

API / RayGame

Namespace RayGame

Classes

CollisionDetection

Provides a method for collision detection between shapes.

Engine

The main engine class that initializes and runs the game.

GameObject

Represents a game object in the Scene.

Mesh

Represents a 2D mesh consisting of a collection of vertices.

MeshRenderer

A Renderer that renders a Mesh associated with a GameObject.

SpriteRenderer

Transform

The class that holds all the transformation data for an object

Interfaces

IGameComponent

Interface for game components.

IRenderer

Interface for renderers.



API / RayGame / CollisionDetection

Edit this page

Class CollisionDetection

Provides a method for collision detection between shapes.

Inheritance

by object

L CollisionDetection

Inherited Members

object.Equals(object)

object.Equals(object, object)

object.GetHashCode()

object.GetType()

object.MemberwiseClone()

object.ReferenceEquals(object, object)

object.ToString()

Namespace: RayGame
Assembly: RayGame.dll

Syntax

public static class CollisionDetection

Remarks

This is a Static class used internally to check the collision between Colliders in GameObject s. Primarily for internal use

Methods

CheckCollision(Vector2[], Vector2[])

Checks if two shapes are colliding.

```
public static bool CheckCollision(Vector2[] shape1, Vector2[] shape2)
```

Parameters

TYPE	NAME	DESCRIPTION
Vector2[shape1	The first shape.
Vector2[]	shape2	The second shape.

Returns

TYPE DESCRIPTION

bool True if the shapes are colliding, otherwise false.



API / RayGame / Engine

Edit this page

Class Engine

The main engine class that initializes and runs the game.

Inheritance

```
↓ object↓ Engine
```

Inherited Members

```
object.Equals(object)
object.Equals(object, object)
object.GetHashCode()
object.GetType()
object.MemberwiseClone()
object.ReferenceEquals(object, object)
object.ToString()
Namespace: RayGame
```

Syntax

Assembly: RayGame.dll

public static class Engine

Fields

random

The Random Number Generator initiated with the Engine.

Declaration

public static Random random

Field Value

Random

Properties

GAMETIME

The value associated with the amount of milliseconds passed.

Declaration

```
public static long GAMETIME { get; }
```

Property Value

TYPE

long

Methods

CreateGameObject(string)

Creates a new game object with the specified name.

Declaration

```
public static GameObject CreateGameObject(string name)
```

Parameters

TYPE	NAME	DESCRIPTION
string	name	The name of the game object.

Returns

TYPE	DESCRIPTION
GameObject	The created game object.

CreateGameObject(string, Transform)

Creates a new game object with the specified name and Transform >.

Declaration

public static GameObject CreateGameObject(string name, Transform transform)

Parameters

TYPE	NAME	DESCRIPTION
string	name	The name of the game object.
Transform	transform	The transform of the game object.

Returns

TYPE	DESCRIPTION
GameObject	The created game object.

CreateGameObject(string, Vector2, float, float)

Creates a new game object with the specified name, position, angle, and scale.

Declaration

public static GameObject CreateGameObject(string name, Vector2 Position, float Angle, float Scale)

Parameters

TYPE	NAME	DESCRIPTION
string	name	The name of the game object.
Vector2	Position	The position of the game object.
float	Angle	The angle of the game object.
float	Scale	The scale of the game object.

Returns

TYPE	DESCRIPTION
GameObject	The created game object.

DeleteGameObject(GameObject)

Deletes the specified game object.

Declaration

```
public static void DeleteGameObject(GameObject Gobj)
```

Parameters

TYPE	NAME	DESCRIPTION
GameObject	Gobj	The game object to delete.

DisableColliderRendering()

Disables rendering of colliders for all game objects. Look at GameObject for more detail.

Declaration

public static void DisableColliderRendering()

EnableColliderRendering()

Enables rendering of colliders for all game objects. Look at GameObject for more detail.

Declaration

public static void EnableColliderRendering()

FindObjectByName(string)

Finds a game object by its name.

Declaration

public static GameObject FindObjectByName(string name)

Parameters

TYPE	NAME	DESCRIPTION
string	name	The name of the game object.

Returns

TYPE DESCRIPTION

GameObject The game object with the specified name, or null if not found.

FindObjectOfType<T>()

Finds the first game object that has a component of the specified type.

Declaration

public static GameObject FindObjectOfType<T>()

Returns

TYPE DESCRIPTION

GameObject The game object with the specified component, or null if not found.

Type Parameters

NAME DESCRIPTION

The type of component to look for.

GetGameObjectCount()

Gets the count of game objects currently in the engine.

Declaration

public static int GetGameObjectCount()

Returns

TYPE DESCRIPTION

int The number of game objects.

INIT<T>()

Initializes the game engine with a specified game component. That Custom Component is the entry point into using the Engine.

Declaration

public static void INIT<T>() where T : IGameComponent, new()

Type Parameters

NAME DESCRIPTION

T The type of game component to initialize.



API / RayGame / GameObject

Edit this page

Class GameObject

Represents a game object in the Scene.

Inheritance

↓ object

L, GameObject

Inherited Members

object.Equals(object)

object.Equals(object, object)

object.GetHashCode()

object.GetType()

object.MemberwiseClone()

object.ReferenceEquals(object, object)

object.ToString()

Namespace: RayGame
Assembly: RayGame.dll

Syntax

public class GameObject

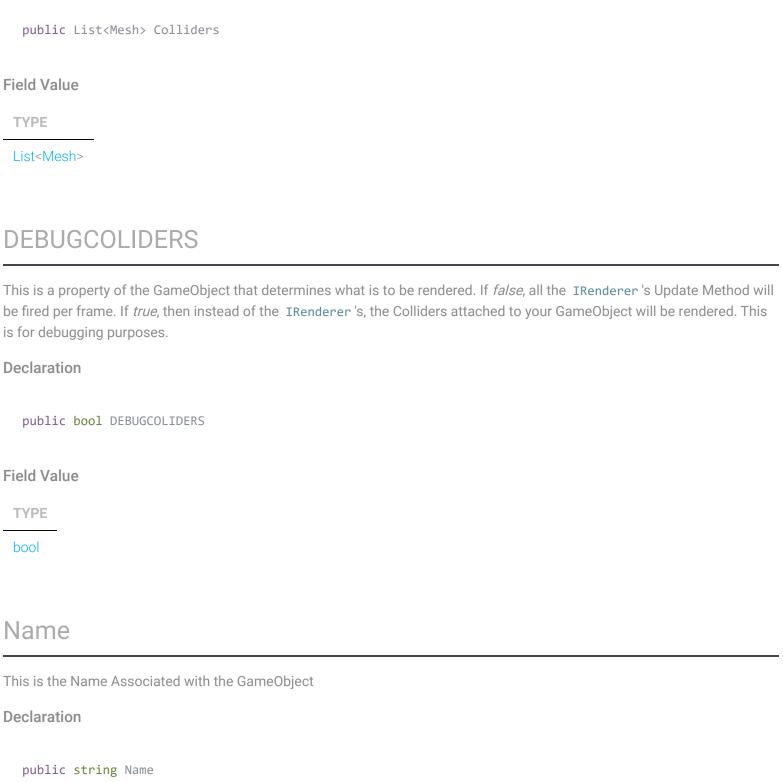
Remarks

The GameObjects are the building blocks of your scene. They contain a few fields that allow for adding logic and properties to make them functional.

Fields

Colliders

The List of Colliders attached to the GameObject. They are represented as a List of Mesh's. You can add Colliders directly.



Field Value

TYPE

string

Transform

This is the Transform attached to the GameObject.

Declaration

public Transform Transform

Field Value

TYPE

Transform

Methods

AddComponent<T>()

Adds a component of the specified type to this game object.

Declaration

```
public T AddComponent<T>() where T : IGameComponent, new()
```

Returns

TYPE DESCRIPTION

T The added component.

Type Parameters

NAME DESCRIPTION

T The type of component to add.

AddRenderer<T>()

Adds a renderer of the specified type to this game object.

Declaration

```
public T AddRenderer<T>() where T : IRenderer, new()
```

Returns

TYPE DESCRIPTION

The added renderer.

Type Parameters

NAME	DESCRIPTION
INMINIE	DESCRIP HON

T The type of renderer to add.

DeleteAllRenderers()

Deletes all renderers from this game object.

Declaration

public void DeleteAllRenderers()

DeleteComponent<T>()

Deletes the first component of the specified type from this game object.

Declaration

```
public void DeleteComponent<T>() where T : IGameComponent
```

Type Parameters

NAME DESCRIPTION

T The type of component to delete.

DeleteObjectComponents()

Deletes all components from this game object.

```
public void DeleteObjectComponents()
```

DeleteRenderer<T>(int)

Deletes a renderer of the specified type at the given index from this game object.

Declaration

```
public void DeleteRenderer<T>(int Index) where T : class, IRenderer
```

Parameters

TYPE	NAME	DESCRIPTION
int	Index	The index of the renderer to delete.

Type Parameters

NAME	DESCRIPTION	
Т	The type of renderer to delete.	

GetComponentNameList(bool)

Gets a list of the names of all components attached to this game object.

Declaration

```
public List<string> GetComponentNameList(bool Print)
```

Parameters

TYPE	NAME	DESCRIPTION
bool	Print	If true, prints the names to the console.

Returns

TYPE	DESCRIPTION
List <string></string>	A list of component names.

GetComponent<T>()

Gets the first component of the specified type attached to this game object.

```
public T GetComponent<T>()
```

Returns

TYPE	DESCRIPTION
ITPE	DESCRIPTION

T The component if found, otherwise null.

Type Parameters

NIABAE	DECCRIPTION
NAME	DESCRIPTION

The type of component to get.

GetRendererNameList(bool)

Gets a list of the names of all renderers attached to this game object.

Declaration

```
public List<string> GetRendererNameList(bool Print)
```

Parameters

TYPE	NAME	DESCRIPTION
bool	Print	If true, prints the names to the console.

Returns

TYPE	DESCRIPTION
List <string></string>	A list of renderer names.

GetRenderer<T>(int)

Gets a renderer of the specified type at the given index from this game object. If the GameObject contains multiple types of renderers, then the index takes into account only the specified T

Declaration

```
public T GetRenderer<T>(int Index) where T : class, IRenderer
```

Parameters

TYPE	NAME	DESCRIPTION
int	Index	The index of the renderer to get

Returns

TYPE	DESCRIPTION

The renderer if found, otherwise null.

Type Parameters

NAME	DESCRIPTION
Т	The type of renderer to get.

HasComponent<T>()

Checks if this game object has a component of the specified type.

Declaration

```
public bool HasComponent<T>() where T : IGameComponent
```

Returns

TYPE DESCRIPTION

bool True if the component is found, otherwise false.

Type Parameters

NAME	DESCRIPTION
т	The type of component to check for

HasRenderer<T>()

Checks if this game object has a renderer of the specified type.

Declaration

```
public bool HasRenderer<T>() where T : IRenderer
```

Returns

TYPE DESCRIPTION

bool True if the renderer is found, otherwise false.

Type Parameters

NAME	DESCRIPTION
14/AIVIL	DEGOIGH HON

T The type of renderer to check for.

IsColliding(GameObject)

Checks if this game object is colliding with the specified target game object.

Declaration

```
public bool IsColliding(GameObject Target)
```

Parameters

TYP	E	NAME	DESCRIPTION
Gam	neObiect	Target	The target game object to check for collisions with.

Returns

TYPE DESCRIPTION

bool True if a collision is detected, otherwise false.

SetTransform(Transform)

Sets the transform of this game object to the specified new transform.

Declaration

public void SetTransform(Transform newTransform)

Parameters

	TYPE	NAME	DESCRIPTION
Transform		newTransform	The new transform to set

ShiftComponent<T>(int)

Shifts a component of the specified type by a given offset in the component list.

Declaration

```
public void ShiftComponent<T>(int offset) where T : IGameComponent
```

Parameters

TYPE	NAME	DESCRIPTION
int	offset	The offset by which to shift the component.

Type Parameters

NAME	DESCRIPTION
Т	The type of component to shift.

ShiftRenderer<T>(int)

Shifts a renderer of the specified type by a given offset in the renderer list.

Declaration

```
public void ShiftRenderer<T>(int offset) where T : IRenderer
```

Parameters

TYPE	NAME	DESCRIPTION
int	offset	The offset by which to shift the renderer.

Type Parameters

NAME	DESCRIPTION
Т	The type of renderer to shift.

StartActions()

The function that is called when the GameObject is Initiated. Not used in most cases. Primarily for internal use

UpdateActions()

This is the function that calls to update the state of the GameObject per frame. Primarily for internal use

Declaration

public void UpdateActions()



API / RayGame / IGameComponent

Edit this page

Interface IGameComponent

Interface for game components.

Namespace: RayGame
Assembly: RayGame.dll

Syntax

public interface IGameComponent

Remarks

Implement this interface to create custom game components. Each GameObject has a List of Components that it runs by itself. Hence, any class that implements IGameComponent, will be eligible to perform as a script attached to the Object. By This, It is possible to create *Prefabs* buy creating 1 class component that adds all the required components and modifications.

Properties

Container

The container GameObject for this component.

Declaration

```
GameObject Container { get; set; }
```

Property Value

TYPE

GameObject

Methods

Start()

Called when the component is Added.

Declaration

void Start()

Update()

Called every frame to update the component.

Declaration

void Update()



API / RayGame / IRenderer

Edit this page

Interface IRenderer

Interface for renderers.

Namespace: RayGame
Assembly: RayGame.dll

Syntax

public interface IRenderer

Remarks

This is interface is to be inherited by all Renderers, If you wish to make a custom renderer, then u can, but i would recommend sticking to the provided renderers. **Primarily for internal use**

Properties

Container

The container GameObject for this renderer. Any Actions that want to be performed to it, is does through this reference.

Declaration

```
GameObject Container { get; set; }
```

Property Value

TYPE

GameObject

Methods

Start()

The Function Called when the Renderer is Added to an Object.

Declaration

void Start()

Update()

Called every frame to update the renderer. Primarily holds code to render the content.

Declaration

void Update()



API / RayGame / Mesh

Edit this page

Class Mesh

Represents a 2D mesh consisting of a collection of vertices.

Inheritance

Inherited Members

object.Equals(object)
object.Equals(object, object)
object.GetHashCode()
object.GetType()
object.MemberwiseClone()
object.ReferenceEquals(object, object)
object.ToString()
Namespace: RayGame

Syntax

Assembly: RayGame.dll

public class Mesh

Remarks

A Mesh is a collection of Vertices that is used to display/render anything. It is always a closed loop. The Mesh also have functions that can edit it, however, be careful, as all modifications as *permanent*. It is Attached to a MeshRenderer to be viewed at the GameObject's Position. The vertices themselves are always represented in local space.

Constructors

Mesh(Vector2[])

Initializes a new instance of the Mesh class with an array of vertices specified as Vector2.

```
public Mesh(Vector2[] vertexArray)
```

Parameters

TYPE	NAME	DESCRIPTION
Vector2[]	vertexArray	An array of Vector2 representing the vertices of the mesh.

Mesh((float, float)[])

Initializes a new instance of the Mesh class with an array of vertices specified as tuples.

Declaration

```
public Mesh((float, float)[] vertexArray)
```

Parameters

TYPE	NAME	DESCRIPTION
(float, float)∏	vertexArray	An array of tuples representing the vertices of the mesh.

Methods

AddVertex(Vector2)

Adds a single vertex to the mesh.

Declaration

public void AddVertex(Vector2 vertex)

Parameters

TYPE	NAME	DESCRIPTION
Vector2	vertex	The vertex to add to the mesh.

AddVertex((float, float))

Adds a single vertex to the mesh specified as a tuple.

Declaration

```
public void AddVertex((float, float) vertex)
```

Parameters

TYPE	NAME	DESCRIPTION	
(float, float)	vertex	The vertex to add to the mesh.	

AddVertices(Vector2[])

Adds an array of vertices to the mesh.

Declaration

```
public void AddVertices(Vector2[] vertexArray)
```

Parameters

TYPE	NAME	DESCRIPTION
Vector2	vertexArray	An array of Vector2 to add to the mesh.

AddVertices((float, float)[])

Adds an array of vertices to the mesh specified as tuples.

Declaration

```
public void AddVertices((float, float)[] vertexArray)
```

Parameters

TYPE	NAME	DESCRIPTION
(float, float)[]	vertexArray	An array of tuples representing the vertices to add to the mesh.

DeleteLastVertex()

Deletes a Vertex from the last position.

Declaration

public void DeleteLastVertex()

DeleteVertex(int)

Deletes a vertex at the specified index.

Declaration

public void DeleteVertex(int Index)

Parameters

TYPE	NAME	DESCRIPTION
int	Index	The index of the vertex to delete.

DeleteVertex((float, float))

Deletes a vertex that matches the specified point.

Declaration

```
public void DeleteVertex((float, float) point)
```

Parameters

TYPE	NAME	DESCRIPTION
(float, float)	point	The point representing the vertex to delete.

GetVertexArray()

Gets the vertices of the mesh as an array.

```
public Vector2[] GetVertexArray()
```

Returns

TYPE DESCRIPTION

Vector2 An array of Vector2 representing the vertices of the mesh.

InsertVertex(int, Vector2)

Inserts a vertex at the specified index.

Declaration

public void InsertVertex(int Index, Vector2 Vertex)

Parameters

TYPE	NAME	DESCRIPTION
int	Index	The index at which to insert the vertex.
Vector2	Vertex	The vertex to insert.

RotateMesh(float)

Rotates the entire mesh by the specified angle.

Declaration

public Mesh RotateMesh(float Angle)

Parameters

TYPE	NAME	DESCRIPTION
float	Angle	The angle in degrees by which to rotate the mesh.

Returns

TYPE	DESCRIPTION
Mesh	The rotated mesh

ScaleMesh(float)

Scales the entire mesh by the specified scale factor.

Declaration

```
public Mesh ScaleMesh(float Scale)
```

Parameters

TYPE	NAME	DESCRIPTION
float	Scale	The scale factor by which to scale the mesh.

Returns

TYPE	DESCRIPTION
Mesh	The scaled mesh.

ShiftMesh(Vector2)

Shifts the entire mesh by the specified offset in Position.

Declaration

```
public Mesh ShiftMesh(Vector2 Offset)
```

Parameters

TYPE	NAME	DESCRIPTION
Vector2	Offset	The offset by which to shift the mesh.

Returns

TYPE	DESCRIPTION
Mesh	The shifted mesh.

ShiftMesh((float, float))

Shifts the entire mesh by the specified offset in Position.

Parameters

TYPE	NAME	DESCRIPTION
(float, float)	0ffset	The offset specified as a tuple by which to shift the mesh.

Returns

TYPE	DESCRIPTION
Mesh	The shifted mesh.



API / RayGame / MeshRenderer

Edit this page

Class MeshRenderer

A Renderer that renders a Mesh associated with a GameObject.

Inheritance

Implements

IRenderer

Inherited Members

```
object.Equals(object)
object.Equals(object, object)
object.GetHashCode()
object.GetType()
object.MemberwiseClone()
object.ReferenceEquals(object, object)
object.ToString()
Namespace: RayGame
Assembly: RayGame.dll
```

Syntax

```
public class MeshRenderer : IRenderer
```

Properties

Container

The Container is the reference to the GameObject it is connected to.

```
public GameObject Container { get; set; }
```

Property Value

TYPE

GameObject

Methods

GetMesh()

Gets the mesh being rendered.

Declaration

```
public Mesh GetMesh()
```

Returns

TYPE DESCRIPTION

Mesh The Mesh being rendered.

SetMesh(Mesh)

Sets the mesh to be rendered.

Declaration

```
public Mesh SetMesh(Mesh mesh)
```

Parameters

TYPE	NAME	DESCRIPTION
Mesh	mesh	The Mesh to set.

Returns

TYPE	DESCRIPTION	
Mesh	The Mesh that was set.	

Start()

Initializes the renderer. This method is called when the renderer is first added to a GameObject.

Declaration

public void Start()

Update()

Updates the renderer. This method is called once per frame.

Declaration

public void Update()

Implements

IRenderer



API / RayGame / SpriteRenderer

Edit this page

Class SpriteRenderer

Inheritance

Implements

IRenderer

Inherited Members

```
object.Equals(object)
object.Equals(object, object)
object.GetHashCode()
object.GetType()
object.MemberwiseClone()
object.ReferenceEquals(object, object)
object.ToString()
Namespace: RayGame
```

Syntax

Assembly: RayGame.dll

```
public class SpriteRenderer : IRenderer
```

Fields

transform

Declaration

```
public Transform transform
```

Field Value

Transform

Properties

Container

The Container is the reference to the GameObject it is connected to.

Declaration

```
public GameObject Container { get; set; }
```

Property Value

TYPE

GameObject

Methods

GetSprite()

Retrieves the current sprite texture.

Declaration

```
public Texture2D GetSprite()
```

Returns

TYPE DESCRIPTION

Texture2D The current Raylib_cs.Texture2D sprite.

SetSprite(Texture2D)

Sets the sprite texture.

Declaration

public void SetSprite(Texture2D ImputSprite)

Parameters

TYPE	NAME

Texture2D ImputSprite

Start()

Initializes the renderer. This method is called when the renderer is first added to a GameObject.

Declaration

public void Start()

Update()

Updates the renderer. This method is called once per frame.

Declaration

public void Update()

Implements

IRenderer



API / RayGame / Transform

Edit this page

Class Transform

The class that holds all the transformation data for an object

Inheritance

Inherited Members

object.Equals(object)

object.Equals(object, object)
object.GetHashCode()
object.GetType()
object.MemberwiseClone()
object.ReferenceEquals(object, object)
object.ToString()
Namespace: RayGame

Syntax

Assembly: RayGame.dll

public class Transform

Remarks

A Class that is used to represent the Position, Rotation and Scale of an object. This class super-imposes its properties onto vertices per frame, which means that any object containing this class can enact global transformations within that Game Object. By default, any transformations does on the object should be done through its Transform.

Constructors

Transform()

Initializes a new instance of the Transform class with default values. Position being (0,0). Rotation being 0. Scale being 1.

Declaration

Transform(Vector2, float, float)

Initializes a new instance of the Transform class with specified position, rotation, and scale.

Declaration

```
public Transform(Vector2 pos, float ang, float sc)
```

Parameters

TYPE	NAME	DESCRIPTION
Vector2	pos	The position of the transform.
float	ang	The rotation of the transform in degrees.
float	SC	The scale of the transform.

Fields

Position

The position of the transform as a Vector2.

Declaration

public Vector2 Position

Field Value

TYPE

Vector2

Scale

The Scale of the transform as a Float.

Declaration

public float Scale

Field Value

TYPE

float

Methods

ApplyTransform(Vector2[])

Applies the transform to an array of vertices. Applies that transforms onto the Vertices of a Mesh's Vertex Array. Primarily used internally in the Engine.

Declaration

```
public Vector2[] ApplyTransform(Vector2[] VertexArray)
```

Parameters

TYPE	NAME	DESCRIPTION
Vector2[]	VertexArray	The array of vertices to transform.

Returns

TYPE	DESCRIPTION
Vector2[]	The transformed array of vertices.

GetRotation()

Gets the rotation of the transform.

Declaration

```
public float GetRotation()
```

Returns

float

The rotation in returned as Degrees.

Rotate(float)

Rotates the transform by the specified angle. Takes an Angle in degrees, and stores them internally as radians.

Declaration

```
public void Rotate(float Angle)
```

Parameters

TYPE	NAME	DESCRIPTION
float	Angle	The angle in degrees.

SetRotation(float)

Sets the rotation of the transform to the specified angle. Takes an Angle in degrees, and stores them internally as radians.

Declaration

```
public void SetRotation(float Angle)
```

Parameters

TYPE	NAME	DESCRIPTION
float	Angle	The angle in degrees.

Translate(Vector2)

Translates the transform by the specified offset.

Declaration

```
public void Translate(Vector2 Offset)
```

Parameters

TYPE NAME DESCRIPTION

Vector2 Offset The offset as a Vector2.

Translate((float, float))

Translates the transform by the specified offset.

Declaration

```
public void Translate((float, float) Offset)
```

Parameters

TYPE	NAME	DESCRIPTION
(float, float)	Offset	The offset as a tuple(float , float)



API / RayGame.Demo

Namespace RayGame.Demo

Classes

Bird

Demo

Manager



API / RayGame.Demo / Bird

Edit this page

Class Bird

```
Inheritance
```

L Bird

Implements

IGameComponent

Inherited Members

object.Equals(object)
object.Equals(object, object)

object.GetHashCode()

object.GetType()

object.MemberwiseClone()

object.ReferenceEquals(object, object)

object.ToString()

Namespace: RayGame.Demo

Assembly: RayGame.dll

Syntax

public class Bird : IGameComponent

Properties

Container

The container GameObject for this component.

Declaration

```
public GameObject Container { get; set; }
```

Property Value

GameObject

Methods

Start()

Called when the component is Added.

Declaration

public void Start()

Update()

Called every frame to update the component.

Declaration

public void Update()

Implements

IGameComponent



API / RayGame.Demo / Demo

Edit this page

Class Demo

Inheritance

Ly object
Ly Demo

Inherited Members

object.Equals(object)
object.Equals(object, object)
object.GetHashCode()

object.GetType()

object.MemberwiseClone()

object.ReferenceEquals(object, object)

object.ToString()

Namespace: RayGame.Demo

Assembly: RayGame.dll

Syntax

public static class Demo

Methods

Main()

Declaration

public static void Main()



API / RayGame.Demo / Manager

Edit this page

Class Manager

Inheritance

↓ object↓ Manager

Implements

IGameComponent

Inherited Members

object.Equals(object) object.Equals(object, object) object.GetHashCode() object.GetType()

object.MemberwiseClone()

object.ReferenceEquals(object, object)

object.ToString()

Namespace: RayGame.Demo
Assembly: RayGame.dll

Syntax

public class Manager : IGameComponent

Fields

PipeInstances

Declaration

public List<GameObject> PipeInstances

Field Value

List<GameObject>

Running

Declaration

public bool Running

Field Value

TYPE

bool

Properties

Container

The container GameObject for this component.

Declaration

```
public GameObject Container { get; set; }
```

Property Value

TYPE

GameObject

Instance

Declaration

```
public static Manager Instance { get; }
```

Property Value

Manager

Methods

RestartGame()

Declaration

public void RestartGame()

SpawnObject()

Declaration

public void SpawnObject()

Start()

Called when the component is Added.

Declaration

public void Start()

Update()

Called every frame to update the component.

Declaration

public void Update()

Implements

IGameComponent