Unity + LEGO® Microgame
Behaviour Brick Manual

September 2021

Version 1.3

unity × LEGO

Actions and Triggers

**Two types of bricks that can produce interesting behaviours when combined**

Triggers and actions are simple and predictable. They mainly do one thing.

Actions trigger on play and give different behaviour to the connected model (for example, move, explode, and play audio).

Triggers control when an action happens (for example, on touch, input, or at a time interval). The target actions for triggers can be set as:

- all actions connected to the same model
- any identified actions in your Scene.

Gameplay parameters for both actions and triggers are exposed in the Inspector.

Actions

UPDATE!

NEW!
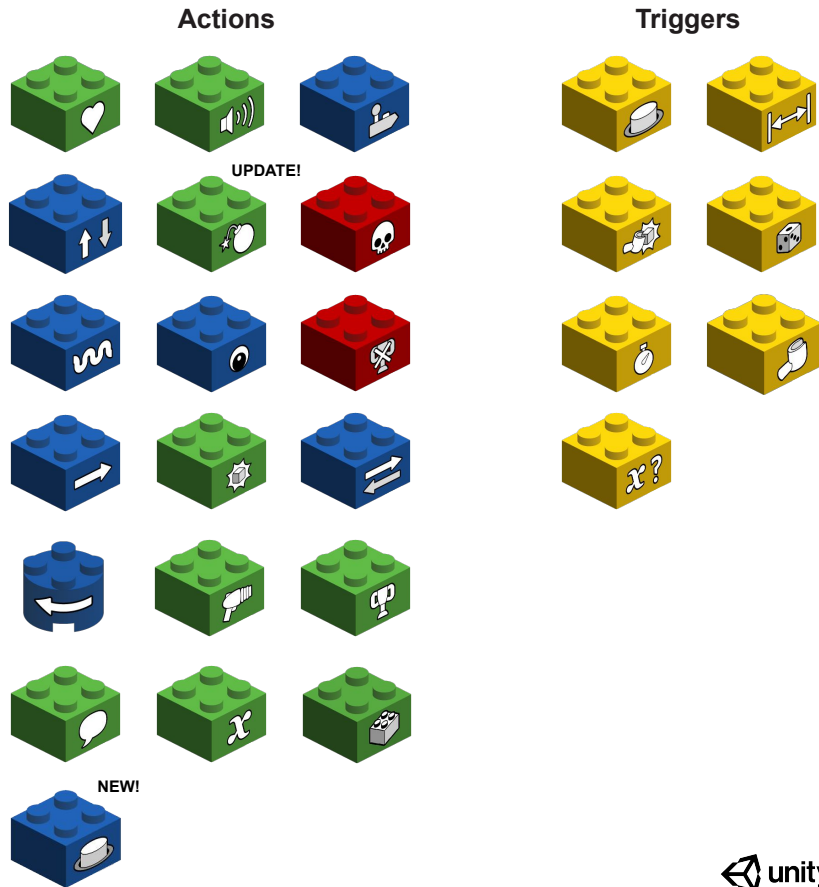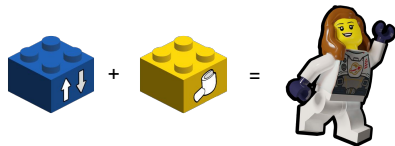
Triggers

Actions

Action: Alive

Make your model come to life

The Alive action makes your model feel less static by adding a simple animation to it.

On its own, the action will trigger when the game starts.

Available properties you can configure:
•Audio

! Idea

Combine the Alive action with a Pickup trigger, then the characters in your game will start celebrating that you collected all the pickups

Make your model come to life with a simple animation

Action: Audio

Audio is important to every game

The Audio action plays an audio clip next to a model or as background music.
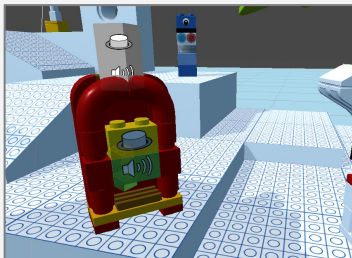On its own, the action will trigger when the game starts.

Available properties you can configure:
- Audio
- Volume
- Spatial
- Loop

Idea

Combine the Audio action with an Input trigger to create a fun jukebox. Run up to the jukebox, press play and hear the funky tunes.

Play an audio clip

Action: Control

Completely different types of games

You can create different types of controllable characters and vehicles with the Control action. It replaces the Character Controller.
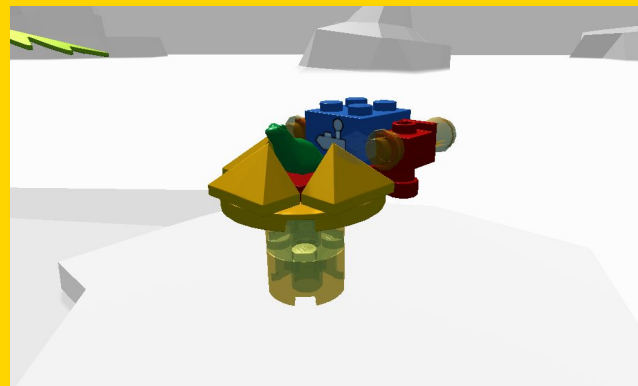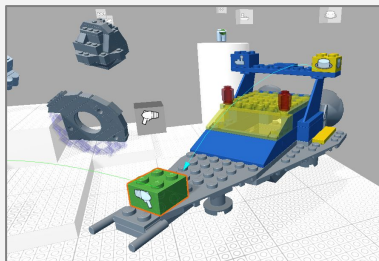On its own, the action will trigger when the game starts.

Available properties you can configure:
•Input Type
•Speed
•Rotation Speed

Idea

Combine the Control action with a Shoot action and an Input trigger to create a controllable spaceship that can shoot asteroids.

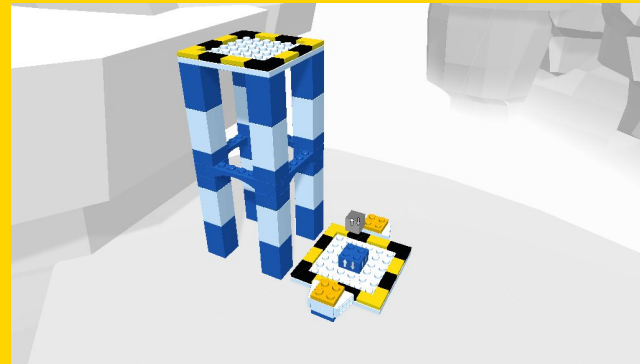

Make the attached model a controllable vehicle

Action: Elevator

Make the LEGO® model move up and down

The Elevator action moves a LEGO® model up and down. On its
own, the action will trigger when the game starts.
Available properties you can configure:
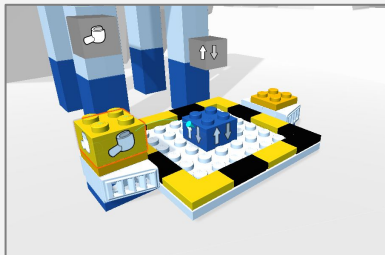•Audio
•Distance
•Time
•Pause
•Collide
•Repeat

! **Idea**

Combine an Elevator action with a Touch
trigger to make the model move once the
player touches the model.

Moves the platform up and down

Action: Explode

BANG, explode the model

The Explode action can be used to break apart a model.
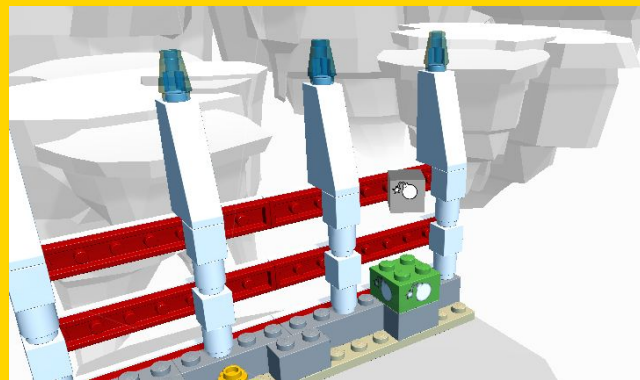On its own, the action will trigger when the game starts.

Available properties you can configure:
•Audio
•Power
•Remove Bricks**UPDATE!**

Idea

Combine the Explode action with a Touch trigger and Pickup Action to make hidden collectables that are only reachable when model is destroyed.

Break apart the model, see it explode by placing the Explode action

Action: Hazard

Careful, don't touch this

Create dangerous obstacles using the Hazard action. Touch it and it is game over!
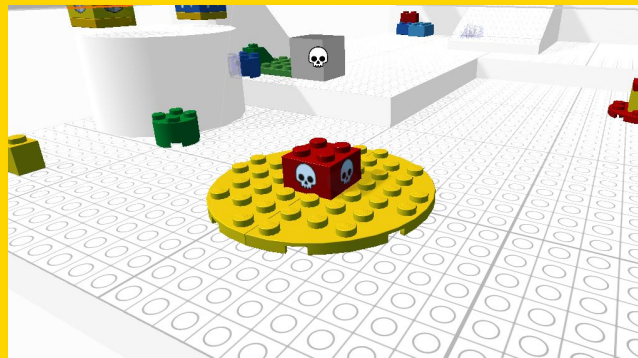On its own, the action will trigger when the game starts.

Available properties you can configure:
•Audio
•Effect

! Idea

Combine the Hazard action with a Touch trigger to make a dangerous poison cauldron.

Make part of your level hazardous, then be careful touching this

Action: Hover

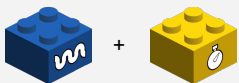**Make your level scenery more dynamic**

The Hover action is a great way to make your game feel more dynamic and provide more challenges for your players, by making LEGO models hover.
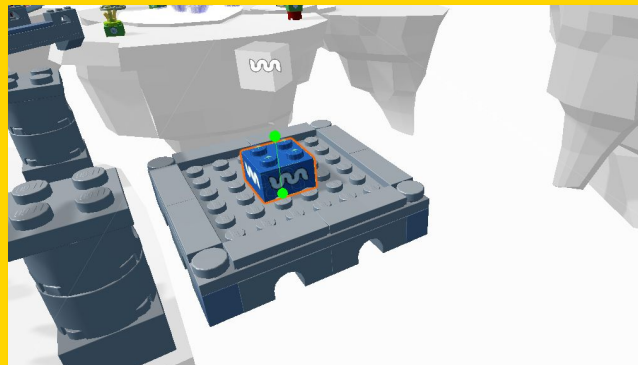On its own, the action will trigger when the game starts.

Available properties you can configure:
•Amplitude
•Time
•Collide

Idea

Combine the Hover action with the Timer trigger and see the ghosts move at midnight.

Make the model hover in the air to make it a bit more tricky to reach the platform

Action: Look At

I'm looking at you

The Look At action make a model orient itself to look at the targeted object, player or specific object in the Scene.
On its own, the action will trigger when the game starts.
Available properties you can configure:
•Audio
•Look At
•Speed
•Rotate
•Time
•Pause

💬 **Idea**

Combine the Look At action with a Nearby trigger and Shoot action to make a dangerous enemy that shoots directly at you when you enters its area.

Makes the model look at the player or a specific object

Action: Lose

Try Again!

The Lose action make the player lose the game.
On its own, the action will trigger when the game starts, meaning
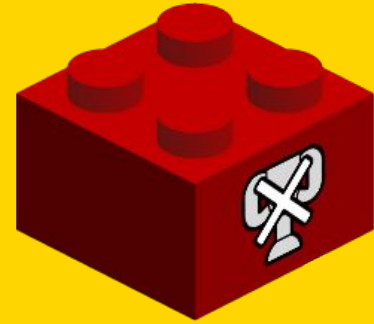without a trigger brick you will lose immediately — unfair!

Available properties you can configure:
•Audio

! **Idea**

Combine the Lose action with a Timer trigger to
transform your game into a time trial game
mode. Complete the game before the timer
runs out!

It will make you lose the game :(

Action: Move

Move, move, move

The Move action moves a model in a desired direction.
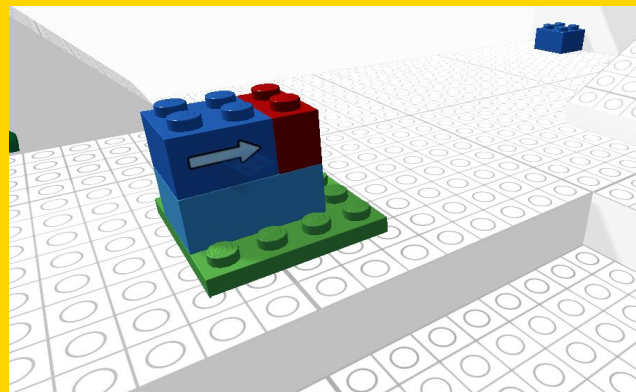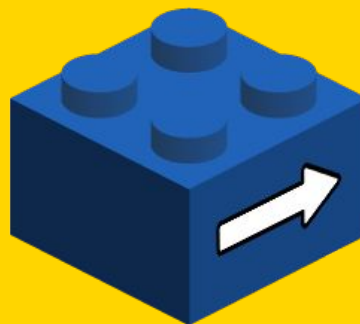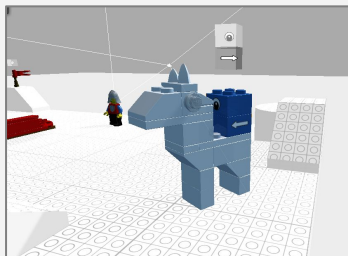On its own, the action will trigger when the game starts.

Available properties you can configure:
•Audio
•Distance
•Time
•Pause
•Collide

Idea

Combine the Move action with the Look At action to make your trusted horse move towards you.

Moves the connected model in the direction of the arrow

Action: Pickup

Collectables or items for your game

The Pickup action can be used to create collectables for your game, but is also useful to create items such as keys for doors. On its own, the action will trigger when the game starts.

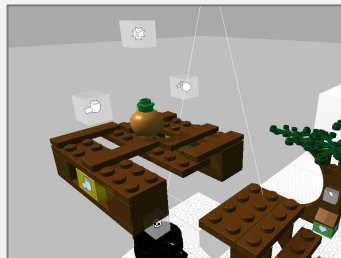Available properties you can configure:
•Audio
•Scope
•Effect

Idea

Combine the Pickup action with a Touch trigger and Explode action to make a trap for your player.

Makes the attached model become a collectable object.

Action: Platform

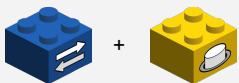**Makes the LEGO® model move forward and backwards**

The Platform action makes a model move forward and backwards
allowing you to create platforms, doors and many other things.
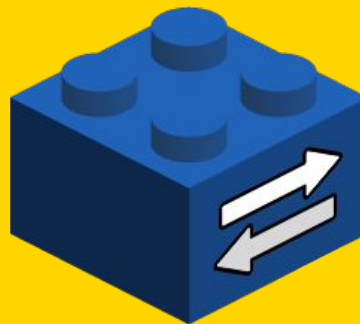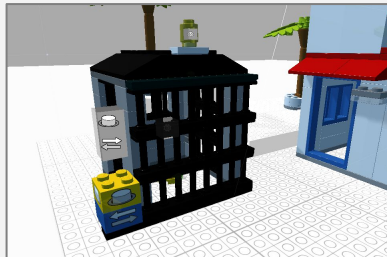On its own, the action will trigger when the game starts.

Available properties you can configure:
•Audio
•Distance
•Time
•Pause
•Collide

Idea

Combine the Platform action with an Input
trigger to make a door that you can open and
close by pressing a button.

Moves the platform forward and backwards

Action: Rotate

Getting dizzy, rotating

The Rotate action makes the model rotate around, enabling you to create platforms, doors, obstacles and evil machines.
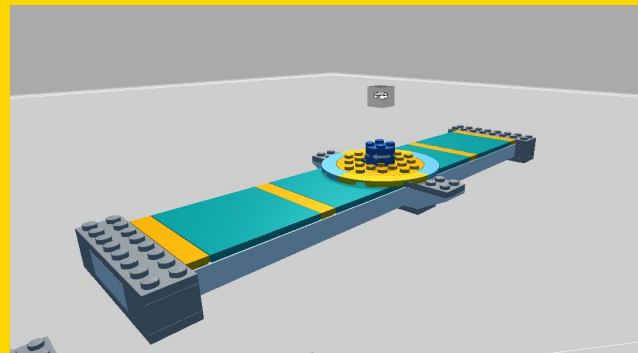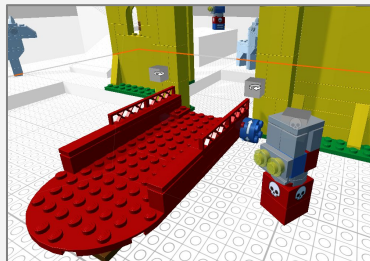On its own, the action will trigger when the game starts.

Available properties you can configure:
•Audio
•Angle
•Time
•Pause
•Collide

! **Idea**

Combine the Rotate brick with a remote Touch trigger to open and lower the castle bridge gate.

Make the connected model rotate

Action: Shoot

Shoot bananas, lasers, pizzas anything!

The Shoot action can be used to create dangerous enemies and traps.

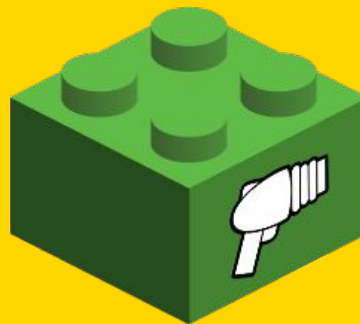On its own, the action will trigger when the game starts.

Available properties you can configure:

•Audio

•Projectile

•Velocity

•Accuracy

•Lifetime

•Pause

•Gravity

! Idea

Combine the Shoot action with a Nearby trigger to create a dangerous pizza oven that shoots pizzas when you get close

Make an obstacles that shoots dangerous… bananas

Action: Win

You Win!

The Win action makes the player win the game.
On its own, the action will trigger when the game starts – meaning without a trigger brick you will win immediately, too easy!
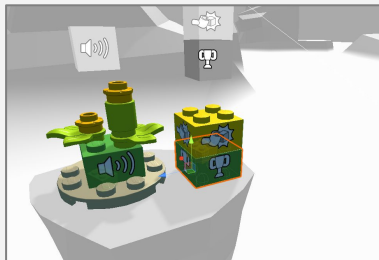
Available properties you can configure:
•Audio

! Idea

Combine the Win action with a Pickup trigger to create a game mode where you have to collect all the objects in the game to win.

It will make you win the game :)

Action: Speak

Create a narrative

The Speak action can be used to create fun speak bobbles for your game. Have your characters or environment tell a story to the player.
On its own, the action will trigger when the game starts.
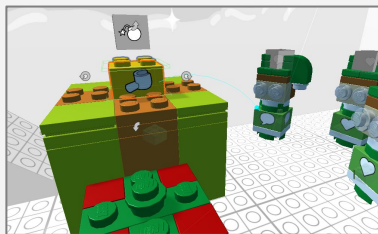
Available properties you can configure:
- List of dialogues
- Type (Talk, Yell, Think, Information Sign)
- Pause between dialogues

! Idea

Combine the Speak action with a Touch trigger to have the head elf react to you stealing the presents.

Make your characters speak.

Action: Counter

Advanced Conditional Rules

The Counter action is a powerful brick that allows you to manipulate your own variables (like a score or life points) and combine it with a **Counter Trigger** to react when certain conditions met. You can also specify if the variable value should be presented in the game UI automatically. On its own, the action will trigger when the game starts.

Available properties you can configure:
•Variable to manipulate (defaults included; Score, Progress & Energy)
•Operator (Add, Subtract, Multiply and Set)
•Value
•Variable Settings (Name, Initial Value, Use UI)

💬 **Idea**

Change the rules of the sample game Cannonball Bingo to have a score. Every time the player touch a new platform it adds to the score.
Can the player touch all platforms in time?
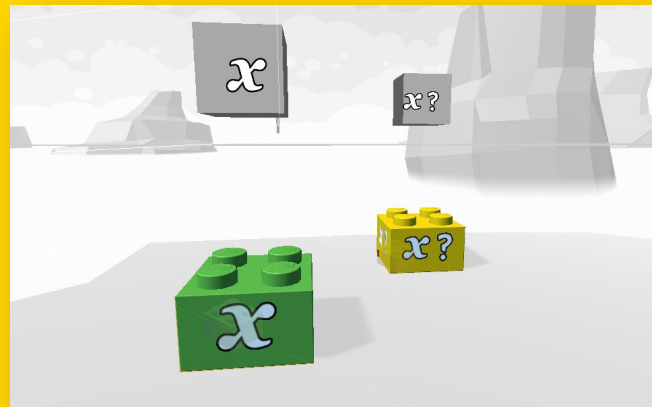
Use Counter action in combination with Counter trigger to create powerful conditional rules

Action: Spawn

Advanced Conditional Rules

The Spawn action can spawn LEGO models from your asset library during the game. You can spawn platforms, obstacles, enemies or whatever you can imagine. The models can even contain their own Behaviour Bricks! On its own, the action will trigger when the game starts.

Notable properties you should experiment with:
- LEGO Model
- Spawn Method (Build from around model, Build from Spawn action, Pop in, Appear)
- Spawn area and orientation
- Snap to ground and collide
- Build time

! Idea

Combine the Spawn action with a Touch trigger so, when the player touches the ancient column, it builds a platform that allows the player to get across the ravine.
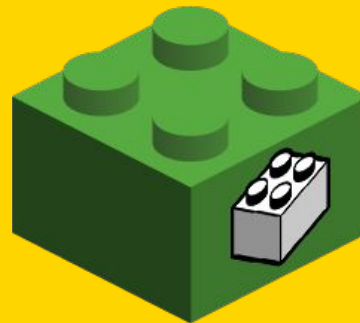
Use Spawn action to spawn a horde of dangerous …eh, ducks?
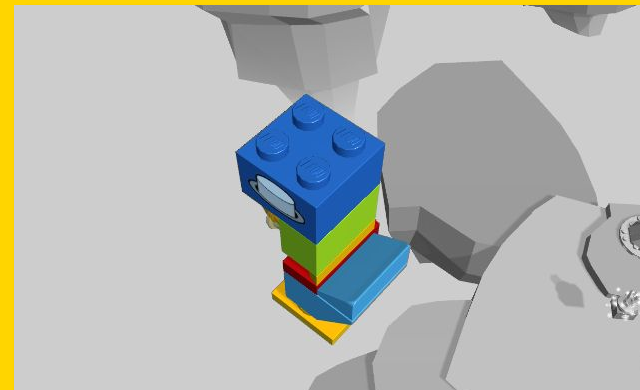
Action: One Button

Control models with just One Button

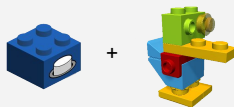The One Button Action allows you to control any model in a myriad of ways, just by using one button.

Notable properties you should experiment with:
•On Start Play – Move or Rotate in any direction continuously
•When Pressed, When Released, Move/Rotate + check Alternate
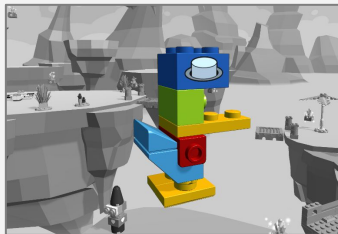•Jump + Max Jumps in Air
•Gravity

! **Idea**

Add one button control brick to Dr Pato. Can you use Move, Jump, Max Jumps in Air, and Gravity to make Flappy Bird-like controls for him?

What happens if you combine Rotate with Flappy Bird controls? Gaah!

Triggers

Trigger: Input

The model needs your input

The Input trigger can be used to register keyboard inputs to trigger specific actions, for example opening doors or waking up enemies.
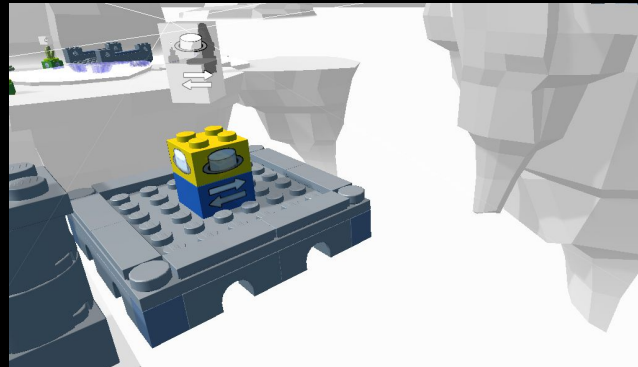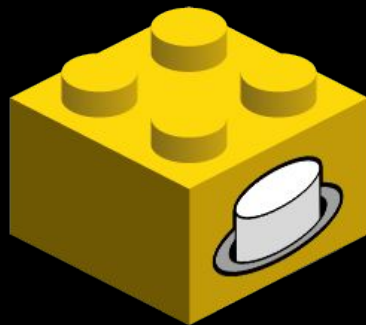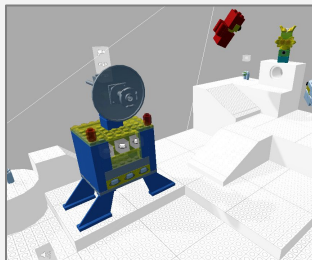
Available properties you can configure:
- Target
- Input
- Other Key
- Enable
- Distance
- Show Prompt
- ***NEW*: Extra Conditions (Counter Action)**

! Idea

Combine the Input trigger with Shoot and Rotate action bricks to make a laser cannon you can control from a control panel.

Use the assigned keyboard key to make the platform move

Trigger: Nearby

Get close to this one

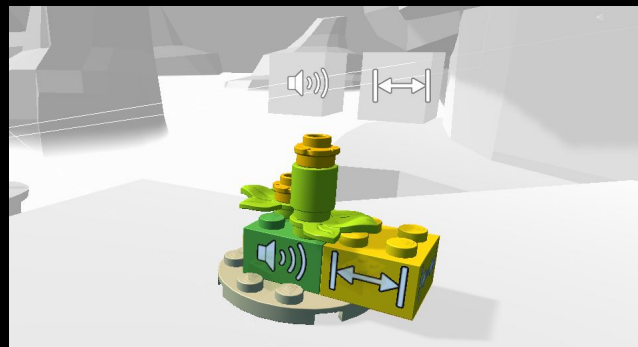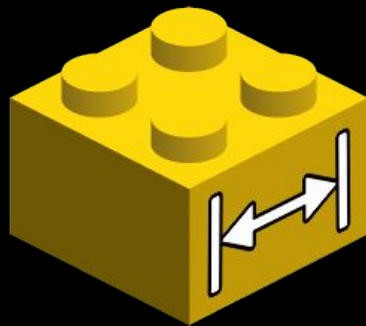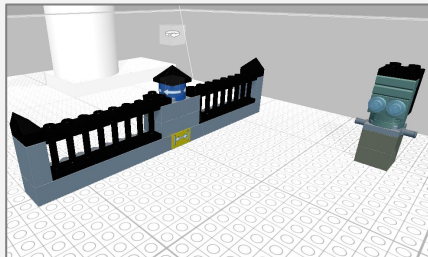The Nearby trigger can be used to trigger actions when a Player or other object is near the brick.

Available properties you can configure:
•Scope
•Target
•Sense
•Distance
•Repeat
•***NEW*: Extra Conditions (Counter Action)**

💬 **Idea**

Combine Nearby trigger with a Rotate action to make fun obstacles that triggers when you get close to it.

Get near the plants to trigger the Audio action

Trigger: Pickup

Pick up an object

The Pickup trigger is useful to create unique win conditions or obstacles that requires the player to pickup a specific object.
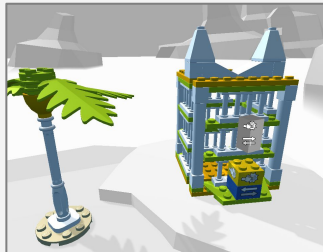
Available properties you can configure:
•Target
•Mode
•Repeat
•***NEW*: Extra Conditions (Counter Action)**

Idea

Combine Pickup trigger with a Platform action to make a door that requires a key to unlock. Define a collectable in the scene as key and have it trigger the Platform action once collected.

Triggers the Win action if all pickups has been collected

Trigger: Random

A dice roll

The Random trigger can be used to create less predictable behaviours for your game.
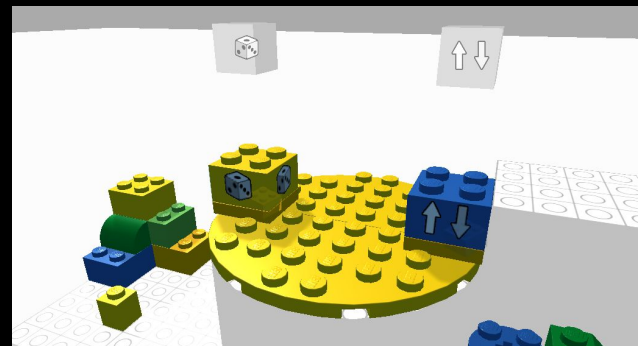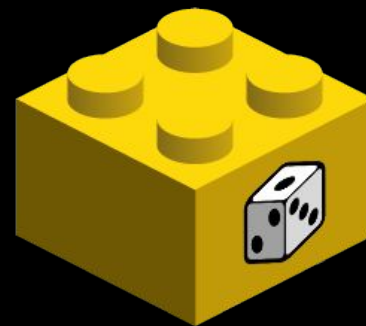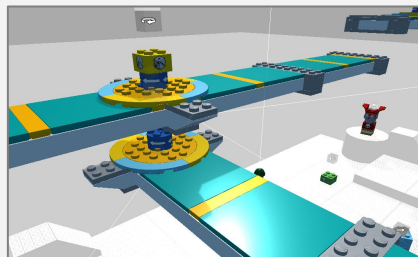
Available properties you can configure:
•Target
•Min Time
•Max Time
•***NEW*: Extra Conditions (Counter Action)**

! **Idea**

Combine the Random trigger with a Rotate action to create difficult obstacles for the player.

Moves the platform up and down, at random intervals

Trigger: Timer

Like clockwork

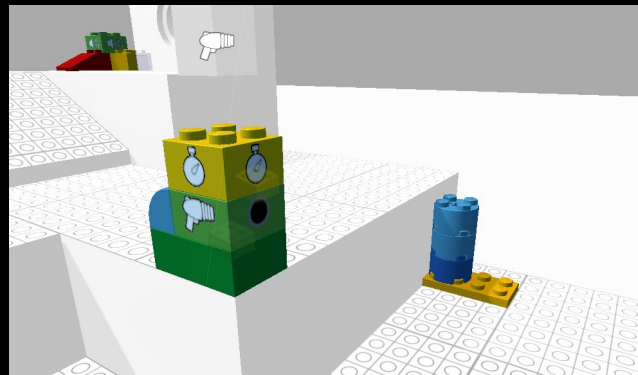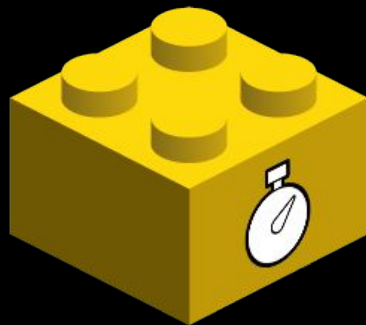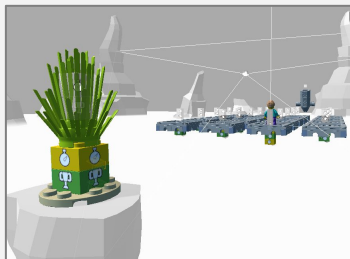The Timer trigger is useful to trigger actions at specific time intervals.

Available properties you can configure:
•Target
•Time
•***NEW*: Extra Conditions (Counter Action)**

! Idea

Combine Timer trigger with the Win action to create game modes where you have a specific amount of time to get points.

Shoots projectiles at a specified time interval

Trigger: Touch

Touch the model

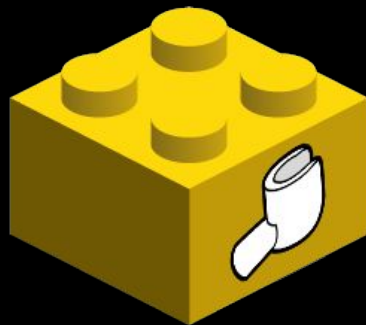The Touch trigger is useful to trigger actions when a Player or other game object in the Scene touches the brick.

Available properties you can configure:
- Scope
- Target
- Sense
- Repeat
- ***NEW*: Extra Conditions (Counter Action)**

💬 **Idea**

Combine the Touch trigger with a Move action to make the statue move away when the player touches it.

Reach the end of the level to win the game
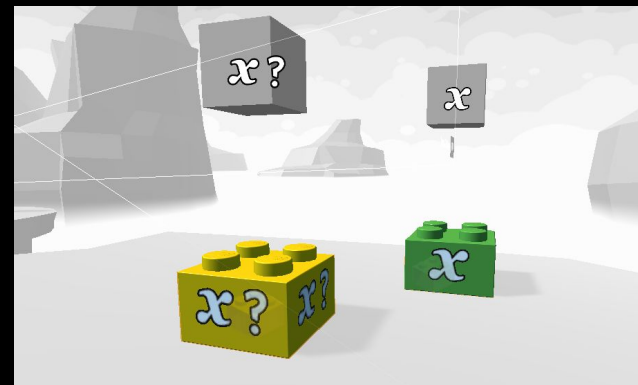
Trigger: Counter

Advanced Conditional Rules

The Counter trigger is a powerful brick that allows you to react on variables in your game. Used in combination with the **Counter Action** you can trigger other actions based on conditions of your variables (e.g. win the game if a certain score is met)

One important and powerful feature is that **every other trigger can act as a Counter trigger** meaning that you can for instance set a condition on the Touch trigger to only trigger if a variable condition is met.

Available properties you can configure:
•Target
•Condition (Variable, Type and Value) – it is possible to add multiple conditions
•Variable Settings (Name, Initial Value, Use UI)

Idea

Change the rules of the sample game Evil Machine to increase in difficulty. When the player collects more and more pickups the machine spins faster and a third arm gets triggered.

Combine the Counter trigger with the Counter action to create powerful conditional rules for your game