

Lesson 1: Project Planning

45 minutes

Overview

How can I keep track of the tasks I need to complete for a project?

Students are introduced to the Creative Coding with The Theater Project and evaluate requirements and examples to identify questions and key features. Students learn about project backlogs and benchmarks and set up their Project Planning Board by identifying some of the tasks they need to complete for the project.

Agenda

Warm Up (5 minutes)

Software Engineering Goals

Activity (35 minutes)

Project Introduction

Project Planning and Brainstorming

Wrap Up (5 minutes)

Three W's

Assessment: Check for Understanding

Objectives

Students will be able to:

- Break down a large project into manageable chunks
- Identify project requirements, tasks, and priorities

Preparation

- Print copies of the Unit 7 Guide (one for each student)
- Print copies of the Creative Coding with The Theater Project Planning Guide (one for each student)
- Gather a manilla folder and a small stack of sticky notes (10-12) for each student
- Print copies of the Project Planning Board (one per student)
- Check the **Teacher's Lounge** for verified teachers on the CSA Forum to find additional strategies or resources shared by fellow teachers

Links

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

For the students

- **Creative Coding with The Theater Project Planning Guide** - Handout
- **Project Planning Board** - Handout
- **U7L1 Extra Practice** - Handout
- **Unit 7 Guide** - Handout

Vocabulary

- **Benchmark** - A standard or point of reference to assess progress
- **Project Backlog** - A prioritized list of tasks to complete for a project

Teaching Guide


Warm Up (5 minutes)

Software Engineering Goals

Remarks

In the previous unit, you expanded your knowledge of data structures and `String`s. You also learned to apply the standard algorithms we have implemented throughout the year to work with `ArrayList`s and `String`s. We will be learning more about how we can work with methods and continue to use software engineering characteristics and skills to make design decisions and develop more robust algorithms.

 **Distribute:** Give each student a copy of the Unit 7 Guide.

 **Discuss:** Use the Retrieve-Pair-Share strategy to discuss the prompt, then have students note their goals on the Unit 7 Guide.

- *What software engineering characteristics do you want to work on in this unit?*
- *How will you know you grew in this area by the end of the unit?*

Discussion Goal: Students share characteristics and skills that they want to improve and identify goals.

Teaching Tip


Students can choose any characteristic or skill they want to improve, regardless of whether it is an area for improvement. Students can choose a characteristic that is a strength that they want to further develop as an anchor for upcoming units, or they can choose a characteristic that is an area for improvement.


Activity (35 minutes)

Project Introduction (15 minutes)

Remarks

In this unit, you will develop a program of your choice using The Theater that portrays a personal interest or solves a problem that you choose. The Creative Coding with The Theater Project is a large project that we will work on throughout the unit. Let's take a look at the requirements and rubric for this project.


 **Do This:** Review the lesson objectives.


 **Distribute:** Give each student a copy of the Creative Coding with The Theater Project Planning Guide.

 **Do This:** Introduce the project and have students read the project description and rubric.

Remarks

We need to understand what we already know and what we need to know to complete a project like this. Let's start by reviewing the project requirements to identify what we know and what we need to know, then we will look at some examples to identify specific characteristics and features that we need to develop.

 **Do This:** Have students complete the "Know" column of the chart on page two of the Project Planning Guide. Have students think and discuss in pairs before having students share as a class.

 **Do This:** Have students complete the "Need to Know" column of the chart. Have students think and discuss in pairs before having students share as a class.


Teaching Tip

Students might have questions that may not be relevant to the project. Encourage students that figuring out what they need to know is part of the inquiry process.

Remarks

Now that we have an idea of what we know and what we need to know, let's take a look at some examples of this project to understand the type of work you will need to complete.

Group: Place students in pairs.

 **Do This:** Direct students to Level 1 on Code Studio. Students analyze the example projects and generate a list of common characteristics and key features on the Creative Coding with The Theater Project Planning Guide.

1

Creative Coding with The Theater Example Projects

Teaching Tip

Emphasize to students that while these are examples of work, they are not representative of the only ways students can approach or develop the project.

It may be helpful to model the process for students first, then facilitate a discussion about the key features of the exemplars they reviewed.

 **Discuss:** Use the Hold That Thought strategy to discuss the prompt.

- *What words and phrases are in the rubric that aligns with your list of criteria?*


Discussion Goal: Students make connections between the features of the example projects that they noticed and the project's requirements. Students also notice that there are multiple ways to achieve each requirement.

Project Planning and Brainstorming (20 minutes)

Remarks


Software engineers often use a backlog to keep track of the tasks they need to complete, what they are currently working on, and what has been completed. For this project, we will use a similar process to plan and track our projects using a Project Planning Board. Using the list of common characteristics and key features you created and the project requirements, let's identify and plan the tasks we need to complete.

 **Do This:** Define *project backlog*.

 **Distribute:** Give each student a manilla folder, a Project Planning Board handout, and 10-12 sticky notes.


 **Do This:** Have students tape the Project Planning Board to one side of their manilla folder.


 **Do This:** Define *benchmark* and identify the key benchmarks and deadlines for the project.

 **Do This:** Have students write the tasks they need to complete for each benchmark on individual sticky notes. Have students post these sticky notes on the other side of their manilla folder.

Teaching Tip

Students might be unsure what tasks they need to complete for this project. Refer students to their "Need to Knows" and the common characteristics and features they identified in the previous lesson on pages two and three of their Creative Coding with The Theater Project Planning Guide. Students should use these to determine tasks associated with each "Need to Know" and characteristic they identified.

 **Do This:** Have students post the tasks for the first benchmark in the "To Do" column of their Project Planning Board.

 **Do This:** Have students respond to the prompts on page four of their Creative Coding with The Theater Project Planning Guide.

Wrap Up (5 minutes)

Three W's

 **Discuss:** Click through the animated slide to display the prompts.

- *What did we learn today?*
- *So what?*
- *Now what?*

Discussion Goal: Students share the concepts they learned from the lesson, including how to identify project requirements and characteristics from examples and create a project backlog. Students make predictions about how they will use their Project Planning Board to keep track of the tasks they need to complete for their project and share some of the steps they need to complete.

 **Do This:** Review the concepts covered in this lesson.

 **Display:** Key Vocabulary

Assessment: Check for Understanding

Check For Understanding Question(s) and solutions can be found in each lesson on Code Studio. These questions can be used for an exit ticket.



Check for Understanding



This curriculum is available under a
Creative Commons License (CC BY-NC-SA 4.0).

If you are interested in licensing Code.org materials for commercial purposes **contact us**.