JME Transformations Cheatsheet
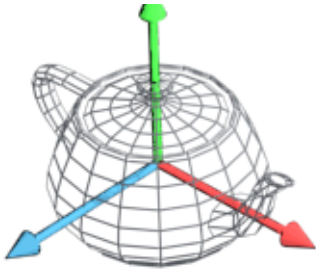
Model (Local) Space

World Space
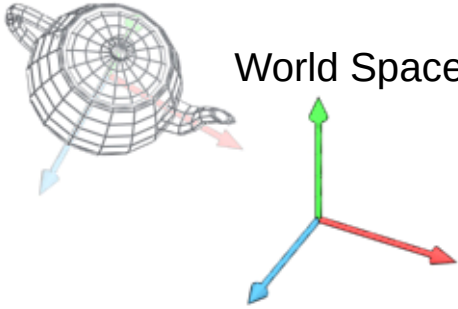
View Space

Clip Space

(-1,1,-1)

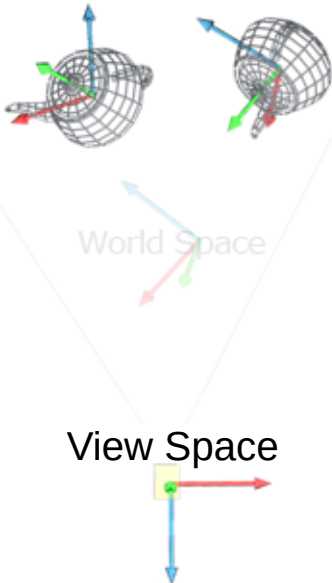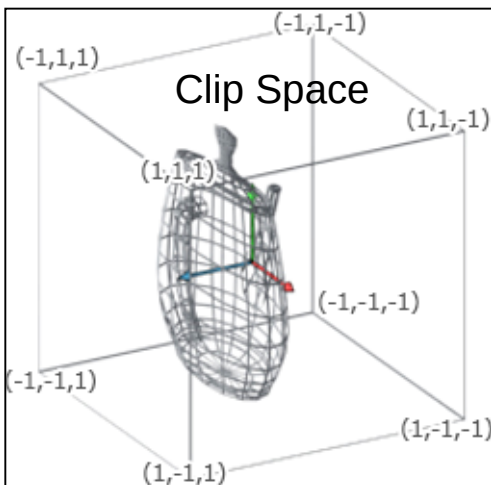(-1,1,1)

(1,1,-1)

(1,1,1)

(-1,-1,-1)

(-1,-1,1)

(1,-1,-1)

(1,-1,1)

World
Matrix
(mat4)

World
Normal
Matrix
(mat3)

WorldView
Matrix
(mat4)

Normal
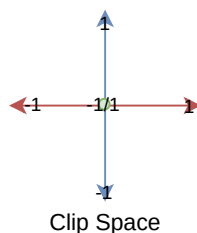Matrix
(mat3)

View
Matrix
(mat4)

World
View
Projection
Matrix
(mat4)

View
Projection
Matrix
(mat4)

Projection
Matrix
(mat4)

Inversed Matrices

WorldMatrixInverse

ProjectionMatrixInverse

WorldViewMatrixInverse

ViewProjectionMatrixInverse

WorldViewProjectionMatrixInverse

NormalMatrixInverse

ViewMatrixInverse

Clip Space

-1   -1/1   1

1

-1

Screen Space

1

0   1

```
vec4 clipPos=g_ProjectionMatrix*vPos;
vec3 ncd=clipPos.xyz/clipPos.w;
vec3 screenPos=ncd*0.5+0.5;
vec2 uv=screenPos.xy;
float depth=screenPos.z;
```
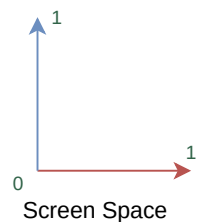
JME WorldParameters

Name	Type	Description
ViewPort	vec4	Contains the four viewport parameters in this order: X = Left, Y = Top, Z = Right, W = Bottom.
Resolution	vec2	The width and height of the camera.
ResolutionInverse	vec2	The inverse of the resolution, 1/width and 1/height.
Aspect	float	Aspect ratio of the resolution currently set. Width/Height.
FrustumNearFar	vec2	The near and far values for the camera frustum.
CameraPosition	vec3	Camera position in world space.
CameraDirection	vec3	Direction of the camera.
CameraLeft	vec3	Left vector of the camera.
CameraUp	vec3	Up vector of the camera.
Time	float	Time in seconds since the application was started.
Tpf	float	Time in seconds that the last frame took.
FrameRate	float	Frames per second.