

Lesson 20: Mini-Project - Side Scroller

Overview

Question of the Day: How can the new types of sprite movement and collision detection be used to create a game?

Students use what they have learned about collision detection and setting velocity to create a simple side scroller game. After looking at a sample side scroller game, students brainstorm what sort of side scroller they would like to make, then use a structured process to program the game in Code Studio.

Purpose

This lesson is a chance for students to get more creative with what they have learned. Encourage students to spend time on parts of the activity that interest them, as long as they meet the requirements of the assignment. This lesson can be shortened or lengthened depending on time constraints.

Assessment Opportunities

Use the project rubric attached to this lesson to assess student mastery of learning goals of this unit.

Standards

Full Course Alignment

CSTA K-12 Computer Science Standards (2017)

- **AP** - Algorithms & Programming

Agenda

Lesson Modifications

Warm Up (5 minutes)

Activity (35 minutes)

Wrap up (5 minutes)

Teaching Guide

Lesson Modifications

Links

Heads Up! Please make a copy of any documents you plan to share with students.

For the teachers

- **CSD Unit 3 - Interactive Animations and Games** - Slides

For the students

- **Side Scroller** - Rubric
- **Side Scroller** - Project Guide



Attention, teachers! If you are teaching virtually or in a socially-distanced classroom, please **click here** to access modifications that can be used during this lesson.

Warm Up (5 minutes)

Review

Ask students to think of all of the things that they have learned how to do in the unit so far, and display their answers to the class. This is a good time to check in on any concepts that have been challenging for students.

Remarks

Now that you've learned how to detect sprite interactions, you can start making some more interesting games. Today, we're going to look at how you can use what you've learned to make a side scroller game.

Question of the Day: How can the new types of sprite movement and collision detection be used to create a game?

Activity (35 minutes)

Distribute: (Optional) pass out copies of the activity guide. Students can use this sheet to plan out the Side Scroller they create at the end of this lesson, but the planning can also be completed on scratch paper.

Transition Send students to Code Studio.

 1

Intro to Side Scrollers

 2

Draw Your Background

 3

Create Your Sprites

 4

Player Controls

 5

Looping

 6

Sprite Interactions



Scoring & Scoreboard



Review Your Game

Wrap up (5 minutes)

Question of the Day: How can the new types of sprite movement and collision detection be used to create a game?

Prompt: What was one challenge in making this game? What is your advice for someone else who has the same challenge?