Lab 7.1 Simple Game pt. 2

Instructor Guide

Overview

Students will spend the entirety of the time completing the Simple Game Challenges, and then if they have time adding their own unique features into the game. This lab is very hands off, and more about the students exploring and figuring out how things work on their own.

The students should end this lab with discussing their game with their mentors and peers. Showing off any additional features they added.

Learning Goals

- Understand how to use a basic game framework
- Understand using a basic data structure (data.___)
- Ability to manipulate starter code to create a unique game involving animations, data, and key presses

Personal Growth Goals

- Independence: Students will spend all of the lab time editing and creating their own unique games.

Skills Required

- Complete understanding of conditionals, variables, functions, function flow, lists, math operators, tuples
- A basic understanding of an animation framework

Resources Required

- Computers for either every student or every pair of students
- Python 3 and a text editor needs to be installed on all the computers
- One mentor per 2-3 students
- A projector to project the central instructor's computer

Instructor Preparation

1. Make sure all the computers students will use have Python and a text editor (right now, we use Pyzo) installed (check to see that students have a way to save/access files)
2. Load the following programming files onto each computer:
    a. 07_01_simple_game.py (files from previous lab)

In Depth Description of Lab Activities

Phase 1: Setup

1. Before the students arrive, open the following files in a text editor on each computer:
    a. 07_01_simple_game.py (files from previous lab)

Phase 2: Complete Simple Game Activity

1. Students will complete their simple game activity. If they complete all of the built in challenges they can create some on their own and customize their game!
    a. Possible additions include:
        i. Creating a splash screen
        ii. Adding multiple pieces
        iii. Having a time limit
        iv. Any other game like feature…
    b. Students could also try to rewrite the code from scratch if they feel very confident with the material.
2. Students should receive help from their mentors or the syntax guide as needed.

Phase 3: Recap & Play

1. Students will have time to play eachothers games and show off their own.
2. If students had time, they should discuss what new features they added into their game and how they added them.

Phase 4: Pack up | Review

1. Mentors should lead a discussion with their students based on the question: What do you think that you can do with these tools now?
2. This question may be useful to use this as a form of review, and can also be used to increase interest in the subject.

Lesson Plan

(:10) means that this part should be done by the tenth minute of the lesson

1. Setup (:0)
2. Complete Simple Game Activity (:45)
3. Recap & Play (:55)
4. Pack up | Review (:End)

Take Away

After completing this lab, students should have a very thorough understanding of data, and a simple game framework. They should also be able to create their own basic animation.