

## Lab 4.3 Button Games

### Skills:

- Laying out JavaFX components in an application
- File I/O
- Event Listeners

### Your Challenge:

Implement a simple front and back end application using JavaFX and the CSV skills you have learned so far. You must choose a game from the list below, the level of difficulty will determine your starting grade. Points will only be taken away if you do not complete the lab accurately.

### Game List

(Have a different idea? Let me know and I'll evaluate the difficulty.)

#### Easy (grade starts at an 85)

**FastClicker** – One button in the center of the window. The goal of the game is to click the button as many times as possible in 10 seconds. You will need to implement a timer for this game.

#### Moderate (grade starts at an 90)

**Chase the button** – Like whack-a-mole but the button moves around the screen. This game will need a timer.

#### Challenging(grade starts at 95)

**Point-And-Click Adventure** – Load images in your application to tell a story. Use Mouse clicks, text, and button presses to advance the story. To earn full credit you must use the mouse click coordinates to design where the person needs to click on each image.

#### Extreme(grade starts at 100)

**Simon Says** – add at least 4 buttons, the buttons indicate a pattern by lighting up, then the user must repeat the pattern by clicking. The pattern should get progressively more challenging until the user makes a mistake.

**Classes:**

GameCode

BackEnd

**GameCode extends Application**

*The GameCode should set-up and run your javaFX application. The buttons and their event listeners should be defined here. You may require other functionality depending on the game you choose.*

**BackEnd**

*The BackEnd class should handle reading and writing file operations. Your game must have some type of scoring system and maintain a CSV file with the list of high scores. These high scores should be displayed in some way in your application.*

**Helpful Tutorials and APIs:**

<http://tutorials.jenkov.com/javafx/index.html>

A very thorough and complete set of JavaFX tutorials.

<https://docs.oracle.com/javase/8/javafx/api/javafx/scene/input/MouseEvent.html>

API for the javaFX MouseEvent Class. Has some good examples of using mouse listeners and finding the coordinates of the mouse.

<https://docs.oracle.com/javafx/2/api/javafx/scene/doc-files/cssref.html>

Style sheets reference for javaFX. Use this to make your app look pretty.