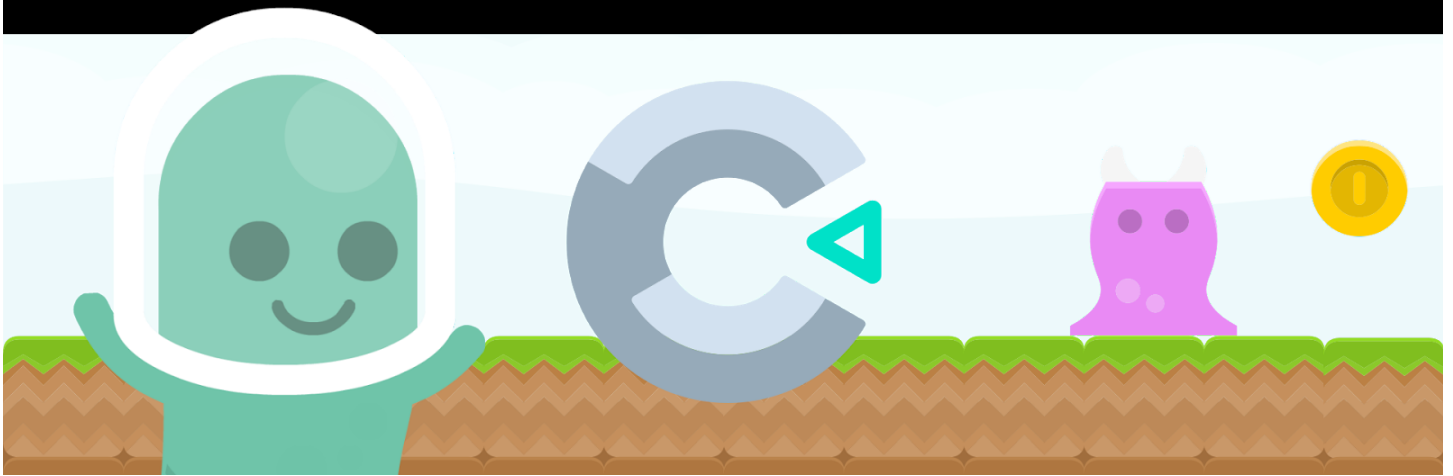


PLATFORMER

CONSTRUCT3



Game Project Guide

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Game Assets

Step		Detailed Instructions
<input type="checkbox"/>	Download the Game Assets	Download zip archive containing project files, staging somewhere convenient, e.g., Desktop, My Documents, USB flash drive, etc.
<input type="checkbox"/>	Extract Files	Extract archive, using program of choice, to desired location on computer/flash drive

Creating the Project

Step		Detailed Instructions
<input type="checkbox"/>	Launch Construct 3	Navigate to editor.construct.net in your browser, e.g., Chrome
<input type="checkbox"/>	Log in to Construct 3	<ul style="list-style-type: none"> ■ USER ACCOUNT > LOG IN <ul style="list-style-type: none"> ○ Username: <enter Construct 3 username> ○ Password: <enter Construct 3 password> ○ Click "Log in"
<input type="checkbox"/>	Change Site Settings	<ul style="list-style-type: none"> ■ To the left of the web address i.e., https://editor.construct.net, click the lock icon ■ Click "Site Settings" ■ Change "Pop-ups and redirects" to "Allow" ■ Reload page for changes to take effect
<input type="checkbox"/>	Create New Project	<ul style="list-style-type: none"> ■ PROJECT > NEW <ul style="list-style-type: none"> ○ New Project <ul style="list-style-type: none"> ■ Name: Platformer ■ Choose preset: 1080p landscape ■ Select CREATE
<input type="checkbox"/>	Save Project*	<ul style="list-style-type: none"> ■ PROJECT > SAVE AS > CLOUD SAVE ■ Select a cloud service, e.g., Dropbox, OneDrive, Google Drive ■ Authenticate and authorize service ■ Navigate to desired storage location, and save project using "Platformer.c3p" for the filename ■ Select SAVE <p>Note: To access your project in the future:</p> <ul style="list-style-type: none"> ○ PROJECT > OPEN RECENT > "Platformer.c3p" <li style="text-align: center;">- OR - ○ PROJECT > CLOUD OPEN > Navigate to "Platformer.c3p" <p>* Assumes use of Google Drive</p>

Project Properties

Step		Detailed Instructions
<input type="checkbox"/>	Set Project Properties	<ul style="list-style-type: none">■ Select "Platformer" > Set/confirm the following properties:<ul style="list-style-type: none">○ About<ul style="list-style-type: none">■ Name: Platformer■ Version: 1.0.0.0■ Description: A model platform-style game■ ID: com.colestock.game.platformer■ Author: <enter your name>■ Email: <enter your email>■ Website: <enter your website>○ Startup<ul style="list-style-type: none">■ First layout: Layout 1■ Loader style: Percentage text○ Display<ul style="list-style-type: none">■ Viewport size (Width x Height): 1920 x 1080■ Orientations: Landscape○ Advanced<ul style="list-style-type: none">■ Runtime: Construct 3○ Editor<ul style="list-style-type: none">■ Check "Bundle addons"
<input type="checkbox"/>	Save Project	PROJECT > SAVE or (Ctrl + S) or Click 

Setting the Stage

Step		Detailed Instructions
<input type="checkbox"/>	Rename Layout	Right-click "Layout 1" > Rename to " Level 1 "
<input type="checkbox"/>	Rename Event Sheet	Right-click "Event sheet 1" > Rename to " Level 1 Event Sheet "
<input type="checkbox"/>	Set Layout Properties	<ul style="list-style-type: none">■ Select "Level 1" > Set the following properties:<ul style="list-style-type: none">○ Layout<ul style="list-style-type: none">■ Size (Width x Height): 3840 x 1080○ Editor<ul style="list-style-type: none">■ Margins (Width x Height): 500 x 500■ Check "Show grid"■ Check "Snap to grid"■ Grid size (Width x Height): 96 x 96
<input type="checkbox"/>	Rename "Layer 0"	Right-click "Layer 0" > Rename to " Background "
<input type="checkbox"/>	Create Sky Tiled Background	<ul style="list-style-type: none">■ Right-click OBJECT TYPES > Select "Add new object type"■ Select "Tiled Background" > Name: "Sky" > INSERT

		<ul style="list-style-type: none"> ■ When crosshair appears, click inside "Level 1" layout > Tiled Background Editor will appear ■ Click folder icon > Browse to and OPEN: sky-background-1024x1024.png ■ Click X to close; Sky object should be on "Background" layer
☐	Position Sky Background	Snap the Sky object to the upper left-hand corner of the layout (0,0) and enlarge until it covers the entire layout; it is OK if it covers more than the visible layout
☐	Create Ground	<ul style="list-style-type: none"> ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "Ground" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Click folder icon > Browse to and OPEN: ground-96x96.png ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 0 ■ Set Y to 0 ■ Click X to close; Ground object should be on "Background" layer
☐	Duplicate Ground	Create a 40 x 2 (Width x Height) section of Ground objects using Ctrl + drag (left mouse button) at the bottom of the layout
☐	Lock "Background" Layer	Select "Background" layer > Click lock icon
☐	Create "Game" Layer	<ul style="list-style-type: none"> ■ Under "Layers" > Right-click "Add layer at top" > Rename new layer to "Game" ■ Make sure the "Game" layer is active, unlocked, and listed above the "Background" layer
☐	Create Grass	<ul style="list-style-type: none"> ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "Grass" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Click folder icon > Browse to and OPEN: grass-96x96.png ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 0 ■ Set Y to 0 ■ Click X to close; Grass object should be on "Game" layer
☐	Duplicate Grass	Create a 40 x 1 (Width x Height) section of Grass objects using Ctrl + drag (left mouse button) on top of the Ground

	Create "Solids" Family	<ul style="list-style-type: none"> ■ Right-click FAMILIES > Select "Add family" <ul style="list-style-type: none"> ○ Click "Grass" ○ Click "Add" to place in family > OK ■ Right-click "Family1" > Rename to "Solids"
	Assign Behavior to "Solids" Family	<ul style="list-style-type: none"> ■ Right-click "Solids" Family > Select "Family Behaviors" <ul style="list-style-type: none"> ○ Click "Add new behavior" ○ Select "Solid" under "Attributes" > ADD ○ Click X to close
	Lock "Game" Layer	Select "Game" layer > Click lock icon
	Unlock "Background" Layer	Select "Background" layer > Click lock icon
	Create Bush	<ul style="list-style-type: none"> ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "Bush" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Click folder icon > Browse to and OPEN: bush-96x58.png ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 0 ■ Set Y to 58 ■ Click X to close; Bush object should be on "Background" layer
	Duplicate Bush	<p>Create a couple of Bush objects using Ctrl + drag (left mouse button) on top of the Grass.</p> <p>Note: Check and uncheck "Snap to grid" option for maximum control over placement of objects on the layout!</p>
	Lock "Background" Layer	Select "Background" layer > Click lock icon
	Preview Layout	From "Level 1" layout > Click "Preview" in main toolbar
	Save Project	PROJECT > SAVE or (Ctrl + S) or Click

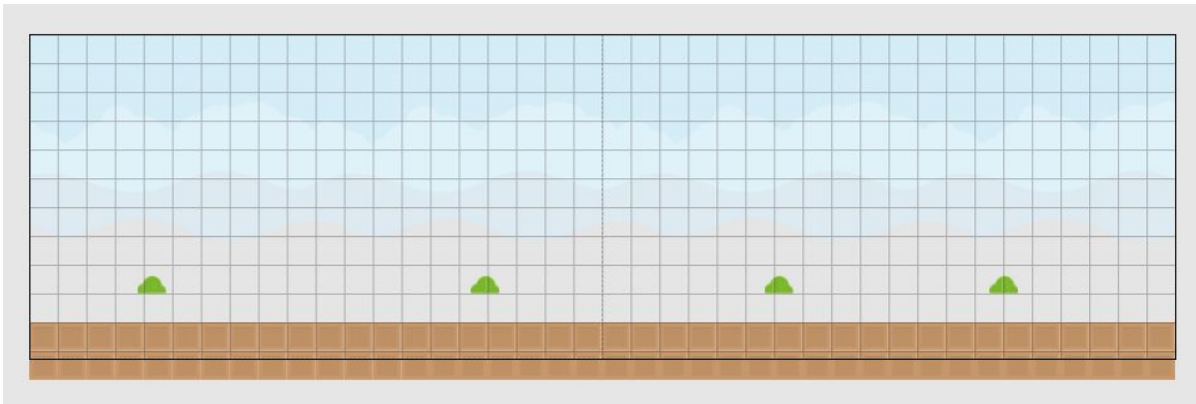


FIGURE 1: Snapshot of "Level 1" Layout ("Background" layer only)

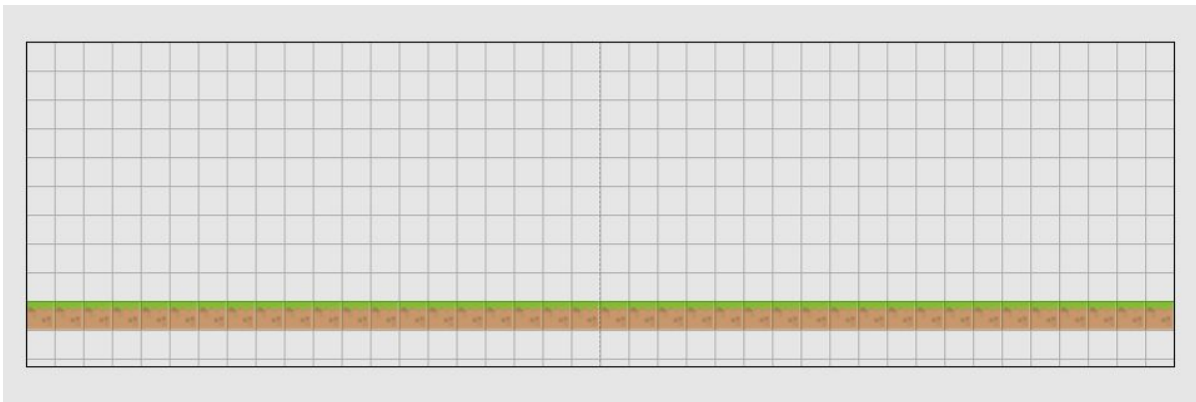


FIGURE 2: Snapshot of "Level 1" Layout ("Game" layer only)

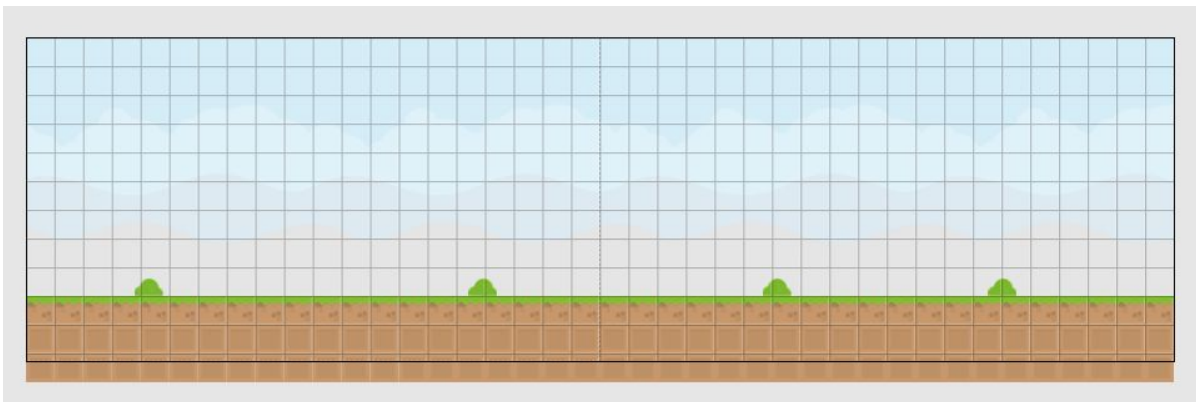







FIGURE 3: Snapshot of "Level 1" Layout (all layers)

The Player

Step		Detailed Instructions
	Create Player	<ul style="list-style-type: none"> ■ Make sure "Game" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "Player" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Select "Resize" option: <ul style="list-style-type: none"> ○ Image Canvas Size <ul style="list-style-type: none"> ■ Width (pixels): 85 ■ Height (pixels): 117 ○ Select OK ■ Select "Fill" option: <ul style="list-style-type: none"> ○ Enter Custom Color (in color palette) <ul style="list-style-type: none"> ■ Red: 111 ■ Green: 196 ■ Blue: 169 ■ Alpha: 255 ○ Click on canvas to fill object ■ Select "Edit the collision polygon" option <ul style="list-style-type: none"> ○ Right-click "Set to bounding box" ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 43 ■ Set Y to 117 ■ Click X to close; Player object should be on "Game" layer
	Assign Behaviors to the Player	<ul style="list-style-type: none"> ■ Right-click "Player" > Select "Edit behaviors" ■ Click "Add new behavior" to add each behavior: <ul style="list-style-type: none"> ○ Select "Platform" under "Movements" > ADD ○ Select "Bound to layout" under "General" > ADD ○ Select "Scroll To" under "General" > ADD ○ Click X to close
	Set Player Platform Behavior Properties	<ul style="list-style-type: none"> ■ Select "Player" > Set the following properties: <ul style="list-style-type: none"> ○ Behaviors (Platform) <ul style="list-style-type: none"> ■ Deceleration: 1200 ■ Jump strength: 800
	Assign Player to "Solids" Family	<ul style="list-style-type: none"> ■ Select "Solids" Family > Right-click "Edit family" <ul style="list-style-type: none"> ○ Click "Player" ○ Click "Add" to place in family > OK

❏	Preview Layout	From "Level 1" layout > Click "Preview" in main toolbar
❏	Save Project	PROJECT > SAVE or (Ctrl + S) or Click 

The Alien


Step		Detailed Instructions															
❏	Create Alien	<ul style="list-style-type: none"> ■ Make sure "Game" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "Alien" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Click folder icon > Browse to and OPEN: alien-stand-76x113.png ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 38 ■ Set Y to 113 ■ Click X to close; Alien object should be on "Game" layer 															
❏	Rename Default Animation	<ul style="list-style-type: none"> ■ Right-click "Alien" > Select "Edit animations" ■ Under "Animations" > Right-click "Animation 1" > Rename to "Stand" 															
❏	Create "Walk" Animation	<ul style="list-style-type: none"> ■ Right-click "Alien" > Select "Edit animations" ■ Under "Animations" > Right-click "Add Animation" > Rename new animation to "Walk"; make sure it is selected ■ Create a four-frame animation: <table border="1" data-bbox="613 1377 1468 1707"> <thead> <tr> <th>Frame #</th><th>Image</th><th>Origin (X,Y)</th></tr> </thead> <tbody> <tr> <td>Frame 0</td><td>alien-walk-77x117.png</td><td>39, 117</td></tr> <tr> <td>Frame 1</td><td>alien-walk-80x115.png</td><td>40, 115</td></tr> <tr> <td>Frame 2</td><td>alien-walk-77x117.png</td><td>39, 117</td></tr> <tr> <td>Frame 3</td><td>alien-walk-77x115.png</td><td>39, 115</td></tr> </tbody> </table> ■ For each frame you need to: <ul style="list-style-type: none"> ○ Right-click "Add Frame" within "Frames" and select (not necessary for Frame 0) ○ Click the folder icon and navigate to the image file ○ Select "Edit the image points" option 	Frame #	Image	Origin (X,Y)	Frame 0	alien-walk-77x117.png	39, 117	Frame 1	alien-walk-80x115.png	40, 115	Frame 2	alien-walk-77x117.png	39, 117	Frame 3	alien-walk-77x115.png	39, 115
Frame #	Image	Origin (X,Y)															
Frame 0	alien-walk-77x117.png	39, 117															
Frame 1	alien-walk-80x115.png	40, 115															
Frame 2	alien-walk-77x117.png	39, 117															
Frame 3	alien-walk-77x115.png	39, 115															

		<ul style="list-style-type: none"> ○ Change "Origin" image point to reflect the X and Y values ■ Right-click "Delete" any remaining empty frames ■ Click X to close the "Animations Editor" window
❏	Set "Walk" Animation Properties	<ul style="list-style-type: none"> ■ Right-click "Alien" > Select "Edit animations" > Select "Walk" <ul style="list-style-type: none"> ○ Animation Properties <ul style="list-style-type: none"> ■ Speed: 8 ■ Check "Loop" ■ Click X to close
❏	Create "Jump" Animation	<ul style="list-style-type: none"> ■ Right-click "Alien" > Select "Edit animations" ■ Under "Animations" > Right-click "Add Animation" > Rename new animation to "Jump"; make sure it is selected ■ Click folder icon > Browse to and OPEN: alien-jump-85x115.png ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 43 ■ Set Y to 115 ■ Click X to close
❏	Create "Fall" Animation	<ul style="list-style-type: none"> ■ Right-click "Alien" > Select "Edit animations" ■ Under "Animations" > Right-click "Add Animation" > Rename new animation to "Fall"; make sure it is selected ■ Click folder icon > Browse to and OPEN: alien-fall-83x117.png ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 42 ■ Set Y to 117 ■ Click X to close
❏	Create "Success" Animation	<ul style="list-style-type: none"> ■ Right-click "Alien" > Select "Edit animations" ■ Under "Animations" > Right-click "Add Animation" > Rename new animation to "Success"; make sure it is selected ■ Click folder icon > Browse to and OPEN: alien-success-83x112.png ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 42 ■ Set Y to 112 ■ Click X to close; Alien object should be on "Game" layer
❏	Save Project	PROJECT > SAVE or (Ctrl + S) or Click 

On the Move

Step		Detailed Instructions
<input type="checkbox"/>	Add Keyboard Object to Project	<ul style="list-style-type: none"> ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Keyboard" > Name: "Keyboard" > INSERT
<input type="checkbox"/>	Add Mouse Object to Project	<ul style="list-style-type: none"> ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Mouse" > Name: "Mouse" > INSERT
<input type="checkbox"/>	Create "Player Event Sheet"	<ul style="list-style-type: none"> ■ Right-click EVENT SHEETS > Select "Add event sheet" ■ Rename to "Player Event Sheet"
<input type="checkbox"/>	Include "Player Event Sheet" in "Level 1 Event Sheet"	<ul style="list-style-type: none"> ■ Right-click "Level 1 Event Sheet" > Select "Open" (Optionally, double-click to open) ■ Right-click "Include event sheet" > Double-click "Player Event Sheet"
<input type="checkbox"/>	Create "Movement" Event Group	<ul style="list-style-type: none"> ■ Right-click "Player Event Sheet" > Select "Open" ■ Right-click > "Add group" <ul style="list-style-type: none"> ○ Name: Movement ○ Description: Events and triggers related to player movement ○ Select OK
<input type="checkbox"/>	Create Event to Position Alien (To Player)	<ul style="list-style-type: none"> ■ Click "Add event to 'Movement'" <ul style="list-style-type: none"> ○ Double-click "System" ○ Double-click "Every tick" (under "General") ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Alien" ○ Double-click "Set position to another object" (under "Size & Position") <ul style="list-style-type: none"> ■ Object: Player ■ Image point: 0 ○ Select DONE
<input type="checkbox"/>	Hide the Player	<ul style="list-style-type: none"> ■ Select "Player" > Set the following property: <ul style="list-style-type: none"> ○ Properties <ul style="list-style-type: none"> ■ Uncheck "Initially visible"
<input type="checkbox"/>	Create Keyboard Events to Mirror Alien	<ul style="list-style-type: none"> ■ Click "Add event to 'Movement'" <ul style="list-style-type: none"> ○ Double-click "Keyboard" ○ Double-click "On key pressed" (under "Keyboard") ○ Click "<click to choose>" and press "Left arrow" > OK ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Alien"

		<ul style="list-style-type: none"> ○ Double-click "Set mirrored" (under "Appearance") <ul style="list-style-type: none"> ■ State: Mirrored ○ Select DONE <ul style="list-style-type: none"> ■ Click "Add event to 'Movement'" <ul style="list-style-type: none"> ○ Double-click "Keyboard" ○ Double-click "On key pressed" (under "Keyboard") ○ Click "<click to choose>" and press "Right arrow" > OK ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Alien" ○ Double-click "Set mirrored" (under "Appearance") <ul style="list-style-type: none"> ■ State: Not mirrored ○ Select DONE
□	Add Keyboard Event for Alien "Walk" Animation	<ul style="list-style-type: none"> ■ Click "Add event to 'Movement'" <ul style="list-style-type: none"> ○ Double-click "Keyboard" ○ Double-click "Key is down" (under "Keyboard") ○ Click "<click to choose>" and press "Left arrow" > OK ○ Select DONE ■ Right-click event > Select "Make OR block" ■ Right-click event > Select "Add" > Select "Add another condition" <ul style="list-style-type: none"> ○ Double-click "Keyboard" ○ Double-click "Key is down" (under "Keyboard") ○ Click "<click to choose>" and press "Right arrow" > OK ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Alien" ○ Double-click "Set animation" (under "Animations") <ul style="list-style-type: none"> ■ Animation: "Walk" ○ Select DONE ■ Right-click event > Select "Add" > Select "Add 'Else'" ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Alien" ○ Double-click "Set animation" (under "Animations") <ul style="list-style-type: none"> ■ Animation: "Stand" ○ Select DONE
□	Add "Platform is Jumping" Event	<ul style="list-style-type: none"> ■ Click "Add event to 'Movement'" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "Is jumping" (under "Platform") ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Alien" ○ Double-click "Set animation" (under "Animations") <ul style="list-style-type: none"> ■ Animation: "Jump" ○ Select DONE

❏	Add "Platform Is Falling" Event	<ul style="list-style-type: none"> ■ Click "Add event to 'Movement'" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "Is falling" (under "Platform") ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Alien" ○ Double-click "Set animation" (under "Animations") <ul style="list-style-type: none"> ■ Animation: "Fall" ○ Select DONE
❏	Debug Layout	From "Level 1" layout > Click "Debug layout" in main toolbar
❏	Save Project	PROJECT > SAVE or (Ctrl + S) or Click 

Include **Player Event Sheet**

FIGURE 4: Snapshot of "Level 1 Event Sheet" (after On The Move)


1	Movement			
	▼ Events and triggers related to player movement			
2	 System	Every tick	 Alien	Set position to  Player (<i>image point 0</i>)
3	 Keyboard	On  pressed	 Alien	Set Mirrored
4	 Keyboard	On  pressed	 Alien	Set Not mirrored
5	 Keyboard	 is down	 Alien	Set animation to "Walk" (play from beginning)
	 Keyboard	OR  is down		
6	 System	Else	 Alien	Set animation to "Stand" (play from beginning)
7	 Player	 Platform is jumping	 Alien	Set animation to "Jump" (play from beginning)
8	 Player	 Platform is falling	 Alien	Set animation to "Fall" (play from beginning)

FIGURE 5: Snapshot of "Player Event Sheet" (after On The Move)

Obstacles

Step		Detailed Instructions
❏	Create Grass Platform	<ul style="list-style-type: none"> ■ Make sure "Game" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "GrassPlatform" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear

		<ul style="list-style-type: none"> ■ Click folder icon > Browse to and OPEN: grass-platform-96x56.png ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 0 ■ Set Y to 56 ■ Click X to close; GrassPlatform object should be on "Game" layer
❏	Assign Grass Platform to "Solids" Family	<ul style="list-style-type: none"> ■ Select "Solids" Family > Right-click "Edit family" <ul style="list-style-type: none"> ○ Click "GrassPlatform" ○ Click "Add" to place in family > OK
❏	Duplicate Grass Platform	<p>Create multiple Grass Platform objects using Ctrl + drag (left mouse button) for the player to jump on.</p> <p>Note: Check and uncheck "Snap to grid" option for maximum control over placement of objects on the layout!</p>
❏	Create Floating Bridge	<ul style="list-style-type: none"> ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "Bridge" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Click folder icon > Browse to and OPEN: floating-bridge-95x27.png ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 48 ■ Set Y to 14 ■ Click X to close; Bridge object should be on "Game" layer
❏	Assign Floating Bridge to "Solids" Family	<ul style="list-style-type: none"> ■ Select "Solids" Family > Right-click "Edit family" <ul style="list-style-type: none"> ○ Click "Bridge" ○ Click "Add" to place in family > OK
❏	Assign Horizontal Sine Behavior to Floating Bridge	<ul style="list-style-type: none"> ■ Right-click "Bridge" > Select "Edit behaviors" ■ Click "Add new behavior": <ul style="list-style-type: none"> ○ Select "Sine" under "Movements" > ADD ○ Rename "BridgeSideToSide" ○ Click X to close
❏	Set Floating Bridge Properties	<ul style="list-style-type: none"> ■ Select "Bridge" > Set/confirm the following properties: <ul style="list-style-type: none"> ○ Behaviors (BridgeSideToSide) <ul style="list-style-type: none"> ■ Movement: Horizontal ■ Period: 10 ■ Magnitude: 150 ■ Check "Preview" (optional)


❏	Duplicate Floating Bridge	Create multiple Floating Bridge objects using Ctrl + drag (left mouse button) for the player to jump on. Note: You can control (or vary) the movement of each bridge by adjusting its individual Sine behavior properties; explore additional properties to discover what they do!
❏	Preview Layout	From "Level 1" layout > Click "Preview" in main toolbar
❏	Save Project	PROJECT > SAVE or (Ctrl + S) or Click 


Cashin' In

Step		Detailed Instructions
❏	Create Get Coins Sign	<ul style="list-style-type: none"> ■ Make sure "Background" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "GetCoins" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Click folder icon > Browse to and OPEN: get-coins-96x96.png ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 0 ■ Set Y to 96 ■ Click X to close; GetCoins object should be on "Background" layer ■ Position near the beginning of the layout
❏	Create Exit Sign	<ul style="list-style-type: none"> ■ Make sure "Game" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "Exit" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Click folder icon > Browse to and OPEN: exit-96x96.png ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 0 ■ Set Y to 96 ■ Click X to close; Exit object should be on "Game" layer ■ Position near the end of the layout

❏	Create Coin	<ul style="list-style-type: none"> ■ Make sure "Game" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "Coin" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Click folder icon > Browse to and OPEN: coin-48x48.png ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 24 ■ Set Y to 24 ■ Click X to close; Coin object should be on "Game" layer
❏	Duplicate Coin	<p>Create multiple Coin objects using Ctrl + drag (left mouse button) for the player to collect.</p> <p>Note: Check and uncheck "Snap to grid" option for maximum control over placement of objects on the layout. You can also add variation by rotation each coins using the rotation handle.</p>
❏	Bring Alien to Top of Layer (Z Order)	<ul style="list-style-type: none"> ■ Make sure "Game" layer is active and unlocked ■ VIEW > BARS > Z-ORDER BAR (if bar is not visible) ■ Drag "Alien" to top of "Game" layer
❏	Create "Start & End Level Event Sheet"	<ul style="list-style-type: none"> ■ Right-click EVENT SHEETS > Select "Add event sheet" ■ Rename to "Start & End Level Event Sheet"
❏	Include "Start & End Level Event Sheet" in "Level 1 Event Sheet"	<ul style="list-style-type: none"> ■ Right-click "Level 1 Event Sheet" > Select "Open" (Optionally, you can double-click to open) ■ Right-click > "Include event sheet" > Double-click "Start & End Level Event Sheet"
❏	Create Global Variable to Track Number of Coins Remaining	<ul style="list-style-type: none"> ■ Right-click "Start & End Level Event Sheet" > Select "Open" ■ Right-click "Add global variable": <ul style="list-style-type: none"> ○ Name: CoinsLeft ○ Type: Number ○ Initial value: 0 ○ Description: Number of coins left on current game level ○ Select OK
❏	Create "Start of Level" Event Group	<ul style="list-style-type: none"> ■ Right-click > "Add group" <ul style="list-style-type: none"> ○ Name: Start of Level ○ Description: Events and triggers that occur at the beginning of any game-related layout ○ Select OK

	<p>Create "On Start of Layout" Event and Action to Set CoinsLeft</p>	<ul style="list-style-type: none"> ■ Click "Add event to 'Start of Level'" <ul style="list-style-type: none"> ○ Double-click "System" ○ Double-click "On start of layout" (under "Start & end") ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "System" ○ Double-click "Set value" (under "Global & local variables") <ul style="list-style-type: none"> ■ Variable: CoinsLeft ■ Value: Coin.Count ○ Select DONE
	<p>Create "Goal" Event Group</p>	<ul style="list-style-type: none"> ■ Right-click "Player Event Sheet" > Select "Open" ■ Right-click > "Add group" <ul style="list-style-type: none"> ○ Name: Goal ○ Description: Events and triggers related to player goals ○ Select OK
	<p>Create "On Player Collision with Coin" Event and Actions</p>	<ul style="list-style-type: none"> ■ Click "Add event to 'Goal'" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "On collision with another object" (under "Collisions") <ul style="list-style-type: none"> ■ Object: Coin ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Coin" ○ Double-click "Destroy" (under "Misc") ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "System" ○ Double-click "Subtract from" (under "Global & local variables") <ul style="list-style-type: none"> ■ Variable: CoinsLeft ■ Value: 1 ○ Select DONE
	<p>Create "End of Level" Event Group</p>	<ul style="list-style-type: none"> ■ Right-click "Start & End Level Event Sheet" > Select "Open" ■ Right-click > "Add group" <ul style="list-style-type: none"> ○ Name: End of Level ○ Description: Events and triggers related to ending any game-related layout ○ Select OK
	<p>Create "Success" Event and Actions</p>	<ul style="list-style-type: none"> ■ Click "Add event to 'End of Level'" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "On collision with another object" (under "Collisions") <ul style="list-style-type: none"> ■ Object: Exit ○ Select DONE ■ Right-click event > Select "Add" > Select "Add another condition"

		<ul style="list-style-type: none"> ○ Double-click "System" ○ Double-click "Compare variable" (under "Global & local variables") <ul style="list-style-type: none"> ■ Variable: CoinsLeft ■ Comparison: = Equal to ■ Value: 0 ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "System" ○ Double-click "Wait" (under "Time") <ul style="list-style-type: none"> ■ Seconds: 3.0 ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "System" ○ Double-click "Restart layout" (under "Layout")
❏	Debug Layout	From "Level 1" layout > Click "Debug layout" in main toolbar
❏	Save Project	PROJECT > SAVE or (Ctrl + S) or Click 

 Include **Player Event Sheet**


 Include **Start & End Level Event Sheet**

FIGURE 6: Snapshot of "Level 1 Event Sheet" (after Cashin' In)

Global number **CoinsLeft** = 0

Number of coins left on current game level

1

Start of Level

▼

Events and triggers that occur at the beginning of any game-related layout

2

→

System

On start of layout

System

Set **CoinsLeft** to *Coin.Count*

Add event to 'Start of Level'

Add to 'Start of Level'...

3

End of Level

▼

Events and triggers related to ending any game-related layout

4

→

Player

On collision with

EXIT

Exit

System

Wait **3.0** seconds

System

CoinsLeft = 0

System

Restart layout

FIGURE 7: Snapshot of "Start & End Level Event Sheet" (after Cashin' In)

1

Movement

▼ Events and triggers related to the Player's movements

2

3























4

5

6

7

8

	System	Every tick		Alien	Set position to  Player (image point 0)
	Keyboard	On  pressed		Alien	Set Mirrored
	Keyboard	On  pressed		Alien	Set Not mirrored
	Keyboard	 is down		Alien	Set animation to "Walk" (play from beginning)
	Keyboard	OR  is down			
	System	Else		Alien	Set animation to "Stand" (play from beginning)
	Player	 Platform is jumping		Alien	Set animation to "Jump" (play from beginning)
	Player	 Platform is falling		Alien	Set animation to "Fall" (play from beginning)

Add event to 'Movement'

Add to 'Movement'...

9

Goal

▼ Events and triggers related to player goals

10





	Player	On collision with  Coin		Coin	Destroy
				System	Subtract 1 from CoinsLeft

FIGURE 8: Snapshot of "Player Event Sheet" (after Cashin' In)


Barnacles & Bees

Step		Detailed Instructions
❑	Create Barnacle	<ul style="list-style-type: none"> ■ Make sure "Game" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "Barnacle" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Within "Frames" > Right-click "Import Frames" > "From Strip" ■ Click folder icon > Browse to and OPEN: barnacle-2x1-66x75.png ■ When Import Sprite Strip dialog appears: <ul style="list-style-type: none"> ○ Number of horizontal cells: 2 ○ Number of vertical cells: 1 ○ Direction: Horizontal ○ Check "Replace entire animation" ○ Select IMPORT ■ Select "Edit the collision polygon" option <ul style="list-style-type: none"> ○ Right-click "Guess the polygon shape"

		<ul style="list-style-type: none"> ○ Right-click "Apply to whole animation" ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 33 ■ Set Y to 75 ○ Right-click "Apply to whole animation" ■ Click X to close; Barnacle object should be on "Game" layer
❏	Rename Default Animation	<ul style="list-style-type: none"> ■ Right-click "Barnacle" > Select "Edit animations" ■ Under "Animations" > Right-click "Animation 1" > Rename to "Chomp"
❏	Set "Chomp" Animation Properties	<ul style="list-style-type: none"> ■ Right-click "Barnacle" > Select "Edit animations" > Select "Chomp" <ul style="list-style-type: none"> ○ Animation Properties <ul style="list-style-type: none"> ■ Speed: 2 ■ Check "Loop" ■ Click X to close
❏	Create "Enemies" Family	<ul style="list-style-type: none"> ■ Right-click FAMILIES > Select "Add family" <ul style="list-style-type: none"> ○ Click "Barnacle" ○ Click "Add" to place in family > OK ■ Right-click "Family1" > Rename to "Enemies"
❏	Duplicate Barnacle	Create multiple Barnacle objects using Ctrl + drag (left mouse button) for the player to avoid.
❏	Create Bee	<ul style="list-style-type: none"> ■ Make sure "Game" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "Bee" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Within "Frames" > Right-click "Import Frames" > "From Strip" ■ Click folder icon > Browse to and OPEN: bee-2x1-93x72.png ■ When Import Sprite Strip dialog appears: <ul style="list-style-type: none"> ○ Number of horizontal cells: 2 ○ Number of vertical cells: 1 ○ Direction: Horizontal ○ Check "Replace entire animation" ○ Select IMPORT ■ Select "Edit the collision polygon" option <ul style="list-style-type: none"> ○ Right-click "Guess the polygon shape" ○ Right-click "Apply to whole animation" ■ Select "Edit the image points" option

		<ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 47 ■ Set Y to 36 ○ Right-click "Apply to whole animation" <p>■ Click X to close; Bee object should be on "Game" layer</p>
❏	Rename Default Animation	<p>■ Right-click "Bee" > Select "Edit animations"</p> <p>■ Under "Animations" > Right-click "Animation 1" > Rename to "Fly"</p>
❏	Set "Fly" Animation Properties	<p>■ Right-click "Bee" > Select "Edit animations" > Select "Fly":</p> <ul style="list-style-type: none"> ○ Animation Properties <ul style="list-style-type: none"> ■ Speed: 5 ■ Check "Loop" <p>■ Click X to close</p>
❏	Assign Bee to "Enemies" Family	<p>■ Select "Enemies" Family > Right-click "Edit family"</p> <ul style="list-style-type: none"> ○ Click "Bee" ○ Click "Add" to place in family > OK
❏	Assign Horizontal Sine Behavior to Bee	<p>■ Right-click "Bee" > Select "Edit behaviors"</p> <p>■ Click "Add new behavior":</p> <ul style="list-style-type: none"> ○ Select "Sine" under "Movements" > ADD ○ Rename "BeeSideToSide" ○ Click X to close
❏	Assign Vertical Sine Behavior to Bee	<p>■ Right-click "Bee" > Select "Edit behaviors"</p> <p>■ Click "Add new behavior":</p> <ul style="list-style-type: none"> ○ Select "Sine" under "Movements" > ADD ○ Rename "BeeUpDown" ○ Click X to close
❏	Set Bee Properties	<p>■ Select "Bee" > Set/confirm the following properties:</p> <ul style="list-style-type: none"> ○ Behaviors (BeeSideToSide) <ul style="list-style-type: none"> ■ Movement: Horizontal ■ Period: 8 ■ Period random: 15 ■ Period offset random: 5 ■ Magnitude: 50 ■ Magnitude random: 15 ■ Check "Preview" (optional) ○ Behaviors (BeeUpDown) <ul style="list-style-type: none"> ■ Movement: Vertical ■ Period: 8 ■ Period random: 15 ■ Magnitude: 25 ■ Magnitude random: 5 ■ Check "Preview" (optional)
❏	Duplicate Bee	Create multiple Bee objects using Ctrl + drag (left mouse button) for the player to avoid.

		<p>Note: You can control (or vary) the movement of each bee by adjusting its individual Sine behavior properties; explore additional properties to discover what they do!</p>
❏	Create Particles	<ul style="list-style-type: none"> ■ Make sure "Game" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Particles" > Name: "Particles" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Click folder icon > Browse to and OPEN: particle-star-20x21.png ■ Click X to close; Particles object should be on "Game" layer ■ Drag the Particles object outside of the layout into margin
❏	Set Particles Properties	<ul style="list-style-type: none"> ■ Select "Particles" > Set/confirm the following properties: <ul style="list-style-type: none"> ○ Properties <ul style="list-style-type: none"> ■ Rate: 150 ■ Spray Cone: 360 ■ Type: One-shot ○ Initial particle properties <ul style="list-style-type: none"> ■ Speed: 180 ■ Size: 48 ■ Grow rate: -25 ■ X randomiser: 5 ■ Y randomiser: 5 ○ Particle lifetime properties <ul style="list-style-type: none"> ■ Gravity: 75 ■ Timeout: 1.5
❏	Create "Particles" Image Point on Player	<ul style="list-style-type: none"> ■ Select "Player" > Select "Edit animations" ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Under "Image Points" > Right-click "Add a new image point" <ul style="list-style-type: none"> ■ Set X to 43 ■ Set Y to 59 ○ Rename to "Particles" ■ Click X to close
❏	Create "On Player Collision with Enemies" Event and Actions to Destroy Player and End Game	<ul style="list-style-type: none"> ■ Right-click "Start & End Level Event Sheet" > Select "Open" ■ Click "Add event to 'End of Level'" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "On collision with another object" (under "Collisions") <ul style="list-style-type: none"> ■ Object: Enemies ○ Select DONE

		<ul style="list-style-type: none"> ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Alien" ○ Double-click "Destroy" (under "Misc") ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "Spawn another object" (under "Misc") <ul style="list-style-type: none"> ■ Object: Particles ■ Layer: Player.LayerName ■ Image point: "Particles" ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "Destroy" (under "Misc") ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "System" ○ Double-click "Wait" (under "Time") <ul style="list-style-type: none"> ■ Seconds: 3.0 ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "System" ○ Double-click "Restart layout" (under "Layout") ■ Drag event to very top of the "End of Level" event group
❏	Bring Alien to Top of Layer (Z Order)	<ul style="list-style-type: none"> ■ Make sure "Game" layer is active and unlocked ■ VIEW > BARS > Z-ORDER BAR (if bar is not visible) ■ Drag "Alien" to top of "Game" layer
❏	Preview Layout	From "Level 1" layout > Click "Preview" in main toolbar
❏	Save Project	PROJECT > SAVE or (Ctrl + S) or Click 

Global number **CoinsLeft** = 0
Number of coins left on current game level

Start of Level

▼ Events and triggers that occur at the beginning of any game-related layout

→ System	On start of layout	System	Set CoinsLeft to <i>Coin.Count</i>
-----------	--------------------	--------	---

Add event to 'Start of Level'

Add to 'Start of Level'...

End of Level

▼ Events and triggers related to ending any game-related layout

→ Player	On collision with Enemies	Alien	Destroy
		Player	Spawn Particles on layer Player . LayerName (<i>image point "Particles"</i>)
		Player	Destroy
		System	Wait 3.0 seconds
		System	Restart layout
→ Player	On collision with Exit	System	Wait 3.0 seconds
System	CoinsLeft = 0	System	Restart layout

FIGURE 9: Snapshot of "Start & End Level Event Sheet" (after Barnacles & Bees)

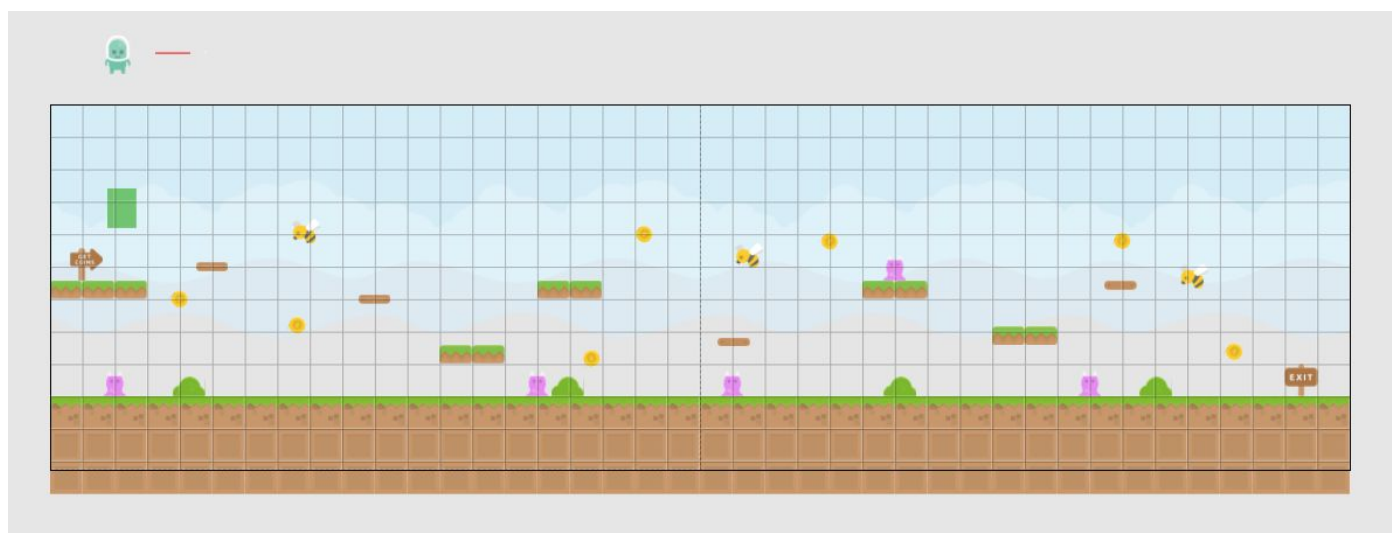




FIGURE 10: Snapshot of "Level 1" Layout (after Barnacles & Bees)

The Castle

Step		Detailed Instructions																																																							
	Create Castle Object Types	Create Sprite object types for the castle using information from the table below. Remember, to place each object type on its correct layer and to add object types that belong to the "Solids" family.																																																							
		<table><tr><th>Name</th><th>File</th><th>Origin (X, Y)</th><th>Layer</th><th>Solids Family</th></tr><tr><td>Stone</td><td>stone-96x96.png</td><td>0, 0</td><td>Background</td><td>NO</td></tr><tr><td>StoneLeft</td><td>stone-left-96x96.png</td><td>0, 0</td><td>Background</td><td>NO</td></tr><tr><td>StoneRight</td><td>stone-right-96x96.png</td><td>0, 0</td><td>Background</td><td>NO</td></tr><tr><td>CastleFlag</td><td>castle-flag-96x96.png</td><td>0, 0</td><td>Background</td><td>NO</td></tr><tr><td>CastleWindow</td><td>castle-window-96x192.png</td><td>0, 0</td><td>Background</td><td>NO</td></tr><tr><td>Spire</td><td>spire-160x160.png</td><td>80, 160</td><td>Background</td><td>NO</td></tr><tr><td>StoneTop</td><td>stone-top-96x96.png</td><td>0, 0</td><td>Game</td><td>YES</td></tr><tr><td>StoneTopLeft</td><td>stone-top-left-96x96.png</td><td>0, 0</td><td>Game</td><td>YES</td></tr><tr><td>StoneTopMiddle</td><td>stone-top-middle-96x44.png</td><td>0, 44</td><td>Game</td><td>YES</td></tr><tr><td>StoneTopRight</td><td>stone-top-right-96x96.png</td><td>0, 0</td><td>Game</td><td>YES</td></tr></table>	Name	File	Origin (X, Y)	Layer	Solids Family	Stone	stone-96x96.png	0, 0	Background	NO	StoneLeft	stone-left-96x96.png	0, 0	Background	NO	StoneRight	stone-right-96x96.png	0, 0	Background	NO	CastleFlag	castle-flag-96x96.png	0, 0	Background	NO	CastleWindow	castle-window-96x192.png	0, 0	Background	NO	Spire	spire-160x160.png	80, 160	Background	NO	StoneTop	stone-top-96x96.png	0, 0	Game	YES	StoneTopLeft	stone-top-left-96x96.png	0, 0	Game	YES	StoneTopMiddle	stone-top-middle-96x44.png	0, 44	Game	YES	StoneTopRight	stone-top-right-96x96.png	0, 0	Game	YES
Name	File	Origin (X, Y)	Layer	Solids Family																																																					
Stone	stone-96x96.png	0, 0	Background	NO																																																					
StoneLeft	stone-left-96x96.png	0, 0	Background	NO																																																					
StoneRight	stone-right-96x96.png	0, 0	Background	NO																																																					
CastleFlag	castle-flag-96x96.png	0, 0	Background	NO																																																					
CastleWindow	castle-window-96x192.png	0, 0	Background	NO																																																					
Spire	spire-160x160.png	80, 160	Background	NO																																																					
StoneTop	stone-top-96x96.png	0, 0	Game	YES																																																					
StoneTopLeft	stone-top-left-96x96.png	0, 0	Game	YES																																																					
StoneTopMiddle	stone-top-middle-96x44.png	0, 44	Game	YES																																																					
StoneTopRight	stone-top-right-96x96.png	0, 0	Game	YES																																																					
	Create Castle	<p>Duplicate and arrange objects until you have created a castle (minus the door and spire flags) referring to the figures below.</p> <p>Note: Move objects up and down, as needed, using the Z-Order Bar, e.g., place all castle-related objects below the bushes; place the alien behind the stones atop the castle.</p>																																																							

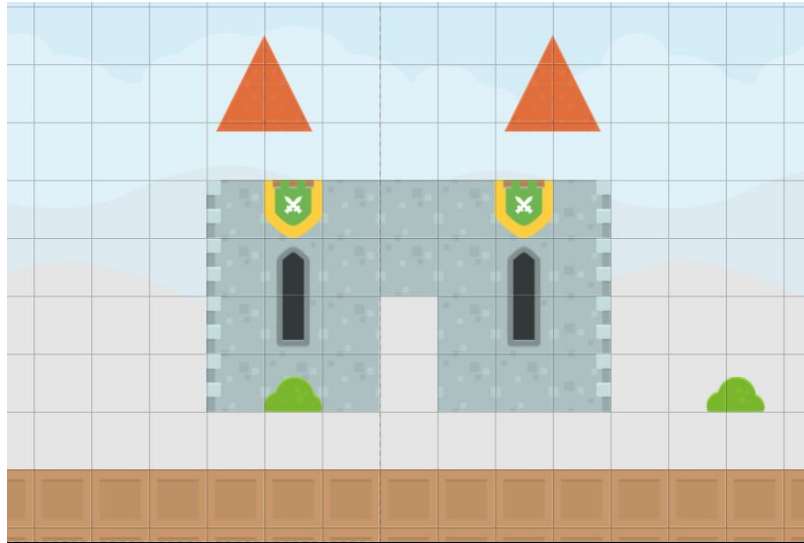


FIGURE 11: Snapshot of Castle ("Background" layer only)

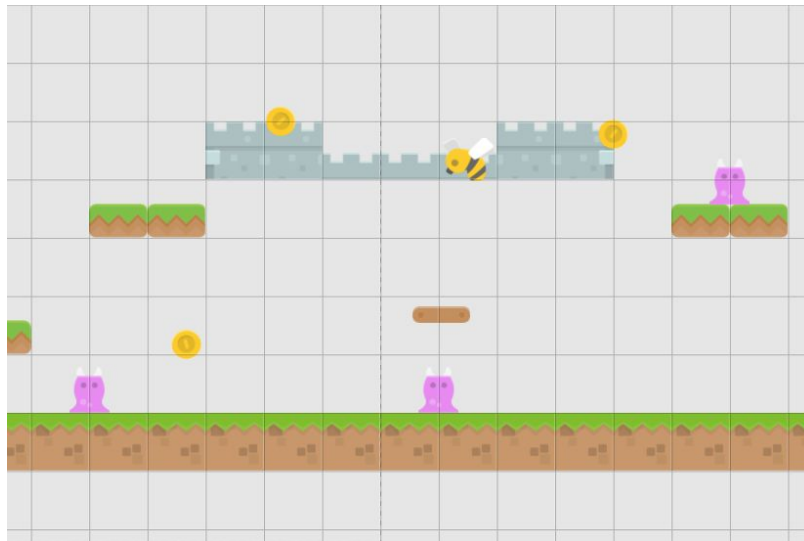


FIGURE 12: Snapshot of Castle ("Game" layer only)

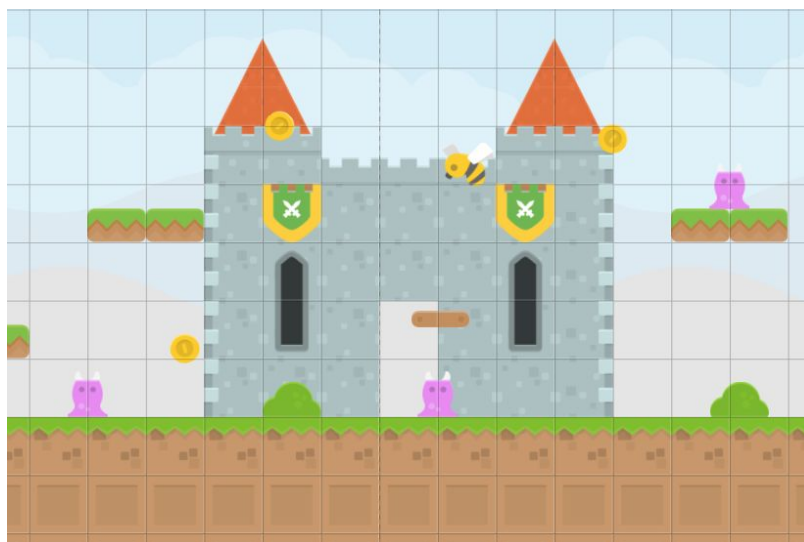


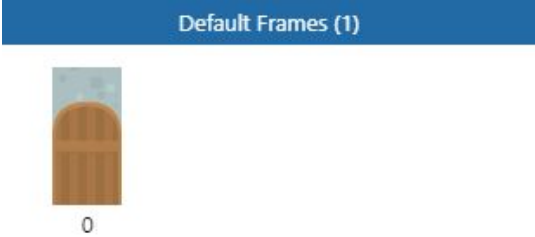




FIGURE 13: Snapshot of Castle (All layers)

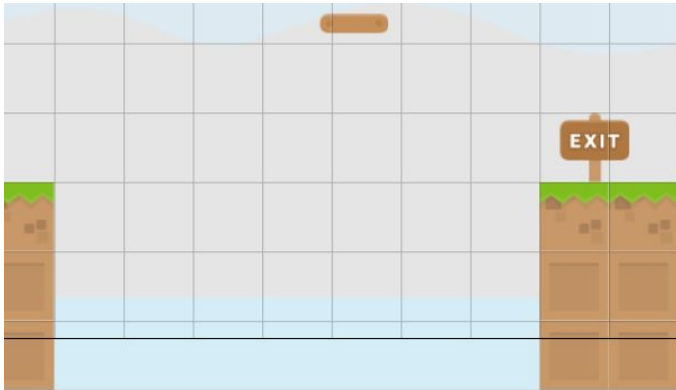
<div data-bbox="164 107 191 136" data-label="Image"></div>	<p>Adjust Collision Polygons of Castle Top Stones</p>	<ul style="list-style-type: none"> ■ Adjust the collision polygons of the following object types, to resemble the figures below, using the "Edit the collision polygon" option: <ul style="list-style-type: none"> ○ StoneTopLeft ○ StoneTop ○ StoneTopMiddle ○ StoneTopRight <div data-bbox="630 373 1036 758" data-label="Image"></div> <div data-bbox="1068 373 1474 758" data-label="Image"></div> <p>Note: This step is necessary to make the player appear to walk on the castle's roof, instead of simply on top of it.</p>
<div data-bbox="164 871 191 900" data-label="Image"></div>	<p>Create Castle Door</p>	<ul style="list-style-type: none"> ■ Make sure "Background" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "CastleDoor" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Within "Frames" > Right-click "Import Frames" > "From Strip" ■ Click folder icon > Browse to and OPEN: castle-door-4x1-96x192.png ■ When Import Sprite Strip dialog appears: <ul style="list-style-type: none"> ○ Number of horizontal cells: 4 ○ Number of vertical cells: 1 ○ Direction: Horizontal ○ Check "Replace entire animation" ○ Select IMPORT ■ Select "Edit the collision polygon" option <ul style="list-style-type: none"> ○ Right-click "Guess the polygon shape" ○ Right-click "Apply to whole animation" ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 0 ■ Set Y to 192 ○ Right-click "Apply to whole animation"

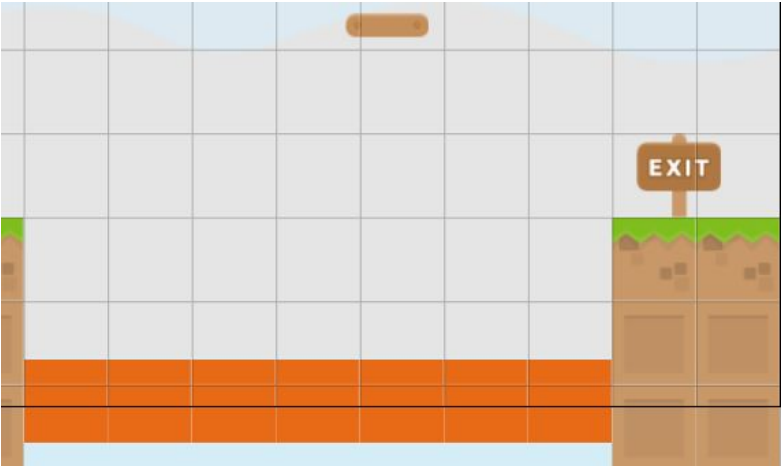
		<ul style="list-style-type: none"> ■ Click X to close; CastleDoor object should be on "Background" layer; position as appropriate
❑	Rename Default Animation	<ul style="list-style-type: none"> ■ Right-click "CastleDoor" > Select "Edit animations" ■ Under "Animations" > Right-click "Animation 1" > Rename to "Default"
❑	Create "Open" Animation	<ul style="list-style-type: none"> ■ Right-click "CastleDoor" > Select "Edit animations" ■ Under "Animations" > Right-click "Default" > Select "Duplicate" ■ Rename new animation to "Open" ■ Within "Frames", rearrange/duplicate/delete frames until it resembles the following three-frame animation: <div data-bbox="596 638 1117 877" data-label="Image"> </div> <ul style="list-style-type: none"> ■ Click X to close
❑	Set "Open" Animation Properties	<ul style="list-style-type: none"> ■ Right-click "CastleDoor" > Select "Edit animations" > Select "Open": <ul style="list-style-type: none"> ○ Animation Properties <ul style="list-style-type: none"> ■ Speed: 3 ■ Uncheck "Loop" ■ Click X to close
❑	Create "Close" Animation	<ul style="list-style-type: none"> ■ Right-click "CastleDoor" > Select "Edit animations" ■ Under "Animations" > Right-click "Default" > Select "Duplicate" ■ Rename new animation to "Close" ■ Within "Frames", rearrange/duplicate/delete frames until it resembles the following four-frame animation: <div data-bbox="596 1556 1282 1795" data-label="Image"> </div> <ul style="list-style-type: none"> ■ Click X to close

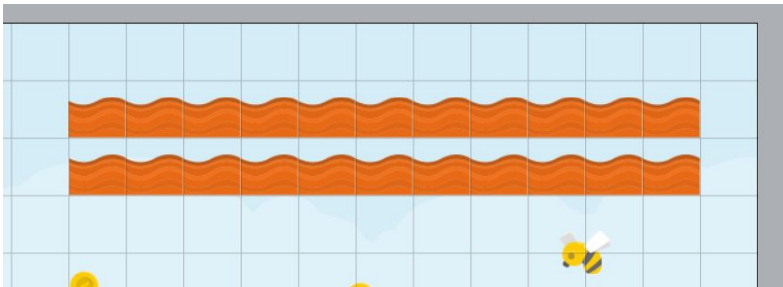
	Set "Close" Animation Properties	<ul style="list-style-type: none"> ■ Right-click "CastleDoor" > Select "Edit animations" > Select "Close": <ul style="list-style-type: none"> ○ Animation Properties <ul style="list-style-type: none"> ■ Speed: 3 ■ Uncheck "Loop" ■ Click X to close
	Modify "Default" Animation	<ul style="list-style-type: none"> ■ Right-click "CastleDoor" > Select "Edit animations" > Select "Default" animation ■ Within "Frames", rearrange/duplicate/delete frames until it resembles the following single-frame animation: <div data-bbox="599 573 1131 808" data-label="Image">  </div> <ul style="list-style-type: none"> ■ Click X to close
	Create Green Flags for Castle Spires	<ul style="list-style-type: none"> ■ Make sure "Background" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "FlagGreen" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Within "Frames" > Right-click "Import Frames" > "From Strip" ■ Click folder icon > Browse to and OPEN: flag-green-2x1-65x70.png ■ When Import Sprite Strip dialog appears: <ul style="list-style-type: none"> ○ Number of horizontal cells: 2 ○ Number of vertical cells: 1 ○ Direction: Horizontal ○ Check "Replace entire animation" ○ Select IMPORT ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 0 ■ Set Y to 70 ○ Right-click "Apply to whole animation" ■ Click X to close; FlagGreen object should be on "Background" layer; position as appropriate

		Note: Move objects up and down, as needed, using the Z order bar, e.g., place flags behind the castle's spires.
❏	Rename Default Animation	<ul style="list-style-type: none"> ■ Right-click "FlagGreen" > Select "Edit animations" ■ Under "Animations" > Right-click "Animation 1" > Rename to "Wave"
❏	Set "Wave" Animation Properties	<ul style="list-style-type: none"> ■ Right-click "FlagGreen" > Select "Edit animations" > Select "Wave": <ul style="list-style-type: none"> ○ Animation Properties <ul style="list-style-type: none"> ■ Speed: 1.5 ■ Check "Loop" ■ Click X to close
❏	Preview Layout	From "Level 1" layout > Click "Preview" in main toolbar
❏	Save Project	PROJECT > SAVE or (Ctrl + S) or Click 

The Moat

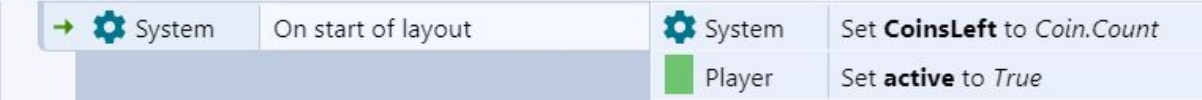

Step		Detailed Instructions
❏	Prepare Layout for Castle Moat	<ul style="list-style-type: none"> ■ Make sure "Game" and "Background" layers are unlocked ■ Move or delete objects necessary to clear the way for a 7-tile-wide moat; your layout should resemble: 
❏	Create Lava	<ul style="list-style-type: none"> ■ Make sure "Background" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "Lava" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Select "Resize" option: <ul style="list-style-type: none"> ○ Image Canvas Size <ul style="list-style-type: none"> ■ Width (pixels): 96





		<ul style="list-style-type: none"> ■ Height (pixels): 96 <ul style="list-style-type: none"> ○ Select OK ■ Select "Fill" option: <ul style="list-style-type: none"> ○ Enter Custom Color (in color palette) <ul style="list-style-type: none"> ■ Red: 232 ■ Green: 106 ■ Blue: 23 ■ Alpha: 255 ○ Click on canvas to fill object ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 0 ■ Set Y to 0 ■ Click X to close; Lava object should be on "Background" layer
❏	Duplicate Lava	<p>Create a 7 x 1 (Width x Height) section of Lava objects using Ctrl + drag (left mouse button) at the bottom of the moat using a combination of snap-to-grid and manual movements:</p> 
❏	Create Top of Lava	<ul style="list-style-type: none"> ■ Make sure "Background" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "LavaTop" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Click folder icon > Browse to and OPEN: lava-top-96x68.png ■ Select "Edit the collision polygon" option ■ Right-click "Guess the polygon shape" ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 0

		<ul style="list-style-type: none"> ■ Set Y to 68 ■ Click X to close; Lava object should be on "Background" layer
☐	Assign Lava Top to "Enemies" Family	<ul style="list-style-type: none"> ■ Select "Enemies" Family > Right-click "Edit family" <ul style="list-style-type: none"> ○ Click "LavaTop" ○ Click "Add" to place in family > OK
☐	Assign Horizontal Sine Behavior to Top of Lava	<ul style="list-style-type: none"> ■ Right-click "LavaTop" > Select "Edit behaviors" ■ Click "Add new behavior": <ul style="list-style-type: none"> ○ Select "Sine" under "Movements" > ADD ○ Rename "LavaSideToSide" ○ Click X to close
☐	Assign Vertical Sine Behavior to Lava Top	<ul style="list-style-type: none"> ■ Right-click "LavaTop" > Select "Edit behaviors" ■ Click "Add new behavior": <ul style="list-style-type: none"> ○ Select "Sine" under "Movements" > ADD ○ Rename "LavaUpDown" ○ Click X to close
☐	Set Lava Top Properties	<ul style="list-style-type: none"> ■ Select "LavaTop" > Set/confirm the following properties: <ul style="list-style-type: none"> ○ Behaviors (LavaSideToSide) <ul style="list-style-type: none"> ■ Movement: Horizontal ■ Period: 8 ■ Magnitude: 45 ■ Check "Preview" (optional) ○ Behaviors (LavaUpDown) <ul style="list-style-type: none"> ■ Movement: Vertical ■ Period: 8 ■ Magnitude: 15 ■ Check "Preview" (optional)
☐	Duplicate Lava Top	<p>Create two separate 11 x 1 (Width x Height) sections of Lava Top objects using Ctrl + drag (left mouse button) and the snap-to-grid feature. For now, place these above the moat where you can easily work with them.</p>  <p>Note: To select multiple objects you can highlight them using your mouse or Shift + Click (left mouse button).</p>
☐	Modify Properties of One Strip of Lava Top	<ul style="list-style-type: none"> ■ Select one of the two "LavaTop" strips you created by highlighting or Shift + Click > Set the following properties: <ul style="list-style-type: none"> ○ Behaviors (LavaSideToSide)

		<ul style="list-style-type: none"> ■ Period: 12 ■ Magnitude: 24 ○ Behaviors (LavaUpDown) <ul style="list-style-type: none"> ■ Period: 8 ■ Magnitude: 12
<div>❏</div>	Position and Order Lava Top Strips	<ul style="list-style-type: none"> ■ Carefully select the 11 x 1 strips of "LavaTop" objects, one strip at a time, positioning them in the moat ■ Using the Z Order Bar, place Lava and LavaTop objects beneath the Ground objects and Lava beneath the LavaTop: <div data-bbox="597 510 1057 1276" data-label="Image"> </div> <ul style="list-style-type: none"> ■ When completed, your moat should resemble the following: <div data-bbox="597 1386 1239 1764" data-label="Image"> </div>
<div>❏</div>	Preview Layout	From "Level 1" layout > Click "Preview" in main toolbar
<div>❏</div>	Save Project	PROJECT > SAVE or (Ctrl + S) or Click


Tracking the Player

Step		Detailed Instructions
❑	Add Instance Variable to the Player	<ul style="list-style-type: none"> Right-click "Player" > Select "Edit instance variables" <ul style="list-style-type: none"> Click "Add new instance variable" <ul style="list-style-type: none"> Name: active Type: Boolean Uncheck "Initial value" Description: Whether player is active Select OK Click X to close
❑	Add Action to Activate Player at Start of Each Level	<ul style="list-style-type: none"> Right-click "Start & End Level Event Sheet" > Select "Open" Under the "On start of layout" event within the "Start of Level" event group click "Add action": <ul style="list-style-type: none"> Double-click "Player" Double-click "Set boolean" (under "Instance variables") <ul style="list-style-type: none"> Instance variable: active Value: True Select DONE
1	Start of Level ▼ Events and triggers that occur at the beginning of any game-related layout	
2		
❑	Add "Deactivate Player" Action to "Success" Event	<ul style="list-style-type: none"> Under the "Success" event (collision with Exit & CoinsLeft = 0) within the "End of Level" event group, click "Add action": <ul style="list-style-type: none"> Double-click "Player" Double-click "Set boolean" (under "Instance variables") <ul style="list-style-type: none"> Instance variable: active Value: False Select DONE Drag action up so that it is listed first for the event
5		
❑	Modify "Movement" Event Group to Restrict Player Movement (if inactive)	<ul style="list-style-type: none"> Right-click "Player Event Sheet" > Select "Open" Click "Add event to 'Movement'" <ul style="list-style-type: none"> Double-click "Player" Double-click "Is boolean instance variable set" (under "Instance variables")

		<ul style="list-style-type: none"> ■ Instance variable: active <ul style="list-style-type: none"> ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "Set ignoring input" (under "Platform") <ul style="list-style-type: none"> ■ Input: Stop ignoring ○ Select DONE ■ Right-click event > Select "Add" > Select "Add 'Else'" ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "Set ignoring input" (under "Platform") <ul style="list-style-type: none"> ■ Input: Start Ignoring ○ Select DONE ■ Drag newly-created events near the top of the event group, placing immediately beneath the positioning event ■ Drag previous events—minus the positioning event—within the 'Player is active' block, making them sub-events
1	Movement ▼ Events and triggers related to player movement	
2	 System Every tick	 Alien Set position to  Player (image point 0)
		Add action
3	▼  Player Is active	 Player Stop ignoring  Platform user input
		Add action
4	→  Keyboard On  pressed	 Alien Set Mirrored
		Add action
5	→  Keyboard On  pressed	 Alien Set Not mirrored
		Add action
6	 Keyboard  is down  Keyboard OR  is down	 Alien Set animation to "Walk" (play from beginning)
		Add action
7	 System Else	 Alien Set animation to "Stand" (play from beginning)
		Add action
8	 Player  Platform is jumping	 Alien Set animation to "Jump" (play from beginning)
		Add action
9	 Player  Platform is falling	 Alien Set animation to "Fall" (play from beginning)
		Add action
10	 System Else	 Player Start ignoring  Platform user input
	Debug Layout	From "Level 1" layout > Click "Debug layout" in main toolbar
	Save Project	PROJECT > SAVE or (Ctrl + S) or Click 

Raising the Gate

Step		Detailed Instructions
<input type="checkbox"/>	Assign Fade (Out) Behavior to Alien	<ul style="list-style-type: none"> ■ Right-click "Alien" > Select "Edit behaviors" ■ Click "Add new behavior": <ul style="list-style-type: none"> ○ Select "Fade" under "General" > ADD ○ Rename "FadeOut" ○ Click X to close
<input type="checkbox"/>	Assign Fade (In) Behavior to Alien	<ul style="list-style-type: none"> ■ Right-click "Alien" > Select "Edit behaviors" ■ Click "Add new behavior": <ul style="list-style-type: none"> ○ Select "Fade" under "General" > ADD ○ Rename "FadeIn" ○ Click X to close
<input type="checkbox"/>	Set Alien Fade Properties	<ul style="list-style-type: none"> ■ Select "Alien" > Set/confirm the following properties: <ul style="list-style-type: none"> ○ Behaviors (FadeOut) <ul style="list-style-type: none"> ■ Fade in time: 0 ■ Wait time: 0.5 ■ Fade out time: 1 ■ Uncheck Destroy ■ Uncheck Enabled ○ Behaviors (FadeIn) <ul style="list-style-type: none"> ■ Fade in time: 1.5 ■ Wait time: 0.5 ■ Fade out time: 0 ■ Uncheck Destroy ■ Uncheck Enabled
<input type="checkbox"/>	Add Instance Variable to Castle Door	<ul style="list-style-type: none"> ■ Select "CastleDoor" > Select "Edit instance variables" <ul style="list-style-type: none"> ○ Click "Add new instance variable" <ul style="list-style-type: none"> ■ Name: open ■ Type: Boolean ■ Uncheck Initial Value ■ Description: Whether door is open ■ Select OK ■ Click X to close
<input type="checkbox"/>	Annotate Unique ID (UID) of Grass Object in Front of Castle Door	<ul style="list-style-type: none"> ■ Make sure "Game" layer is active and unlocked ■ Click on Grass object in front of the CastleDoor object

		<p>■ Annotate its UID from the Properties Bar (example below):</p> 
<p>❏</p>	Create "Castle Door" Event Group	<p>■ Right-click "Level 1 Event Sheet" > Select "Open"</p> <p>■ Right-click > "Add group"</p> <ul style="list-style-type: none"> ○ Name: Castle Door ○ Description: Events and triggers that control interactions with the castle door ○ Select OK
<p>❏</p>	Create Open Castle Door Event	<p>■ Click "Add event to 'Castle Door'"</p> <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "On collision with another object" (under "Collisions") <ul style="list-style-type: none"> ■ Object: Grass ○ Select DONE <p>■ Right-click event > Select "Add" > Select "Add another condition"</p> <ul style="list-style-type: none"> ○ Double-click "Grass" ○ Double-click "Pick by unique ID" (under "Misc") <ul style="list-style-type: none"> ■ Unique ID: <UID you annotated previously> ○ Select DONE <p>■ Right-click event > Select "Add" > Select "Add another condition"</p> <ul style="list-style-type: none"> ○ Double-click "CastleDoor" ○ Double-click "Is boolean instance variable set" (under "Instance variables") <ul style="list-style-type: none"> ■ Instance variable: open ○ Select DONE ○ Right-click newly-created condition > Select "Invert" <p>■ Click "Add action"</p> <ul style="list-style-type: none"> ○ Double-click "CastleDoor" ○ Double-click "Set boolean" (under "Instance variables") <ul style="list-style-type: none"> ■ Instance variable: open ■ Value: True ○ Select DONE <p>■ Click "Add action"</p> <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "Set boolean" (under "Instance variables") <ul style="list-style-type: none"> ■ Instance variable: active ■ Value: False

		<ul style="list-style-type: none"> ○ Select DONE <ul style="list-style-type: none"> ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Alien" ○ Double-click "Set animation" (under "Animations") <ul style="list-style-type: none"> ■ Animation: "Stand" ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "CastleDoor" ○ Double-click "Set animation" (under "Animations") <ul style="list-style-type: none"> ■ Animation: "Open" ○ Select DONE
❏	Create Castle Door Open Animation Finished Event	<ul style="list-style-type: none"> ■ Click "Add event to 'Castle Door'" <ul style="list-style-type: none"> ○ Double-click "CastleDoor" ○ Double-click "On finished" (under "Animations") <ul style="list-style-type: none"> ■ Animation: "Open" ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "Set position" (under "Size & Position") <ul style="list-style-type: none"> ■ X: CastleDoor.X+(CastleDoor.Width/2) ■ Y: CastleDoor.Y ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "Set enabled" (under "ScrollTo") <ul style="list-style-type: none"> ■ State: disabled ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Alien" ○ Double-click "Restart Fade" (under "FadeOut") ○ Select DONE
❏	Create Alien Fade Out Finished Event	<ul style="list-style-type: none"> ■ Click "Add event to 'Castle Door'" <ul style="list-style-type: none"> ○ Double-click "Alien" ○ Double-click "On fade-out finished" (under "FadeOut") ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "Set position" (under "Size & Position") <ul style="list-style-type: none"> ■ X: Player.X ■ Y: 0 ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "Set enabled" (under "ScrollTo")

		<ul style="list-style-type: none"> ■ State: enabled <ul style="list-style-type: none"> ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Alien" ○ Double-click "Restart Fade" (under "FadeIn") ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "Set boolean" (under "Instance variables") <ul style="list-style-type: none"> ■ Instance variable: active ■ Value: True ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "CastleDoor" ○ Double-click "Set animation" (under "Animations") <ul style="list-style-type: none"> ■ Animation: "Close" ○ Select DONE
❏	Create Castle Door Close Animation Finished Event	<ul style="list-style-type: none"> ■ Click "Add event to 'Castle Door'" <ul style="list-style-type: none"> ○ Double-click "CastleDoor" ○ Double-click "On finished" (under "Animations") <ul style="list-style-type: none"> ■ Animation: "Close" ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "CastleDoor" ○ Double-click "Set boolean" (under "Instance variables") <ul style="list-style-type: none"> ■ Instance variable: open ■ Value: False ○ Select DONE
❏	Add Additional Coin and Enemy Objects to Layout	Add additional instances of the Coin, Barnacle, and Bee objects, as desired, around the top of the castle so that the player has to raise the gate to complete the level
❏	Debug Layout	From "Level 1" layout > Click "Debug layout" in main toolbar
❏	Save Project	PROJECT > SAVE or (Ctrl + S) or Click 

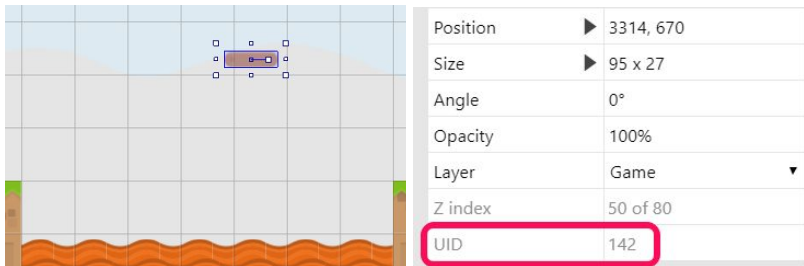
	Include Player Event Sheet			
	Include Start & End Level Event Sheet			
1	Castle Door			
	▼ Events and triggers that control interactions with the castle door			
2	→ Player	On collision with Grass	CastleDoor	Set open to <i>True</i>
	Grass	Pick instance with UID 104	Player	Set active to <i>False</i>
	CastleDoor	✗ Is open	Alien	Set animation to "Stand" (play from beginning)
			CastleDoor	Set animation to "Open" (play from beginning)
3	→ CastleDoor	On animation "Open" finished	Player	Set position to $(\text{CastleDoor.X} + (\text{CastleDoor.Width} \div 2), \text{CastleDoor.Y})$
			Player	Set ScrollTo disabled
			Alien	FadeOut: restart fade
4	→ Alien	On FadeOut fade-out finished	Player	Set position to $(\text{Player.X}, 0)$
			Player	Set ScrollTo enabled
			Alien	FadeIn: restart fade
			Player	Set active to <i>True</i>
			CastleDoor	Set animation to "Close" (play from beginning)
5	→ CastleDoor	On animation "Close" finished	CastleDoor	Set open to <i>False</i>

FIGURE 14: Snapshot of "Level 1 Event Sheet" (after Raising the Gate)





Crossing the Moat

Step		Detailed Instructions
	Create Lever	<ul style="list-style-type: none"> ■ Make sure "Game" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "Lever" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Within "Frames" > Right-click "Import Frames" > "From Strip" ■ Click folder icon > Browse to and OPEN: lever-3x1-71x65.png ■ When Import Sprite Strip dialog appears: <ul style="list-style-type: none"> ○ Number of horizontal cells: 3 ○ Number of vertical cells: 1 ○ Direction: Horizontal ○ Check "Replace entire animation" ○ Select IMPORT

		<ul style="list-style-type: none"> ■ Within "Frames", rearrange/duplicate/delete frames until it resembles the following single-frame animation: <div data-bbox="599 216 1131 434" data-label="Image"> </div> <ul style="list-style-type: none"> ■ Select "Edit the collision polygon" option ■ Right-click "Guess the polygon shape" ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 35 ■ Set Y to 60 ■ Click X to close; Lever object should be on "Game" layer; position strategically before the moat
❏	Rename Default Animation	<ul style="list-style-type: none"> ■ Right-click "Lever" > Select "Edit animations" ■ Under "Animations" > Right-click "Animation 1" > Rename to "Default"
❏	Create "Pull" Animation	<ul style="list-style-type: none"> ■ Right-click "Lever" > Select "Edit animations" ■ Under "Animations" > Right-click "Add Animation" ■ Rename new animation to "Pull" ■ Within "Frames" > Right-click "Import Frames" > "From Strip" ■ Click folder icon > Browse to and OPEN: lever-3x1-71x65.png ■ When Import Sprite Strip dialog appears: <ul style="list-style-type: none"> ○ Number of horizontal cells: 3 ○ Number of vertical cells: 1 ○ Direction: Horizontal ○ Check "Replace entire animation" ○ Select IMPORT ■ Verify that your three-frame animation resembles the following: <div data-bbox="599 1646 1131 1869" data-label="Image"> </div>

		<ul style="list-style-type: none">■ Select "Edit the image points" option; change existing "Origin" image points:<table><thead><tr><th>Frame #</th><th>Origin (X, Y)</th></tr></thead><tbody><tr><td>Frame 0</td><td>35, 60</td></tr><tr><td>Frame 1</td><td>36, 65</td></tr><tr><td>Frame 2</td><td>38, 60</td></tr></tbody></table>■ Click X to close	Frame #	Origin (X, Y)	Frame 0	35, 60	Frame 1	36, 65	Frame 2	38, 60
Frame #	Origin (X, Y)									
Frame 0	35, 60									
Frame 1	36, 65									
Frame 2	38, 60									
	Set "Pull" Animation Properties	<ul style="list-style-type: none">■ Right-click "Lever" > Select "Edit animations" > Select "Pull":<ul style="list-style-type: none">○ Animation Properties<ul style="list-style-type: none">■ Speed: 3■ Uncheck "Loop"■ Click X to close								
	Add Instance Variable to Lever	<ul style="list-style-type: none">■ Right-click "Lever" > Select "Edit instance variables"<ul style="list-style-type: none">○ Click "Add new instance variable"<ul style="list-style-type: none">■ Name: pulled■ Type: Boolean■ Uncheck "Initial Value"■ Description: Whether lever has been pulled■ Select OK■ Click X to close								
	Annotate Unique ID (UID) of Bridge Above the Moat	<ul style="list-style-type: none">■ Make sure "Game" layer is active and unlocked■ Click on Bridge object above the moat■ Annotate its UID from the Properties Bar (example below):<div></div>								
	Create "Start of Level 1" Event Group	<ul style="list-style-type: none">■ Right-click "Level 1 Event Sheet" > Select "Open"■ Right-click > "Add group"<ul style="list-style-type: none">○ Name: Start of Level 1○ Description: Events and triggers that occur at the beginning of the Level 1 layout only○ Select OK								






		<ul style="list-style-type: none"> ■ Drag event group to top of event sheet
<ul style="list-style-type: none"> □ 	Create "On Start of Layout" Event to Disable Floating Bridge Above Moat	<ul style="list-style-type: none"> ■ Click "Add event to 'Start of Level 1'" <ul style="list-style-type: none"> ○ Double-click "System" ○ Double-click "On start of layout" (under "Start & end") ■ Right-click newly-created event > Select "Add" > Select "Add sub-event" <ul style="list-style-type: none"> ○ Double-click "Bridge" ○ Double-click "Pick by unique ID" (under "Misc") <ul style="list-style-type: none"> ■ Unique ID: <UID you annotated previously> ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Bridge" ○ Double-click "Set enabled" (under "BridgeSideToSide") <ul style="list-style-type: none"> ■ State: Disabled ○ Select DONE
<ul style="list-style-type: none"> □ 	Create "Lever" Event Group	<ul style="list-style-type: none"> ■ Right-click > "Add group" <ul style="list-style-type: none"> ○ Name: Lever ○ Description: Events and triggers that control the lever and access to the final floating bridge ○ Select OK
<ul style="list-style-type: none"> □ 	Create "Player Collision with Lever" Event	<ul style="list-style-type: none"> ■ Click "Add event to 'Lever'" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "On collision with another object" (under "Collisions") <ul style="list-style-type: none"> ■ Object: Lever ○ Select DONE ■ Right-click event > Select "Add" > Select "Add another condition" <ul style="list-style-type: none"> ○ Double-click "Lever" ○ Double-click "Is boolean instance variable set" (under "Instance variables") <ul style="list-style-type: none"> ■ Variable: pulled ○ Select DONE ○ Right-click newly-created condition > Select "Invert" ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Lever" ○ Double-click "Set boolean" (under "Instance variables") <ul style="list-style-type: none"> ■ Instance variable: pulled ■ Value: True ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Lever" ○ Double-click "Set animation" (under "Animations") <ul style="list-style-type: none"> ■ Animation: "Pull" ○ Select DONE

	Create Lever Pull Animation Finished Event	<ul style="list-style-type: none"> ■ Click "Add event to 'Lever'" <ul style="list-style-type: none"> ○ Double-click "Lever" ○ Double-click "On finished" (under "Animations") <ul style="list-style-type: none"> ■ Animation: "Pull" ○ Select DONE ■ Right-click event > Select "Add" > Select "Add another condition" <ul style="list-style-type: none"> ○ Double-click "Bridge" ○ Double-click "Pick by unique ID" (under "Misc") <ul style="list-style-type: none"> ■ Unique ID: <UID you annotated previously> ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Bridge" ○ Double-click "Set enabled" (under "BridgeSideToSide") <ul style="list-style-type: none"> ■ State: Enabled ○ Select DONE
	Debug Layout	From "Level 1" layout > Click "Debug layout" in main toolbar
	Save Project	PROJECT > SAVE or (Ctrl + S) or Click 








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FIGURE 15: Snapshot of "Level 1 Event Sheet" (after Crossing the Moat)

Keeping Score

Step		Detailed Instructions
	Add "Almendra Bold" Web Font to Project	<ul style="list-style-type: none"> ■ Right-click FONTS > Select "Import files" ■ Browse to and IMPORT almendra-bold.woff2
	Lock "Background" and "Game" Layers	<ul style="list-style-type: none"> ■ Select "Background" layer > Click lock icon ■ Select "Game" layer > Click lock icon
	Create "HUD" Layer	<ul style="list-style-type: none"> ■ Under "Layers" > Right-click "Add layer at top" > Rename new layer to "HUD" ■ Make sure the "HUD" layer is active, unlocked, and listed above the "Game" layer
	Set "HUD" Layer Properties	<ul style="list-style-type: none"> ■ Select "HUD" layer > Set the following properties: <ul style="list-style-type: none"> ○ Scroll & zoom <ul style="list-style-type: none"> ■ Parallax (X x Y): 0% x 0% ○ Appearance <ul style="list-style-type: none"> ■ Opacity: 80%
	Create Scoreboard	<ul style="list-style-type: none"> ■ Make sure "HUD" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Text" > Name: "Scoreboard" > INSERT ■ When crosshair appears, click inside "Level 1" layout; Scoreboard object should be on "HUD" layer
	Set Scoreboard Properties	<ul style="list-style-type: none"> ■ Select "Scoreboard" > Set/confirm the following properties: <ul style="list-style-type: none"> ○ Common <ul style="list-style-type: none"> ■ Position: 1620, 0 ■ Size (Width x Height): 250 x 150 ○ Properties <ul style="list-style-type: none"> ■ Text: <empty> ■ Font: almendra-bold ■ Size: 72 ■ Color: 51 (Red), 56 (Green), 57 (Blue) ■ Horizontal alignment: Right
	Create Global Variable to Track Score	<ul style="list-style-type: none"> ■ Right-click "Start & End Level Event Sheet" > Select "Open" ■ Right-click "Add global variable" <ul style="list-style-type: none"> ○ Name: Score ○ Type: Number ○ Initial value: 0 ○ Description: Current score of the game ○ Select OK
 Global number Score = 0		Current score of the game


















<div><div></div></div>	<div>Add Action to Set Scoreboard Text at Start of Level</div>	<div><div><div>■ Under the "On start of layout" event within the "Start of Level" event group, click "Add action":<ul style="list-style-type: none">○ Double-click "Scoreboard"○ Double-click "Set text" (under "Text")<div><div>■ Text: Score</div></div>○ Select DONE</div></div></div>
<div>1</div>	<div><div>Start of Level</div><div>▼ Events and triggers that occur at the beginning of any game-related layout</div><div><div><div>→ <div><div></div></div> System</div><div>On start of layout</div><div><div><div><div></div></div> System</div><div>Set CoinsLeft to <i>Coin.Count</i></div></div><div><div><div></div></div> Player</div><div>Set active to <i>True</i></div></div><div><div><div></div></div> Scoreboard</div><div>Set text to <i>Score</i></div></div></div>	
<div><div></div></div>	<div>Add Action "On Player Collision with Enemies" Event to Reset Score</div>	<div><div><div>■ Under the "On collision with Enemies" event within the "End of Level" event group, click "Add action":<ul style="list-style-type: none">○ Double-click "System"○ Double-click "Set value" (under "Global & local variables")<div><div>■ Variable: Score</div><div>■ Value: 0</div></div>○ Select DONE</div></div><div>■ Drag action up so that it is the second-to-last action</div></div>
<div>3</div>	<div><div>End of Level</div><div>▼ Events and triggers related to ending any game-related layout</div><div><div><div>→ <div><div></div></div> Player</div><div>On collision with <div><div></div></div> Enemies</div><div><div><div><div><div></div></div> Alien</div><div>Destroy</div></div><div><div><div></div></div> Player</div><div>Spawn Particles on layer Player.LayerName (<i>image point "Particles"</i>)</div></div><div><div><div></div></div> Player</div><div>Destroy</div></div><div><div><div></div></div> System</div><div>Wait 3.0 seconds</div></div><div><div><div></div></div> System</div><div>Set Score to <i>0</i></div></div> <div><div><div></div></div> System</div> <div>Restart layout</div>	
<div><div></div></div>	<div>Add Actions to Increment Score and Update Scoreboard as Coins Are Collected</div>	<div><div><div>■ Right-click "Player Event Sheet" > Select "Open"</div><div>■ Under the "On collision with Coin" event within the "Goal" event group, click "Add action":<ul style="list-style-type: none">○ Double-click "System"○ Double-click "Add to" (under "Global & local variables")<div><div>■ Variable: Score</div><div>■ Value: 100</div></div>○ Select DONE</div></div><div>■ Under the "On collision with Coin" event within the "Goal" event group, click "Add action":<ul style="list-style-type: none">○ Double-click "Scoreboard"○ Double-click "Set text" (under "Text")<div><div>■ Text: Score</div></div>○ Select DONE</div></div>

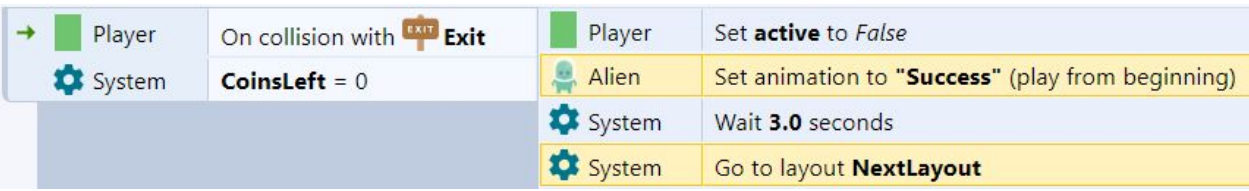
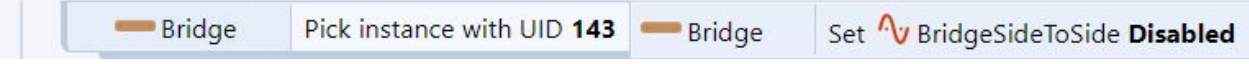
11	Goal ▼ Events and triggers related to player goals			
12	→  Player	On collision with  Coin	 Coin	Destroy
			 System	Subtract 1 from CoinsLeft
			 System	Add 100 to Score
			 Scoreboard	Set text to <i>Score</i>
	<input type="checkbox"/>	Lock "HUD" Layer	Select "HUD" layer > Click lock icon	
	<input type="checkbox"/>	Debug Layout	From "Level 1" layout > Click "Debug layout" in main toolbar	
	<input type="checkbox"/>	Save Project	PROJECT > SAVE or (Ctrl + S) or Click 	

You Win!




Step		Detailed Instructions
<input type="checkbox"/>	Create "Game Over" Layout	Right-click LAYOUTS > Select " Add layout " > Select " Add event sheet " option
<input type="checkbox"/>	Rename Layout	Right-click "Layout 1" > Rename to " Game Over "
<input type="checkbox"/>	Rename Event Sheet	Right-click "Event sheet 1" > Rename to " Game Over Event Sheet "
<input type="checkbox"/>	Set Layout Properties	<ul style="list-style-type: none"> ■ Select "Game Over" > Set the following properties: <ul style="list-style-type: none"> ○ Layout <ul style="list-style-type: none"> ■ Size (Width x Height): 1920 x 1080 ○ Editor <ul style="list-style-type: none"> ■ Margins (Width x Height): 500 x 500
<input type="checkbox"/>	Rename "Layer 0"	Right-click "Layer 0" > Rename to " Background "
<input type="checkbox"/>	Create "You Win" Background	<ul style="list-style-type: none"> ■ Make sure "Background" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "YouWin" > INSERT ■ When crosshair appears, click inside "Game Over" layout > Animations Editor will appear ■ Click folder icon > Browse to and OPEN: you-win-1920x1080.png ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 960 ■ Set Y to 540 ■ Click X to close; YouWin object should be on "Background" layer

❏	Position "You Win" Background	<ul style="list-style-type: none"> ■ Right-click "YouWin" object on "Game Over" layout > "Align" > Layout > Center horizontal ■ Right-click "YouWin" object on "Game Over" layout > "Align" > Layout > Center vertical
❏	Lock "Background" Layer	Select "Background" layer > Click lock icon
❏	Create "Content" Layer	<ul style="list-style-type: none"> ■ Under "Layers" > Right-click "Add layer at top" > Rename new layer to "Content" ■ Make sure the "Content" layer is active, unlocked, and listed above the "Background" layer
❏	Add Scoreboard to "Game Over" Layout	■ Drag a Scoreboard object onto the " Game Over " layout; it should be assigned to the " Content " layer
❏	Set Scoreboard Properties	<ul style="list-style-type: none"> ■ Right-click "Scoreboard" object on "Game Over" layout > Set/confirm the following properties: <ul style="list-style-type: none"> ○ Common <ul style="list-style-type: none"> ■ Position: 1090, 610 ■ Size (Width x Height): 800 x 300 ○ Properties <ul style="list-style-type: none"> ■ Size: 144 ■ Horizontal alignment: Left
❏	Include "Start & End Level Event Sheet" in "Game Over Event Sheet"	<ul style="list-style-type: none"> ■ Right-click "Game Over Event Sheet" > Select "Open" ■ Right-click > "Include event sheet" > Double-click "Start & End Level Event Sheet"
❏	Create "Game Over" Event Group	<ul style="list-style-type: none"> ■ Right-click > "Add group" <ul style="list-style-type: none"> ○ Name: Game Over ○ Description: Events and triggers that occur on Game Over layout only ○ Select OK
❏	Add "Press Anything to Play Again" Event	<ul style="list-style-type: none"> ■ Click "Add event to 'Game Over'" <ul style="list-style-type: none"> ○ Double-click "Keyboard" ○ Double-click "On any key pressed" (under "Keyboard") ■ Right-click event > Select "Make OR block" ■ Right-click event > Select "Add" > Select "Add another condition" <ul style="list-style-type: none"> ○ Double-click "Mouse" ○ Double-click "On any click" (under "Mouse") ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "System" ○ Double-click "Wait" (under "Time") <ul style="list-style-type: none"> ■ Seconds: 1.5 ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "System"

		<ul style="list-style-type: none">○ Double-click "Set value" (under "Global & local variables")<ul style="list-style-type: none">■ Variable: Score■ Value: 0○ Select DONE■ Click "Add action"<ul style="list-style-type: none">○ Double-click "System"○ Double-click "Go to layout (by name)" (under "Layout")<ul style="list-style-type: none">■ Layout: "Level 1"○ Select DONE												
1	<div> Include Start & End Level Event Sheet</div>													
2	<div><div><h2>Game Over</h2><p>▼ Events and triggers that occur on Game Over layout only</p></div><table><tr><td>→  Keyboard</td><td>On any key pressed</td><td> System</td><td>Wait 1.5 seconds</td></tr><tr><td>→  Mouse</td><td>OR On any click</td><td> System</td><td>Set Score to 0</td></tr><tr><td></td><td></td><td> System</td><td>Go to layout "Level 1"</td></tr></table></div>		→  Keyboard	On any key pressed	 System	Wait 1.5 seconds	→  Mouse	OR On any click	 System	Set Score to 0			 System	Go to layout "Level 1"
→  Keyboard	On any key pressed	 System	Wait 1.5 seconds											
→  Mouse	OR On any click	 System	Set Score to 0											
		 System	Go to layout "Level 1"											
<input type="checkbox"/>	Lock "Content" Layer	■ Select "Content" layer > Click lock icon												
<input type="checkbox"/>	Create Global Variable to Track Next Game Layout	<ul style="list-style-type: none">■ Right-click "Start & End Level Event Sheet" > Select "Open"■ Right-click "Add global variable"<ul style="list-style-type: none">○ Name: NextLayout○ Type: String○ Initial value: <empty>○ Description: Game layout to go to next○ Select OK												
<div> Global string NextLayout = <i>Game layout to go to next</i></div>														
<input type="checkbox"/>	Add "Go to Next Game Layout" Action to "Success" Event	■ Under the "Success" event (collision with Exit & CoinsLeft = 0) within the "End of Level" event group, click "Add action" : <ul style="list-style-type: none">○ Double-click "System"○ Double-click "Go to layout (by name)" (under "Layout")<ul style="list-style-type: none">■ Layout: NextLayout○ Select DONE												
<input type="checkbox"/>	Remove "Restart Layout" Action from "Success" Event	■ Under the "Success" event (collision with Exit & CoinsLeft = 0) within the "End of Level" event group: <ul style="list-style-type: none">○ Right-click "System Restart layout" action > Delete												
<input type="checkbox"/>	Add Alien "Success" Animation Action	■ Under the "Success" event (collision with Exit & CoinsLeft = 0) within the "End of Level" event group, click "Add action" : <ul style="list-style-type: none">○ Double-click "Alien"○ Double-click "Set animation" (under "Animations")<ul style="list-style-type: none">■ Animation: "Success"												

		<ul style="list-style-type: none"> ○ Select DONE <ul style="list-style-type: none"> ■ Drag action up so that it is listed second for the event
5		
<input type="checkbox"/>	Add "Set Next Layout" Action to "On Start of Layout" Event in "Level 1 Event Sheet"	<ul style="list-style-type: none"> ■ Right-click "Level 1 Event Sheet" > Select "Open" ■ Under the "On start of layout" event within the "Start of Level 1" event group, click "Add action": <ul style="list-style-type: none"> ○ Double-click "System" ○ Double-click "Set value" (under "Global & local variables") <ul style="list-style-type: none"> ■ Variable: NextLayout ■ Value: "Game Over" ○ Select DONE
1	Start of Level 1 ▼ Events and triggers that occur at the beginning of the Level 1 layout only	
2		
3		
<input type="checkbox"/>	Create "Get Ready" Layout	Right-click LAYOUTS > Select "Add layout" > Select "Add event sheet" option
<input type="checkbox"/>	Rename Layout	Right-click "Layout 1" > Rename to "Get Ready"
<input type="checkbox"/>	Rename Event Sheet	Right-click "Event sheet 1" > Rename to "Get Ready Event Sheet"
<input type="checkbox"/>	Set Layout Properties	<ul style="list-style-type: none"> ■ Select "Get Ready" > Set the following properties: <ul style="list-style-type: none"> ○ Layout <ul style="list-style-type: none"> ■ Size (Width x Height): 1920 x 1080 ○ Editor <ul style="list-style-type: none"> ■ Margins (Width x Height): 500 x 500
<input type="checkbox"/>	Rename "Layer 0"	Right-click "Layer 0" > Rename to "Background"
<input type="checkbox"/>	Create "Get Ready" Background	<ul style="list-style-type: none"> ■ Make sure "Background" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "GetReady" > INSERT ■ When crosshair appears, click inside "Get Ready" layout > Animations Editor will appear ■ Click folder icon > Browse to and OPEN: get-ready-1920x1080.png

		<ul style="list-style-type: none"> ■ Select "Edit the image points" option <ul style="list-style-type: none"> ○ Change existing "Origin" image point <ul style="list-style-type: none"> ■ Set X to 960 ■ Set Y to 540 ■ Click X to close; GetReady object should be on "Background" layer
<input type="checkbox"/>	Position "Get Ready" Background	<ul style="list-style-type: none"> ■ Right-click "GetReady" object on "Get Ready" layout > "Align" > Layout > Center horizontal ■ Right-click "GetReady" object on "Get Ready" layout > "Align" > Layout > Center vertical
<input type="checkbox"/>	Lock "Background" Layer	Select "Background" layer > Click lock icon
<input type="checkbox"/>	Create "Content" Layer	<ul style="list-style-type: none"> ■ Under "Layers" > Right-click "Add layer at top" > Rename new layer to "Content" ■ Make sure the "Content" layer is active, unlocked, and listed above the "Background" layer
<input type="checkbox"/>	Create Author Text	<ul style="list-style-type: none"> ■ Make sure "Content" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Text" > Name: "Author" > INSERT ■ When crosshair appears, click inside "Get Ready" layout; you should see an Author object should be on "Content" layer
<input type="checkbox"/>	Set Author Properties	<ul style="list-style-type: none"> ■ Select "Author" > Set/confirm the following properties: <ul style="list-style-type: none"> ○ Common <ul style="list-style-type: none"> ■ Position: 580, 714 ■ Size (Width x Height): 760 x 120 ■ Opacity: 40% ○ Properties <ul style="list-style-type: none"> ■ Text: Game Project by <your name here> ■ Font: almendra-bold ■ Size: 36 ■ Color: 51 (Red), 56 (Green), 57 (Blue) ■ Horizontal alignment: Center
<input type="checkbox"/>	Create Credits Text	<ul style="list-style-type: none"> ■ Make sure "Content" layer is active and unlocked ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Text" > Name: "Credits" > INSERT ■ When crosshair appears, click inside "Get Ready" layout; Credits object should be on "Content" layer
<input type="checkbox"/>	Set Credits Properties	<ul style="list-style-type: none"> ■ Select "Credits" > Set/confirm the following properties: <ul style="list-style-type: none"> ○ Common <ul style="list-style-type: none"> ■ Position: 360, 800 ■ Size (Width x Height): 1200 x 160

		<ul style="list-style-type: none"> ■ Opacity: 70% ○ Properties <ul style="list-style-type: none"> ■ Text: <copy and paste from credits.txt> ■ Font: almendra-bold ■ Size: 16 ■ Color: 51 (Red), 56 (Green), 57 (Blue) ■ Horizontal alignment: Center ■ Vertical alignment: Center
❑	Include "Start & End Level Event Sheet" in "Get Ready Event Sheet"	<ul style="list-style-type: none"> ■ Right-click "Get Ready Event Sheet" > Select "Open" ■ Right-click > "Include event sheet" > Double-click "Start & End Level Event Sheet"
❑	Create "Get Ready" Event Group	<ul style="list-style-type: none"> ■ Right-click > "Add group" <ul style="list-style-type: none"> ○ Name: Get Ready ○ Description: Events and triggers that occur on the Get Ready layout only ○ Select OK
❑	Add "Press Anything to Play" Event	<ul style="list-style-type: none"> ■ Click "Add event to 'Get Ready'" <ul style="list-style-type: none"> ○ Double-click "Keyboard" ○ Double-click "On any key pressed" (under "Keyboard") ■ Right-click event > Select "Make OR block" ■ Right-click event > Select "Add" > Select "Add another condition" <ul style="list-style-type: none"> ○ Double-click "Mouse" ○ Double-click "On any click" (under "Mouse") ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "System" ○ Double-click "Go to layout (by name)" (under "Layout") <ul style="list-style-type: none"> ■ Layout: "Level 1" ○ Select DONE
<div> <div>  Include Start & End Level Event Sheet </div> <div> <div>1</div> <div> Get Ready <div>▼ Events and triggers that occur on the Get Ready layout only</div> </div> </div> <div> <div>2</div> <div> <div> <div>→  Keyboard</div> <div>On any key pressed</div> <div>  System Go to layout "Level 1" </div> </div> <div> <div>→  Mouse</div> <div>OR On any click</div> <div>Add action</div> </div> </div> </div> </div>		
❑	Lock "Content" Layer	Select "Content" layer > Click lock icon
❑	Update Project Properties	<ul style="list-style-type: none"> ■ Select "Platformer" > Set the following property: <ul style="list-style-type: none"> ○ Startup <ul style="list-style-type: none"> ■ First layout: Get Ready
❑	Preview Layout	From "Get Ready" layout > Click "Preview" in main toolbar

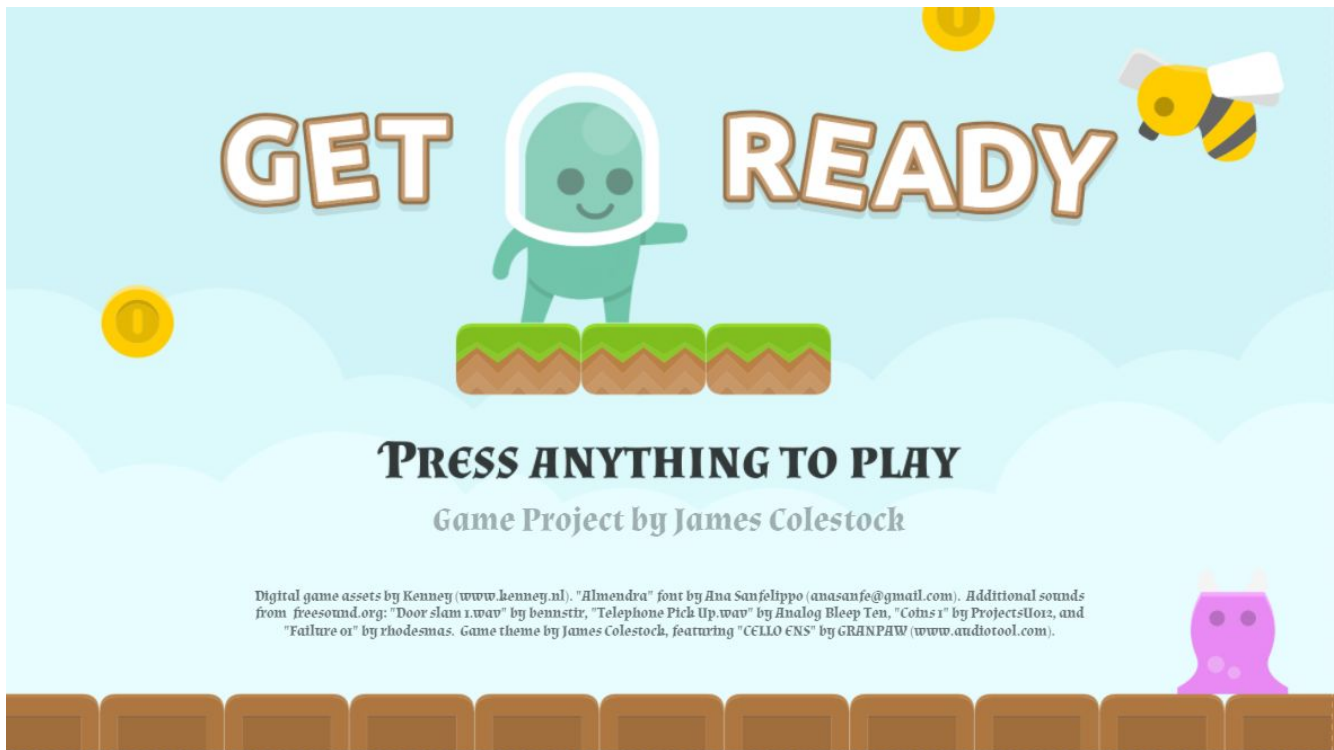


FIGURE 16: Snapshot of "Get Ready" Layout (all layers)

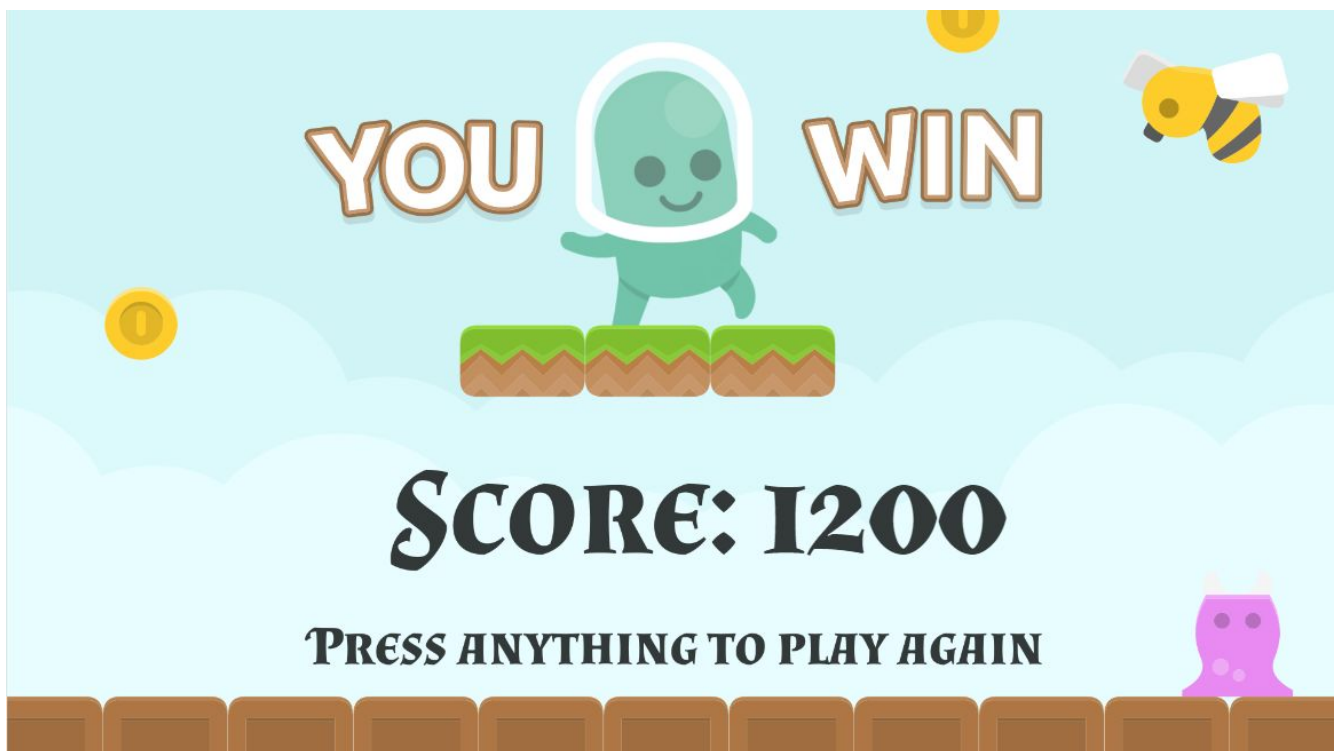


















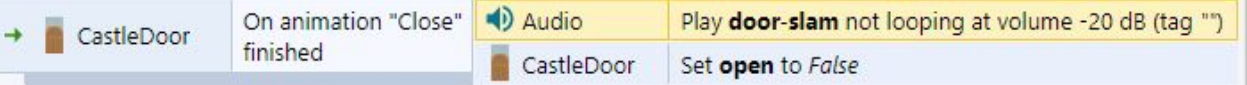

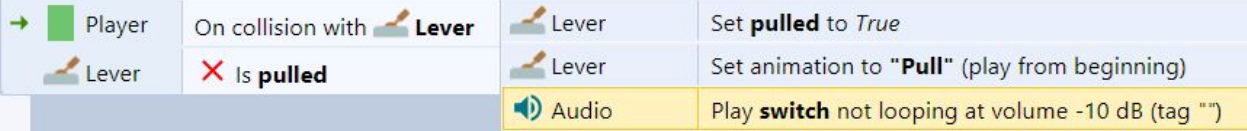


















FIGURE 17: Snapshot of "Game Over" Layout (all layers)












Fresh Beats

Step		Detailed Instructions															
<input type="checkbox"/>	Import Game Sounds	<ul style="list-style-type: none"> ■ Right-click SOUNDS > Select "Import sounds" ■ Browse to and IMPORT the following files: <ul style="list-style-type: none"> ○ door-slam.wav ○ game-over.wav ○ game-theme.wav ○ pick-up.wav ○ switch.wav ○ tada.wav 															
<input type="checkbox"/>	Add Audio Support to Project	<ul style="list-style-type: none"> ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Audio" (under "Media") > INSERT 															
<input type="checkbox"/>	Add Actions to Play "Game Theme" At Start of Each Level	<ul style="list-style-type: none"> ■ Right-click "Start & End Level Event Sheet" > Select "Open" ■ Under the "On start of layout" event within the "Start of Level" event group click "Add action": <ul style="list-style-type: none"> ○ Double-click "Audio" ○ Double-click "Stop all" (under "Audio") ■ Under the "On start of layout" event within the "Start of Level" event group click "Add action": <ul style="list-style-type: none"> ○ Double-click "Audio" ○ Double-click "Play" (under "Audio") <ul style="list-style-type: none"> ■ Audio file: game-theme ■ Loop: looping ■ Volume: -20 ○ Select DONE ■ Drag actions up so that they are listed first for the event 															
1	Start of Level ▼ Events and triggers that occur at the beginning of any game-related layout																
2	 System On start of layout	<table> <tr> <td></td><td>Audio</td><td>Stop all</td></tr> <tr> <td></td><td>Audio</td><td>Play game-theme looping at volume -20 dB (tag "")</td></tr> <tr> <td></td><td>System</td><td>Set CoinsLeft to <i>Coin.Count</i></td></tr> <tr> <td></td><td>Player</td><td>Set active to <i>True</i></td></tr> <tr> <td></td><td>Scoreboard</td><td>Set text to <i>Score</i></td></tr> </table>		Audio	Stop all		Audio	Play game-theme looping at volume -20 dB (tag "")		System	Set CoinsLeft to <i>Coin.Count</i>		Player	Set active to <i>True</i>		Scoreboard	Set text to <i>Score</i>
	Audio	Stop all															
	Audio	Play game-theme looping at volume -20 dB (tag "")															
	System	Set CoinsLeft to <i>Coin.Count</i>															
	Player	Set active to <i>True</i>															
	Scoreboard	Set text to <i>Score</i>															
<input type="checkbox"/>	Add Actions to Play "Game Over" On Collision With Enemies	<ul style="list-style-type: none"> ■ Under the "On collision with Enemies" event within the "End of Level" event group click "Add action": <ul style="list-style-type: none"> ○ Double-click "Audio" ○ Double-click "Stop all" (under "Audio") ■ Under the "On collision with Enemies" event within the "End of Level" event group click "Add action": <ul style="list-style-type: none"> ○ Double-click "Audio" 															







		<ul style="list-style-type: none"> ○ Double-click "Play" (under "Audio") <ul style="list-style-type: none"> ■ Audio file: game-over ■ Loop: not looping ■ Volume: -5 ○ Select DONE <p>■ Drag actions up so that they are listed first for the event</p>																								
3	End of Level ▼ Events and triggers related to ending any game-related layout																									
4	→ Player On collision with Enemies	<table> <tr> <td></td><td>Audio</td><td>Stop all</td></tr> <tr> <td></td><td>Audio</td><td>Play game-over not looping at volume -5 dB (tag "")</td></tr> <tr> <td></td><td>Alien</td><td>Destroy</td></tr> <tr> <td></td><td>Player</td><td>Spawn Particles on layer Player.LayerName (image point "Particles")</td></tr> <tr> <td></td><td>Player</td><td>Destroy</td></tr> <tr> <td></td><td>System</td><td>Wait 3.0 seconds</td></tr> <tr> <td></td><td>System</td><td>Set Score to 0</td></tr> <tr> <td></td><td>System</td><td>Restart layout</td></tr> </table>		Audio	Stop all		Audio	Play game-over not looping at volume -5 dB (tag "")		Alien	Destroy		Player	Spawn Particles on layer Player.LayerName (image point "Particles")		Player	Destroy		System	Wait 3.0 seconds		System	Set Score to 0		System	Restart layout
	Audio	Stop all																								
	Audio	Play game-over not looping at volume -5 dB (tag "")																								
	Alien	Destroy																								
	Player	Spawn Particles on layer Player.LayerName (image point "Particles")																								
	Player	Destroy																								
	System	Wait 3.0 seconds																								
	System	Set Score to 0																								
	System	Restart layout																								
<input type="checkbox"/>	Add Actions to Play "Ta Da" Upon "Success" Event	<ul style="list-style-type: none"> ■ Under the "Success" event (collision with Exit & CoinsLeft = 0) within the "End of Level" event group, click "Add action": <ul style="list-style-type: none"> ○ Double-click "Audio" ○ Double-click "Stop all" (under "Audio") ■ Under the "Success" event (collision with Exit & CoinsLeft = 0) within the "End of Level" event group, click "Add action": <ul style="list-style-type: none"> ○ Double-click "Audio" ○ Double-click "Play" (under "Audio") <ul style="list-style-type: none"> ■ Audio file: tada ■ Loop: not looping ■ Volume: -20 ○ Select DONE ■ Drag actions up so that they are listed first for the event 																								
5	→ Player System On collision with Exit CoinsLeft = 0	<table> <tr> <td></td><td>Audio</td><td>Stop all</td></tr> <tr> <td></td><td>Audio</td><td>Play tada not looping at volume -20 dB (tag "")</td></tr> <tr> <td></td><td>Player</td><td>Set active to <i>False</i></td></tr> <tr> <td></td><td>Alien</td><td>Set animation to "Success" (play from beginning)</td></tr> <tr> <td></td><td>System</td><td>Wait 3.0 seconds</td></tr> <tr> <td></td><td>System</td><td>Go to layout NextLayout</td></tr> </table>		Audio	Stop all		Audio	Play tada not looping at volume -20 dB (tag "")		Player	Set active to <i>False</i>		Alien	Set animation to "Success" (play from beginning)		System	Wait 3.0 seconds		System	Go to layout NextLayout						
	Audio	Stop all																								
	Audio	Play tada not looping at volume -20 dB (tag "")																								
	Player	Set active to <i>False</i>																								
	Alien	Set animation to "Success" (play from beginning)																								
	System	Wait 3.0 seconds																								
	System	Go to layout NextLayout																								
<input type="checkbox"/>	Add Action to Play "Pick Up" When Coins Are Collected	<ul style="list-style-type: none"> ■ Right-click "Player Event Sheet" > Select "Open" ■ Under the "On collision with Coin" event within the "Goal" event group, click "Add action": <ul style="list-style-type: none"> ○ Double-click "Audio" ○ Double-click "Play" (under "Audio") <ul style="list-style-type: none"> ■ Audio file: pick-up ■ Loop: not looping ■ Volume: -3 																								

		<ul style="list-style-type: none">○ Select DONE <ul style="list-style-type: none">■ Drag action up so that it is listed first for the event		
11	Goal ▼ Events and triggers related to player goals			
12	 Player	On collision with  Coin	 Audio	Play pick-up not looping at volume -3 dB (tag "")
			 Coin	Destroy
			 System	Subtract 1 from CoinsLeft
			 System	Add 100 to Score
			 Scoreboard	Set text to <i>Score</i>
	 Add Action to Play "Door Slam" When Castle Door Closes	<ul style="list-style-type: none">■ Right-click "Level 1 Event Sheet" > Select "Open"■ Under the "On animation 'Close' finished" event within the "Castle Door" event group, click "Add action":<ul style="list-style-type: none">○ Double-click "Audio"○ Double-click "Play" (under "Audio")<ul style="list-style-type: none">■ Audio file: door-slam■ Loop: not looping■ Volume: -20○ Select DONE■ Drag action up so that it is listed first for the event		
8	 CastleDoor	On animation "Close" finished	 Audio	Play door-slam not looping at volume -20 dB (tag "")
			 CastleDoor	Set open to <i>False</i>
	 Add Action to Play "Switch" When Lever Is Pulled	<ul style="list-style-type: none">■ Under the "On collision with Lever and pulled = False" event within the "Lever" event group, click "Add action":<ul style="list-style-type: none">○ Double-click "Audio"○ Double-click "Play" (under "Audio")<ul style="list-style-type: none">■ Audio file: switch■ Loop: not looping■ Volume: -10○ Select DONE■ Drag action down so that it is listed last for the event		
10	 Player	On collision with  Lever	 Lever	Set pulled to <i>True</i>
	 Lever	 Is pulled	 Lever	Set animation to " Pull " (play from beginning)
			 Audio	Play switch not looping at volume -10 dB (tag "")
	 Preview Layout	From "Get Ready" layout > Click "Preview" in main toolbar		
	 Save Project	PROJECT > SAVE or (Ctrl + S) or Click 		





























Touch Controls

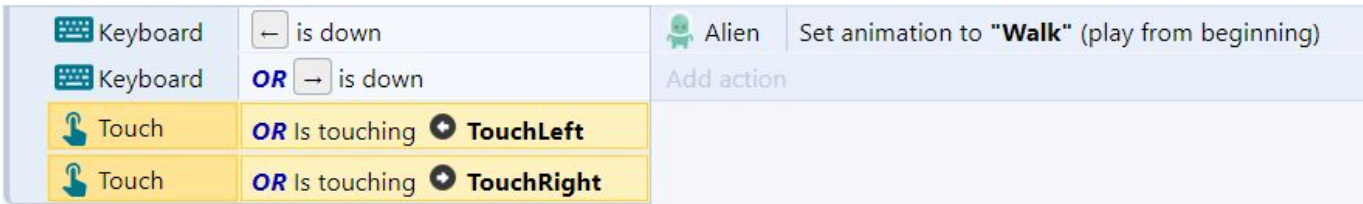





Step		Detailed Instructions
	Add Touch Object to Project	<ul style="list-style-type: none"> ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Touch" > Name: "Touch" > INSERT
	Create Global Variable to Track Whether User is Playing On Touch-Enabled Device	<ul style="list-style-type: none"> ■ Right-click "Get Ready Event Sheet" > Select "Open" ■ Right-click "Add global variable": <ul style="list-style-type: none"> ○ Name: TouchDevice ○ Type: Boolean ○ Uncheck "Initial Value" ○ Description: If user is playing on a touch-enabled device ○ Select OK
 Global boolean TouchDevice = false		<i>If user is playing on a touch-enabled device</i>
	Add "Device Detection" Event	<ul style="list-style-type: none"> ■ Click "Add event to 'Get Ready'" <ul style="list-style-type: none"> ○ Double-click "Touch" ○ Double-click "On any touch start" (under "Touch") ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "System" ○ Double-click "Set boolean" (under "Global & local variables") <ul style="list-style-type: none"> ■ Variable: TouchDevice ■ Value: True ○ Select DONE ■ Drag event to the top of the event group
	Add "Touch" Condition to "Press Anything to Play" Event	<ul style="list-style-type: none"> ■ Right-click "Press Anything to Play" event > Select "Add" > Select "Add another condition" <ul style="list-style-type: none"> ○ Double-click "Touch" ○ Double-click "On any touch start" (under "Touch")
1	Get Ready ▼ Events and triggers that occur on the Get Ready layout only	
2	 Touch	On any touch start  System Set TouchDevice to <i>True</i>
		Add action
3	 Keyboard	On any key pressed  System Go to layout " Level 1 "
	 Mouse	OR On any click Add action
	 Touch	OR On any touch start

	Add "Touch" Condition to "Press Anything to Play Again" Event	<ul style="list-style-type: none">■ Right-click "Game Over Event Sheet" > Select "Open"■ Right-click "Press Anything to Play Again" event > Select "Add" > Select "Add another condition"<ul style="list-style-type: none">○ Double-click "Touch"○ Double-click "On any touch start" (under "Touch")															
1	<div><h2>Game Over</h2><div>▼ Events and triggers that occur on Game Over layout only</div><table><tr><td>→ </td><td>Keyboard</td><td>On any key pressed</td><td> System</td><td>Wait 1.5 seconds</td></tr><tr><td>→ </td><td>Mouse</td><td>OR On any click</td><td> System</td><td>Set Score to 0</td></tr><tr><td>→ </td><td>Touch</td><td>OR On any touch start</td><td> System</td><td>Go to layout "Level 1"</td></tr></table></div>		→	Keyboard	On any key pressed	System	Wait 1.5 seconds	→	Mouse	OR On any click	System	Set Score to 0	→	Touch	OR On any touch start	System	Go to layout " Level 1 "
→	Keyboard	On any key pressed	System	Wait 1.5 seconds													
→	Mouse	OR On any click	System	Set Score to 0													
→	Touch	OR On any touch start	System	Go to layout " Level 1 "													
	Create "Touch" Layer	<ul style="list-style-type: none">■ Open "Level 1" Layout■ Under "Layers" > Right-click "Add layer at top" > Rename new layer to "Touch"■ Make sure the "Touch" layer is active, unlocked, and listed above the "HUD" layer															
	Set "Touch" Layer Properties	<ul style="list-style-type: none">■ Select "Touch" layer > Set the following properties:<ul style="list-style-type: none">○ Layer properties<ul style="list-style-type: none">■ Uncheck "Initially visible"○ Scroll & zoom<ul style="list-style-type: none">■ Parallax (X x Y): 0% x 0%○ Editor<ul style="list-style-type: none">■ Check "Parallax in editor"															
	Create Touch Left Arrow	<ul style="list-style-type: none">■ Make sure "Touch" layer is active and unlocked■ Right-click OBJECT TYPES > Select "Add new object type"■ Select "Sprite" > Name: "TouchLeft" > INSERT■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear■ Click folder icon > Browse to and OPEN: touch-left-240x240.png■ Select "Edit the collision polygon" option■ Right-click "Set to bounding box"■ Click X to close; TouchLeft object should be on "Touch" layer															
	Set Touch Left Arrow Properties	<ul style="list-style-type: none">■ Select "TouchLeft" > Set the following properties:<ul style="list-style-type: none">○ Common<ul style="list-style-type: none">■ Position: 192, 960■ Opacity: 50%															

	Create Touch Right Arrow	<ul style="list-style-type: none"> ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "TouchRight" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Click folder icon > Browse to and OPEN: touch-right-240x240.png ■ Select "Edit the collision polygon" option ■ Right-click "Set to bounding box" ■ Click X to close; TouchRight object should be on "Touch" layer
	Set Touch Right Arrow Properties	<ul style="list-style-type: none"> ■ Select "TouchRight" > Set the following properties: <ul style="list-style-type: none"> ○ Common <ul style="list-style-type: none"> ■ Position: 480, 960 ■ Opacity: 50%
	Create Touch Up Arrow	<ul style="list-style-type: none"> ■ Right-click OBJECT TYPES > Select "Add new object type" ■ Select "Sprite" > Name: "TouchUp" > INSERT ■ When crosshair appears, click inside "Level 1" layout > Animations Editor will appear ■ Click folder icon > Browse to and OPEN: touch-up-240x240.png ■ Select "Edit the collision polygon" option ■ Right-click "Set to bounding box" ■ Click X to close; TouchUp object should be on "Touch" layer
	Set Touch Up Arrow Properties	<ul style="list-style-type: none"> ■ Select "TouchUp" > Set the following properties: <ul style="list-style-type: none"> ○ Common <ul style="list-style-type: none"> ■ Position: 1728, 960 ■ Opacity: 50%
	Lock "Touch" Layer	Select "Touch" layer > Click lock icon
	Add Subevent to Show "Touch" Layer	<ul style="list-style-type: none"> ■ Right-click "Start & End Level Event Sheet" > Select "Open" ■ Right-click "On start of layout" event > Select "Add" > Select "Add sub-event": <ul style="list-style-type: none"> ○ Double-click "System" ○ Double-click "Is boolean set" (under "Global & local variables") <ul style="list-style-type: none"> ■ Variable: TouchDevice ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "System" ○ Double-click "Set layer visible" (under "Layers")

		<ul style="list-style-type: none"> ■ Layer: "Touch" ■ Visibility: Visible ○ Select DONE
1	Start of Level ▼ Events and triggers that occur at the beginning of any game-related layout	
2	▼ → ⚙ System On start of layout	<div> <div>🔊 Audio</div> <div>🔊 Audio</div> <div>⚙ System</div> <div>🟢 Player</div> <div>📊 Scoreboard</div> <div>Add action</div> </div> <div> <div>Stop all</div> <div>Play game-theme looping at volume -20 dB (tag "")</div> <div>Set CoinsLeft to <i>Coin.Count</i></div> <div>Set active to <i>True</i></div> <div>Set text to <i>Score</i></div> </div>
3	⚙ System Is TouchDevice	⚙ System Set layer " Touch " <i>Visible</i>
<input type="checkbox"/>	Create Touch Events to Move Player	<ul style="list-style-type: none"> ■ Right-click "Player Event Sheet" > Select "Open" ■ Click "Add event to 'Movement'" <ul style="list-style-type: none"> ○ Double-click "Touch" ○ Double-click "Is touching object" (under "Touch") <ul style="list-style-type: none"> ■ Object: TouchRight ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "Simulate control" (under "Platform") <ul style="list-style-type: none"> ■ Control: Right ○ Select DONE ■ Click "Add event to 'Movement'" <ul style="list-style-type: none"> ○ Double-click "Touch" ○ Double-click "Is touching object" (under "Touch") <ul style="list-style-type: none"> ■ Object: TouchLeft ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "Simulate control" (under "Platform") <ul style="list-style-type: none"> ■ Control: Left ○ Select DONE ■ Click "Add event to 'Movement'" <ul style="list-style-type: none"> ○ Double-click "Touch" ○ Double-click "Is touching object" (under "Touch") <ul style="list-style-type: none"> ■ Object: TouchUp ○ Select DONE ■ Click "Add action" <ul style="list-style-type: none"> ○ Double-click "Player" ○ Double-click "Simulate control" (under "Platform") <ul style="list-style-type: none"> ■ Control: Jump

		<ul style="list-style-type: none"> ○ Select DONE <ul style="list-style-type: none"> ■ Drag events to the top so that they are listed immediately after the "Player active = True" subevent
1	Movement ▼ Events and triggers related to player movement	
2	 System	Every tick <div>  Alien Set position to  Player (<i>image point 0</i>) </div> <div>Add action</div>
3	▼  Player	Is active <div>  Player Stop ignoring  Platform user input </div> <div>Add action</div>
4	 Touch	Is touching  TouchRight <div>  Player Simulate  Platform pressing Right </div> <div>Add action</div>
5	 Touch	Is touching  TouchLeft <div>  Player Simulate  Platform pressing Left </div> <div>Add action</div>
6	 Touch	Is touching  TouchUp <div>  Player Simulate  Platform pressing Jump </div>
<input type="checkbox"/>	Add Touch Conditions to Events that Mirror Player	<ul style="list-style-type: none"> ■ Right-click "Mirror on Left arrow pressed" event > Select "Make OR block" ■ Right-click "Mirror on Left arrow pressed" event > Select "Add" > Select "Add another condition" <ul style="list-style-type: none"> ○ Double-click "Touch" ○ Double-click "Is touching object" (under "Touch") <ul style="list-style-type: none"> ■ Object: TouchLeft ○ Select DONE ■ Right-click "Mirror on Right arrow pressed" event > Select "Make OR block" ■ Right-click "Mirror on Right arrow pressed" event > Select "Add" > Select "Add another condition" <ul style="list-style-type: none"> ○ Double-click "Touch" ○ Double-click "Is touching object" (under "Touch") <ul style="list-style-type: none"> ■ Object: TouchRight ○ Select DONE
→	 Keyboard	On  pressed <div>  Alien Set Mirrored </div> <div>  Touch OR Is touching  TouchLeft </div> <div>Add action</div>
→	 Keyboard	On  pressed <div>  Alien Set Not mirrored </div> <div>  Touch OR Is touching  TouchRight </div> <div>Add action</div>
<input type="checkbox"/>	Add Touch Conditions to Event that Sets "Walk" Animation	<ul style="list-style-type: none"> ■ Right-click "Set animation to 'Walk'" event > Select "Add" > Select "Add another condition" <ul style="list-style-type: none"> ○ Double-click "Touch" ○ Double-click "Is touching object" (under "Touch")

		<ul style="list-style-type: none"> ■ Object: TouchLeft <ul style="list-style-type: none"> ○ Select DONE ■ Right-click "Set animation to 'Walk'" event > Select "Add" > Select "Add another condition" <ul style="list-style-type: none"> ○ Double-click "Touch" ○ Double-click "Is touching object" (under "Touch") <ul style="list-style-type: none"> ■ Object: TouchRight ○ Select DONE
		
Thoroughly test your project and its touch controls using a combination of the following methods:		
	Local Testing (from non-touch enabled device, e.g., desktop)	<ul style="list-style-type: none"> ■ Select "Touch" > Set the following properties: <ul style="list-style-type: none"> ○ Properties <ul style="list-style-type: none"> ■ Check Use mouse input ■ From "Get Ready" layout > Click "Debug layout" in main toolbar <p>Note: Toggle the value of the Use mouse input property as needed to test touch controls from a PC; make sure that before publishing, however, that the value is set to 'No' so that touch controls are not shown to those using a keyboard and mouse</p>
	Remote Testing (from touch-enabled device)	<ul style="list-style-type: none"> ■ Click "Remote Preview" in main toolbar ■ Scan the provided QR code or enter the provided URL to test on your remote device, e.g., phone, tablet, etc. 
	Save Project	PROJECT > SAVE or (Ctrl + S) or Click 

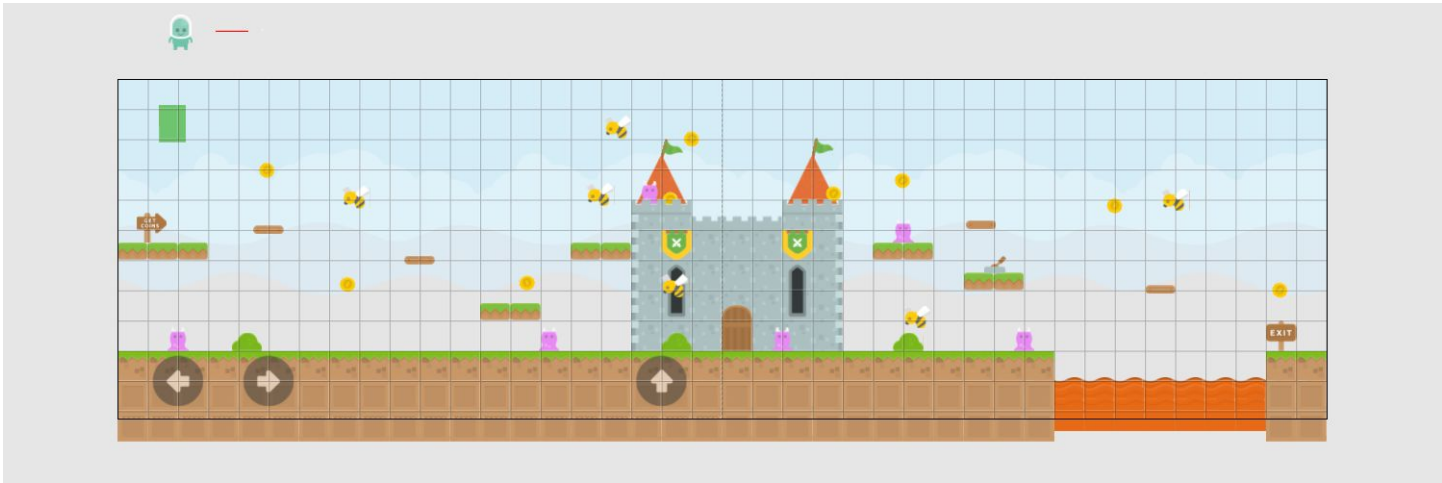


FIGURE 18: Snapshot of "Level 1" Layout (all layers)

Include Start & End Level Event Sheet				
<div> <div>Global boolean TouchDevice = false</div> <div>If user is playing on a touch-enabled device</div> </div>				
1	Get Ready ▼ Events and triggers that occur on the Get Ready layout only			
2	→ Touch	On any touch start	⚙ System	Set TouchDevice to <i>True</i>
3	→ Keyboard	On any key pressed	⚙ System	Go to layout " Level 1 "
	→ Mouse	OR On any click		
	→ Touch	OR On any touch start		

FIGURE 19: Final "Get Ready Event Sheet"

Include Start & End Level Event Sheet				
1	Game Over ▼ Events and triggers that occur on the Game Over layout only			
2	→ Keyboard	On any key pressed	⚙ System	Wait 1.5 seconds
	→ Mouse	OR On any click	⚙ System	Set Score to 0
	→ Touch	OR On any touch start	⚙ System	Go to layout " Level 1 "

FIGURE 20: Final "Game Over Event Sheet"

Global number **CoinsLeft** = 0

Number of coins left on current game level

Global number **Score** = 0

Current score of the game

Global string **NextLayout** =

Game layout to go to next

1

Start of Level

▼ Events and triggers that occur at the beginning of any game-related layout

2

→ ⚙ System

On start of layout

🔊 Audio

Stop all

🔊 Audio

Play **game-theme** looping at volume -20 dB (tag "")

⚙ System

Set **CoinsLeft** to *Coin.Count*

🟩 Player

Set **active** to *True*

📊 Scoreboard

Set text to *Score*

⚙ System

Is **TouchDevice**

⚙ System

Set layer **"Touch"** *Visible*

3

Add event to 'Start of Level'

Add to 'Start of Level'...


4

End of Level

▼ Events and triggers related to ending any game-related layout

5

→ 🟩 Player

On collision with  **Enemies**

🔊 Audio

Stop all

🔊 Audio

Play **game-over** not looping at volume -5 dB (tag "")

👾 Alien

Destroy

🟩 Player

Spawn **Particles** on layer **Player.LayerName**
(image point "Particles")

🟩 Player

Destroy

⚙ System

Wait **3.0** seconds


⚙ System

Set **Score** to 0

⚙ System

Restart layout

→ 🟩 Player

On collision with  **Exit**

⚙ System

CoinsLeft = 0

🔊 Audio

Stop all

🔊 Audio

Play **tada** not looping at volume -20 dB (tag "")

🟩 Player

Set **active** to *False*

👾 Alien

Set animation to **"Success"** (play from beginning)

⚙ System

Wait **3.0** seconds

⚙ System

Go to layout **NextLayout**

FIGURE 21: Final "Start & End Level Event Sheet"

1

Movement

▼ Events and triggers related to the Player's movements

2	<div>System</div>	Every tick	<div>Alien</div>	Set position to <div>Player</div> (image point 0)
3	<div>Player</div>	Is active	<div>Player</div>	Stop ignoring <div>Platform</div> user input
4	<div>Touch</div>	Is touching <div>TouchRight</div>	<div>Player</div>	Simulate <div>Platform</div> pressing Right
5	<div>Touch</div>	Is touching <div>TouchLeft</div>	<div>Player</div>	Simulate <div>Platform</div> pressing Left
6	<div>Touch</div>	Is touching <div>TouchUp</div>	<div>Player</div>	Simulate <div>Platform</div> pressing Jump
7	<div>Keyboard</div>	On <div>←</div> pressed	<div>Alien</div>	Set Mirrored
	<div>Touch</div>	<div>OR</div> Is touching <div>TouchLeft</div>		
8	<div>Keyboard</div>	On <div>→</div> pressed	<div>Alien</div>	Set Not mirrored
	<div>Touch</div>	<div>OR</div> Is touching <div>TouchRight</div>		
9	<div>Keyboard</div>	<div>←</div> is down	<div>Alien</div>	Set animation to "Walk" (play from beginning)
	<div>Keyboard</div>	<div>OR</div> <div>←</div> is down		
	<div>Touch</div>	<div>OR</div> Is touching <div>TouchLeft</div>		
	<div>Touch</div>	<div>OR</div> Is touching <div>TouchRight</div>		
10	<div>System</div>	Else	<div>Alien</div>	Set animation to "Stand" (play from beginning)
11	<div>Player</div>	<div>Platform</div> is jumping	<div>Alien</div>	Set animation to "Jump" (play from beginning)
12	<div>Player</div>	<div>Platform</div> is falling	<div>Alien</div>	Set animation to "Fall" (play from beginning)
13	<div>System</div>	Else	<div>Player</div>	Start ignoring <div>Platform</div> user input

Add event to 'Movement'

Add to 'Movement'...

14

Goal

▼ Events and triggers related to player goals

15	<div>Player</div>	On collision with <div>Coin</div>	<div>Audio</div>	Play pick-up not looping at volume -3 dB (tag "")
			<div>Coin</div>	Destroy
			<div>System</div>	Subtract 1 from CoinsLeft
			<div>System</div>	Add 100 to Score
			<div>Scorebo...</div>	Set text to Score

FIGURE 22: Final "Player Event Sheet"

Include **Player Event Sheet**

Include **Start & End Level Event Sheet**

1

Start of Level 1

▼

Events and triggers that occur at the beginning of the Level 1 layout only

2

→

System

On start of layout

System


Set **NextLayout** to "Game Over"

3

Bridge

Pick instance with UID **143**

Bridge

Set  BridgeSideToSide **Disabled**

Add event to 'Start of Level 1'

Add to 'Start of Level 1'...

4

Castle Door


▼

Events and triggers that control interactions with the castle door

5


→

Player

On collision with  **Grass**

CastleDoor


Set **open** to *True*

 Grass

Pick instance with UID **104**

Alien

Set animation to **"Stand"** (play from beginning)

 CastleDoor

✗ Is **open**

CastleDoor

Set animation to **"Open"** (play from beginning)

6

→


CastleDoor

On animation "Open" finished


Player

Set position to $(\text{CastleDoor.X} + (\text{CastleDoor.Width} \div 2), \text{CastleDoor.Y})$

Player

Set  ScrollTo disabled


Alien

 FadeOut: restart fade

7

→


Alien

On  FadeOut fade-out finished


Player

Set position to $(\text{Player.X}, 0)$

Player

Set  ScrollTo enabled

Alien

 FadeIn: restart fade

Player

Set **active** to *True*

CastleDoor

Set animation to **"Close"** (play from beginning)

8

→

CastleDoor

On animation "Close" finished

Audio

Play **door-slam** not looping at volume -20 dB (tag "")

CastleDoor

Set **open** to *False*

Add event to 'Castle Door'

Add to 'Castle Door'...

9

Lever


▼

Events and triggers that control the lever and access to the final floating bridge

10


→

Player

On collision with  **Lever**

Lever

Set **pulled** to *True*

 Lever

✗ Is **pulled**

Lever

Set animation to **"Pull"** (play from beginning)

Audio

Play **switch** not looping at volume -10 dB (tag "")


11


→

Lever

On animation "Pull" finished

Bridge

Set  BridgeSideToSide **Enabled**



 Bridge

Pick instance with UID **143**

FIGURE 23: Final "Level 1 Event Sheet"

Publishing (itch.io)

Step		Detailed Instructions
<input type="checkbox"/>	Export Project using Web (HTML5) Option	<ul style="list-style-type: none"> ■ PROJECT > EXPORT > Double-click "Web (HTML5)" <ul style="list-style-type: none"> ○ Export options <ul style="list-style-type: none"> ■ Check "Deduplicate images" ■ Check "Recompress images" ■ Check "Minify script" ○ Select NEXT ■ Click "Download Platformer.zip"; Select OK
<input type="checkbox"/>	Register for an itch.io Account (or use GitHub)	<ul style="list-style-type: none"> ■ Navigate to https://itch.io/register in your browser ■ Provide a username, password, email address, accept terms and conditions; verify your email, if requested
<input type="checkbox"/>	Log on to your itch.io Account	<ul style="list-style-type: none"> ■ Navigate to https://itch.io/login in your browser and provide your credentials
<input type="checkbox"/>	Publish Game to itch.io	<ul style="list-style-type: none"> ■ Click "Create new project" ■ Project <ul style="list-style-type: none"> ○ Title: Platformer ○ Short description or tagline: Go Chuck, Go! ○ Classification: Game ○ Kind of project: HTML ○ Release status: Prototype ■ Cover Image <ul style="list-style-type: none"> ○ Click "Upload Cover Image" > Browse to and OPEN platformer-650x500.png > Click "Upload" ■ Pricing <ul style="list-style-type: none"> ○ Check "No payments" ■ Uploads <ul style="list-style-type: none"> ○ Click "Upload files" > Browse to and OPEN Platformer.zip ○ Check "Hide this file and prevent it from being downloaded" ■ Embed Options <ul style="list-style-type: none"> ○ Check "Mobile friendly" ○ Check "Automatically start on page load" ○ Check "Fullscreen button" ■ Details <ul style="list-style-type: none"> ○ Description: A model platform-style game that I built while learning Construct 3 ○ Genre: Platformer ■ Click "Save & view page"

	Test Game	<ul style="list-style-type: none"> ■ Click "Run game" from your game's project page ■ (Optional) Click "Edit theme" and use your artistic skills to customize the project page ■ Play game, testing thoroughly on multiple browsers and devices, utilizing the Secret URL feature
	Make Game Public (Optional)	<ul style="list-style-type: none"> ■ Click "Edit game" to return to your game's project page ■ Visibility & Access <ul style="list-style-type: none"> ○ Check "Public" > Click "Save" ■ Click "View page" to verify that your game is published

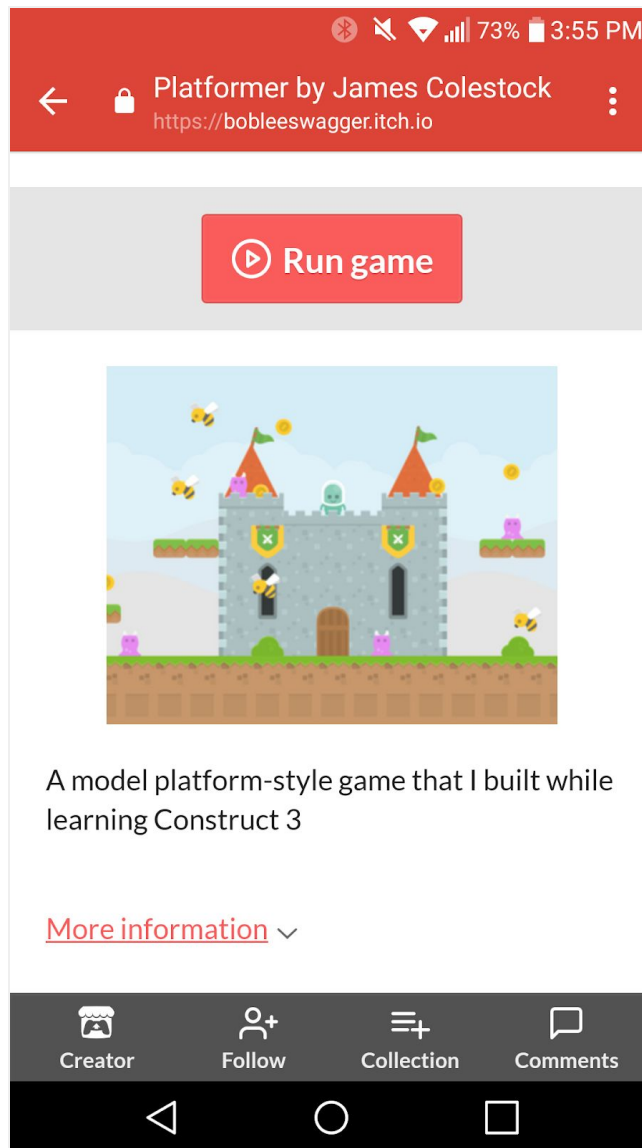


FIGURE 24: Final Platformer Game on itch.io (from mobile)

Publishing (Scirra Arcade)

Step	Detailed Instructions
<div data-bbox="164 321 191 352" data-label="Image"></div> Export Project using Scirra Arcade Option	<ul style="list-style-type: none"> ■ PROJECT > EXPORT > Double-click "Scirra Arcade" <ul style="list-style-type: none"> ○ Export options <ul style="list-style-type: none"> ■ Check "Deduplicate images" ■ Check "Recompress images" ■ Check "Minify script" ○ Select NEXT ■ Click "Download Platformer.zip"; Select OK
<div data-bbox="164 619 191 651" data-label="Image"></div> Log On to Scirra Arcade	<ul style="list-style-type: none"> ■ Navigate to scirra.com/arcade/submit in your browser ■ If necessary, create an account, providing a username, password, and email address; accept relevant terms and conditions
<div data-bbox="164 766 191 798" data-label="Image"></div> Publish Game to Scirra Arcade	<ul style="list-style-type: none"> ■ Click "Upload a Game" ■ Upload File(s) <ul style="list-style-type: none"> ○ Click "Choose File" > Browse to and OPEN Platformer.zip ○ Click "Upload" ■ Game Details <ul style="list-style-type: none"> ○ Game Name: Platformer ○ Description: A model platform-style game that I built while learning Construct 3 ○ Short Description: A model platform-style game ○ Instructions: [k]Left Arrow[/k] to go Left, [k]Right Arrow[/k] to go Right, and [k]Up Arrow[/k] to Jump! ○ Category: Tutorial Games ○ Version: 1.0.0.0 ○ Check "Mobile Enabled" ○ Check "Work in Progress" ○ Uncheck "Adult Content" ○ Click "Update Details" ■ Pictures <ul style="list-style-type: none"> ○ Click "Choose File" > Browse to and OPEN platformer-450x300.png ○ Click "Upload" ■ Publish Game <ul style="list-style-type: none"> ○ Check "Third Party Advertisements" ○ Check "Copyright Confirmation" ○ Check "Terms and Conditions" ○ Check "Game Content" ○ Click "Publish My Game!"

<div data-bbox="164 109 191 136" data-label="Image"></div>	<div data-bbox="250 109 393 136" data-label="Text"> <p>Play Game</p> </div>	<div data-bbox="561 109 1464 331" data-label="List-Group"> <ul style="list-style-type: none"> ■ Navigate to scirra.com/arcade/game-manager > Click "Your Games" ■ Annotate URL to published Platformer game, e.g., scirra.com/arcade/tutorial-games/platformer-XXXXX ■ Play game, testing thoroughly on multiple browsers and devices </div>
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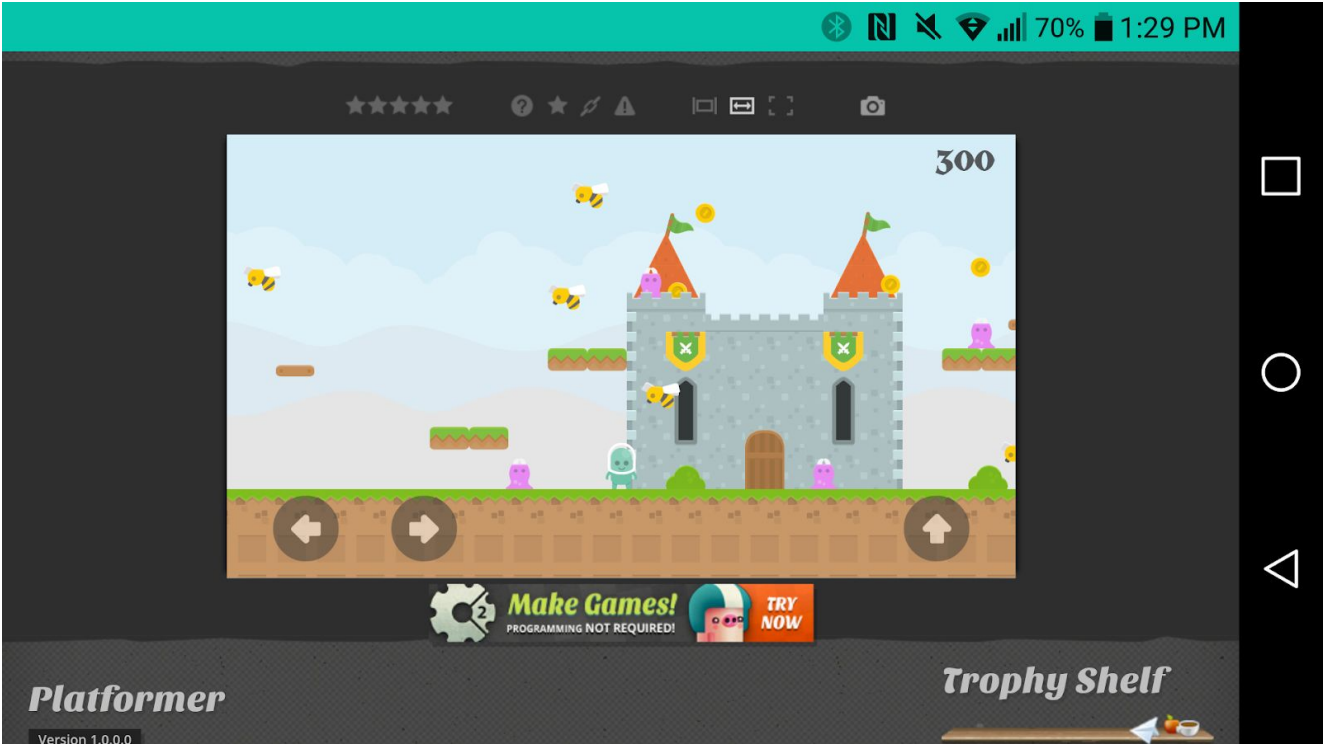


FIGURE 25: Final Platformer Game on Scirra Arcade (from smartphone)