Fairfax Collegiate

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GameMaker Studio 5-6 Syllabus

Course Goals

1 Introduction to GameMaker Studio
Students learn about game creation with GameMaker Studio. They use many of Game Maker's components to learn basics of game design and develop a variety of games.

2 Programming Basics
Students learn about basic concepts of programming through a combination of GameMaker's Events and some light scripting.

Course Topics

1 GameMaker Studio
Students learn how to use GameMaker Studio to create game elements. These elements include Sprites, Objects, Rooms, Events and Timelines.

2 Programming with Events
Students learn to control the objects in their game through a variety of different events. These events can be triggered by certain actions, such as colliding with a wall, or automatically, such as movement.

3 Variables
Students learn how to use variables to store important pieces of information in their games, such as a player's score.

4 Programming Language
Students are introduced to written programs using the GameMaker language. The GameMaker language is similar to Java, and students create simple scripts to control advanced actions in their games.

5 Animations
Students learn the basics of animating elements in their games. They begin with static images and advance to using sprite strips and parallax backgrounds to improve the look and feel of their games.

6 Timed Events
Students learn to use timers and GameMaker Studio Timelines to trigger events or prevent events in their games, such as creating new enemies.

7 Game Design Principles
Students learn about basics of game design and how to apply them to their games. They are challenged to apply new ideas to the games they make as a class, culminating in an independent final project.

Course Schedule

Day 1
Introduction to Programming
Students learn the basics of what a program is and how it is written.

Introduction to GameMaker Studio
Students receive an overview of the software they will be using to create games throughout the session.

Basic Elements
Students learn how to use the necessary features of GameMaker Studio to create games.

Catch the Clown
Students begin building a game which will allow them to practice what they have learned during the day.

Day 2
Variables
Students learn what variables are and how to use them in GameMaker Studio

Complex Events
Students learn how to program more complicated aspects of games in GameMaker Studio.

Fruit Blaster
Students follow a tutorial to expand Catch the Clown with new target objects, obstacles, and the ability to lose the game.

Day 3
Frogger
Students use all the skills they have learned thus far to recreate a classic arcade game.

Day 4
Scrolling Shooter
Students create a more complex game incorporating all the skills thus far, and introducing projectiles.

Day 5
Scrolling Shooter
Students create a more complex game incorporating all the skills thus far, and introducing projectiles.

Game Design Practice
Students continue working on the games they've begun and test each other's games.

Day 6
GameMaker Language
Students are introduced to the programming language they will need to create more complex games in GameMaker Studio.

Breakout
Students create a game from scratch by writing code in GameMaker Language.

Day 7
Breakout Completion
Students finish coding Breakout and test each other's versions of the game.

Review of Concepts
Students review the concepts and coding principles they learned throughout the session.

Day 8
Final Project Planning
Students brainstorm ideas for the final game they will create and begin coding it.

Final Project
Students create games of their own in GameMaker Studio.

Day 9
Final Project
Students create games of their own in GameMaker Studio.

Day 10
Final Project
Students create games of their own in GameMaker Studio.

Game Testing
Students finish creating their games and test each other's.

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