

Lesson 13: Project Decision Maker App

Part 2

Overview

Students translate the plans they documented in Part 1 of the Practice PT to a working program in App Lab through a series of steps.

Purpose

The Practice PT gives students the opportunity to design and program an app from scratch. Welcome to The Decision Maker App! Students demonstrate mastery of variables, conditionals, and functions by combining these elements into a useful program designed to solve the problem of making a decision.

Standards

Full Course Alignment

CSTA K-12 Computer Science Standards (2017)

- **AP** - Algorithms & Programming

Agenda

Lesson Modifications

Warm Up (2 minutes)

Intro the Project

Activity (38 minutes)

Build the Decision Maker App

Wrap Up (5 minutes)

Objectives

Students will be able to:

- See rubric for guidance in measuring student learning

Preparation

- Make sure students will have access to their project guides

Links

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

For the teachers

- **CSP Unit 4 - Variables, Conditionals, and Functions** - Slides

For the students

- **CSP U4 Practice PT Planning Guide**
- **CSP U4 Practice PT Rubric** - Rubric

Teaching Guide

Lesson Modifications



Attention, teachers! If you are teaching virtually or in a socially-distanced classroom, please read the full lesson plan below, then click **here** to access the modifications.

Warm Up (2 minutes)

Intro the Project

💡 Teaching Tip

Short Intro: The Warm Up today is short and light. Students should spend the maximum amount of time working on their projects.

🎤 Remarks

Today we are continuing work on the Decision Maker App. Each level in Code Studio contains a step to think through while constructing your app.

Activity (38 minutes)

Build the Decision Maker App

💡 Teaching Tip

Supporting students in Practice PT Lessons

At this point in the project attention shifts to App Lab where students design and program their app. Continue to circulate the room and check in with students as needed to make sure instructions are clear and students understand expectations.

What should you expect?

- Planning Guides out on desks or tables so students can reference them while setting up their apps
- A healthy buzz in the classroom as students collaboratively debug
- There may be some student confusion on the steps to take in building their app. Direct students back to the instructions, and make sure they haven't skipped any of the levels where the steps are delineated.

📋 Do This: Students now transition to Code Studio where they will build their app.

📋 Display: Display the steps for today along with the debugging steps on the board while students work.

Level 1: Design Mode

- Students create the screens they designed in Step 6 in the Planning Guide.
- Encourage students to use templates where appropriate to speed the process along.

🖥️ 1

Create the Screens

Level 2: Create the Variables

- Using the list of variables from Step 4 in the Planning Guide students create their variables.

**2**

Create the Variables

Level 3: Create the Function

- This is most likely the trickiest step.
- Students create an `updateScreen()` function with a conditional statement
- Students should reference the flowchart in Step 5 of the Planning Guide to help craft the Boolean expression(s) for the conditional statement.
- A comment is added to explain what it does (purpose) and how it does that (functionality)

**3**

Create the Function

Level 4: Add onEvents

- For each item that can be interacted with on the screen, students add an `onEvent` block where they update the appropriate variable and add a call to the `updateScreen()` function.

**4**

Add onEvents

Wrap Up (5 minutes)

No wrap-up today. All time is spent on the project.