Flappy Bird v2.0

Documentation
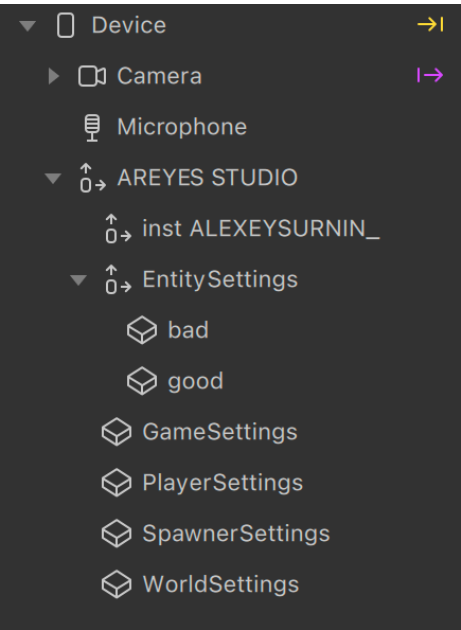
Last update: 16.03.2021

Content

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Settings

You can customize this template via patches and **blocks**.

To tweak something global, such as controls or loading, use blocks under AREYES folder.

WorldSettings

This block is for setting the game speed

Start Speed	Starting speed of the game. Updated after launching the game
Speed Multiplier	Speed multiplier which will be multiplied once per interval
Speed Multiply Interval	-
Additional Speed Multiplier	An additional multiplier, use for bonuses or a sharp change in speed.
Max Speed	-

To change an additional speed multiplier, use only **If Then Else**. Do not use animations or Exp Smooth, **this will affect performance**
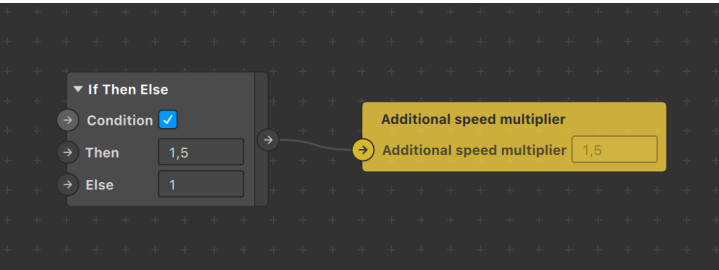
GameSettings

This block is for setting the timer after which the game ends

Timer	Time value in ms

SpawnerSettings

This block is for setting the coordinates of the spawn and despawn of objects

| Min spawn interval	Minimum interval between object spawns
Max spawn interval	Maximum interval between object spawns
Angle	The range of angles between which objects will appear. In degrees
X	The start and end position of the entity along the X axis
Y	The start and end position of the entity along the Y axis

PlayerSettings

This block is for player customization

| Max players	Maximum number of players. Maximum 5
Max health	Maximum and starting amount of player health
View colliders	Enable visibility of colliders. For easy sizing
Collider size	Player collider dimensions
Custom Path	Custom path to player object. Uses for rendering passes. See Custom path
Movement range Y	Range of motion
Jump height	-
Blink mode	Blinking or submarine mode
Sensitivity controller	Sensitivity of movement. 0 to 1
Controller smoothing	Exponential smoothing factor for object movement

Entity system

Creation
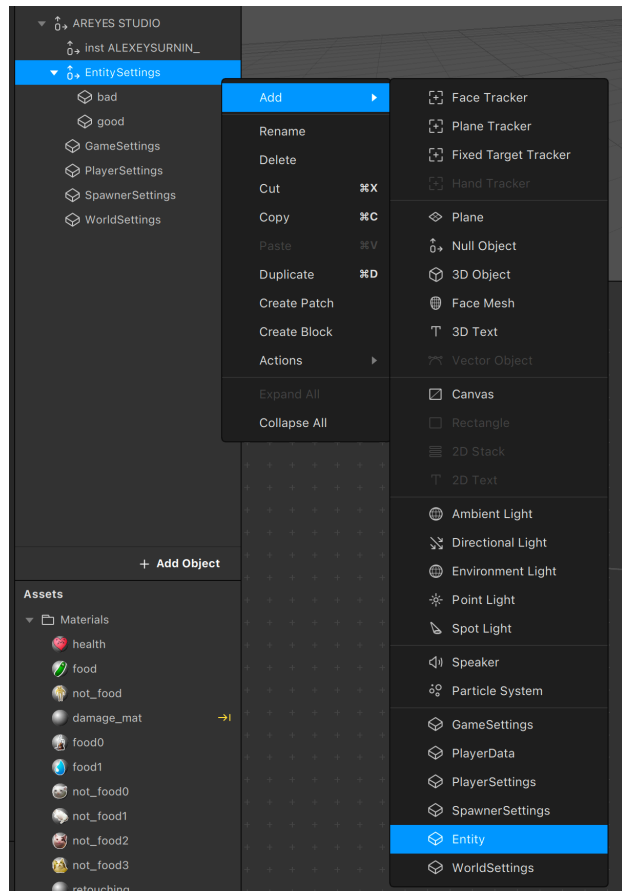
Step 1. Press Right-Mouse Button on "Entity Settings" object, go Add and choose "Entity" from the end of the list.

Step 2. Name this object uniquely, i. e. "bonus".
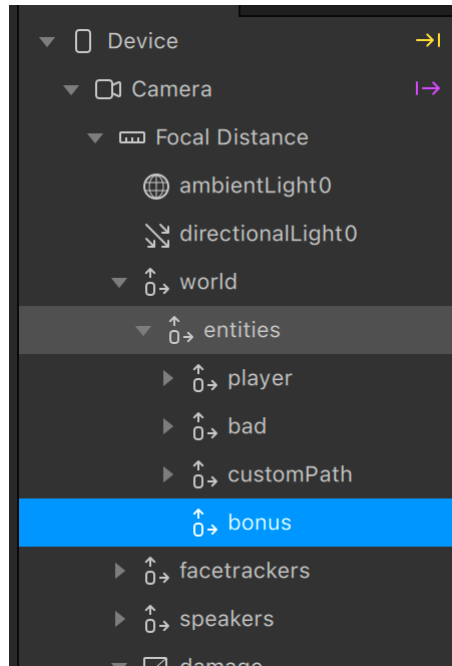
Step 3. Create new nullObject inside entities folder and name it same. This object will be parent for all entities inside and will define their logic. **These entities are called instances of "bonus" type.**

Step 4. Create new nullObject inside "bonus" and name it uniquely, i. e. "bonus0"

Step 5. Then add new plane or 3D mesh inside "bonus0" object.
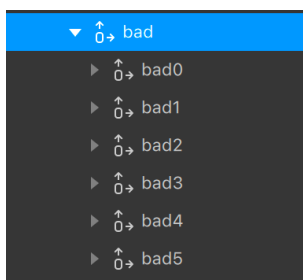
You've created "bonus" entity type with **one** instance inside. The more instances of entity type you have, the more entities of this type can be spawn during the game. This means that now you will see only one "bonus" during the game.

To fix this, just duplicate "bonus0" object a few times using "Ctrl+D" shortcut. It is recommended to have at least 10 instances of each entity type, but this depends on Spawn Chance setting.
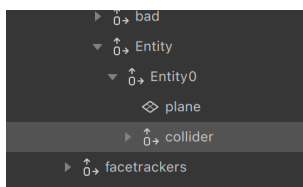
If you want to **debug colliders** of entities, add "collider" nullObject with plane or box each entity. This is optional
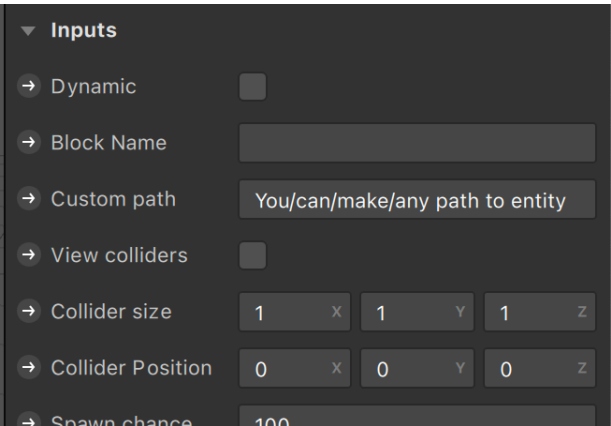
Entity Settings

|	
Dynamic	Is Entity type dynamic. See [Dynamic instance](#)
Block name	Block name for [Dynamic instance](#)
Custom Path	See [Custom Path](#)
View colliders	Enable visibility of colliders. For easy sizing
Mirror collider	Mirroring the collider relative to the center
Collider size	Collider size between opposite bounds
Collider position	By default, collider size is relative to object center. Change this param to move collider center
Spawn chance	Item spawn chance. The higher the value, the greater the chance of spawn.
Bubble text	The text that will appear after entity pickup
Add score	Add or remove player score on pickup
Add score on skip	Add or remove player score after item despair
Add health	Add or remove player health on pickup
Add health on skip	Add or remove player health after item despair
Death animation	Animation of decreasing entity after picking up
Min spawn interval	Minimum interval between this type of entity spawns
Spawn group	Combine several types of entities into one group. Then they will have a joint min spawn interval

Custom Path
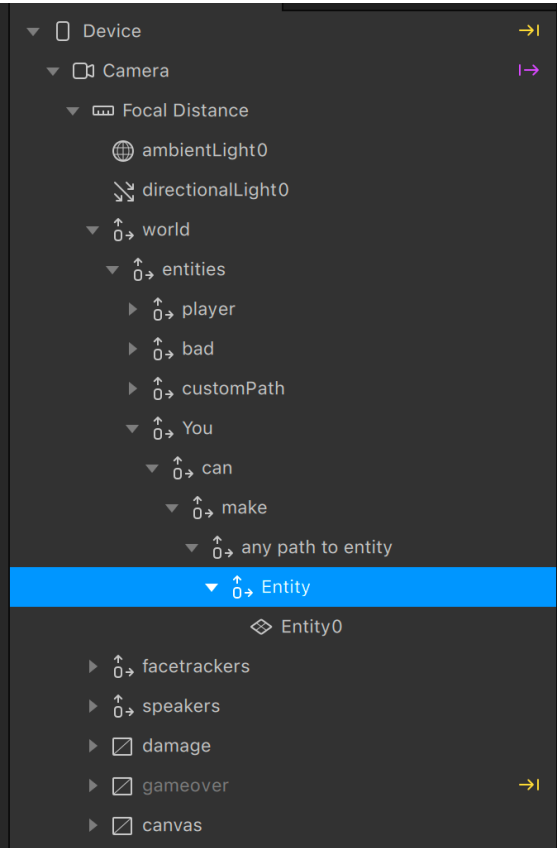
You can make any path to entity. This is for using the Render Pass. For example, if you need to render two entities in one pass.
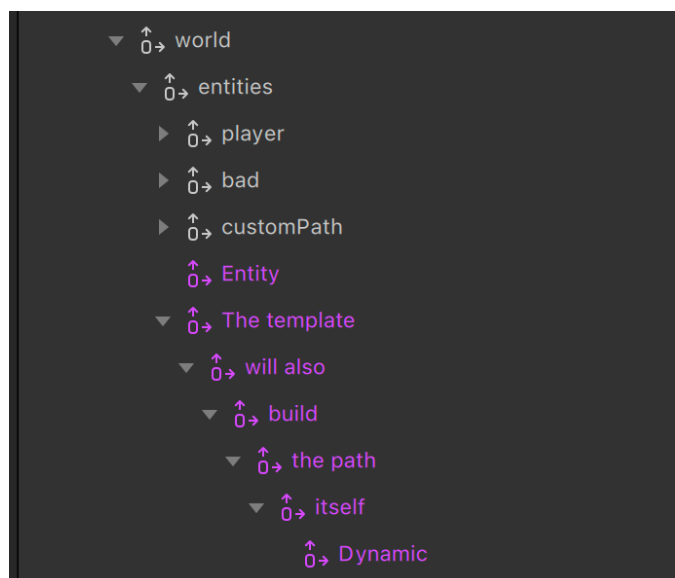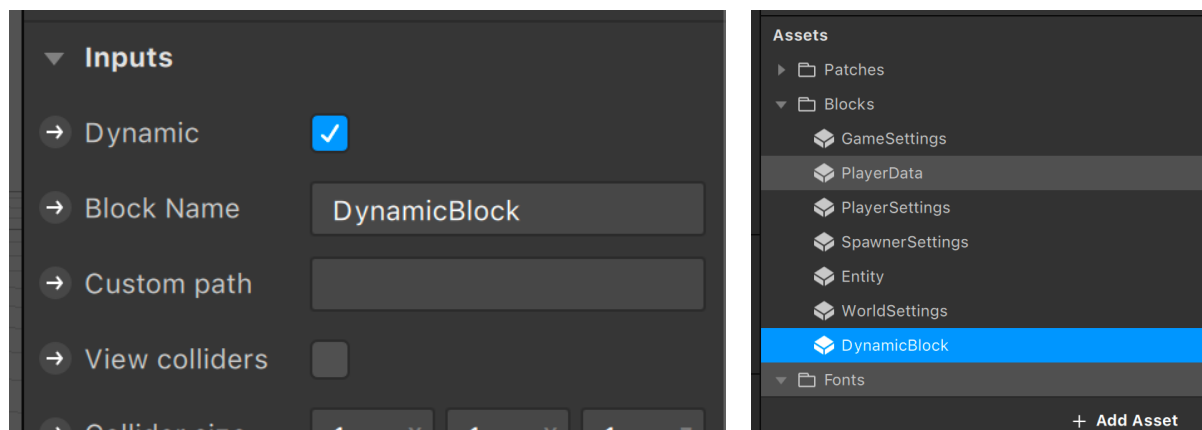
Dynamic Instance

To activate Dynamic Instance add "Scripting Dynamic Instantiation" to capability
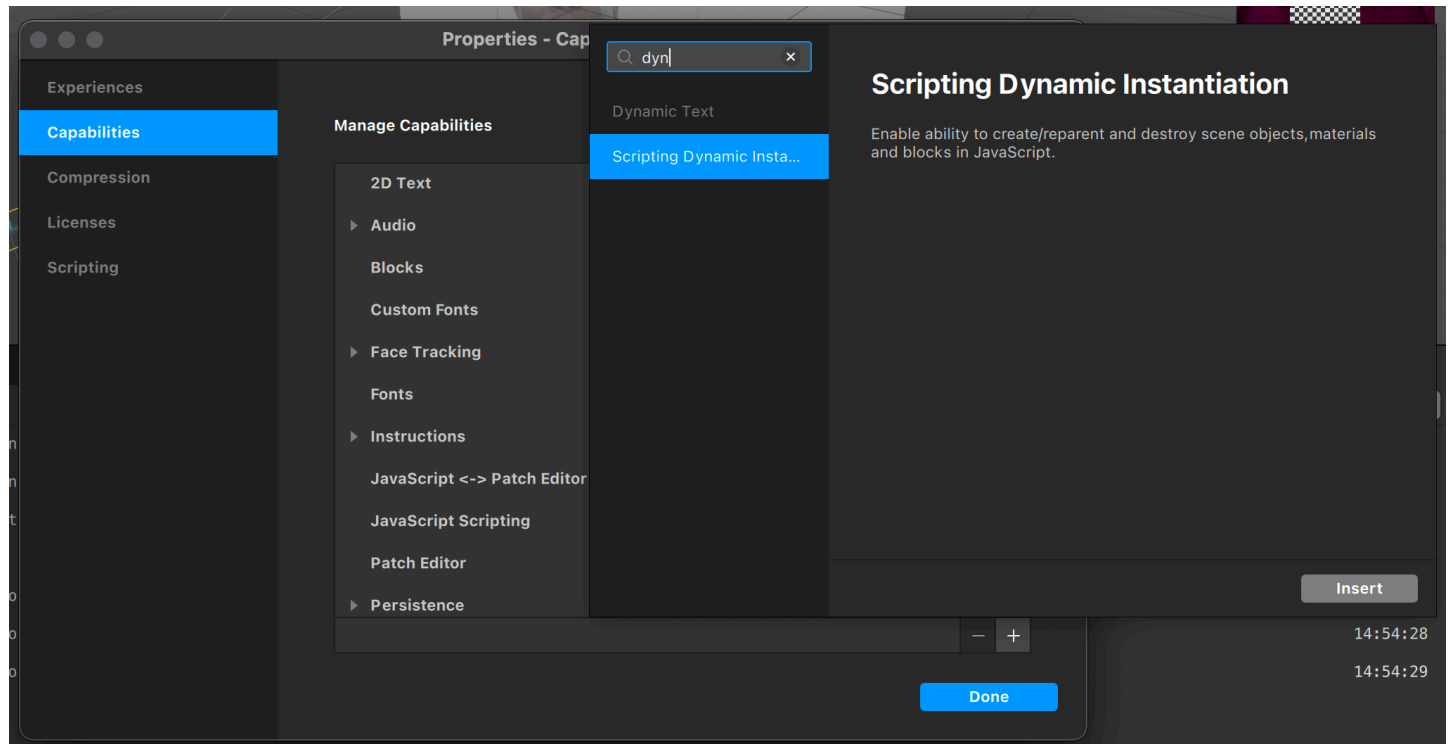

To create a dynamic entity, you need to create a block in assets, create a block with a new entity in EntitySettings and specify the name of your block in the Block name column, also check the box opposite dynamic

After loading the game, a path to dynamic entities will be built. After the start of the game, entities will spawn or despawn, depending on the Spawner settings

Events

To handle events, you need to drag and drop a block with entity settings in the Patch Editor
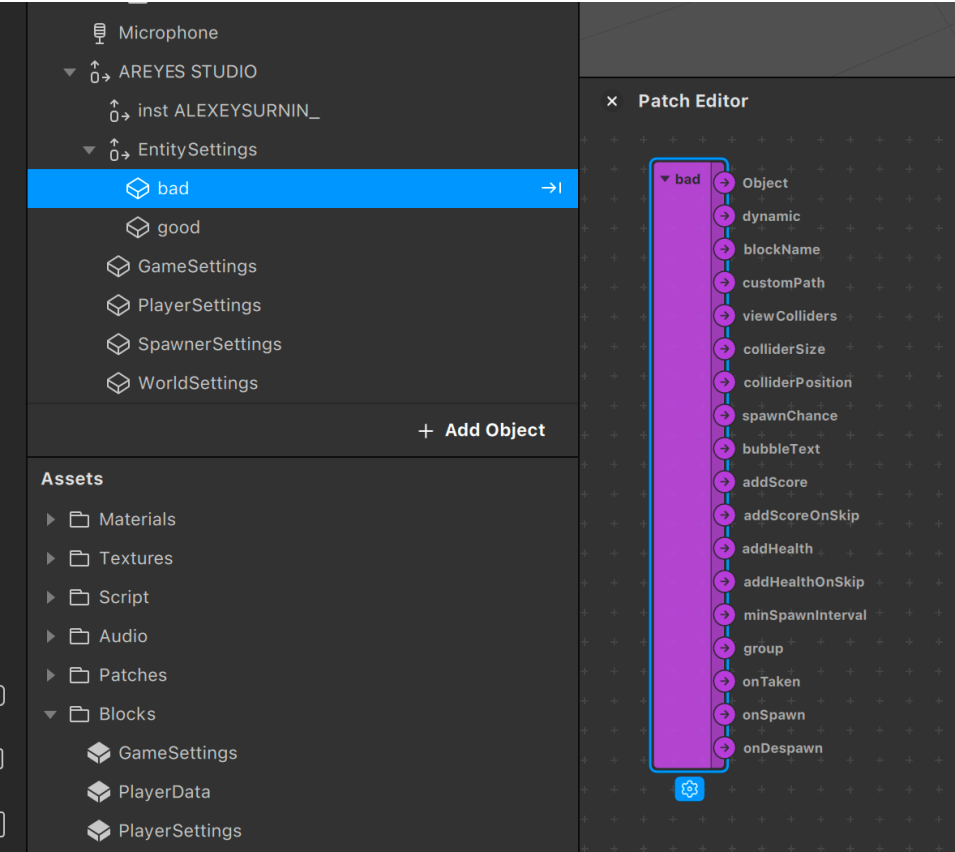
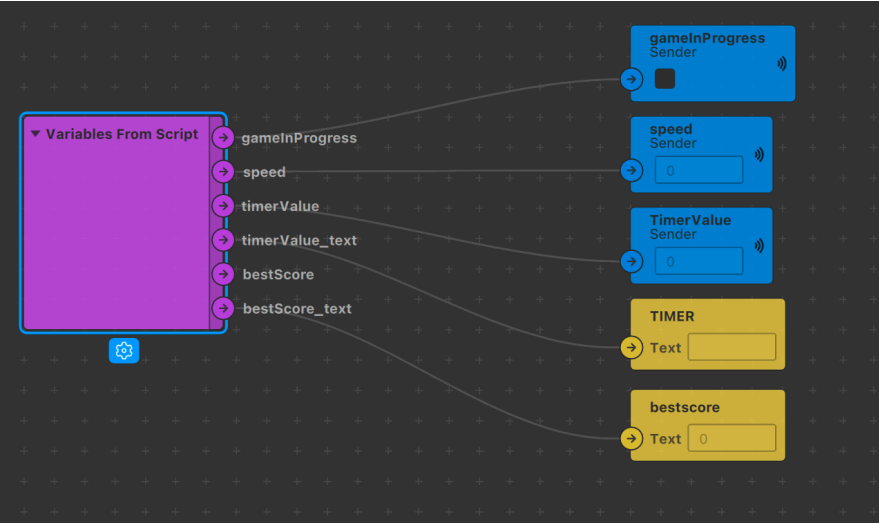| onTaken	Fires on collision with any player
onSpawn	Fires on spawn
onDespawn	Fires on despawn

To determine which player picked up the Entity, you can create a Pulse AND patch. And use onTaken from Entity Settings block and onTaken from PlayerData block

Pulse AND Patch

good
- Object
- dynamic
- blockName
- customPath
- viewColliders
- colliderSize
- colliderPosition
- spawnChance
- bubbleText
- addScore
- addScoreOnSkip
- addHealth
- addHealthOnSkip
- minSpawnInterval
- group
- onTaken
- onSpawn
- onDespawn

player0
- Object
- health
- score
- health_text
- score_text
- onTaken

player0_onTaken
Sender

player1
- Object
- health
- score
- health_text
- score_text
- onTaken

player1_onTaken
Sender

Pulse AND
- Input
- Input

on Player1 taken good
Value
- Input

Pulse AND
- Input
- Input

on Player0 taken good
Value
- Input

((player1_onTaken ⌄

((player0_onTaken ⌄

Global Variables

gameInProgress	The state of the game. True if the game is started
speed	The speed of moving objects, environment, etc.
timerValue	Timer value in seconds. Number
timerValue_text	Timer value in seconds. Text
bestScore	Best score. Number
bestScore_text	Best score. Text

Player Data

Player data is passed to patches through the PlayerData block. It's in world / entities / player folder
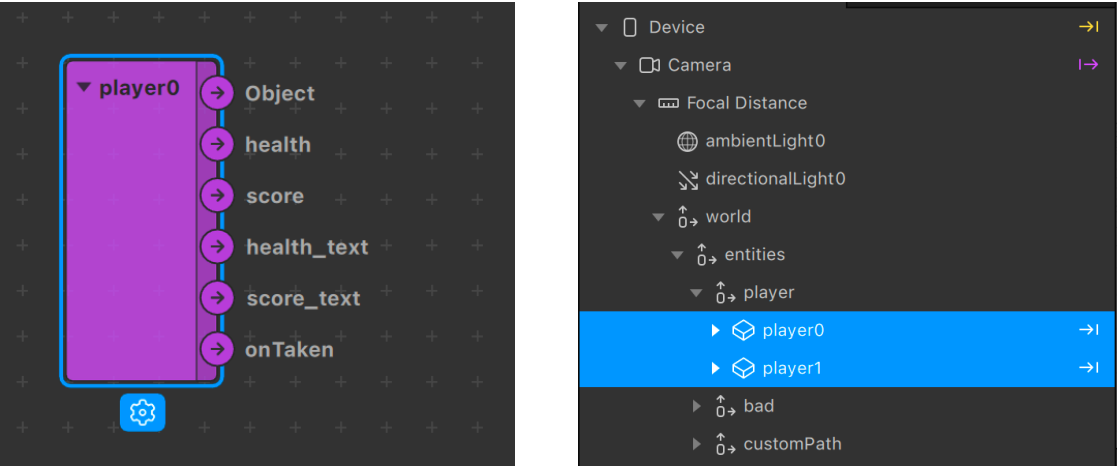

| health	Current health. Number
score	Current score. Number
health_text	Current health. Text
score_text	Current score. Text
Jump	Custom Jump Event
onTaken	Event. Fires on collision with any object

Global Methods

despawnEntities	Despawn all entities. For example, before the start of the bonus level
startGame	Start game
stopGame	Stop game

By default, the game starts when you tap the screen or when you start recording a video
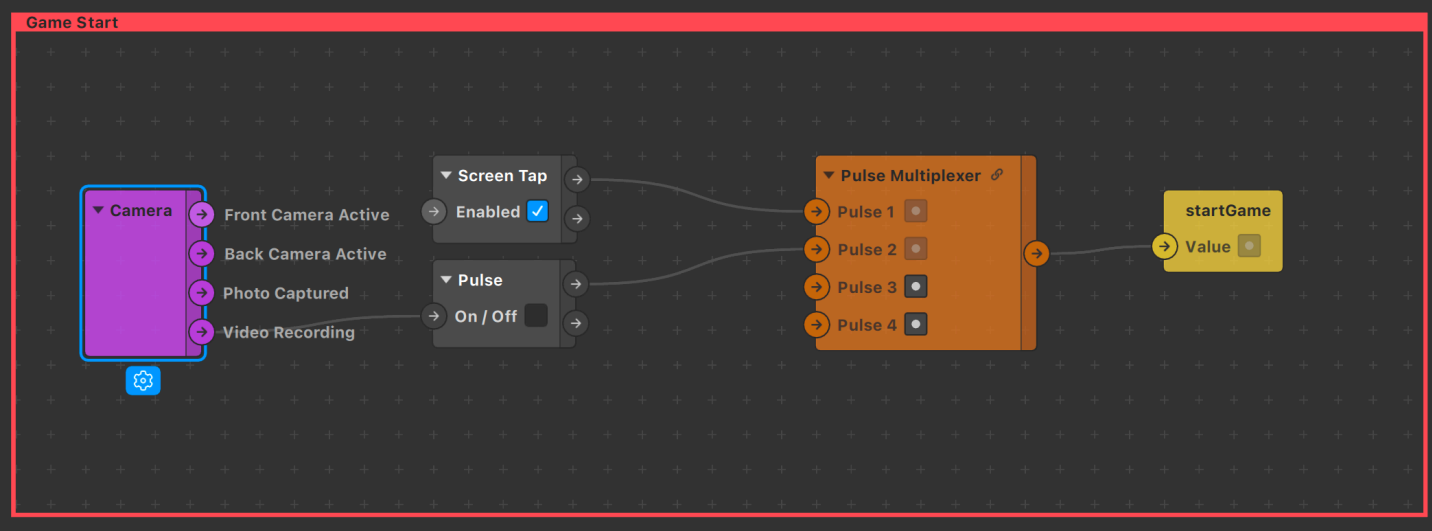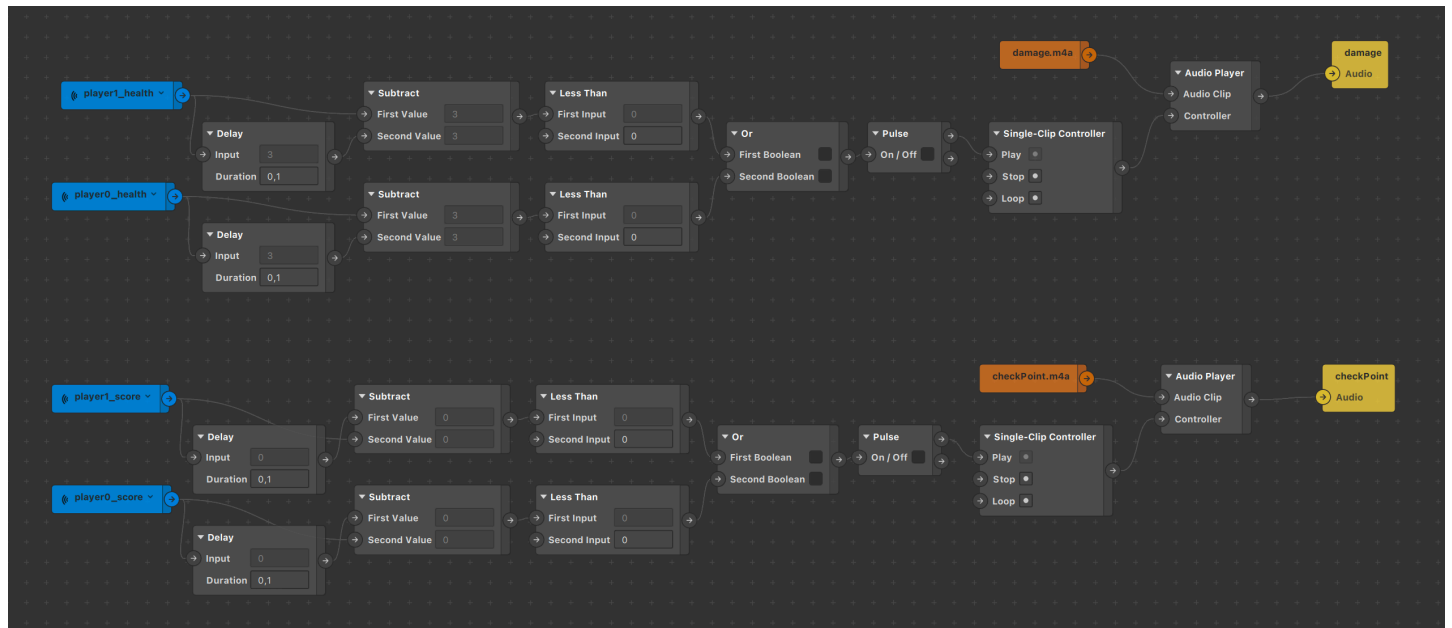

Instructions

The settings for all instructions are displayed in the Patch Editor. You can fully customize, change the logic to fit your needs
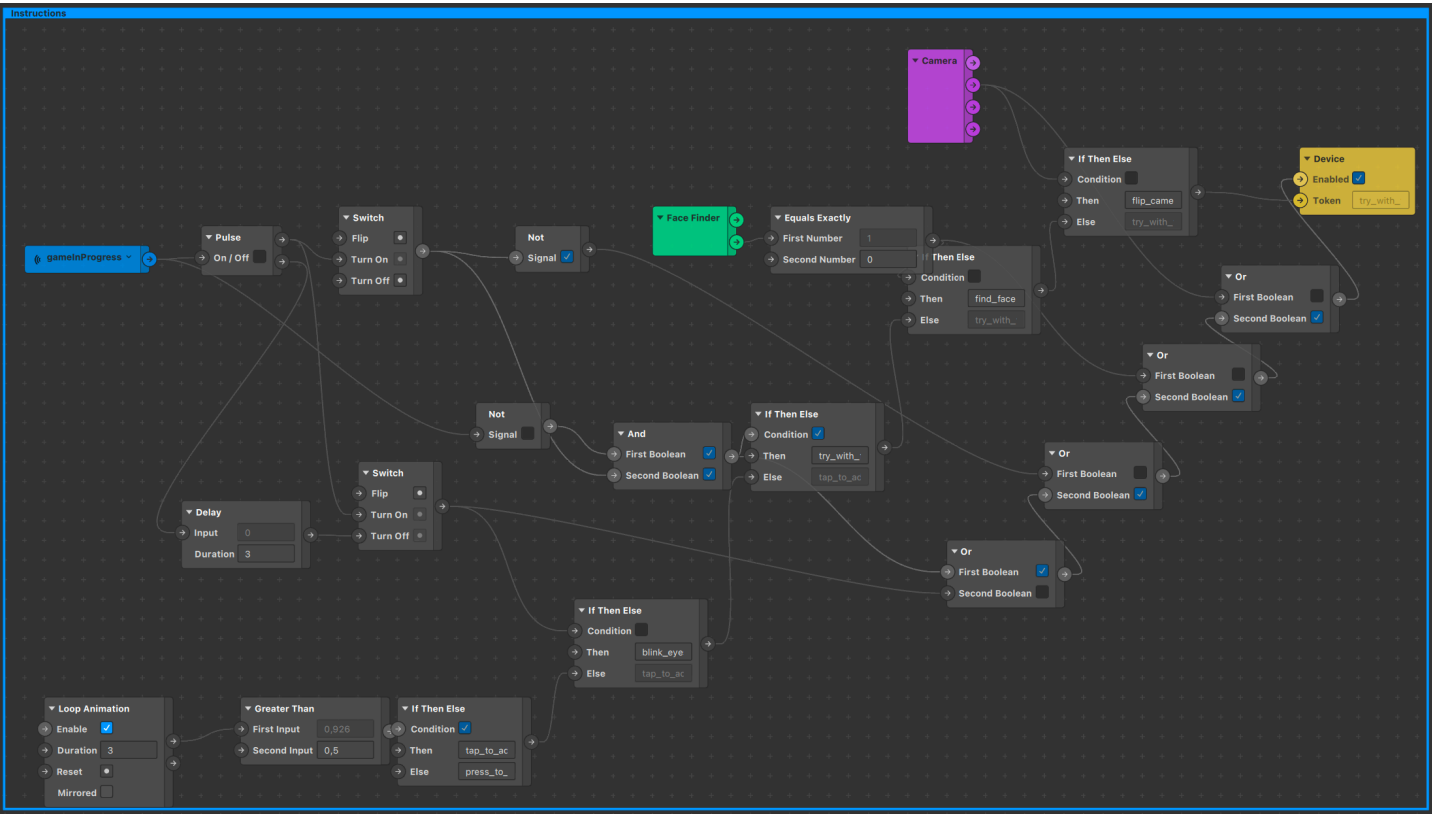
Audio

All audio is also controlled via the Patch editor. You can use any available events to play sounds. The most popular events and sounds are already included in the template, you just need to replace the file

To convert any audio to .m4a use [this site](#)

Settings:
• sampling rate - 44100 Hz
• audio channels - mono
• audio codec - aac

Q&A

If anything goes wrong you can always get help in our Telegram chat by link t.me/sparkargames

If you have any feature ideas, feel free to contact me. Almost **every** feature that comes in updates have been suggested by template users!

Q: I want to edit script, but I see something scary inside script.js
A: Sadly, you can't edit the script. Use Events and States in Patch Editor to extend template capabilities.

Q: How can I remove or change the license in the filter?
A: You can use this program to change licenses

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