CSE1720

Week 02, **Class Meeting 09** (Lab 03)

Winter 2013 ◆
Thursday, January 24, 2013 & Friday, January 25, 2013

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Week 03 Lab Exercise

- **Due Date:** no submission required; self-paced exercises
- **Course Weight:** n/a
- **Topic**: Getting Familiar with Game Architecture

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Exercise #1

Invoke the app `GameDriver_Version01_Incorrect` several times. It may run or it may not, depending on timing issues. It likely will run successfully at least a few times.

Listen carefully as the TA walks you through the lines of code in the main method.

Expected learning outcome:

- you understand each of the component of the game and can distinguish between them
  - the frame, the canvas, the buffer strategy

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Exercise #2

Invoke the app `GameDriver_Version02_Incorrect`

The purpose in having this version is to demonstrate delegation to a method. This variant doesn't really solve the problem.

Expected learning outcome:

- you understand how this delegation has been accomplished

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Exercise #3

Invoke the app `GameDriver_Version03_Correct`

Read the comment before the `createBufferStrategy` invocation

Expected learning outcome:

- you understand the precondition of the method `createBufferStrategy`,
- you understand the steps that have been taken to ensure this precondition has been met

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Exercise #4

Investigate further the specifics of the class `GameCanvas`

Walk through the constructor

Investigate the `ShooterSprite` class

Walk through the three methods in the `GameCanvas` class

Expected learning outcome:

- you understand the thread of execution as it passes through the methods of `GameCanvas`
- you understand the gist of the rendering strategy (with two buffers)
- you understand the services of the `ShooterSprite` class

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Exercise #5

Modify the `ShooterSprite` class to implement a better graphic for the shooter (better than a lame triangle).

Use whichever `Shape` sub-classes you like.

Expected learning outcome:

- you can use the services of the Shape hierarchy of classes to implement a graphic design of your choice.

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Exercise #6

Create sprites for the other elements (targets, obstacles, bullets).

Show them in a screen mock up.

Expected learning outcome:

- You can create a new class based on a copy of an existing class.
- You can add to the GameCanvas class to instantiate the additional sprites
- You can add to the method drawOnScreenElements to ensure that additional on-screen elements are drawn

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What is coming next?

We will implement additional functionality in subsequent labs, such as:

- moving the shooter sprite,
- rotating the shooter sprite
- adding shooting behaviours
- implemention motion trajectories for the sprites (targets and obstacles)

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