

Lesson 3: Create PT Make a Plan

Overview

This lesson uses the Create PT Survival Guide to help students narrow down and brainstorm ideas for their actual project. The lesson concludes by providing students with resources to make a plan to complete the task starting in the next lesson.

Agenda

Warm Up (5 minutes)

Activity (30 minutes)

Narrow It Down (5 minutes)

Practice Narrowing It Down (10 minutes)

Choosing a Project Idea (5 minutes)

Brainstorm Ideas (10 minutes)

Wrap-up (10 minutes)

Make a Plan

Objectives

Students will be able to:

- Begin to develop a plan for completing the Create PT
- Describe the elements and purpose of the Create PT
- Develop strategies for narrowing down topics for the Create PT

Preparation

- Review pages 6-15 of the Create PT - Survival Guide

Links

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

For the teachers

- **CSP Unit 8 - Create PT Prep** - Slides

For the students


- **Create PT Survival Guide 2021-22** - Resource

Teaching Guide

Warm Up (5 minutes)

Remarks

Last time we looked through the requirements for the programs developed for the Create PT, including this takeaway: *Make sure your program includes a function that has a parameter, an if-statement, and a loop.*

 **Discuss:** Identify the parameter, if-statement, and loop in this function.


Discussion Goal: Listen for students to point out the parameter `list` on line 01, the for-loop on line 03, and the if-statement on line 04.

Activity (30 minutes)

Remarks


Today we'll continue to use the Create PT Survival Guide to practice thinking about the Create PT and the steps needed to get started.

Narrow It Down (5 minutes)

 As a class read the "Narrow It Down" section (page 6) of your survival guide. The most important points to note:

- The written responses are the most important part of the Create PT.
- It's OK to submit a small or even incomplete project so long as it has a working feature you can show in your video and has a list and function that meets the requirements.
- Most ideas can and should be narrowed down before you start.
- You shouldn't be doing a lot of work in Design Mode or worrying about how your app looks until the end.

Practice Narrowing It Down (10 minutes)

 Have students go through one of the three project ideas and practice helping the example student narrow down their project. Give students roughly 5 minutes to discuss ideas with a partner. Then have a couple volunteers from each project idea share how they helped narrow down the project idea.

Discuss: *Lead a discussion about how to narrow down project ideas.*


- Many projects have sub parts, each of which could stand on its own as a PT
- You should be able to easily see a list and function opportunity within at least one of the sub parts -- if you can't, not a good choice.
- For any project idea it should be relatively easy to scope it down to one or two things that will be totally acceptable for the Create PT

Discussion Goal: Understand it doesn't have to be a big project; The create PT is about demonstrating something you already know how to do.

The biggest thing we're trying to guard against is students' eyes being bigger than their stomachs. We want to encourage students to be creative and start build whatever they want, but temper that with the realities of the Create PT...

- It doesn't need to be a big project
- Your job is to demonstrate that you know how to program something and identify certain aspects of it.
- There are no points for coolness or prettiness
- If you want to do something big, just get it started for the Create PT and come back to it afterward.


Choosing a Project Idea (5 minutes)

 Quickly read this section (page 8) with students and review and high level questions as a class. The main takeaways are below.

- You don't actually have that much time to work!
- When you start, you should have an idea about what your list and function will be.

- Start with a narrowly scoped project, start working right away on the core parts of it.
- Don't try to learn new programming skills during the PT - do something you know how to do now.
- Get to the written responses as quickly as you can.

Brainstorm Ideas (10 minutes)


 Have students use page 8 to brainstorm project ideas. They should come up with two different ideas and fill in information about both. These can be first draft ideas but emphasize to students that they're starting to think through what they're actually going to do on their projects.

Discuss: *Have students share and compare their responses with a classmate. When deciding on a project the answer to all of the questions in the guide should be "yes".*

Discussion Goal: Students should exit this brief activity with (1) a basic idea of what they're going to do for their project and (2) confidence that they can do it.

Wrap-up (10 minutes)

Make a Plan

 **Create PT Written Response Organizer (page 9) - 5 mins:** Quickly review this organizer with students. Encourage them to use it throughout the 12 class hours to track their progress and make sure they have every component needed to answer the questions.

 **Create PT Completion Timeline (page 10) - 5 mins:** Review the sample schedule provided on page 10.

Discuss: *Have students share where they think most of their time should go.*

Discussion Goal: the goal here is to have students start planning in earnest for the Create PT. Students should take seriously how they will allocate their time, and should think about how they probably want to maximize the amount of time they have to write the code and the written responses.

- Probably want to maximize writing, video, and code PDF time
- Coding time that isn't focused on making your function or list is likely not well spent. It doesn't matter if your program "looks good" so long as it works!
- Don't forget to allocate time to proofread for easy-to-make mistakes that will cost points, like forgetting to cite sources.
- **Use the response checklists** in the survival guide to make sure you'll earn all the points.

Remarks

Now that we have methods and strategies for completing the task along with the beginnings of a plan, tomorrow we'll officially start the task.