

LookAt

A classic feature of any 3D framework is "LookAt"
It does what it says on the tin...

No matter where the camera is in 3D space
If you ask it to look at a particular point
The camera rotates to face in that direction

We are building everything from the ground up
So you'll need to write a LookAt for yourselves !

Implementing LookAt

When writing LookAt, we must alter all 3 vectors...
Forward, Up and Right

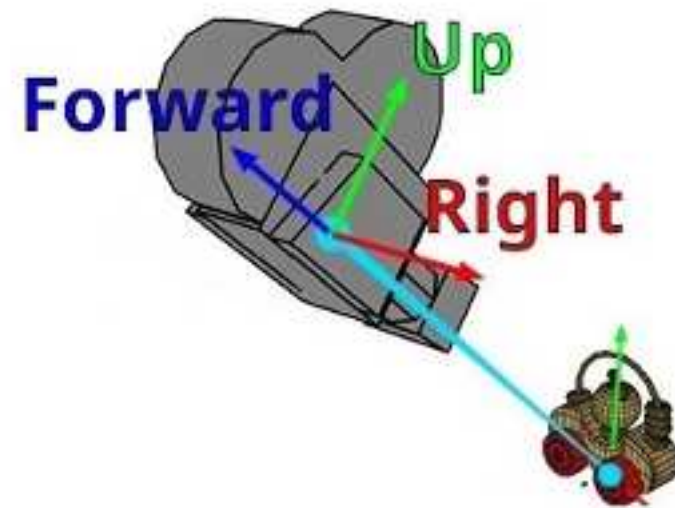
"Forward" is easy...

Vector from LookAt point to camera !

"Up" & "Right" are more complex

Must always be kept fixed...

Relative to "Forward"



Implementing LookAt

To calculate "Right" & "Up" we use Cross Product

As you'll no doubt remember:

Cross Product of two vectors gives us a 3rd vector...
...that is perpendicular to the other two

Right

CP "Vertical" with "Forward"

"Vertical" is straight-up (0,1,0)

Up

CP "Forward" with "Right"

