Path System

Official Documentation v1.0

- Intuitive & user-friendly editor
- Bezier curves
- Physically based path
- Natural angular swing simulation
- Modular branch nodes
- Customizable GUI
- Line renderer generator
- No programming skills required
- Full documentation & examples

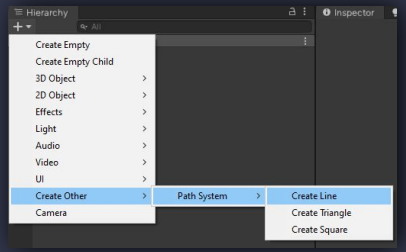
Official Overview

Content

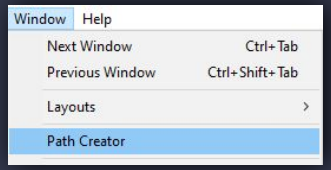
First Path

Path System allows you to create simple path just by one click or you can draw your custom path on specific surface.

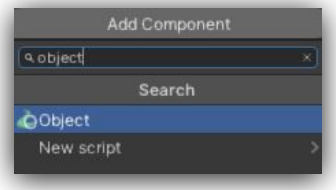
To create your first path, go to Create/Create Other/Path System/ and choose one of the options.



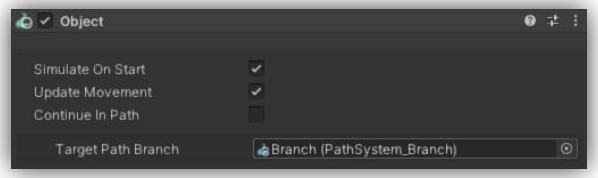
To start drawing your custom path, go to Window/Path Creator and select proper option you want to draw with.



To create a first object that will follow the path, choose any object and assign the **PathSystem_Object** component [***Object*** *in search*].



The component contains many options that can be set up and changed anytime. Assign the created branch into **Target Path Branch** and hit play.



The object will start to follow the path by the specific parameters.

Components

Path System contains 2 essential components + 1 additional component.

- **PathSystem_Branch**
- **PathSystem_Object**

- **PathSystem_Node**

PathSystem_Branch is a main component for generating object path, bezier curves and general path visualization.

PathSystem_Object is a main component for objects that will travel along the specific path.

PathSystem_Node is an additional component for nodes to set some parameters manually.

If you would like to use the internal API, the global namespace is ***PathSystem.***

PathSystem_Branch

Root node of all created nodes •

Add & remove last point/ node •

(if selected) insert or remove selected point/node •

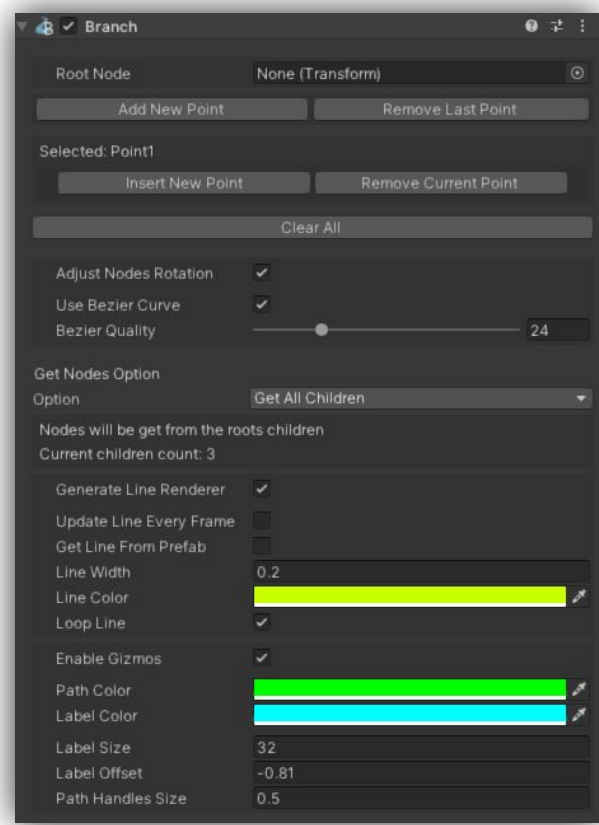
Rotate nodes towards their 'neighbors' •

Use bezier curve with specific quality •
[*Current version contains just **ONE bezier** type - linear*]

Get nodes option (from children, find by tag, by component or assign specific objects) •

Generate line renderer along the path •

Enable gizmos & editor GUI •



PathSystem_Object

PathSystem_Object offers you many possibilities that can be achieved within a few seconds. You can create natural rollercoaster, cableway, simple track or even cinematic camera tracks for animations and more.

The component is divided into 9 parts:

- Top menu
- Essential Parameters
- Object Additional Offsets
- Value Transitions
- Speed Parameters
- Turning Parameters
- Current Essential Parameters
- Audio & Sounds
- Path Options

Each category has specific focus & functionality. Please read the tooltips carefully!

Top menu contains general options such as start simulation on play, movement update and continue in path.

Essential Parameters contain essential options how the object will behave on path

Object Additional Offsets contain additional position & rotation offset.

Value Transitions contain movement & rotation smoothness. Other values correspond to the specific transition such as speed transition (how fast the object will change the speed due to gravity force and impact), speed break (how fast will stop) and turn transition (how fast will turn due to angle size etc).

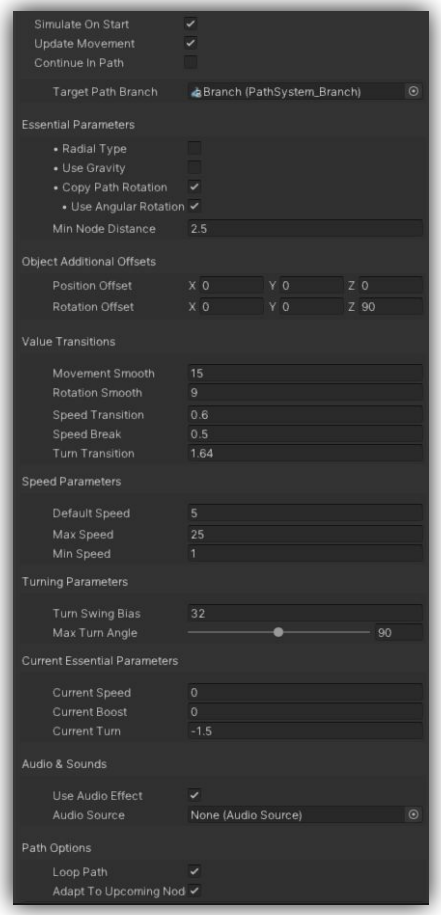
Speed Parameters contain default speed value and minimum/ maximum speed limit.

Turning Parameters contain objects turning behaviour and turning maximum angle. Bias makes the turn lower.

Current Essential Parameters just show you what's the object's speed, boost and turn.

Audio & Sounds control audio source volume intensity by the object's velocity.

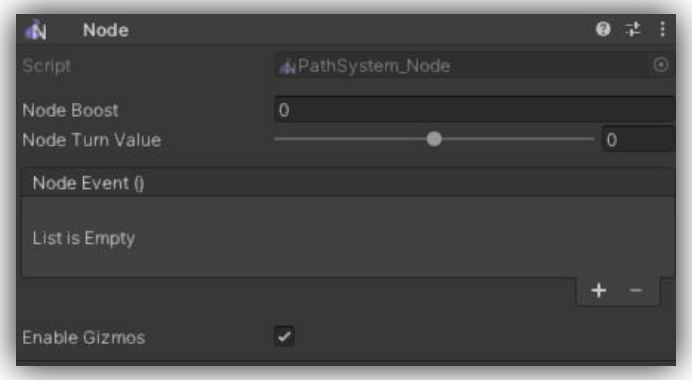
Path Options contain additional parameters if the object will repeat the path and if the object will adapt for the upcoming node.



PathSystem_Node

PathSystem_Node allows you to manually change some parameters on **PathSystem_Object**. The component must be applied onto specific path node. If **PathSystem_Object** passes the node, it will get defined parameters that the node holds.

It’s great if you are not satisfied with procedurally generated branch system, you can apply your custom ‘turn’ or ‘boost’ value on specific node, or you can just proceed event on the node.



Node Boost adds additional boost to the specific object.

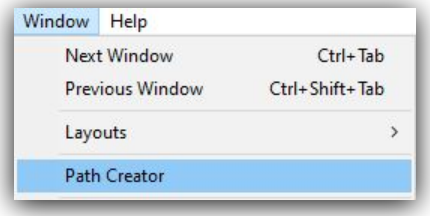
Node Turn Value adds manual turn value.

Additional node event (if the object passes the node in the list).

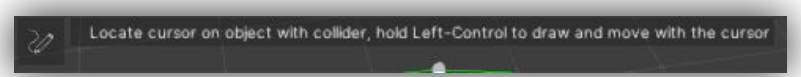
Path Drawing

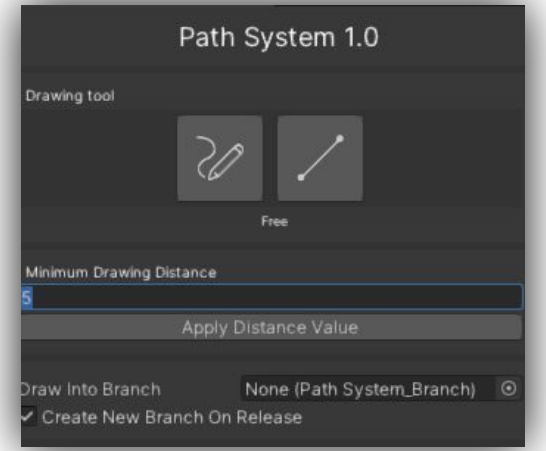
To start drawing your custom path, you need at least one ‘surface’ with collider.

Go to Window/Path Creator and select one of the options.



The upper GUI shows you the detailed information to start drawing.





Left icon indicates ‘Free Drawing’ mode which you hold the Left Control and move with mouse.

Right icon indicates ‘Snap Drawing’ with lines which you press Left Control and create straight line on cursor location.

FAQ

1. **What type of bezier curves does the Path System contain?**
   The Path System contains just one type of bezier curve yet - linear [one-pointed]
2. **Can I somehow visualize the path at runtime?**
   Yes, the Path System contains the functionality to generate fully customizable Line Renderer along the path.
3. **What does the *Natural Angular Swing* mean?**
   The Natural Angular Swing is an option that can be enabled for objects that travel along the specific path. This option allows the object rotate by the specific 'turn' angle and makes the object swing. It makes the object behave more natural if you are trying to achieve more realistic path results.
4. **What does the *Physically Based Path* mean?**
   The Physically Based Path allows you to simulate realistic path track that will control the object's velocity by the specific tilt. The more is object tilted forward - the faster the object will go.

Thank you for your attention!

If you have any questions or issues, please contact me here.