ATL Game Development Platform

NITI Aayog

ATAL INNOVATION MISSION

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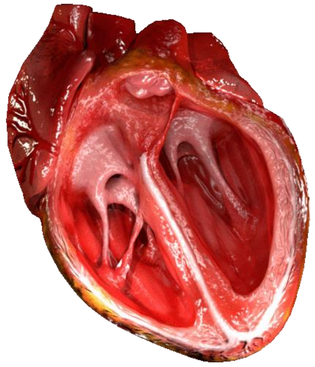
Day 07

Adding Sprites & Behaviors



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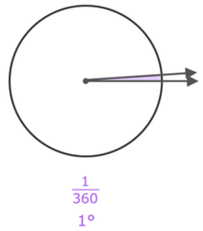
Agenda of the day



01 **Reflections of Day - 6**

02 **Creating game players and setting the Game Layout, Adding Game event and Debug Event**

03 **Adding Sprites, Behaviors & plugins references and Adding Animations**

04 **Home Assignment, Q&A**

Reflections of Day 6

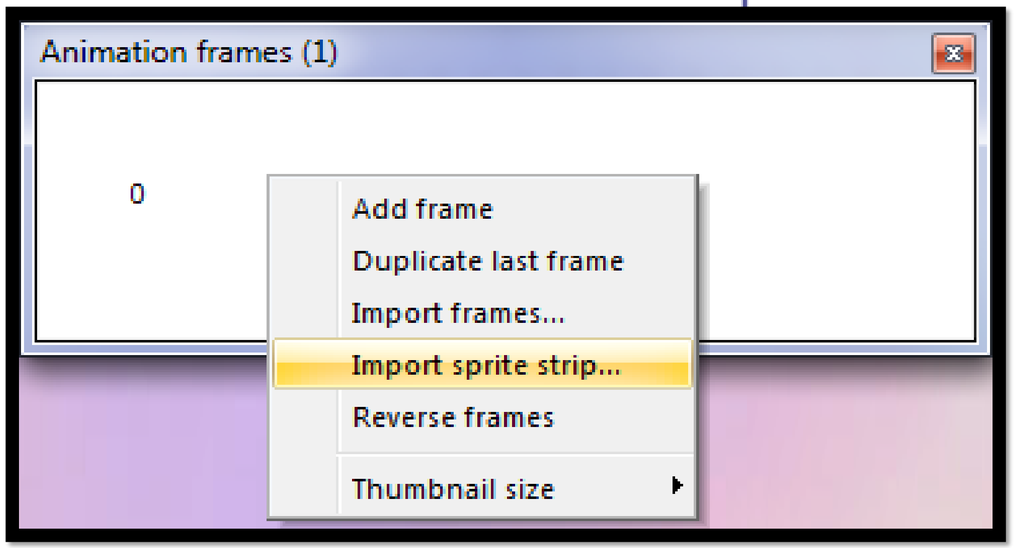
- Introduction to Construct
- Construct Game Engine Features
- Installing Software and Downloading Assets
- Construct Interface
- Brief on primitives, objects and events
- Creating Layouts, Layers, Objects, Projects
- Project Structure and Properties
- Setting up Menu Layout and Menu Event

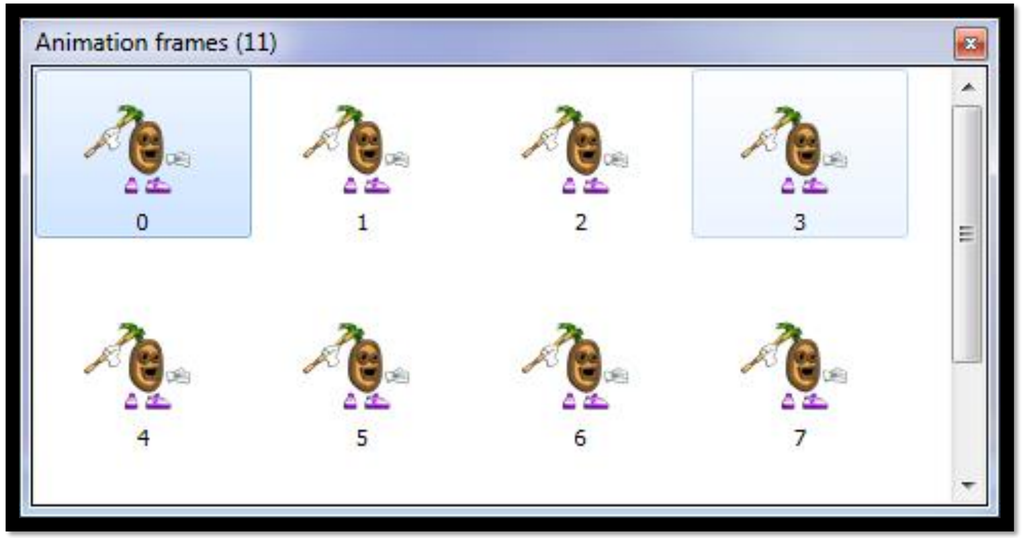
Player Creation

- Double-click a space in the layout to insert a new object, and choose Sprite. When the crosshair comes up, click somewhere above the tiles. The Image Editor will appear.
- Let's import the sprite strip for the player's idle animation. Right click the Animation Frames window and select Import sprite strip.
- Choose the file (in PNG format).

Note: The complete sprite strip, not one of the animation frames. We can also import the sequence of files with the Import frames.

- Click OK and the frames are imported.
- Note we still have the default blank frame at the start. Right click and delete that again. We now have a sequence of 11 animation frames for the player's Idle animation.





Player Creation

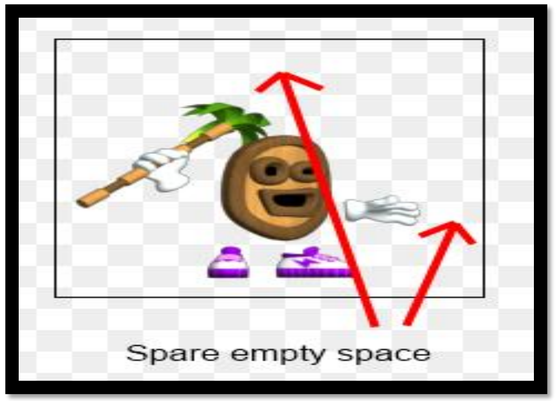
- CROPPING

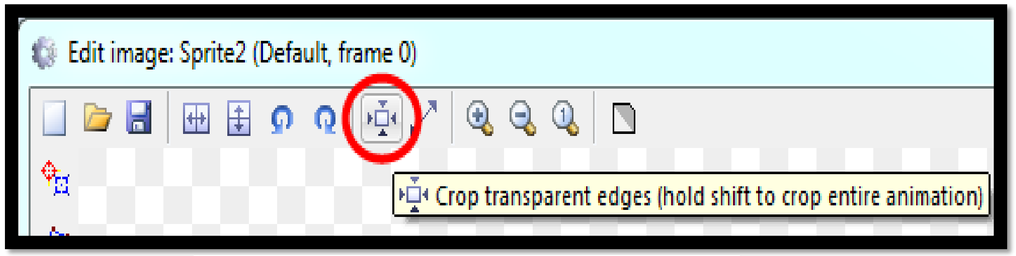
➢ We may notice the player has some empty transparent space around them. This is common after importing images.

➢ There's a quick way to get rid of it, though. Hold shift and press the Crop button on the image editor toolbar.

➢ If we didn't hold shift, only that frame is cropped, so make sure we have shift down when you click it to crop the entire animation.

➢ The player image should now be nicely cropped, with no unnecessary space.





Player Creation

- SETTING THE ORIGIN

➢ The origin is the center, or "hot spot", of the object.

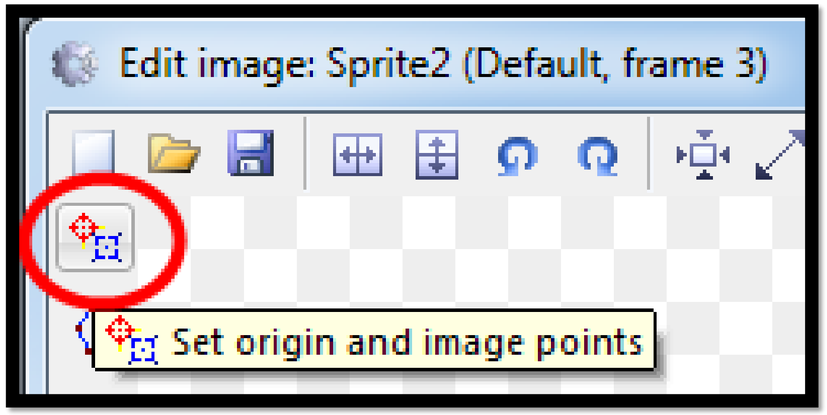
➢ To set the origin, click the Set origin and image points tool in the image editor.

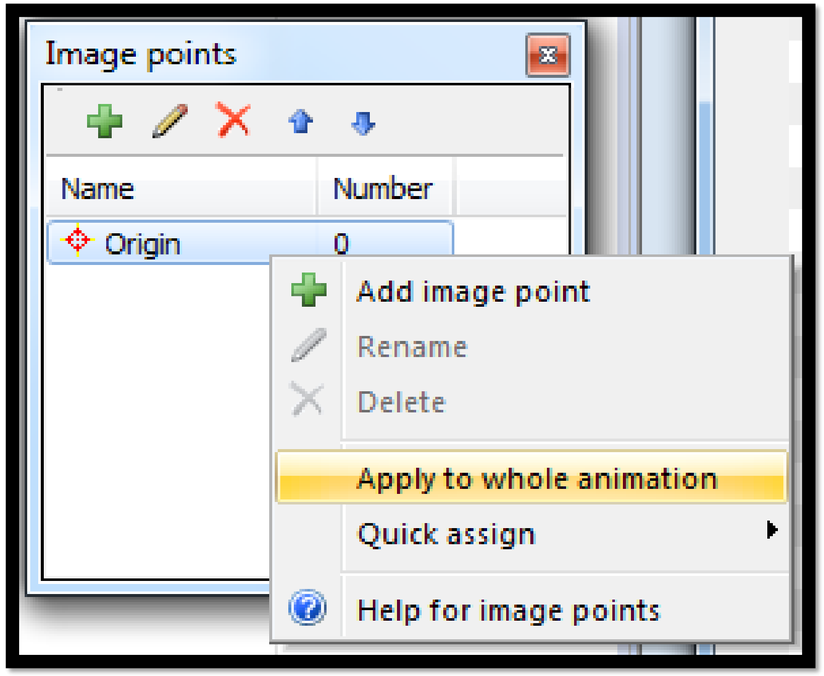
➢ We notice a red spot appear on the player. That's the origin.

➢ We can click to change it.

➢ It's a hassle to do this for each and every frame, but luckily there's another short-cut: in the Image points window that popped up, right click Origin and click Apply to whole animation.

➢ The origin should be set on every animation frame.





Player Creation

- LOOP THE ANIMATION

➢ Click the Default animation in the Animations window. Rename it to Idle.

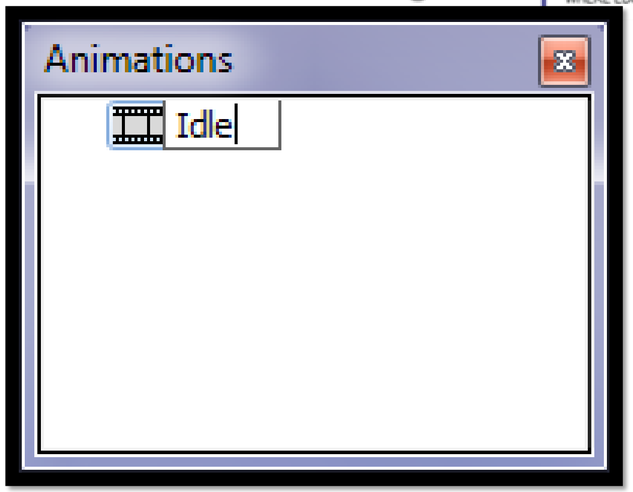
➢ In the Properties Bar, change the Speed of the animation to 9 (example) and set Loop to Yes.

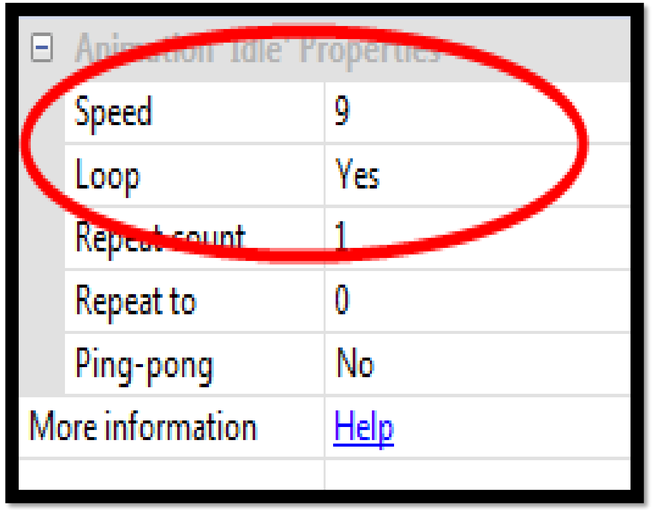
➢ Right click the Idle animation in the Animations window and select Preview.

➢ We can see the player bobbing up and down gently.

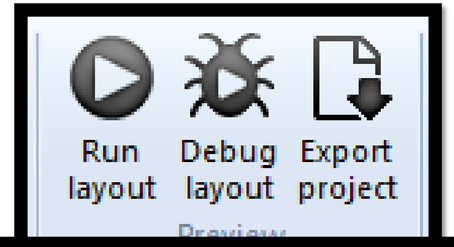
➢ Close the animation preview and the image editor. We can see player in the layout.

➢ Rename the object to Player in the Properties bar.





Game Event & Debug Event

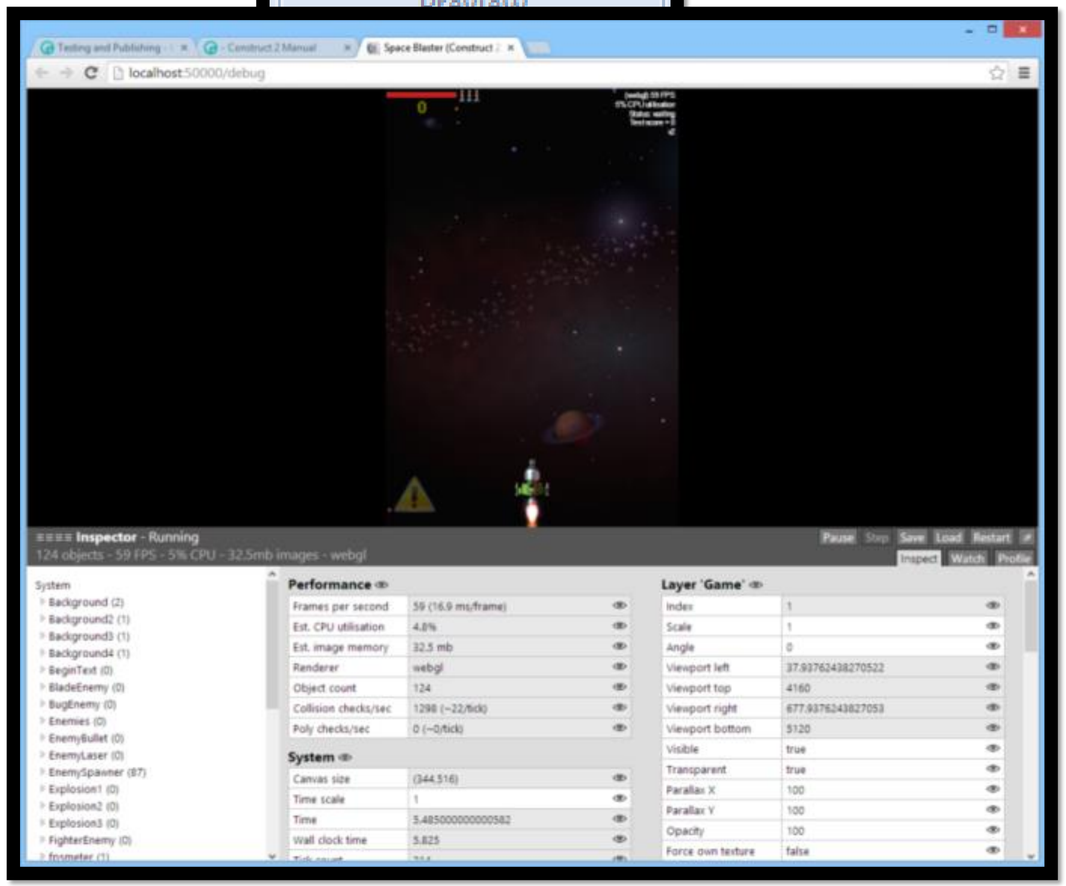


- Bugs refer to software defects - things not working as you expected in your game or app. Debugging refers to the process of fixing these issues. The Construct 2 debugger is a tool to help you find and fix bugs in your game.

- **How to run the debugger:**

➢ The debugger can be run from the ribbon Home tab, the quick-launch bar, by right-clicking a layout or project in the Project Bar, or by using the keyboard shortcut Ctrl+F5.

➢ The debugger works much like an ordinary preview, except that an extra panel appears alongside the game in the browser showing lots of information and some useful controls.



Game Event & Debug Event

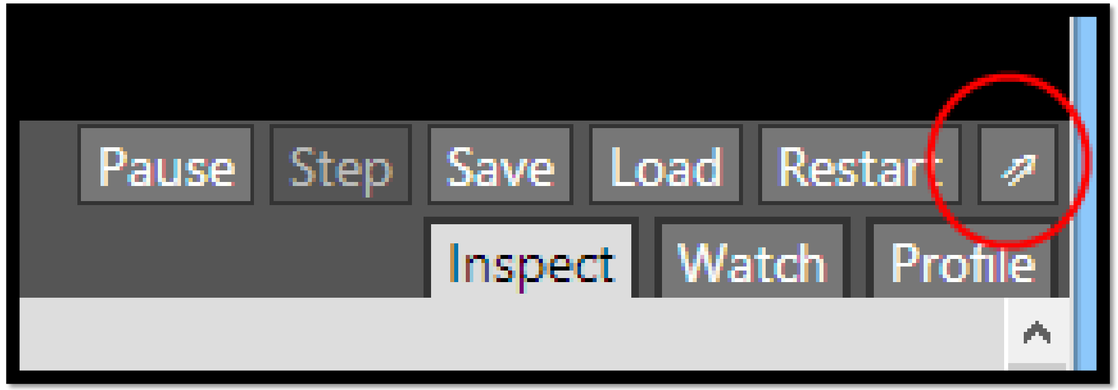
- **The main debugger commands:**

➢ **Pause:** Pause the game so it is no longer progressing. This is useful to spend a while inspecting some information at a particular moment. When paused it turns in to a Resume button; click it again to resume running.

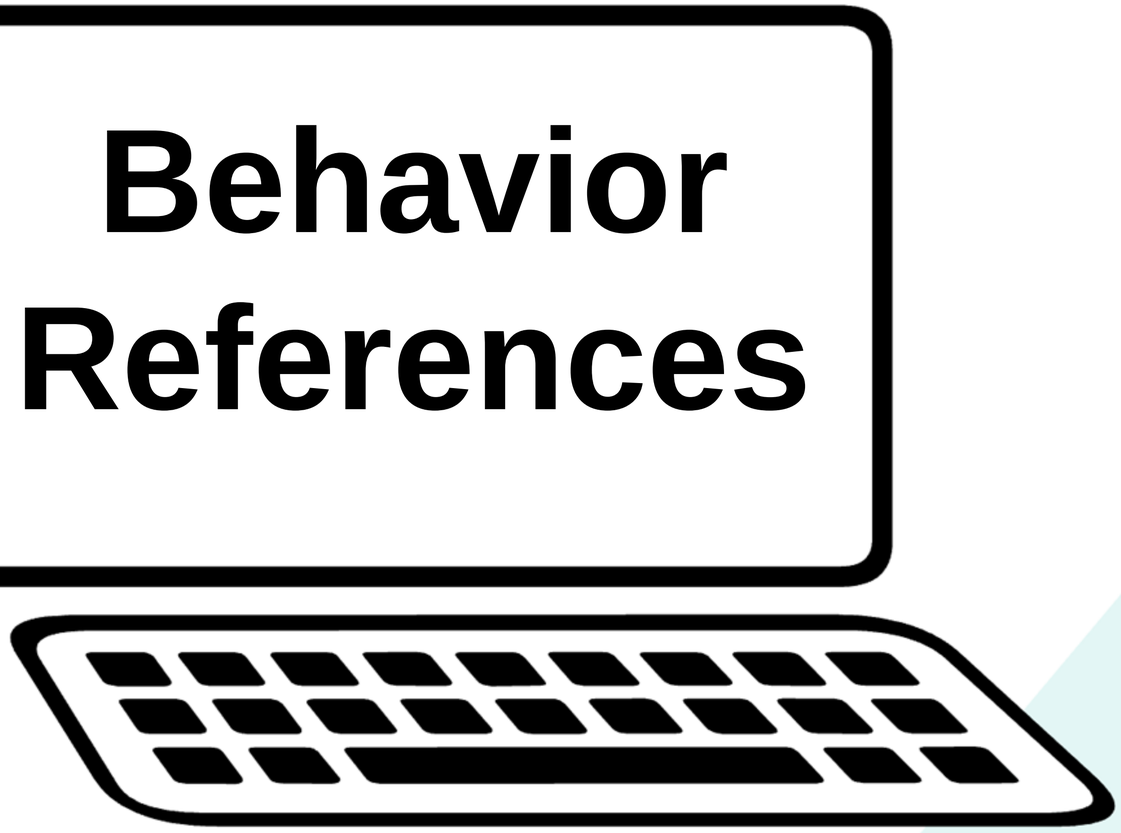
➢ **Step:** can only be used when paused. It advances the game by a single frame. Delta-time (dt) is set as if the game were running at 60 FPS. This can be useful to inspect a moment frame-by-frame and watch how an event like a collision is handled.

➢ **Save:** Save and Load make a temporary save game, allowing you to quickly save the state of the game and then restore back to that state at any time later on.

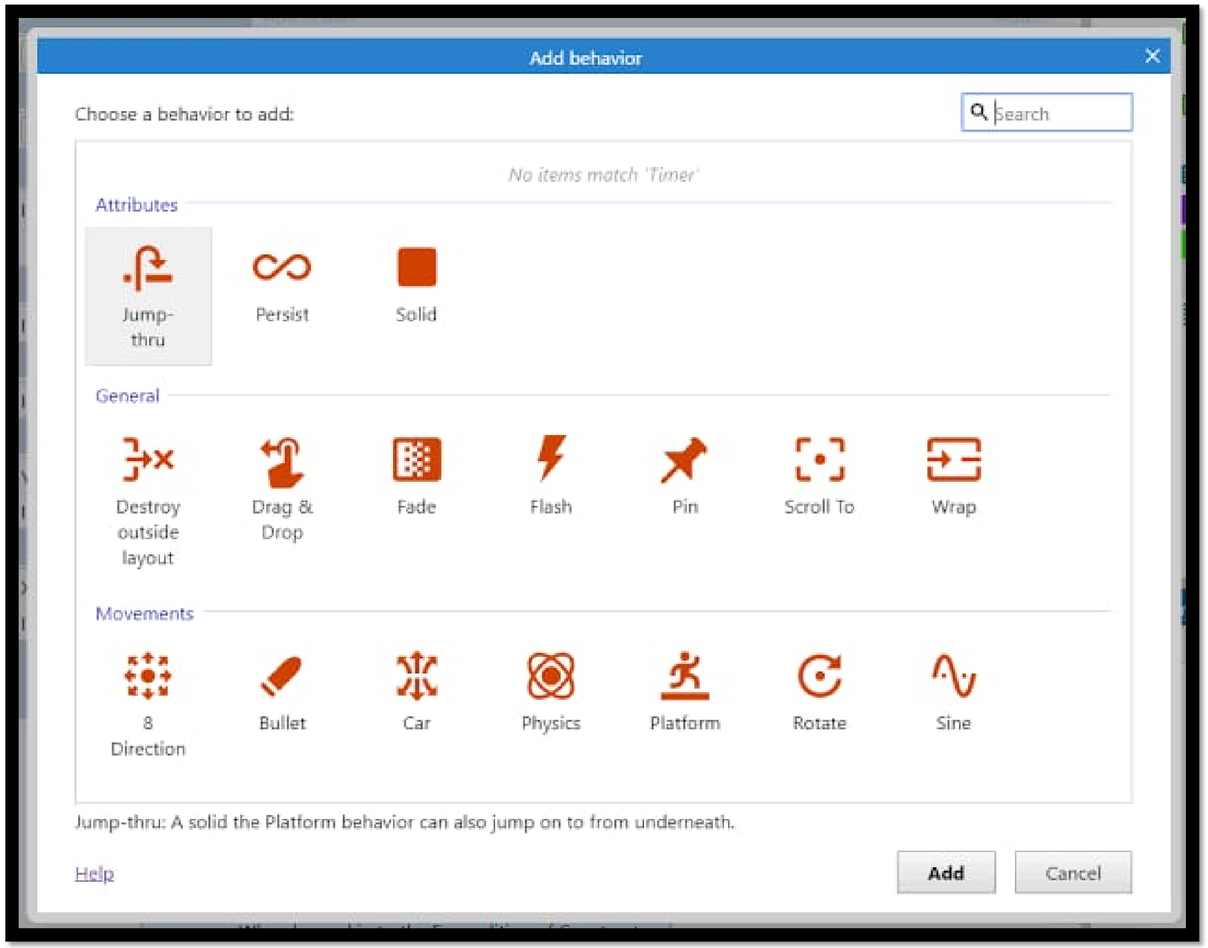
➢ **Restart:** Restart will simply refresh the game, loading it from scratch again.



Behavior References



What are Behavior References?

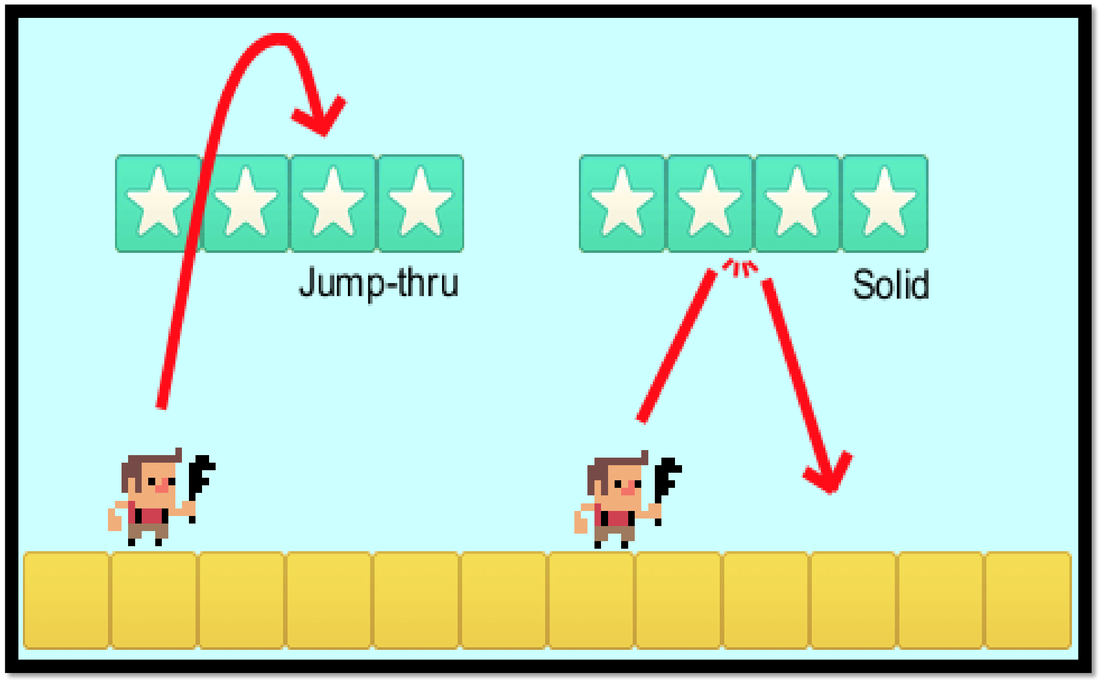


Behaviours add actions, conditions and expressions to the object they are added to, appearing alongside the object's own features in the Add condition/action dialog and Expressions panel.

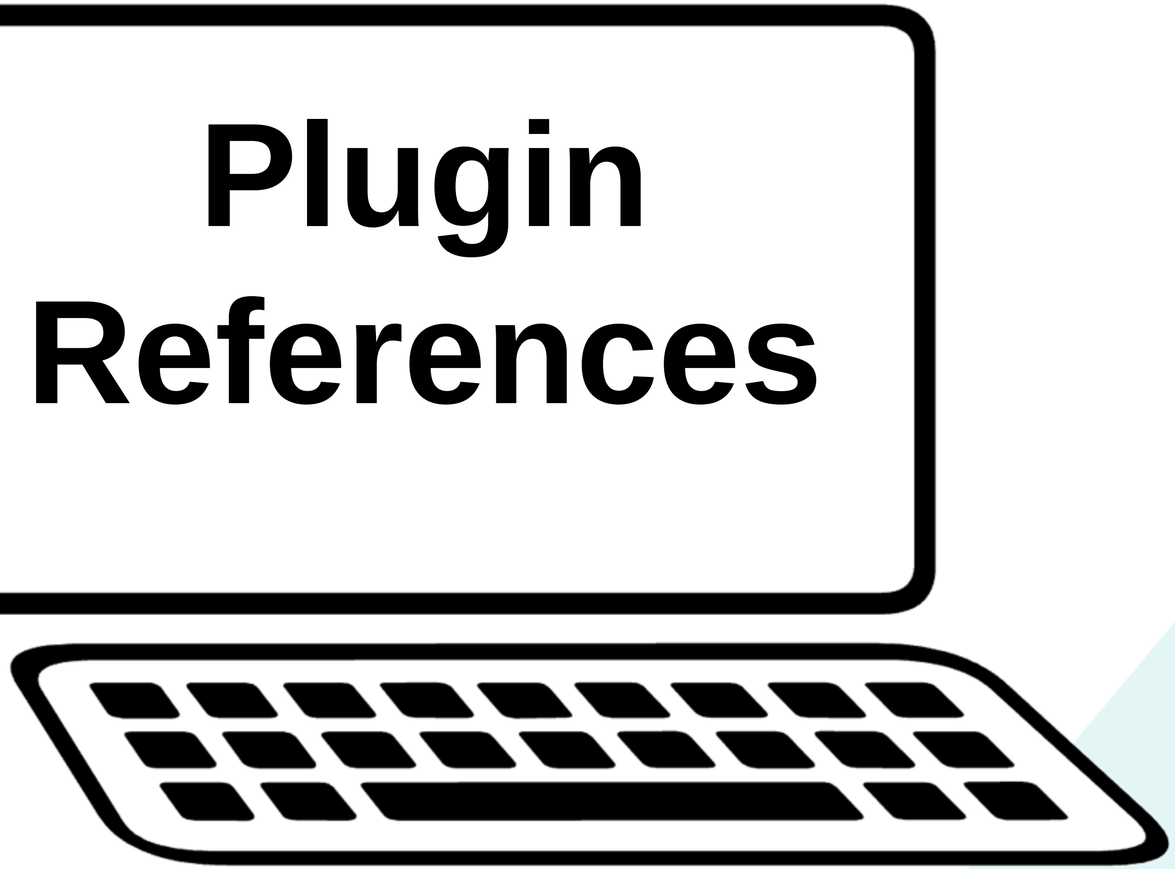
Behaviours can be added and removed from objects via the Properties Bar, which opens the Object Behaviours dialog and Add

Behavior References

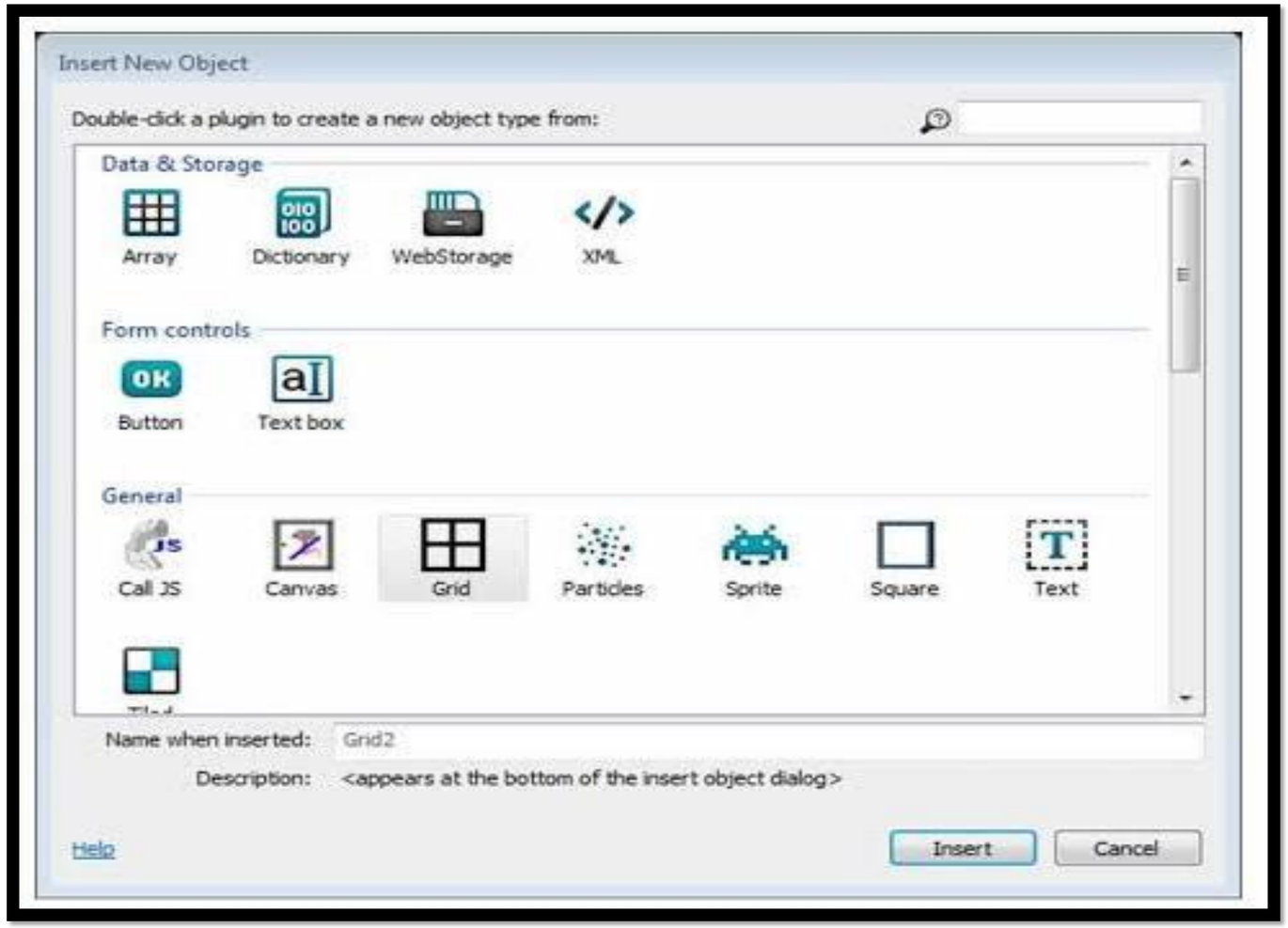
- 8 Directions behaviour
- Bullet behaviour
- Physics behaviour
- Rotate
- Sine
- Jump thru
- Solid
- Drag and Drop
- Car
- Destroy outside layout



Plugin References



What are Plugin ?

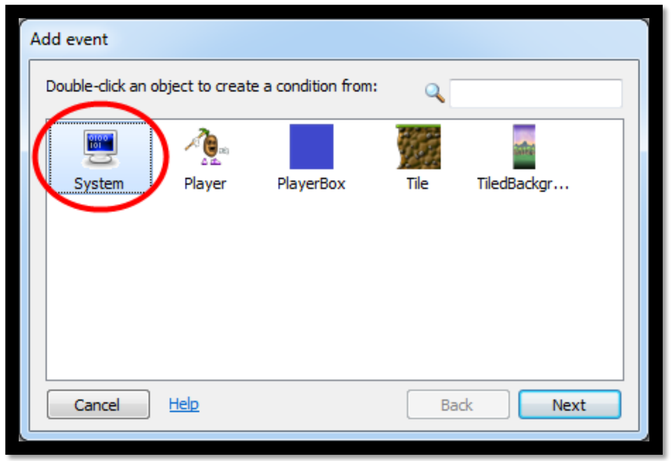


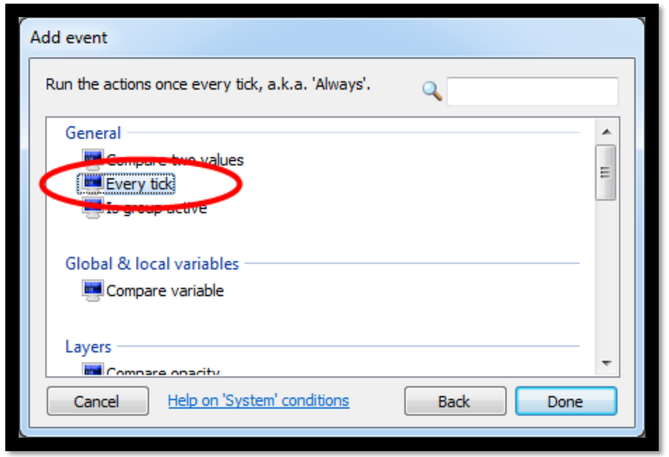
Plugin references provide a reference of all the official plugins that come with (

- Array
- Button
- Particles
- Sprite
- Text box
- Touch
- Mouse

Adding Animations using

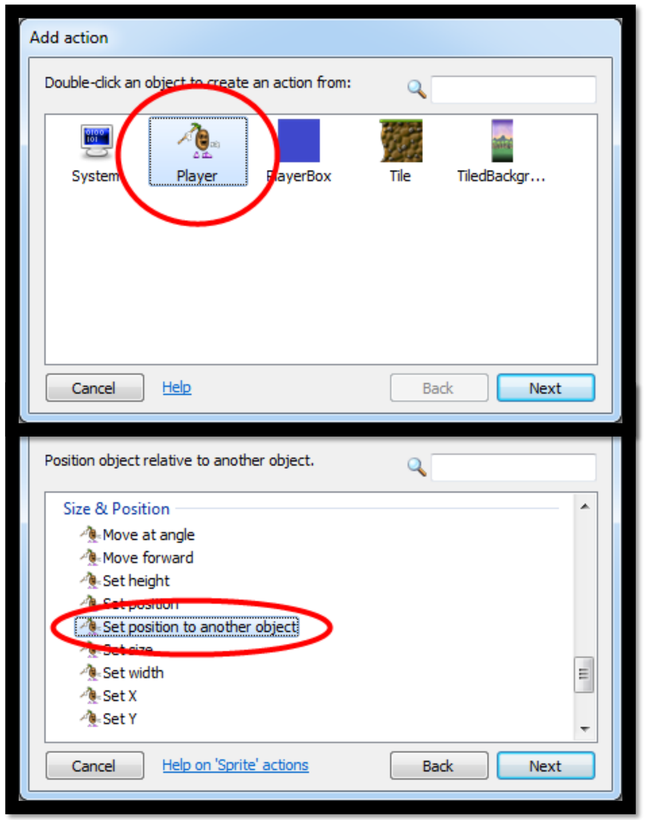
- ***Example:*** In this case, we want to position the player on top of Player Box. To do this, we should update its position every tick, or frame of the game.
- Double-click a space in the Event Sheet View to create a new event.
- Double-click the System object, which contains the Every tick condition.
- Now we have an empty event which will run its actions every tick.

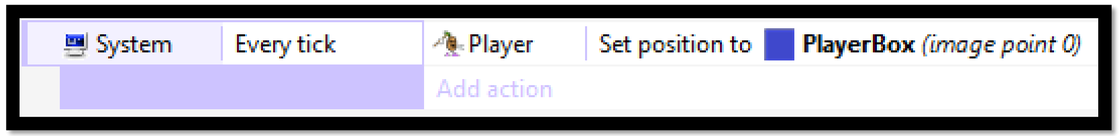




Adding Animations using

- Click 'Add action'.
- We want to position Player, so double-click 'Player'.
- Double-click Set position to another object.
- For Object, click <click to choose> and pick Player Box. Leave Image point as 0 (that means the origin).
- Click 'Done'. The finished event should look as shown.
- Run the game by clicking the green 'play' arrow in the title bar to check the event. **Move and jump with the arrow keys**.





Let’s Practice - Homework of the day

Explore the behaviors & plugin references


Q
&
A

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Thank You!

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