Intro to graphics applications and Review

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Textbook Chapter 15

Some slides courtesy of M. Kim, KAIST

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Today

- Presentation on graphics applications and research (by Shailen Agarwal)
  - Current research, animation, Unreal engine
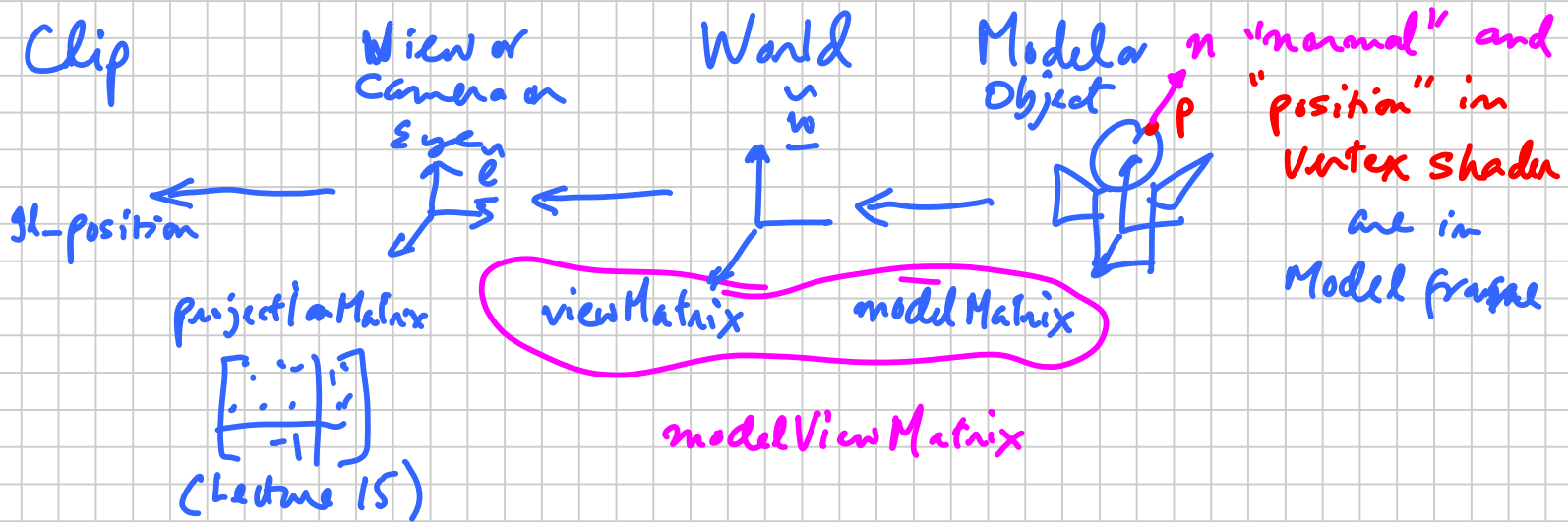- Review of transformations and projection

2

* All numbers must be in the same frame

* Most important frames

Clip   **View or**   **World**   **Model or**
                  Camera or   **Object** n "normal" and
                  Eye p "position" in
                                                                          Vertex shader
gl_position   are in
                                                                          Model frame
projectionMatrix   viewMatrix   modelMatrix

$$\begin{bmatrix} \cdot & \cdot & \cdot & \vdots \\ \cdot & \cdot & \cdot & \vdots \\ & -1 & & \end{bmatrix}$$

(Lecture 15)

                  modelViewMatrix

* Normals transform by A^{-T} "inverse transpose"

$$\left(model\,View\,Matrix \right)^{-T}_{3\times3} \equiv normalMatrix$$

                                            (provided by
                                             Three.js)

See L18 notes!

Next class review L15