

Floppy Stick-man

Part 1

Play the game we are building:
[click](#)

Today's Game

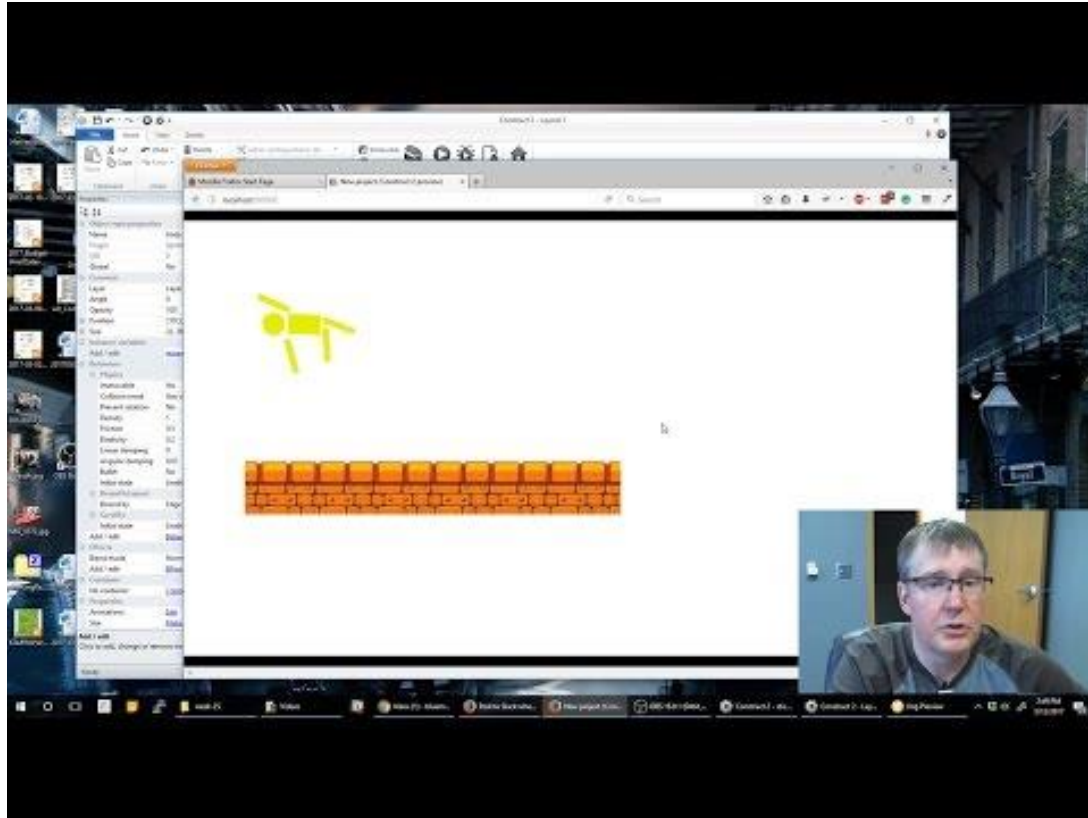
Challenge: Build a game that uses a floppy stick-man.

Goal: Learn how physic joints work.

Features:

- Build a stick-man with joints
- Keyboard applies force to stick-man
- Add ground to bounce around

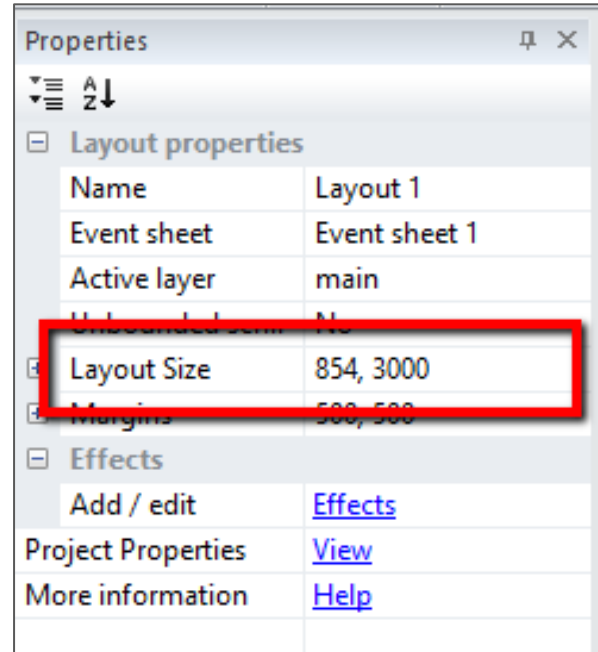
Walkthrough Video (It's VERY GOOD!)



<https://youtu.be/V7qM4AUhheg>

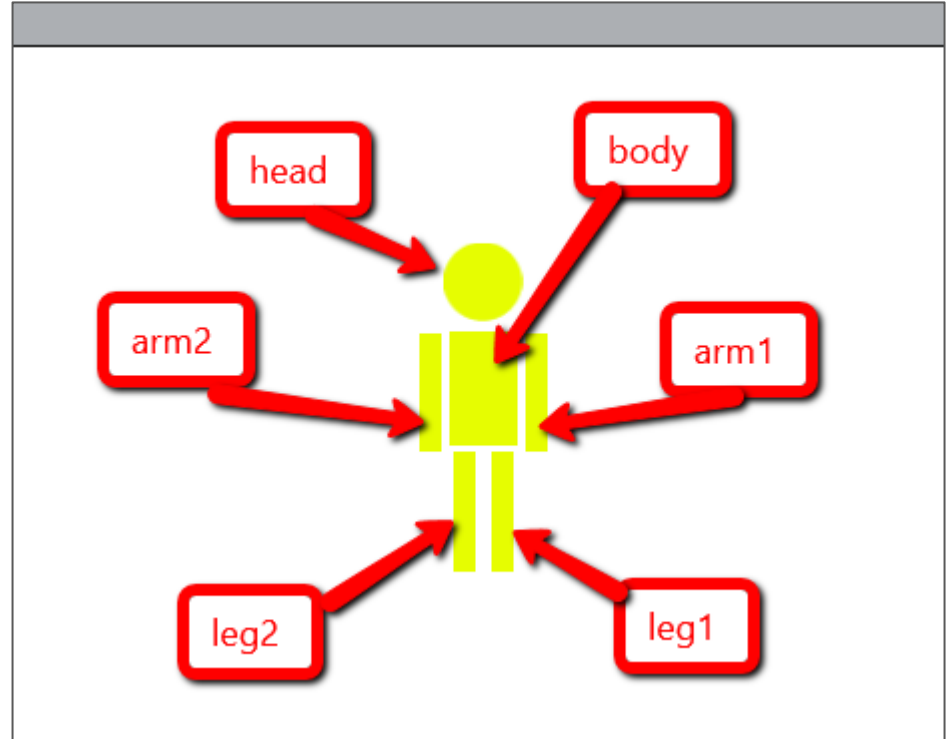
Set up Layout

- Layout size: 854, 3000



Build Stick-man

- Using 5 separate **Sprites**
- Create a **circle** for his head
- Name them:
 - **head, body, arm1, arm2, leg1, and leg2**
- Align them exactly where they should
- His body size should be *about* **25,35**



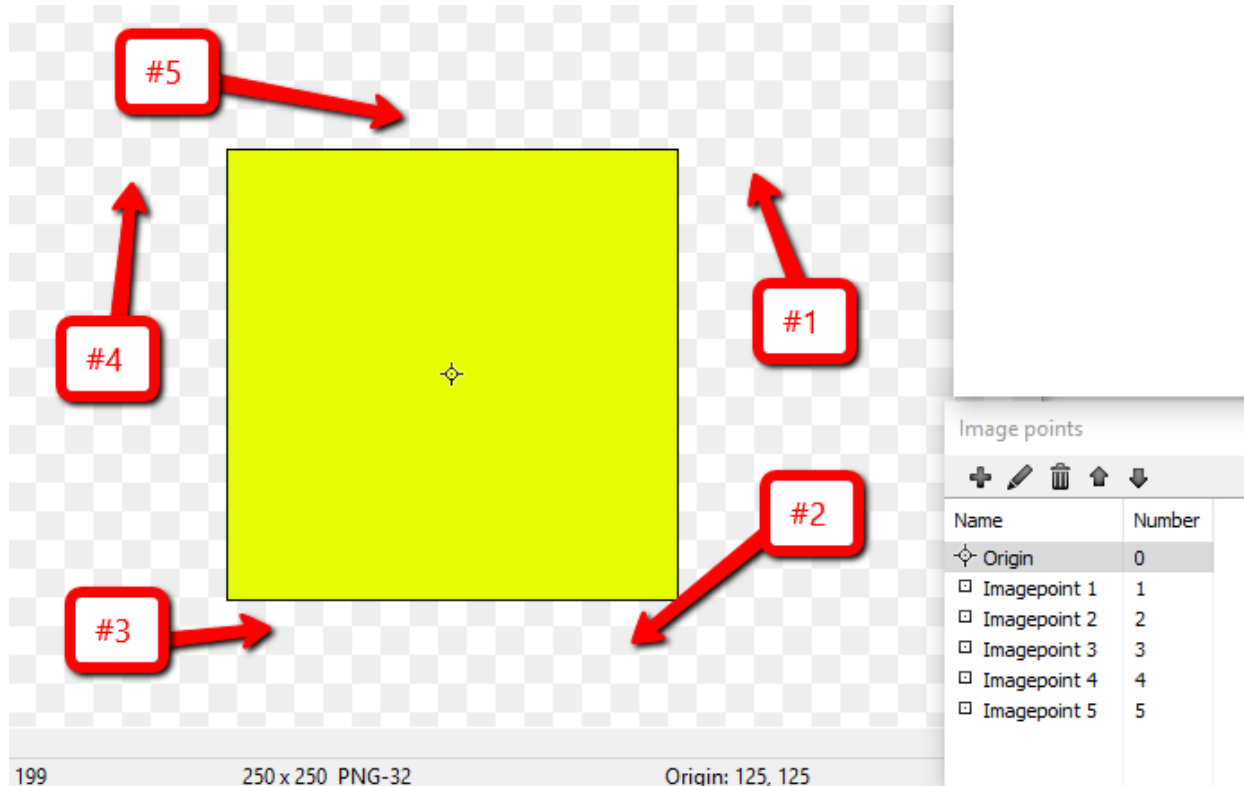
Add Behaviors

- Each body part gets:
 - Physics
 - Solid
- Only the body, get these behaviors:
 - Physics
 - Bound To Layout
 - Scroll To
 - Solid
- Also add Keyboard Object

| | |
|-----------------|---------------------------|
| Behaviors | |
| Physics | |
| Immovable | No |
| Collision ma... | Use collision pol... |
| Prevent rota... | No |
| Density | 1 |
| Friction | 0.5 |
| Elasticity | 0.2 |
| Linear damp... | 0 |
| Angular da... | 0.01 |
| Bullet | No |
| Initial state | Enabled |
| BoundToLayout | |
| Bound by | Edge |
| ScrollTo | |
| Initial state | Enabled |
| Add / edit | Behaviors |

Create Image Points

- Body gets 5 new image points for the joints

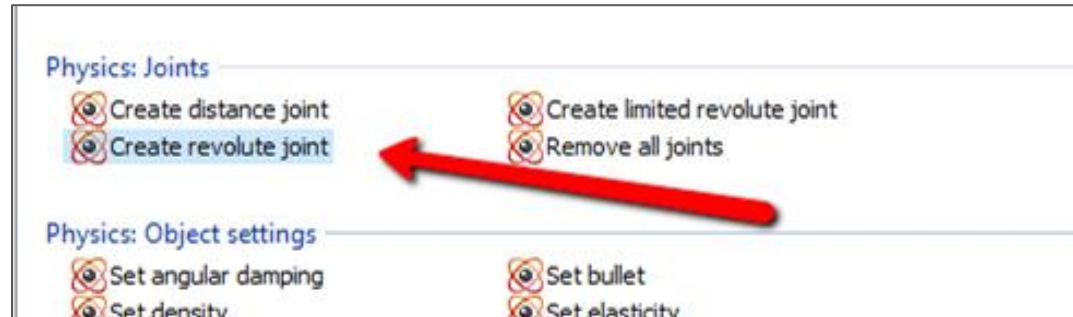


The image shows a yellow square on a checkerboard background. Five red arrows point from numbered boxes (#1 to #5) to the corners of the square. The origin is marked with a small crosshair in the center. A software interface on the right shows a list of image points.

| Image points | |
|---------------------------------------|--------|
| Name | Number |
| ⊞ Origin | 0 |
| <input type="checkbox"/> Imagepoint 1 | 1 |
| <input type="checkbox"/> Imagepoint 2 | 2 |
| <input type="checkbox"/> Imagepoint 3 | 3 |
| <input type="checkbox"/> Imagepoint 4 | 4 |
| <input type="checkbox"/> Imagepoint 5 | 5 |

199 250 x 250 PNG-32 Origin: 125, 125

Create Joints



| | | | | |
|---|--------|--------------------|------|---|
| 1 | System | On start of layout | body | Create Physics revolute joint at image point 1 to arm1 |
| | | | body | Create Physics revolute joint at image point 2 to leg1 |
| | | | body | Create Physics revolute joint at image point 3 to leg2 |
| | | | body | Create Physics revolute joint at image point 4 to arm2 |
| | | | body | Create Physics revolute joint at image point 5 to head |
| | | | | Add action |

Add Physics Forces

- Use the keyboard to apply forces
- Forces apply to the **body** at image point **0** (center)
- Your force value MAY need to be bigger, if you stick man is larger

| | | | |
|---|---|--|--|
| 2 |  Keybo... Right arrow is down |  body | Apply  Physics force 20 at angle 0 at image point 0 |
| | | | Add action |
| 3 |  Keybo... Left arrow is down |  body | Apply  Physics force 20 at angle 180 at image point 0 |
| | | | Add action |
| 4 |  Keybo... Up arrow is down |  body | Apply  Physics force 40 at angle 270 at image point 0 |
| | | | Add action |

Build a Platform

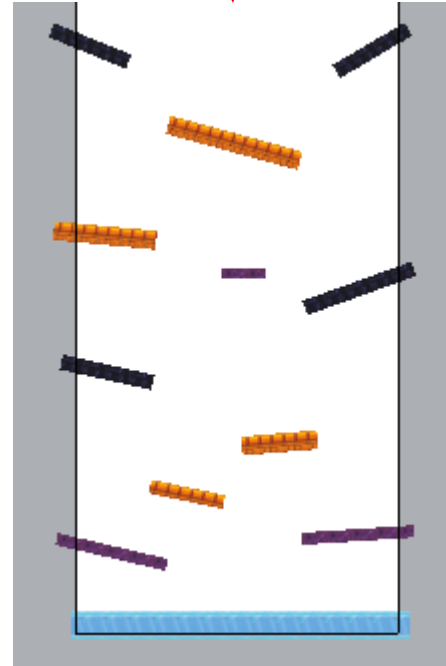
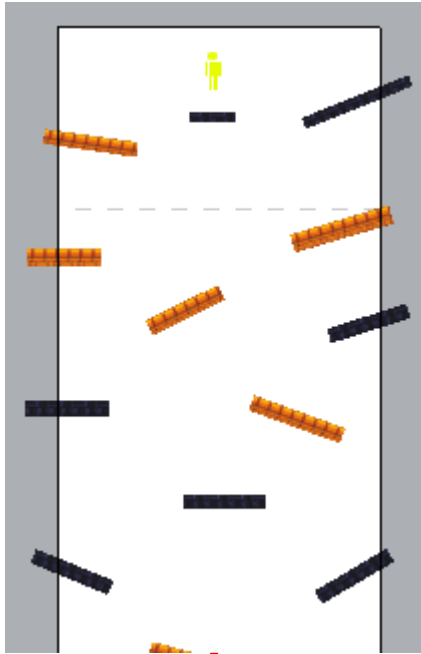
- Create multiple Tiled Background and use the images provided
- Apply Physics behavior to ALL background images
- Adjust properties
 - Immovable is Yes
 - Density is 1
 - Friction is 0.1
 - Elasticity is 0.5

| Behaviors | |
|-----------------|----------------------|
| [-] Physics | |
| Immovable | Yes |
| Collision ma... | Use collision pol... |
| Prevent rota... | No |
| Density | 1 |
| Friction | 0.1 |
| Elasticity | 0.5 |
| Linear damp... | 0 |
| Angular da... | 0.01 |
| Bullet | No |
| Initial state | Enabled |
| Add / edit | Behaviors |

(Adjust values, see what happens)

Build a Platform

- This is mine



TEST

- Test your stick man!
- Use the keyboard to apply forces

Part 2

- Add falling blocks
- Add stars to collect
- Polish our game

