Make a scrolling shooter in Game Maker, Part 1

Before you begin: some basics

Most of what we'll be doing will be done with these buttons. They are your new best friends. If you get lost, hug a tree, then come back here.

All files for this tutorial are in the Dropbox folder named “Game Maker scrolling shooter”

When you open Game Maker, it may ask you if you want to use Advanced or Simple mode. USE ADVANCED MODE. Simple mode is for chumps.

Step One: Create a scrolling background

First, we'll add a water background and make it move underneath the player.

1. Add a new background
   Click Load Background and import water.png. Name the background something like “water.”

2. Add a new room and assign the background image to it.
   Click on the Backgrounds tab. Uncheck the Draw background color box, then scroll down to find the box that says Foreground image, click on it, and select the water background you just imported. Then find the Vert. Speed box and set it to 2.

What just happened? We set the background of our room (the space the game takes place) to water, and then told Game Maker to always make the water move down the page. Now it will look like the player is moving, even though it’s the background that is actually moving. Tricksy. Test it out by clicking the play button up top.

Step Two: Create your player

Now, we'll bring in a plane as our player and program it to move when we use the keyboard.

1. Add a new sprite
   Create a new sprite for your player, and load the file myplane_strip3.png. Click the center button under Origin, then click OK.
2. Create the player object
Create a new object by clicking the **Add Object** button on the top, name it “player,” and choose the sprite you just imported, then set the Depth to -100.

3. Make the player move
Every room has an X (horizontal) and a Y (vertical) axis, with 0,0 being in the top left hand corner of the room. If we want an object to move right or left, we change its position on the X axis; if we want it to move up or down, we change its position on the Y axis. The diagram on the right shows you how X and Y work in our game.

We program objects in Game Maker by choosing an **event**, and then picking **actions** that are triggered when that event happens. Each object can have multiple events and each event can have multiple actions. So, if you want program an object, you can think of it like

*If this event happens, then these actions happen.*

In the case of our player moving left, we can think of it like "if the player presses the left button, then their X position will change by a negative amount." To program that, we click **Add event**, and choose **Keyboard**, and then choose `<left>` (look to the left to see what it looks like).

Then we add the **Jump to Position** action by dragging it into the **Actions** box. To move left, we have to subtract from the X value. So we set X to -4 (you can make this value bigger or smaller to make the player move faster or slower). Then check the **Relative** box - this makes it so the player moves 4 steps to the left, instead of jumping to the actual position -4 on the X axis. That is, from where the player is on the X axis, we're going to subtract 4. Click **OK**.

Now do the same thing for the right, up, and down arrow buttons. Add an event, then use the **Jump to Position** action to change the X or Y values.

4. Add the player to your room
Open up your room and add the player object to it by clicking on the **objects** tab, selecting the player sprite under **Object to add with left mouse**, and then clicking inside the room to add the object. Test it out!
Step Three: make your player shoot!

1. Make a new sprite
Import bullet.png as the image for your new sprite, and set origin to center again.

2. Make a new object
Create a new object and use the bullet as its sprite. To make the bullet travel up the screen, we are going to add a Create event, and give it a [4] Vertical Speed of -8. We also want the bullet to go away once it goes off screen, so add a new event - click Other, then Outside Room, and add the [6] Destroy Instance action (find it on the Main1 tab).

3. Program the player so you can shoot bullets
Go back to your player object. Add a Keyboard event for the space button. For the action, we’re going to [10] Create Instance (on Main1 tab) of a bullet at X=0,Y=-16 relative, as shown at right.

What just happened? We wanted to program the game so that if the player presses space, their sprite shoots a bullet. So we added the keyboard event for the space bar, and under actions, we told it to make a bullet (create instance) just above (Y=-1) where the player’s sprite is. Because we already set a vertical speed for the bullet, it will appear and then shoot up the screen.

Try testing your game out! You can shoot like a champ!

If only there was something to shoot...

Ready to add some enemies and make them blow up? Look for the Make a Scrolling Shooter in Game Maker, Part 2 project card!