Assignment 0: Animation Framework

Assignment #0

- Goal:
  - Create the framework and testbed for the animation techniques to be explored during the semester.

  - In short:
    - The basics for creating an animation

Assignment #0

- Use the toolkit / API of your choice:

- Real-time
  - Unity3D
  - Unreal Engine
  - OpenGL
  - WebGL
  - Three.js
  - Processing

  - others

Assignment #0

- Assignment:
  - Animate a simple object (I.e. cube or teapot) using a mathematical expression to describe motion.

  - 20 second animation
    - X position = 5t (t is time in sec)
    - Y position = 5t (t is time in sec)
    - Z position = constant
    - Rotation around Y axis = 18t (t is time in sec) – in degrees
    - Rotation around X and Z axis = 0.

Assignment #0

- Camera
  - Place camera for a "straight-on" view of object
  - Camera position / lookat to remain static.
  - Assure that object does not go outside of view window.

Note on real time animation

- t represents actual time NOT number of display loops generated.

- For real time applications
  - Simulate a constant frame rate
  - Calculate time past since last "update" to determine t.

Questions?

Assignments

- Grading
  - Each assignment is worth 15 points:
    - 3 points – for something that compiles
    - 9 points – for something that runs incorrectly
    - 15 points – for something that runs correctly

    - No bonus for this assignment.

Assignment #0

- Important to get this one right
  - It will be the basis for the remaining assignments!

Submission

- Web page / blog
  - Please set up a Web page or blog where you will post video results of your assignments.

- Submission
  - Email to me indicating URL of web site / blog
  - "video snapshot" posted on blog.

Video capture

- Mac:
  - Quicktime Player
  - https://support.apple.com/en-us/HT208721

- Windows:
  - GameBar
  - https://www.pcmag.com/news/349410/how-to-capture-video-clips-in-windows-10

- Ubuntu
  - SimpleScreenRecorder
  - https://itsfoss.com/record-screen-ubuntu-simplescreenrecorder/
  - Free / OpenSource

Due dates

- **Due**
  - Tuesday, Sept 14 – 11:59pm

- **Submission**
  - Email with blog URL

  - Video on blog
    - 20 second video showing object moving across the screen.

Questions?

- Next time:
  - Positions, Orientation and Quaternions…(oh my).
  - Particularly…rotation

- Remember,
  - "weekly activity" due on Tuesdays