Lesson 11: The Big Event Jr.

45 minutes

Overview

In this **context-setting** lesson, the class will experience the concept of events through a game where they move or shout when you press buttons on a giant remote.

Purpose

Today, students will learn to distinguish events from actions. The students will see activities interrupted by having a "button" pressed on a paper remote. When seeing this event, the class will react with a unique action. Events are widely used in programming and should be easily recognizable after this lesson.

Standards

Full Course Alignment

CSTA K-12 Computer Science Standards (2017)

- ▶ **AP** - Algorithms & Programming

Agenda

Warm Up (15 minutes)
- **Introduction**

Main Activity (15 minutes)
- **The Big Event**

Wrap Up (15 minutes)
- **Reflection**
- **Assessment**

Extended Learning

Objectives

Students will be able to:

- Practice differentiating pre-defined actions and event-driven ones.
- Recognize actions of the teacher as signals to initiate commands.
- Repeat commands given by an instructor.

Preparation

- Prepare to project ***The Controller Image**.
- Print one ***Assessment** per student.
- Make sure each student has a reflection journal.

Links

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

For the teachers

- **CSF Course A Lesson Slides** - Slides (**Download**) ▾ Make a Copy
- **The Big Event** - Assessment Answer Key ▾ Make a Copy

For the students

- **Feeling Faces - Emotion Image** - Resource ▾ Make a Copy
- **The Big Event** - Unplugged Video (**Download**)
- **The Big Event** - Assessment ▾ Make a Copy
- **The Big Event (Courses A, B)** - Controller Image ▾ Make a Copy

Vocabulary

- **Algorithm** - A list of steps to finish a task.
- **Event** - An action that causes something to happen.

Teaching Guide

Warm Up (15 minutes)

Introduction

Vocabulary

Display: Show "Vocabulary" slide

This lesson has one new and important vocabulary word:

- **Event** - *Say it with me: E-vent.*

An event is an action that causes something to happen.

A Series of Events

Display: Show "Patterns" slide

Let's see if we can find a pattern here:

- *When you flip a switch, the lights turn on.*
- *When you tap on a device, an app starts.*
- *When the alarm goes off, you get out of bed.*
- *When (event), (action).*

Display: Show "Events" slide

In computer science, **events** cause other actions to happen. Our new vocabulary word today is **event**. Normally when we hear "event" we think of:

- Field trip
- Competition
- Birthday Party

We're learning a new meaning for the word event today. Let's focus on events that cause other actions to happen like when flipping a switch causes the lights to turn on or pressing a button to make a character in a game move.

Main Activity (15 minutes)

Display: Show "Games have events in their programs" slide

Unplugged Activity **The Big Event - Unplugged Activity**

The Big Event

- *Do you remember helping the flurbs find fruit?*
  - *In that exercise, you knew in advance exactly where you wanted your flurb to end up, so you could make a program that took them from start to finish without any interruptions.*
  - *In most real programs, we can't do that because we want to have options, depending on what the user needs.*
    - *Say that I only want my character to move when my finger is on the screen of my phone. I would need to program the character to only move when I put my finger on the screen of my phone.*
    - *Putting my finger on the screen would then become an event that tells my character to move.*

Teaching Tip

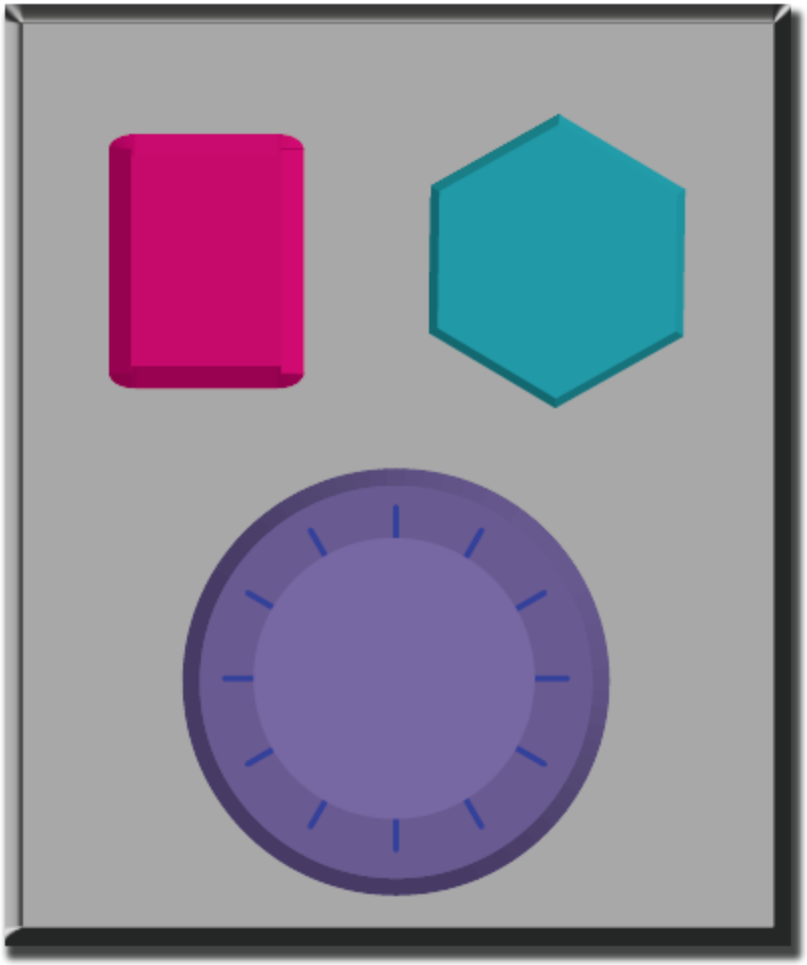
If your students seem confused, talk about their favorite games and all of the ways that they let the characters know what they're supposed to do. Point out how the game would be really boring if it ran from start to finish without any events required.

In earlier lessons, we created algorithms that allowed us to control a friend or flurb for several steps at a time. It was fun and useful, but what happens when you don't know everything that you want your friend to do in advance? This is where events come in!

Directions:

Display: Show "Programming Buttons" slide

- **Project *The Big Event (Courses A, B) - Controller Image** onto your classroom screen.



- Decide with your class what each button does. We suggest:
  - Pink Button -> Say “Wooooo!”
  - Teal Button -> “Yeah!”
  - Purple Dial -> “Boom!”
- Practice tapping the buttons on the screen and having your class react.
- Add some button sequences into the mix and have the students try to keep up with their sounds.
- Let your class know that every time you push a button, it is an event that lets them know what they are expected to do next.
- Have students practice working backwards. Give them 3-4 sounds and ask what buttons they would need to press to get the sounds to play in that order. For example:
  - What buttons would you need to press to get "Boom! Boom! Yeah!"?
- Get the class started on a planned task before interrupting them again with the buttons. We suggest:
  - Counting to 10
  - Singing “Old MacDonald”
- Once their plan is underway, interject button presses sporadically.
- Continue the blend until they understand the difference between actions that are guided by a plan and those that are event driven.

Display: Show “Decompose it!” slide

Remind students to break each puzzle down into smaller steps.

Wrap Up (15 minutes)

Reflection (10 minutes)

Display: Show "Reflection" slide

Discuss: Ask students to reflect on what they have learned through the following prompts:

- *What did we learn?*
- *What are some examples of events?*

Prompts:

- What was today's lesson about?
- Draw a face that shows how you felt about today's lesson in the corner of your journal page.
- Draw an event that caused an action today.
- Draw an action that was caused by an event that happened today.

Teaching Tip

Students should demonstrate understanding that events are something that can cause other actions to happen. Refer back to earlier examples from the lesson or encourage students to come up with their own.

Assessment (5 minutes)

Distribute: Hand out one ***Assessment** to each student and allow them to complete it independently after the instructions have been well explained. This should feel familiar, thanks to the previous activities.

Extended Learning

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

One Person's Event is Another One's Reaction

Assign each student an event to watch out for, and an appropriate reaction to that event. Chain the actions so that each child's reaction becomes an event that triggers the reaction of another student. Keep assigning until everyone has something to do and everyone makes someone react.

Eventopalooza

Break the class up into groups. Using the Events Controller, assign each group a different reaction to the same button. Do this for all three buttons, then watch the chaos!

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