Lesson 12: Mini-Project: On the Move with Play Lab

55 minutes

Overview

In this **mini-project**, students will use events in Play Lab and apply all of the coding skills they've learned to create an animated game. It's time to get creative and make a story in the Play Lab!

Purpose

Students will further develop their understanding of events using Play Lab today. Events are very common in most computer programs. In this activity, students will use events to make a character move around the screen, make noises, and change backgrounds based on user-initiated events.

Standards

Full Course Alignment

CSTA K-12 Computer Science Standards (2017)

- ▶ **AP** - Algorithms & Programming

Agenda

Warm Up (10 minutes)
- **Introduction**

Bridging Activity - Events - Choose One (10 minutes)
- **Unplugged Activity Using Paper Blocks**
- **Previewing Online Puzzles as a Class**

Main Activity (30 minutes)
- **On the Move with Events**

Wrap Up (5 minutes)
- **Reflection**

Extended Learning

Objectives

Students will be able to:

- Create an animated, interactive story using sequence and event-handlers.
- Identify actions that correlate to input events.
- Share a creative artifact with other students.

Preparation

- Play through the puzzles to find any potential problem areas for your class.
- (Optional) Pick a couple of puzzles to do as a group with your class.
- Review ***CSF Lesson Recommendations**.
- Make sure every student has a reflection journal.

Links

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

For the teachers

- **CS Fundamentals Main Activity Tips** ▾ Make a Copy
- **CSF Course A Lesson Slides** - Slides (**Download**) ▾ Make a Copy
- **CSF Lesson Recommendations** - Resource ▾ Make a Copy
- **Pause and Think Online** - Video

For the students

- **Feeling Faces - Emotion Image** - Resource ▾ Make a Copy

- **The Big Event (Courses A, B)** - Controller Image Make a Copy
- **Unplugged Blockly Blocks (Grades K-1)** - Manipulatives Make a Copy

Vocabulary

- **Event** - An action that causes something to happen.

Teaching Guide

Warm Up (10 minutes)

Display: Show "Vocabulary" slide

Say:

- **Event** - An event is an action that causes something to happen.

Introduction

Display: Show "Review" slide

Review "The Big Event" activity with students:

- *What did we "program" the button events to do?*

Display: Show "Gaming" slide

Now we're going to add events to our code. Specifically, we're going to have an event for when two characters touch each other.

- *When have you seen two characters touch each other as an event in games?*

Bridging Activity - Events - Choose One (10 minutes)

These activities will help bring the unplugged concepts from "The Big Event" into the online world that the students are moving into. Choose *one* of the following to do with your class:

Teaching Tip

Students will have the opportunity to share their final product with a link. This is a great opportunity to show your school community the great things your students are doing. Collect all of the links and keep them on your class website for all to see!

Remind the students to only share their work with their close friends or family. For more information watch or show the class ***Pause and Think Online** video .

Unplugged Activity Using Paper Blocks

Display: Show "Option 1: Paper Blocks" slide

Using the remote from the ***Controller Image** and blocks from ***Manipulatives**, gather your class to reprise the activity from the previous lesson. Ask the class *when the teal button is pushed, what do we do?* then fill in one of the `when` event blocks and one of the blue action blocks accordingly. Make sure that the students understand that the `when` blocks need to be on top of the blue block and they need to touch in order for the program to run.

-Or-

Previewing Online Puzzles as a Class

Display: Show "Option 2: Previewing Puzzles as a Class" slide

Pull a puzzle from the corresponding puzzles online. We recommend puzzle 7. Call on different students to make a funny noise when you click on Jorge. Explain this is an event that they are reacting to and Jorge can be coded to make noise when you click on him.

Main Activity (30 minutes)

On the Move with Events

This is the most free-form plugged activity of the course. At the final stage students have the freedom to create a story of their own. You may want to provide structured guidelines around what kind of story to write, particularly for students who are overwhelmed by too many options.

Display: Show “Decompose it!” slide

Remind students to break each puzzle down into smaller steps.

Display: Show “Video: Introduction to Play Lab” slide

1 **Video: Introduction to Play Lab**

Display: Show “Level 2: Free Play” slide

2 **Free Play**

Display: Show “Level 3: Practice” slide

3 **Practice**

Display: Show “Give credit!” slide

Say: Sometimes when we create our own projects we find inspiration from other people’s projects.

If you have gotten permission to remix a project, make sure to give credit to the original coder.

If you remix a Code.org project:

1. Add a comment block that explains where you remixed from.
2. You might also keep the word “Remix” in the title of your project to tell others that this project originally came from someone else.

If you want to remix a friend's project:

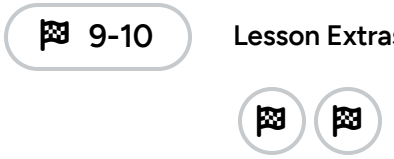
Make sure you get their permission first. Once you get permission, follow the steps above to give them credit.

When you don't have direct permission to remix someone's project or upload their images into your project, look for publicly available materials instead.

Display: Show "Levels 4-8: Mini-project" slide



Display: Show "Lesson Extras" slide



Wrap Up (5 minutes)

Reflection

Display: Show "Reflection" slide

Prompts:

- What was today's lesson about?
- Draw one of a face that shows how you felt about today's lesson in the corner of your journal page.
- Draw an event you used in your program today.
- Imagine that you have a remote-controlled robot. What would the remote look like? Draw a picture of what you think you could make the robot do.

Extended Learning

Use these activities to enhance student learning. They can be used as outside of class activities or other enrichment.

Look Under the Hood

When you share a link to your story, you also share all of the code that goes behind it. This is a great way for students to learn from each other.

- Post links to completed stories online.
  - Make a story of your own to share as well!
- When students load up a link, have them click the "How it Works" button to see the code behind the story.
- Discuss as a group the different ways your classmates coded their stories.
  - What surprised you?
  - What would you like to try?
- Choose someone else's story and click `Remix` to build on it. (Don't worry, the original story will be safe.)



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