INTRODUCTION TO PROGRAMMING WITH GAMEMAKER

WHAT IS GAMEMAKER?

GameMaker is an application that allows novice programmers create games without having to type or learn code. GameMaker provides a simple environment that uses an icon-based system of events and actions to help beginners start building games. The drag-and-drop programming technique provides an easy way to learn about game development and allows you to create complete games without having to learn a programming language.

Once you gain some experience using GameMaker to create programs, you can start becoming familiar with the GameMaker Language (GML) to create more sophisticated programs while learning how to code.

GETTING STARTED WITH GAMEMAKER

Before you can begin creating programs, you will need to first install the software. You can find the download by visiting the YoYo Game website:

https://www.yoyogames.com/studio/download

For this course, we will be using the **Lite Edition** of GameMaker which is free.

THE GAMEMAKER USER INTERFACE

Once you open GameMaker, you will see the GameMaker user interface:
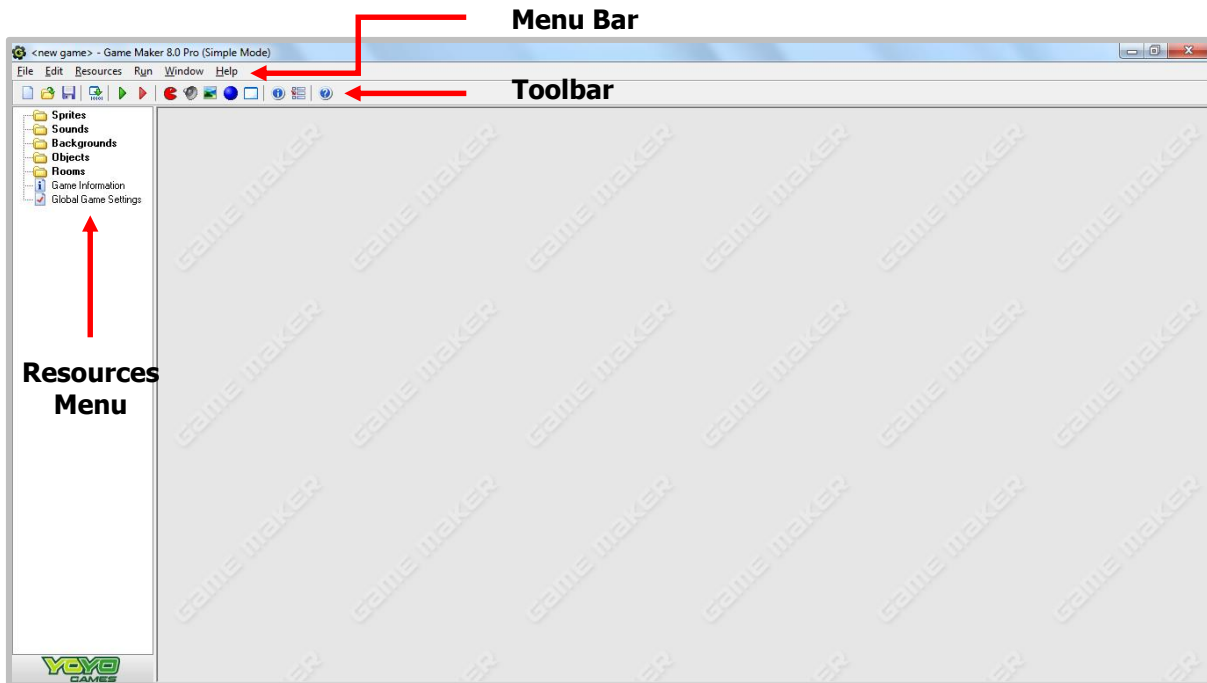
The user interface includes a standard-looking menu and toolbar at the top of the screen, and a folder tree on the left-hand side. This tree is where we will add all the different game resources that are used to make GameMaker games.

RESOURCES MENU

The **Resources Menu** is where we will be adding resources (such as, sprites, sounds, backgrounds, objects, and rooms) to our game. We will look at each of these resources and how to incorporate them into our game as we move along through the lesson.

TOOLBAR

The **Toolbar** provides us with shortcuts that allow us to create some of the resources that we will be using in our games, as well some of the standard commands we find in toolbars (save, open, etc.).

GAMEMAKER RESOURCES

SPRITES

A **sprite** is a two-dimensional image(s) or animation that is often used in games. Pictures of dragons, demons, and other game objects are all examples of sprites. Sprites are one kind of resource used in games, and they can be made from images that have been created in art packages or downloaded from the Internet. GameMaker includes a simple sprite editor for drawing your own sprites, but you can use any drawing package you like for this purpose. However, creating sprites is time consuming. Fortunately, GameMaker includes professionally drawn sprites for each game.

OBJECTS

Sprites don't do anything on their own; they just store pictures of the different elements in the game. **Objects** are the parts of the game that control how these elements move around and react to each other.

ROOMS

Once your objects are created, in order to see them we will need to put them in a level. Levels in GameMaker are made using **rooms**, and putting objects into a room defines where they will appear at the start of the game. However, not all objects need to be there at the start of the game, and they can be created on the fly as well (fireballs, for example).

BACKGROUNDS AND SOUNDS

Background images are another type of resource – like sprites, rooms, and objects – that are used to improve the look of your game. Background images are usually the same size as the game window and need to be assigned to a room in order to be visible when the game runs.

Background music is a resource that is used to play in the background while the game is running. We will be using music files and incorporating background music to some of the games that we will be creating.

Sound effects is another resource that is often used to enhance the atmosphere of a game and help to inform the player about their actions. For example, we may want to add a sound effect when a spaceship collides with another aircraft.

READY TO START OUR FIRST GAME

Now that we've covered some of the important features of the GameMaker user interface, it's time to start creating our very first game.