DRAWINGTOOL

The package

The issue :

When designing and testing levels or mechanics requiring the use of colliders (collision or trigger) it can be difficult to distinguish where they are without having to select them.
The simplest example being creating a level with invisible walls made from colliders.

It is possible to draw some shapes with Debug.Draw but they do not take into account rotation, scale or the collider center (offset for Collider2D).

What's more, if you want simple feedback such as a color change, you have to add it to each script that requests it.

The solution :

The DrawingTool package add 2 classes for an easier drawing :

- DebugDraw for 3D drawing with Gizmos.
- DebugDraw2D for 2D drawing with Gizmos.

And some scripts to attach allowing to visualize any collider or to have a color feedback if a collider is activated or not.

DrawingTool.AXIS is an enum allowing some methods to know the direction of some shapes like the capsule.

Example Scene :

In the folder Example you will find a scene showing some use of the methods and components from this package.

Drawing Methods 3D

Circle

Draw a circle at a position and around an axis. Can be rotated and scaled.

Properties :

Name	Type	Description	Optional
position	Vector3	Circle center position	No
radius	float	Circle radius	No
color	Color	Circle color	No
axis	DrawingTool.AXIS	Axis used for drawing	No
rotation	Quaternion	Circle rotation	Yes
scale	Vector3	Circle scale	Yes
nbrOfPoints	int	Number of points used for drawing	Yes

Path

Draw lines between a list of positions to create a path.

Properties :

Name	Type	Description	Optional
positions / relativeObjects	List<Vector3> / List<Transform>	Positions to form a path / Transforms to form a path	No
color	Color	Path color	No
loop	bool	Is the path looping	Yes

PathTension

Draw lines between a list of positions to create a path. Changes the lines color based on the distance between their starting and ending points.

Properties :

Name	Type	Description	Optional
positions / relativeObjects	List<Vector3> / List<Transform>	Positions to form a path / Transforms to form a path	No
colors / gradient	List<Color> / Gradient	Colors to create a gradient used to show the tension / Gradient used to show the tension	No
loop	bool	Is the path looping	Yes

Box

Draw a box at a position with a specified size. Can be rotated and scaled.

Properties :

Name	Type	Description	Optional
position	Vector3	Box center position	No
size	Vector2	Box radius	No
color	Color	Box color	No
rotation	Quaternion	Box rotation	Yes
scale	Vector3	Box scale	Yes
isWire	bool	Draw it as a wire mesh	Yes

WireBox

Draw a box at a position with a specified size. Draw it as a wire mesh. Can be rotated and scaled.

Properties :

Name	Type	Description	Optional
position	Vector3	Box center position	No
size	Vector2	Box radius	No
color	Color	Box color	No
rotation	Quaternion	Box rotation	Yes
scale	Vector3	Box scale	Yes

Sphere

Draw a sphere at a position with a specified radius. Can be rotated and scaled.

Properties :

Name	Type	Description	Optional
position	Vector3	Sphere center position	No
size	Vector2	Sphere radius	No
color	Color	Sphere color	No
rotation	Quaternion	Sphere rotation	Yes
scale	Vector3	Sphere scale	Yes
isWire	bool	Draw it as a wire mesh	Yes

WireSphere

Draw a sphere at a position with a specified radius. Draw it as a wire mesh. Can be rotated and scaled.

Properties :

Name	Type	Description	Optional
position	Vector3	Sphere center position	No
size	Vector2	Sphere radius	No
color	Color	Sphere color	No
rotation	Quaternion	Sphere rotation	Yes
scale	Vector3	Sphere scale	Yes

WireCapsule

Draw a sphere at a position with a specified height and radius. Draw it as a wire (not wire isn’t supported yet). Can be rotated and scaled.

Properties :

Name	Type	Description	Optional
position	Vector3	Capsule center position	No
height	float	Capsule height	No
radius	float	Capsule radius	No
color	Color	Capsule color	No
axis	DrawingTool.AXIS	Capsule direction	No
rotation	Quaternion	Capsule rotation	Yes
scale	Vector3	Capsule scale	Yes
isWire	bool	Draw it as a wire mesh	Yes

Mesh

Draw a mesh at a position. Can be rotated and scaled.

Properties :

Name	Type	Description	Optional
position	Vector3	Mesh center position	No
mesh	Mesh	Mesh used for drawing	No
color	Color	Mesh color	No
rotation	Quaternion	Mesh rotation	Yes
scale	Vector3	Mesh scale	Yes
isWire	bool	Draw it as a wire mesh	Yes

WireMesh

Draw a mesh at a position. Draw it as a wire. Can be rotated and scaled.

Properties :

Name	Type	Description	Optional
position	Vector3	Mesh center position	No
mesh	Mesh	Mesh used for drawing	No
color	Color	Mesh color	No
rotation	Quaternion	Mesh rotation	Yes
scale	Vector3	Mesh scale	Yes

Collider Methods 3D

BoxCollider

Draw a BoxCollider as a box mesh rotated and scaled based on it’s transform.

Properties :

Name	Type	Description	Optional
col	BoxCollider	Collider drawn	No
color	Color	Collider color	No

WireBoxCollider

Draw a BoxCollider as a wire mesh rotated and scaled based on it’s transform.

Properties :

Name	Type	Description	Optional
col	BoxCollider	Collider drawn	No
color	Color	Collider color	No

SphereCollider

Draw a SphereCollider as a mesh rotated and scaled based on it’s transform.

Properties :

Name	Type	Description	Optional
col	SphereCollider	Collider drawn	No
color	Color	Collider color	No

WireSphereCollider

Draw a SphereCollider as a wire mesh rotated and scaled based on it’s transform.

Properties :

Name	Type	Description	Optional
col	SphereCollider	Collider drawn	No
color	Color	Collider color	No

CapsuleCollider

Draw a CapsuleCollider as a mesh rotated and scaled based on it’s transform.

Properties :

Name	Type	Description	Optional
col	CapsuleCollider	Collider drawn	No
color	Color	Collider color	No

MeshCollider

Draw a MeshCollider as a mesh rotated and scaled based on it’s transform.

Properties :

Name	Type	Description	Optional
col	MeshCollider	Collider drawn	No
color	Color	Collider color	No

WireMeshCollider

Draw a MeshCollider as a wire mesh as a wire mesh rotated and scaled based on it’s transform.

Properties :

Name	Type	Description	Optional
col	MeshCollider	Collider drawn	No
color	Color	Collider color	No

Collider

Draw any collider as a mesh rotated and scaled based on it’s transform but is heavier to use. Use it when you want to test different shapes on a GameObject.

Properties :

Name	Type	Description	Optional
col	Collider	Collider drawn	No
color	Color	Collider color	No

Components 3D

DebugDrawColliders

Draw any collider attached to the object with this component and all colliders attached to the children of the object.

Properties :

Name	Type	Description	Optional
colliderColor	Color	Collider color	No

DebugDrawColliderDetection

Draw any collider attached to the object with this component and give a color feedback if there is a detection.
If hasCapacity is true the color feedback will be from a gradient to visualize how many detection there is.

Properties :

Name	Type	Description	Optional
objectMask	Collider	Collider drawn	No
hasCapacity	bool	Should it show how many objects it detected	No
detection	Color	Collider color there is objects	No
noDetection	Color	Collider color there is no objects	No
detectionGradient	Gradient	Gradient to show the quantity of objects detected	No
minimalCapacity	float	Minimal value before changing the color	No
maximumCapacity	float	Maximal value to reach the end of gradient	No

DebugDrawPathTension

Draw a path between the children of the object. Changes the lines color based on the distance between their starting and ending points.

Properties :

Name	Type	Description	Optional
pathLoop	bool	Is the path looping	No
simplePath	bool	Use tension or not	No
pathColor	Color	Color of the path	No
noDetection	Color	Collider color there is no objects	No
detectionGradient	Gradient	Gradien to show the tension	No
minimalCapacity	float	Minimal value before changing the color	No
maximumCapacity	float	Maximal value to reach the end of gradient	No

Drawing Methods 2D

Circle2D

Draw a circle at a position in 2D space.

Properties :

Name	Type	Description	Optional
position	Vector2	Circle center position	No
radius	float	Circle radius	No
color	Color	Circle color	No
rotation	Quaternion	Circle rotation	Yes
scale	Vector3	Circle scale	Yes
nbrOfPoints	int	Number of points used for drawing	Yes

Path

Draw lines between a list of positions to create a path in a 2D space.

Properties :

Name	Type	Description	Optional
positions / relativeObjects	List<Vector2> / List<Transform>	Positions to form a path / Transforms to form a path	No
color	Color	Path color	No
loop	bool	Is the path looping	Yes

PathTension

Draw lines between a list of positions to create a path in a 2D space. Changes the lines color based on the distance between their starting and ending points.

Properties :

Name	Type	Description	Optional
positions / relativeObjects	List<Vector2> / List<Transform>	Positions to form a path / Transforms to form a path	No
colors / gradient	List<Color> / Gradient	Colors to create a gradient used to show the tension / Gradient used to show the tension	No
loop	bool	Is the path looping	Yes

Square2D

Draw a square at a position with a specified size in a 2D space. Can be rotated and scaled.

Properties :

Name	Type	Description	Optional
position	Vector2	Box center position	No
size	Vector2	Box radius	No
color	Color	Box color	No
rotation	Quaternion	Box rotation	Yes
scale	Vector3	Box scale	Yes

Capsule2D

Draw a sphere at a position with a specified height and radius. Can be rotated and scaled.

Properties :

Name	Type	Description	Optional
position	Vector2	Capsule center position	No
height	float	Capsule height	No
radius	float	Capsule radius	No
color	Color	Capsule color	No
axis	DrawingTool.AXIS	Capsule direction	No
rotation	Quaternion	Capsule rotation	Yes
scale	Vector3	Capsule scale	Yes

Polygon2D

Draw a polygon at a position with a specified height and radius. Can be rotated and scaled.

Properties :

Name	Type	Description	Optional
position	Vector2	Polygon center position	No
points	List<Vector2>	Polygon vertex. The points of the polygon	No
color	Color	Polygon color	No
rotation	Quaternion	Polygon rotation	Yes
scale	Vector3	Polygon scale	Yes

Edge2D

Draw a polygon at a position with a specified height and radius. Can be rotated and scaled.

Properties :

Name	Type	Description	Optional
position	Vector2	Edge center position	No
points	List<Vector2>	Edge vertex. The points of the edge	No
color	Color	Polygon color	No
rotation	Quaternion	Edge rotation	Yes
scale	Vector3	Edge scale	Yes

Collider Methods 2D

BoxCollider2D

Draw a BoxCollider2D as a square shape rotated and scaled based on it’s transform.

Properties :

Name	Type	Description	Optional
col	BoxCollider2D	Collider drawn	No
color	Color	Collider color	No

CircleCollider2D

Draw a CircleCollider2D as a circle shape rotated and scaled based on it’s transform.

Properties :

Name	Type	Description	Optional
col	CircleCollider2D	Collider drawn	No
color	Color	Collider color	No

CapsuleCollider2D

Draw a CapsuleCollider2D as a capsule shape rotated and scaled based on it’s transform.

Properties :

Name	Type	Description	Optional
col	CapsuleCollider2D	Collider drawn	No
color	Color	Collider color	No

PolygonCollider2D

Draw a PolygonCollider2D as a polygon shape rotated and scaled based on it’s transform.

Properties :

Name	Type	Description	Optional
col	PolygonCollider2D	Collider drawn	No
color	Color	Collider color	No

EdgeCollider2D

Draw an EdgeCollider2D as a edge shape rotated and scaled based on it’s transform.

Properties :

Name	Type	Description	Optional
col	EdgeCollider2D	Collider drawn	No
color	Color	Collider color	No

Collider2D

Draw any collider2D rotated and scaled based on it’s transform but is heavier to use. Use it when you want to test different shapes on a GameObject.

Properties :

Name	Type	Description	Optional
col	Collider2D	Collider drawn	No
color	Color	Collider color	No

Components 2D

DebugDraw2DColliders

Draw any collider attached to the object with this component and all colliders attached to the children of the object.

Properties :

Name	Type	Description	Optional
colliderColor	Color	Collider color	No

DebugDraw2DColliderDetection

Draw any collider attached to the object with this component and give a color feedback if there is a detection.
If hasCapacity is true the color feedback will be from a gradient to visualize how many detection there is.

Properties :

Name	Type	Description	Optional
objectMask	Collider	Collider drawn	No
hasCapacity	bool	Should it show how many objects it detected	No
detection	Color	Collider color there is objects	No
noDetection	Color	Collider color there is no objects	No
detectionGradient	Gradient	Gradient to show the quantity of objects detected	No
minimalCapacity	float	Minimal value before changing the color	No
maximumCapacity	float	Maximal value to reach the end of gradient	No

DebugDraw2DPathTension

Draw a path between the children of the object. Changes the lines color based on the distance between their starting and ending points.

Properties :

Name	Type	Description	Optional
pathLoop	bool	Is the path looping	No
simplePath	bool	Use tension or not	No
pathColor	Color	Color of the path	No
noDetection	Color	Collider color there is no objects	No
detectionGradient	Gradient	Gradien to show the tension	No
minimalCapacity	float	Minimal value before changing the color	No
maximumCapacity	float	Maximal value to reach the end of gradient	No