Lesson 5: Introduction to Scripting

In this lesson, students will be introduced to the concept of scripting in game development. They will learn how to create scripts in the FileSystem and understand the purpose of variables and operators in scripting. Through direct instruction, guided practice, and independent practice, students will have the opportunity to write code and implement specific behaviors in a game. The lesson will culminate with an exit ticket to assess students' understanding of scripting in game development.

## **Objectives:**

- Understand the concept of scripting in game development.

- Learn how to create a script in the FileSystem.

- Understand the purpose of variables and operators in scripting.

## **Materials:**

- Computers with game development software installed (e.g., Godot Engine).

- Projector or smart board for displaying code examples.

- Handouts with code snippets and exercises.

## **Bell-Ringer Activity (5 minutes):**

- Display a simple game scene on the projector or smart board.

- Ask the students to think about how the game's behaviors and logic are implemented.

- Discuss their ideas as a class.

## **Introduction (10 minutes):**

- Explain to the students that scripting is a powerful tool used in game development to create gameplay behaviors and logic.

- Emphasize that scripting involves writing code in a text document called a script, which can be attached to game objects.

- Show examples of games and explain how scripting is used to control character movement, enemy behavior, and other game mechanics.

- Discuss the importance of scripting in creating interactive and dynamic games.

## **Direct Instruction (20 minutes):**

- Introduce the concept of the FileSystem, which is where scripts are stored in game development software.

- Demonstrate how to create a new script file in the FileSystem.

- Explain the basic structure of a script, including the use of functions and variables.

- Show examples of code snippets and explain their purpose.

- Discuss the importance of organizing code into functions for better readability and maintainability.

## **Guided Practice (20 minutes):**

- Provide the students with a handout containing code snippets and exercises.

- Instruct them to create a new script file and write code to implement specific behaviors, such as moving a character or spawning enemies.

- Circulate around the classroom to provide assistance and answer any questions.

- Encourage students to collaborate and help each other during this activity.

## **Independent Practice (20 minutes):**

- Assign a more complex task to the students, such as creating a simple game level with multiple interactive elements.

- Instruct them to use scripting to implement the desired behaviors and logic for the game level.

- Allow the students to work individually or in pairs.

- Monitor their progress and provide guidance as needed.

## **Exit Ticket (10 minutes):**

- Distribute an exit ticket to each student.

- Ask them to write a brief summary of what they have learned about scripting in game development.

- Collect the exit tickets before the end of the class.

## **Closure (5 minutes):**

- Review the key points discussed during the lesson, including the purpose of scripting, creating scripts in the FileSystem, and using variables and operators.

- Emphasize the importance of scripting in game development and its role in creating interactive and dynamic gameplay experiences.

- Encourage the students to continue exploring scripting and its applications in game development outside of the classroom.

## **Common Core Standards:**

- CCSS.ELA-LITERACY.RST.9-10.3: Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.

- CCSS.ELA-LITERACY.RST.9-10.4: Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.