Week 2

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Mentor: Dr. Barnes
CRA DMP 2008
June 5, 2008

Literature Review (LIT Review)

Title: How to Build Serious Games

Motivation: Creating a game that is fun and teaches the basics of biology and innate immunology.

Problems:

- Game designers and computer scientists have to think outside of traditional game design.
  - Environment
  - Characters
  - Gaming Objectives

Literature Review

- Solution Proposed: Work with a research team had expertise in various areas
  - Biology
  - Immunology
  - Pedagogy
  - Game design
  - Learning science

Literature Review

Evaluations

Learning Objectives	Game Design/Play
General	
The student will be able to comprehend the basic strategies of major pathogens.	Stylized, but accurate, behaviors of a variety of bacteria, viruses, and toxins; simple rules govern their behavior
The student will be able to identify and understand the role of key components of the immune system	Stylized, but accurate, behaviors of macrophages, neutrophils, mast cells, NK cells, and T and B cells, together with key signaling proteins; simple rules govern their behavior.
Innate Immunity	
The student will comprehend the various stages of cell development (such as maturation and activation).	The player can take control of specific characters (such as macrophage cells) that follow/leave protein trails and learn to navigate from the blood vessel through the tissue to the site of infection.

Literature Review

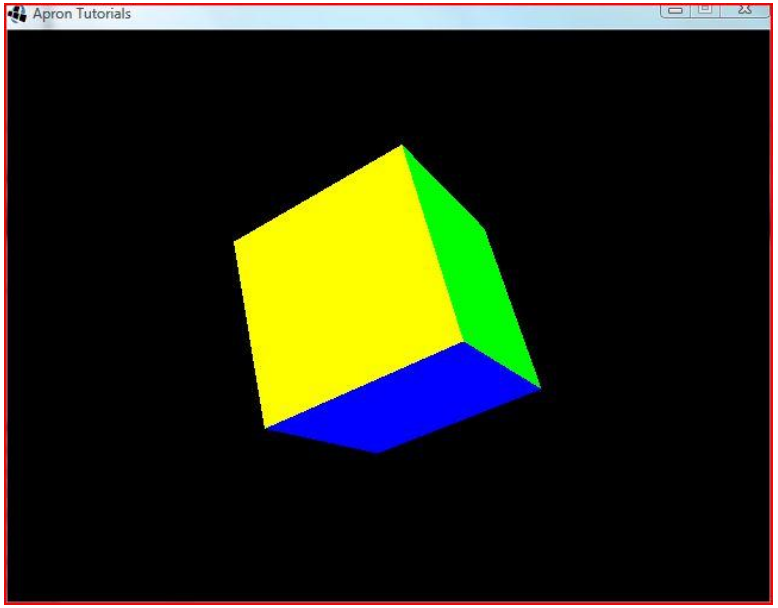
Contributions

- Addresses the problem of building serious games
  - How to build serious games that is fun and educational
  - The importance of integrating numerous ideas

Week Workload

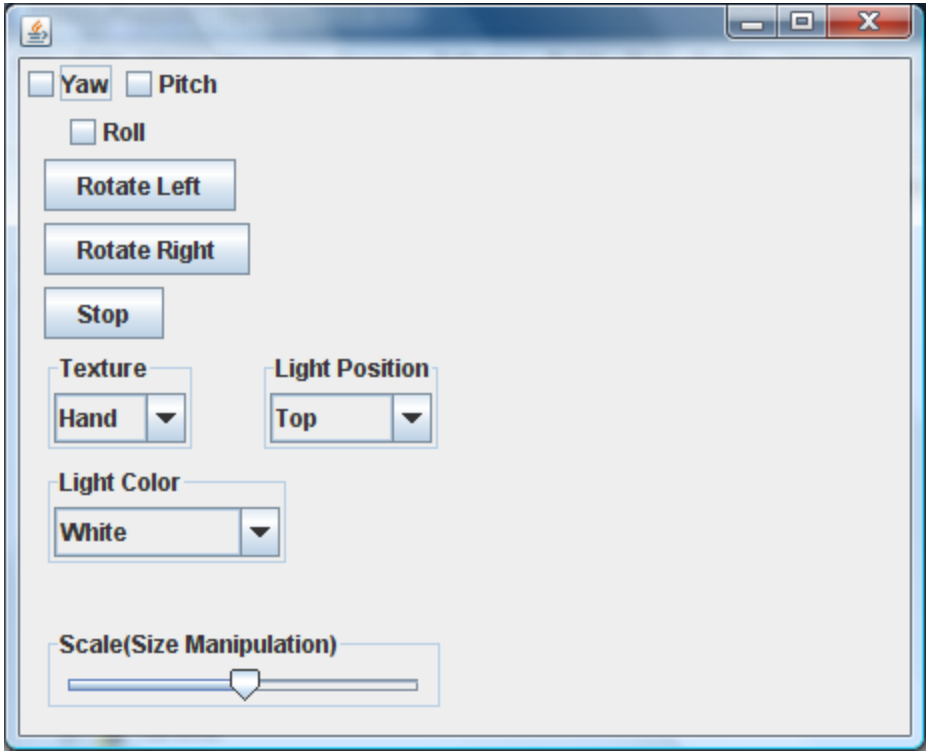
Completion of the Cube Applet

Step 1: Drawing the cube in canvas format



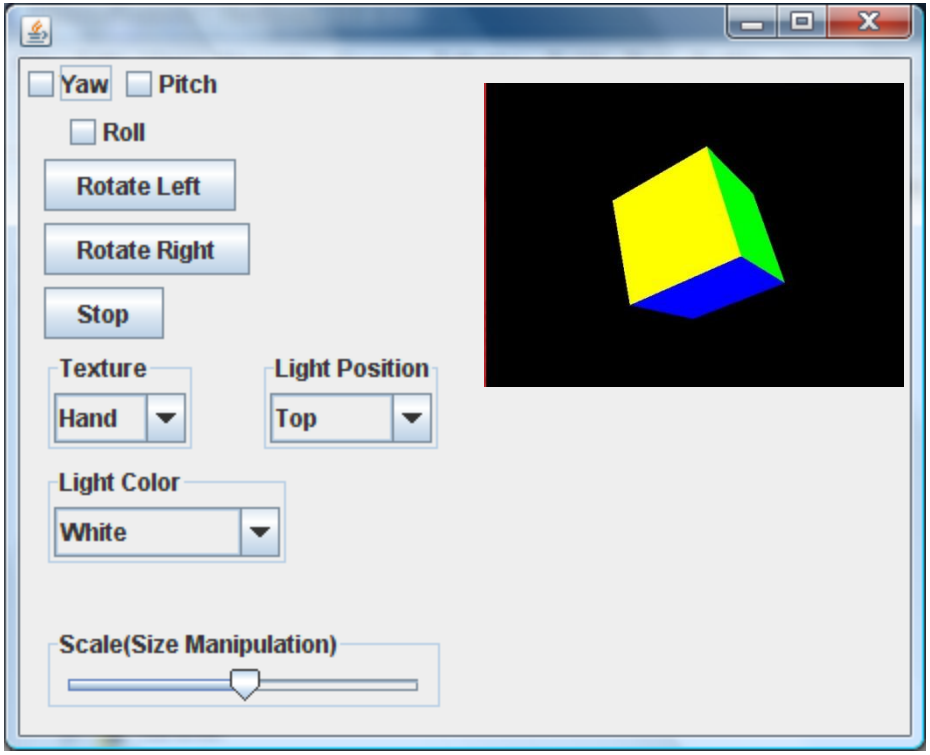
Week Workload

Step 2: Designing the GUI



Week Workload

Step 3: Combining the Two

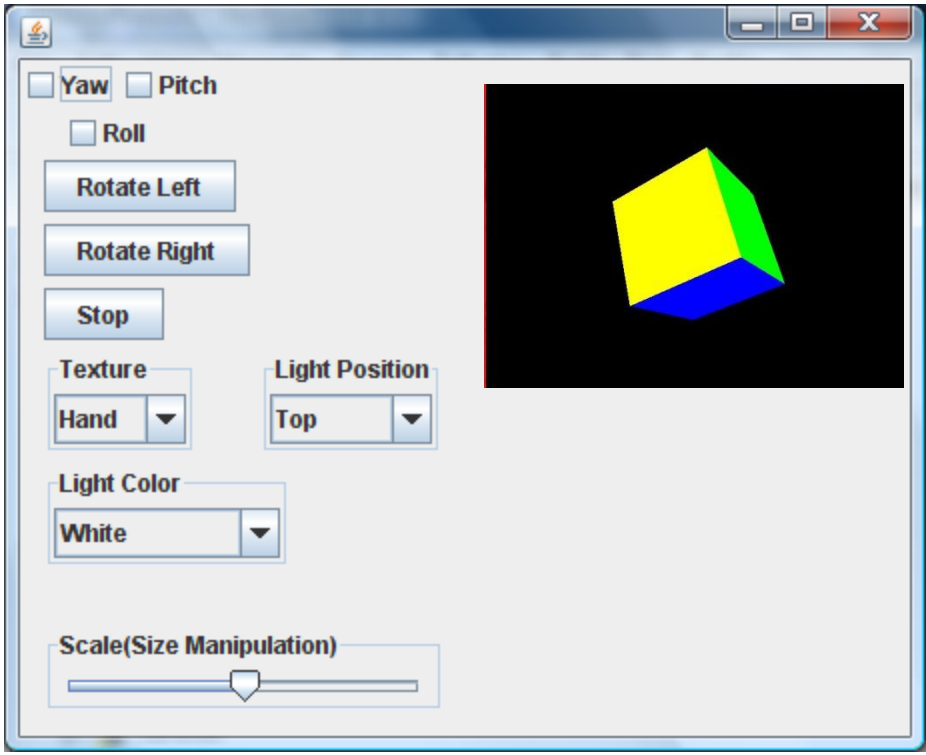


Week Workload

Step 4: Adding the functions to the Java Swing Components

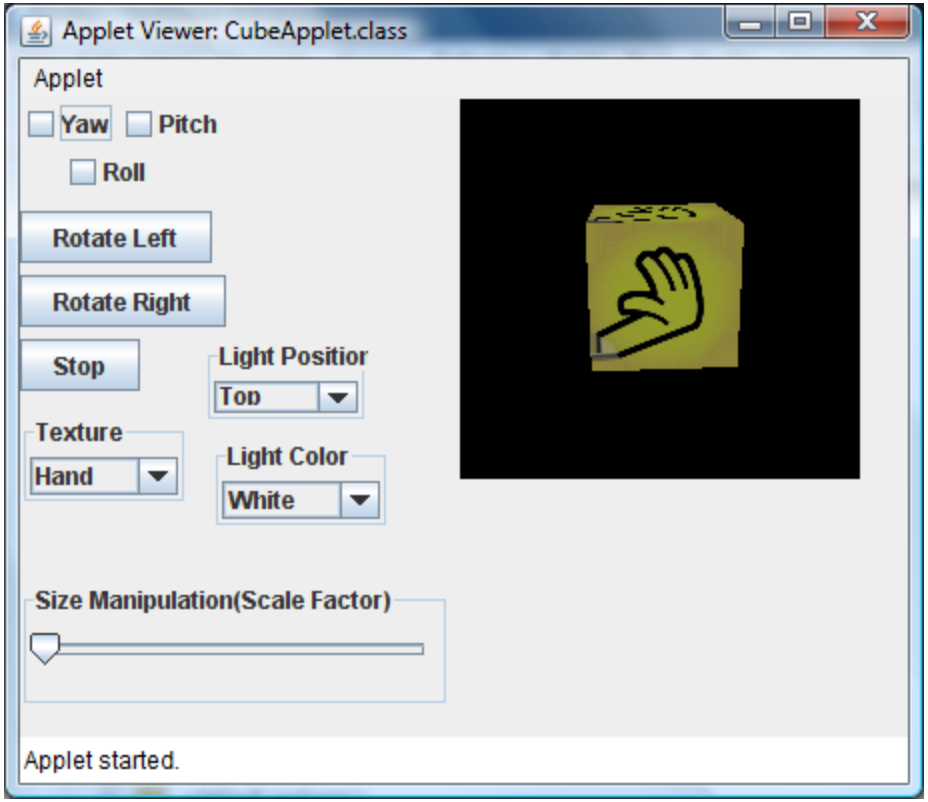
Initialize the Components and
Set the Bounds for the Canvas

- Paint Function
- **Render Cube**
  - Draws the cube
  - Binds the texture
  - Controls the Scale
- **Rotate Cube**
  - Left and Right Rotation
  - Yaw, Pitch, and Roll
- **Set Light Position**
  - Controls the position and color of the light
- **Make Texture**
  - Creates the texture for the cube



Week Workload

Step 5: The Final Product



Problems

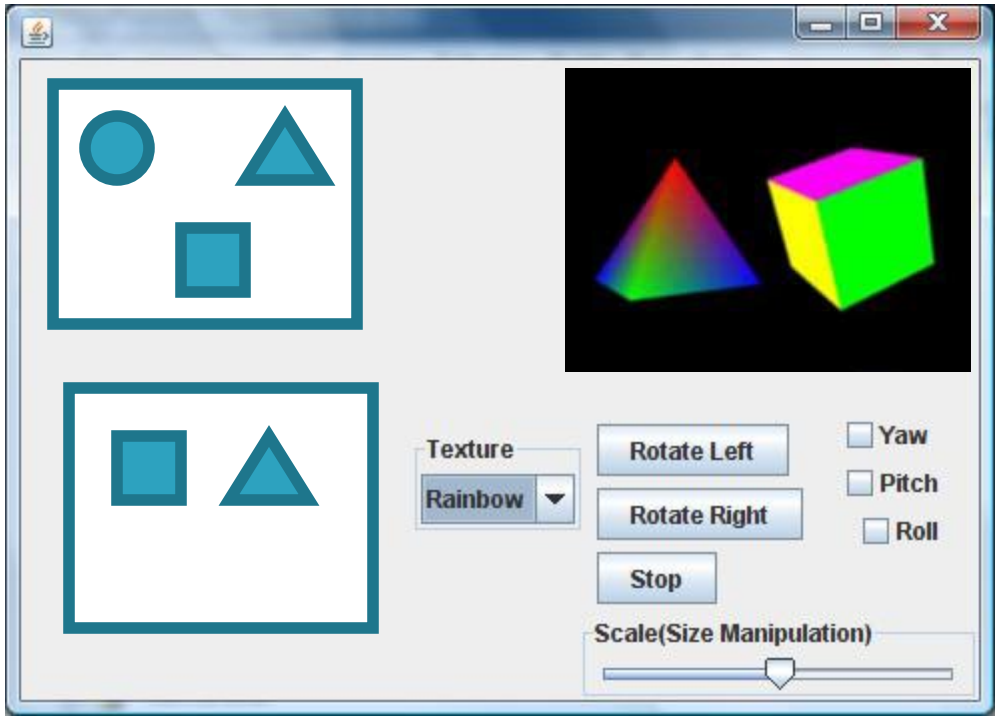
- Researching the topic
- Running the applet on the Mac machines

Lessons Learned

- More applet applications
- Java swing components
- Lighting
- Texture
- Animation

Next Week….

- Mini assignment #4
  - Jasamine: Graphics for the shapes
  - Hannah: Drag and Drop Methods
- Start on the Dance Tool project



References

NetBeans: Introduction to GUI Building
http://www.netbeans.org/kb/60/java/gui-functionality.html.
May 28, 2008.

OpenGL Apron Tutorials: The Rotating Cube
http://www.morrowland.com/apron/tutorials/gl/gl_rotating_cube.php
May 29, 2008

KELLY, HENRY, HOWELL, KAY, etc. *HOW TO BUILD SERIOUS GAMES. Austin, TX, Excape Hatch Entertainment*.

Any Questions?

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