

# Senior

## Digital Game Design



**Age-level:** Senior

**Pillar:** STEM

**Badge Description:** Most days, simple choices, like which shoes you wear, might not matter, but sometimes a simple choice can have a big impact. What if you wore sandals and there was an unexpected snow storm? When designers create video games, they develop every possible decision and consequence. Game makers build in choices to make a game fun and challenging.

1. Brainstorm your “game for good” scenario.
  - Digital game designers try to create games that are fun, but they can also design games that have a positive impact. Games can teach new skills, raise awareness about important issues, or help scientists do research. An important part of making a great game is creating a good scenario. Brainstorm some scenarios for your game using the [Scenario Idea Activity](#).
2. Create a character for your game.
  - What’s the first thing you notice about a video game character? When programmers write code to create characters in a video game, they need to write graphics algorithms for her look. They also need to write algorithms for challenges she may face and the consequences of her choices. Complete the [Character Development Worksheet](#) to create your character.
3. Learn about decision trees in game design.
  - Game makers use decision trees, which are like flowcharts, to create choices and consequences for characters. Some decision trees offer just two choices for each situation. Some offer a lot more, but the more choices in the decision tree, the more code the programmer has to write. The only limits are really the designer’s imagination and the time the team has to write the code. Write your own character’s decision tree using this [worksheet](#).
4. Design your game.
  - Continue your Decision Tree from Step 3 until you reach the conclusion of your game. Expand your game as far as you’d like—if you want some scenarios to have three or four options, add them in! Just remember to create outcomes for each new option, and allow the story to flow on from at least one option.
4. Play test and iterate your game.
  - Have a friend or family member play your game by reading out the first scenario and the options for the player to take. Then, follow your friend’s decisions through the game. Let them know if they’ve reached a dead end or GAME OVER, and allow them to start over from the beginning, or return to the last scenario.

Earned the badge? Purchase it [here](#).