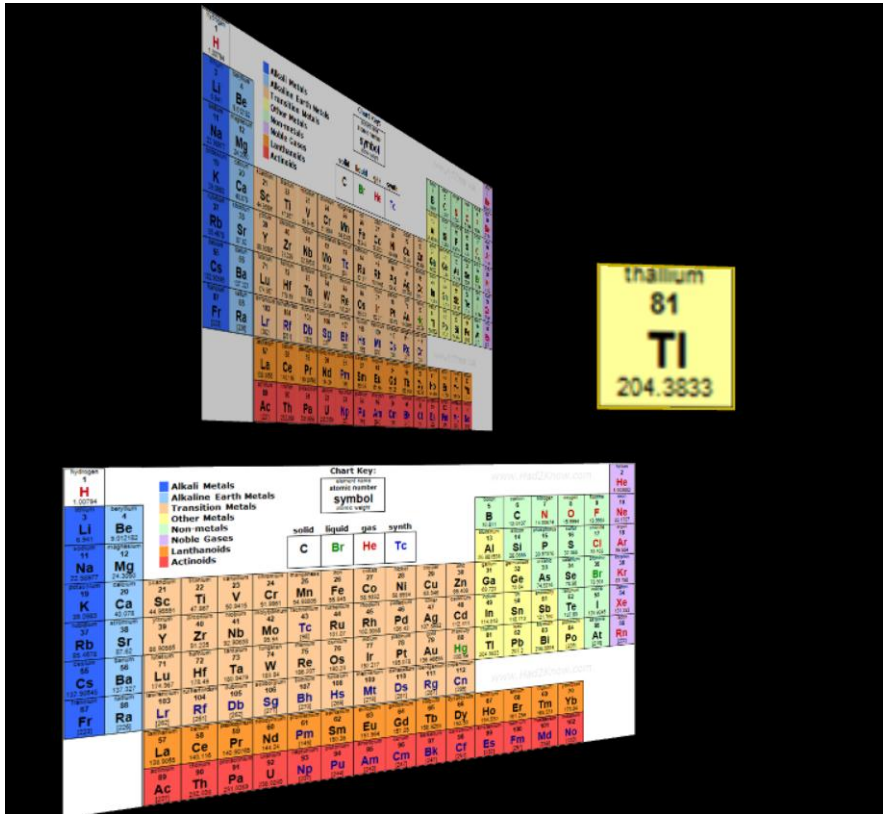
15.9994



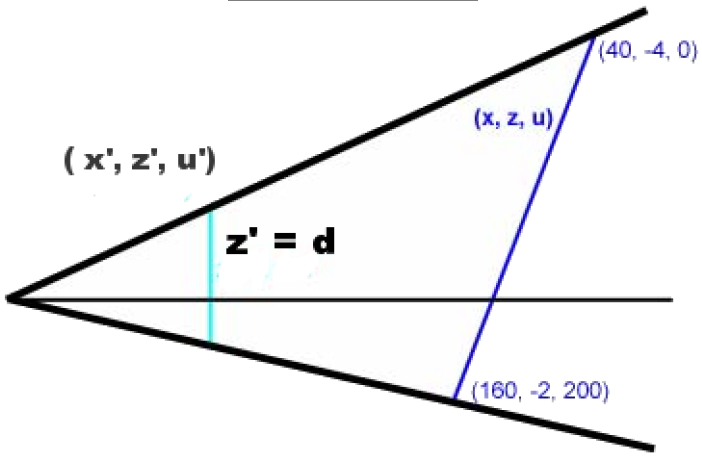
Fewer Pixels
used from
here

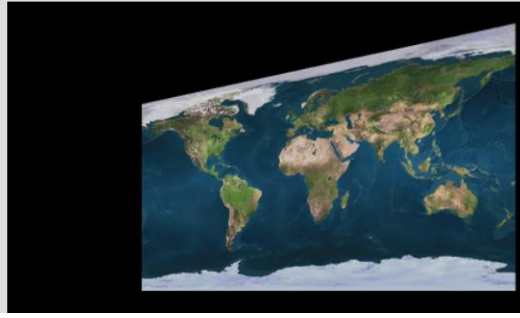
More Pixels
used from
here





thallium
81
Tl
204.3833



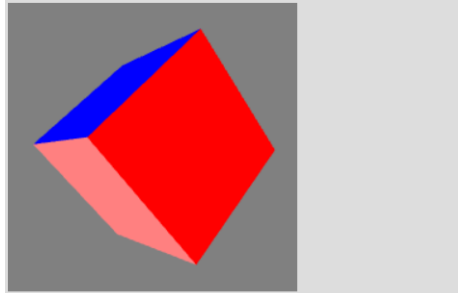


$$R_X(\phi) = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & \cos \phi & -\sin \phi & 0 \\ 0 & \sin \phi & \cos \phi & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$$R_Y(\theta) = \begin{bmatrix} \cos \theta & 0 & \sin \theta & 0 \\ 0 & 1 & 0 & 0 \\ -\sin \theta & 0 & \cos \theta & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$$R_Z(\Phi) = \begin{bmatrix} \cos \Phi & -\sin \Phi & 0 & 0 \\ \sin \Phi & \cos \Phi & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$$\begin{bmatrix} 1 - 2y^2 - 2z^2 & 2xy - 2wz & 2xz + 2wy & 0 \\ 2xy + 2wz & 1 - 2x^2 - 2z^2 & 2yz - 2wx & 0 \\ 2xz - 2wy & 2yz + 2wx & 1 - 2x^2 - 2y^2 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$



Quaternion Rotation

Animation time second(s). Elapsed time: 100%

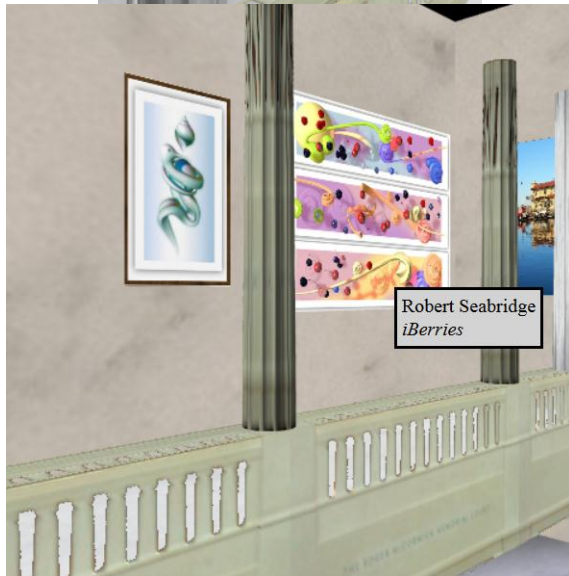
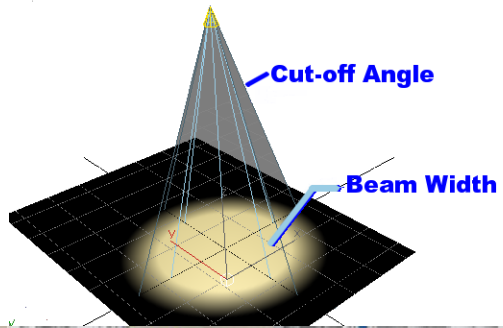
Start: angle (angle -1 , x .25 , y -.5 , z .75)
 quaternion: 0.8776, -0.1281, 0.2563, -0.3844

End: angle (angle 2 , x -.35 , y .6 , z -.85)
 quaternion: 0.5403, -0.2683, 0.4599, -0.6516





$$R_y(\theta) = \begin{bmatrix} \cos \theta & 0 & \sin \theta & 0 \\ 0 & 1 & 0 & 0 \\ -\sin \theta & 0 & \cos \theta & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$



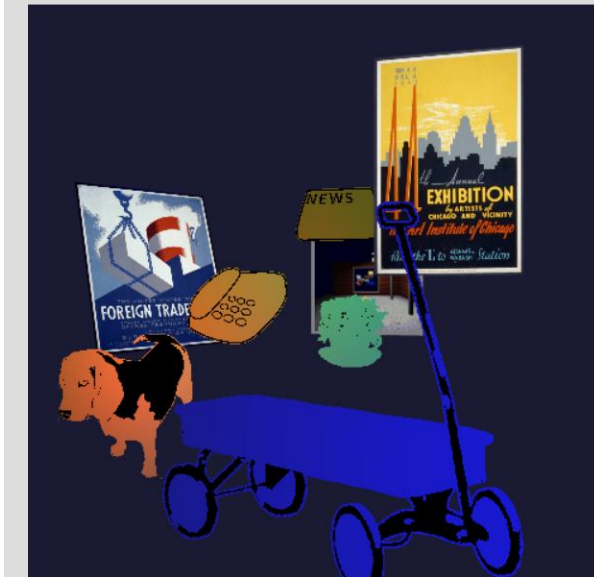


WebGL Hotshots, chapter 10, use lights



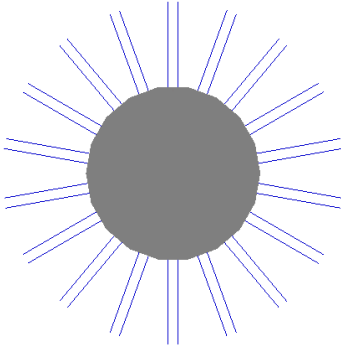


WebGL Hotshots, chapter 10, use lights

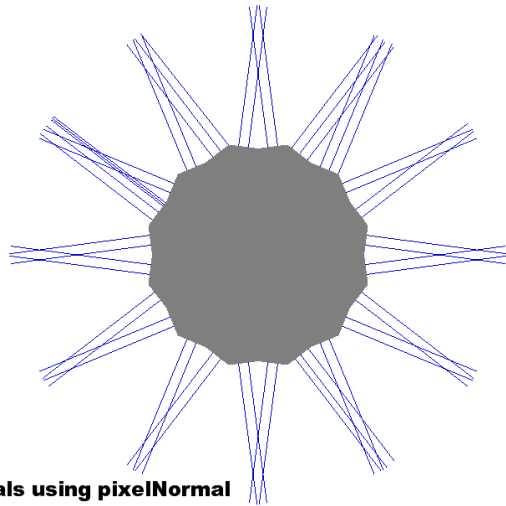




Above view of the column



vTransformedNormal
Included with the column's .obj file.
The normals are multiplied by `uNMatrix`
in the vertex shader to account for any
rotations on the 3D mesh



column normals using pixelNormal
Derived from the `museumColumnNormalMap` image.
This produces the `pixelNormal` beveled-look for the columns.