## Mixchemist

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# **Chapter 1**

# **Namespace Index**

## 1.1 Package List

Here are the packages with brief descriptions (if available):

Dungeon
Dungeon.Generator
Dungeon.Walker
mixchemist2
mixchemist2 snell

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# **Chapter 2**

# **Hierarchical Index**

## 2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

AudioStreamPlayer	
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# **Chapter 3**

# **Class Index**

## 3.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

AbstractEnemy
ClassesAndEnums
mixchemist2.spell.ConcreteSpell
DeathMenu 12
DevScene
ElementGauge
ElementStorage
EnemyTexture
GameManager
HealthBar
HealthBarControl
Highscore
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ClassesAndEnums.SpawnPosition
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Dungeon.Walker.Walker
Wall
Dungeon Generator World

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## **Chapter 4**

# **Namespace Documentation**

- 4.1 Dungeon Namespace Reference
- 4.2 Dungeon.Generator Namespace Reference

#### **Classes**

- class World
- 4.3 Dungeon. Walker Namespace Reference

#### Classes

- class Walker
- 4.4 mixchemist2 Namespace Reference
- 4.5 mixchemist2.spell Namespace Reference

#### Classes

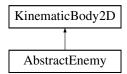
class ConcreteSpell

## **Chapter 5**

## **Class Documentation**

### 5.1 AbstractEnemy Class Reference

Inheritance diagram for AbstractEnemy:



#### **Public Member Functions**

- override void \_Ready ()
- override void \_Process (float delta)
- void Attack ()

Function for the enemy to damage the player on collision.

• void TargetPlayer ()

Function for the enemy to walk into the direction of the player if it is in range.

void \_OnBulletHit (Node body)

Event for when the enemy is hit by a bullet.

• void TakeDamage (int damage, Element projectileElement, Vector2 knockback)

This method is called when the enemy takes damage.

• void SetElement (Element element)

Setter for the element of the enemy.

#### **5.1.1 Member Function Documentation**

#### 5.1.1.1 \_OnBulletHit()

Event for when the enemy is hit by a bullet.

#### **Parameters**

```
body The body that hit the Enemy
```

#### 5.1.1.2 SetElement()

Setter for the element of the enemy.

#### **Parameters**

	element	The element the Enemy should have
--	---------	-----------------------------------

#### 5.1.1.3 TakeDamage()

```
void AbstractEnemy.TakeDamage (
 int damage,
 Element projectileElement,
 Vector2 knockback)
```

This method is called when the enemy takes damage.

#### **Parameters**

damage	The amount of Damage the Enemy should take	
knockback	The desired direction the enemy should take knockback to	

The documentation for this class was generated from the following file:

• enemy/AbstractEnemy.cs

#### 5.2 ClassesAndEnums Class Reference

#### Classes

· class SpawnPosition

#### **Public Types**

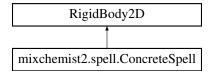
```
 enum Element {
     FIRE , WATER , EARTH , AIR ,
     FIRE_WATER , FIRE_EARTH , FIRE_AIR , WATER_EARTH ,
     WATER_AIR , EARTH_AIR , FIRE_WATER_EARTH , FIRE_EARTH_AIR ,
     WATER_EARTH_AIR , FIRE_WATER_AIR , SHADOW }
```

The documentation for this class was generated from the following file:

manager/ClassesAndEnums.cs

## 5.3 mixchemist2.spell.ConcreteSpell Class Reference

Inheritance diagram for mixchemist2.spell.ConcreteSpell:



#### **Public Member Functions**

- override void \_Ready ()
- override void \_Process (float delta)
- ClassesAndEnums.Element GetElement ()

Get the element of the spell.

void SetElement (ClassesAndEnums.Element element)

Set the element of the spell.

• int GetDamage ()

Get the damage of the spell.

• Vector2 GetPosition ()

Get the position of the spell.

#### **Public Attributes**

- int Damage
- ClassesAndEnums.Element **ElementType**

#### **Properties**

• Vector2 Direction [get, set]

#### 5.3.1 Member Function Documentation

#### 5.3.1.1 **GetDamage()**

int mixchemist2.spell.ConcreteSpell.GetDamage ()

Get the damage of the spell.

#### Returns

The amount of damage the spell does

#### 5.3.1.2 GetElement()

 ${\tt ClassesAndEnums.Element\ mixchemist2.spell.ConcreteSpell.GetElement\ ()}$ 

Get the element of the spell.

Returns

The element of the spell

#### 5.3.1.3 GetPosition()

```
Vector2 mixchemist2.spell.ConcreteSpell.GetPosition ()
```

Get the position of the spell.

Returns

The position of the spell

#### 5.3.1.4 SetElement()

Set the element of the spell.

**Parameters** 

element	The element the spell should have

The documentation for this class was generated from the following file:

• spell/ConcreteSpell.cs

#### 5.4 DeathMenu Class Reference

Inheritance diagram for DeathMenu:



#### **Public Member Functions**

• override void \_Ready ()

The documentation for this class was generated from the following file:

· UI/DeathMenu.cs

#### 5.5 DevScene Class Reference

Inheritance diagram for DevScene:



#### **Public Member Functions**

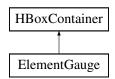
• override void \_Ready ()

The documentation for this class was generated from the following file:

devTesting/DevScene.cs

## 5.6 ElementGauge Class Reference

Inheritance diagram for ElementGauge:



#### **Public Member Functions**

- override void \_Ready ()
- void UpdateGauge (Element element, int value)

Function to update the gauge of a specific element.

#### 5.6.1 Member Function Documentation

#### 5.6.1.1 UpdateGauge()

Function to update the gauge of a specific element.

#### **Parameters**

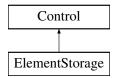
element	The element that should be updated
value The new value it should have	

The documentation for this class was generated from the following file:

· UI/ElementGauge.cs

## 5.7 ElementStorage Class Reference

Inheritance diagram for ElementStorage:



#### **Public Member Functions**

- override void \_Ready ()
- void ToggleElementPanelColor (ClassesAndEnums.Element element, bool setColor)

Sets the colours of the element panels to the default colour.

· void StoreSpellColor (Element chosenElement)

The function to store the color of the spell in the queue.

override void <u>Input</u> (InputEvent @event)

Event handler for when the rotate button is pressed.

• Element GetFirstRealmElement ()

Gets the first element in the queue.

ColorRect CastFirstElementInStorage ()

Return to cast the first element in the queue.

• override void \_Process (float delta)

#### 5.7.1 Member Function Documentation

#### 5.7.1.1 \_Input()

Event handler for when the rotate button is pressed.

#### **Parameters**

event   The event that needs to be handle	ed
---	----

#### 5.7.1.2 CastFirstElementInStorage()

```
ColorRect ElementStorage.CastFirstElementInStorage ()
```

Return to cast the first element in the queue.

Returns

ColorRext of the Element that got cast

#### 5.7.1.3 GetFirstRealmElement()

```
Element ElementStorage.GetFirstRealmElement ()
```

Gets the first element in the queue.

Returns

Returns the first element of the queue

#### 5.7.1.4 StoreSpellColor()

The function to store the color of the spell in the queue.

#### **Parameters**

chosenElement	Element that should be set

#### 5.7.1.5 ToggleElementPanelColor()

Sets the colours of the element panels to the default colour.

#### **Parameters**

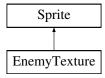
element	The element that needs to be set
setColor	Bool if the color should be set

The documentation for this class was generated from the following file:

UI/ElementStorage.cs

## 5.8 EnemyTexture Class Reference

Inheritance diagram for EnemyTexture:



#### **Public Member Functions**

- override void \_Ready ()
- void SetEnemyTexture (Element element)

Setter for the Enemy Texture.

#### 5.8.1 Member Function Documentation

#### 5.8.1.1 SetEnemyTexture()

Setter for the Enemy Texture.

#### **Parameters**

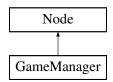
element	The element of the enemy

The documentation for this class was generated from the following file:

• enemy/EnemyTexture.cs

## 5.9 GameManager Class Reference

Inheritance diagram for GameManager:



#### **Public Member Functions**

- override void Ready ()
- void SetScore (int score)

Set the score of the player.

• int GetScore ()

Gets the current score of the player.

• override void \_EnterTree ()

#### **Properties**

```
• static GameManager Instance [get]
```

• List< Element > AllowedBasicElements [get, set]

Getter and Setter for the allowed basic elements.

#### 5.9.1 Member Function Documentation

#### 5.9.1.1 GetScore()

```
int GameManager.GetScore ()
```

Gets the current score of the player.

Returns

Integer that is the score of the player

#### 5.9.1.2 SetScore()

Set the score of the player.

**Parameters** 

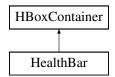
score The score that should be set

The documentation for this class was generated from the following file:

• manager/GameManager.cs

#### 5.10 HealthBar Class Reference

Inheritance diagram for HealthBar:



#### **Public Member Functions**

- override void \_Ready ()
- void UpdateHealthBar (int currentHP)

Updates the health bar with the current HP value.

#### 5.10.1 Member Function Documentation

#### 5.10.1.1 UpdateHealthBar()

Updates the health bar with the current HP value.

#### **Parameters**

currentHP	The new health value of the player
-----------	------------------------------------

The documentation for this class was generated from the following file:

UI/HealthBar.cs

#### 5.11 HealthBarControl Class Reference

Inheritance diagram for HealthBarControl:



#### **Public Member Functions**

• override void \_Ready ()

The documentation for this class was generated from the following file:

· enemy/HealthBarControl.cs

## 5.12 Highscore Class Reference

#### **Public Member Functions**

• Highscore (string name, int score)

#### **Public Attributes**

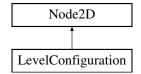
- string Name
- · int Score

The documentation for this class was generated from the following file:

· JsonClasses/Highscore.cs

## 5.13 LevelConfiguration Class Reference

Inheritance diagram for LevelConfiguration:



#### **Public Member Functions**

- override void \_Ready ()
- override void \_Process (float delta)

The documentation for this class was generated from the following file:

• level/LevelConfiguration.cs

#### 5.14 MainMenu Class Reference

Inheritance diagram for MainMenu:



The documentation for this class was generated from the following file:

· UI/MainMenu.cs

## 5.15 MusicManager Class Reference

Inheritance diagram for MusicManager:



#### **Public Member Functions**

- override void \_Ready ()
- void **SetVolume** (float db)

Changes Music Volume in decibels. Optimal range seems to be -80db to -10db.

void ChangeStream (string path)

Plays the music at the given path.

#### **Properties**

• static MusicManager Instance [get]

#### **5.15.1** Member Function Documentation

```
5.15.1.1 _Ready()
```

```
override void MusicManager._Ready ()
```

Creates Singleton Instance and Starts the MainMenu song

#### 5.15.1.2 ChangeStream()

```
\begin{tabular}{ll} \beg
```

Plays the music at the given path.

#### **Parameters**

path	The path to the music file
------	----------------------------

The documentation for this class was generated from the following file:

• manager/MusicManager.cs

#### 5.16 PauseMenu Class Reference

Inheritance diagram for PauseMenu:



#### **Public Member Functions**

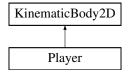
- override void \_Ready ()
- override void \_Input (InputEvent @event)

The documentation for this class was generated from the following file:

• UI/PauseMenu.cs

## 5.17 Player Class Reference

Inheritance diagram for Player:



#### **Public Member Functions**

- override void \_Ready ()
- override void \_Process (float delta)
- void TakeDamage (int dmgAmount, Vector2 damageVector)

Function to take damage from the enemy.

#### 5.17.1 Member Function Documentation

#### 5.17.1.1 TakeDamage()

Function to take damage from the enemy.

#### **Parameters**

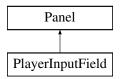
dmgAmount	Amount of damage that should be taken	
damageVector	The vector from where the damage is taken from for knockback	

The documentation for this class was generated from the following file:

· player/Player.cs

## 5.18 PlayerInputField Class Reference

Inheritance diagram for PlayerInputField:



#### **Public Member Functions**

- override void \_Ready ()
- void AddTextToLabel (string text)

Adds text to the label.

void ResetLabelText ()

Resets the Label Text.

#### 5.18.1 Member Function Documentation

#### 5.18.1.1 AddTextToLabel()

```
void PlayerInputField.AddTextToLabel ( string \ text)
```

Adds text to the label.

#### **Parameters**

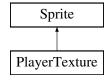
text	The text that should be added to the label

The documentation for this class was generated from the following file:

• UI/PlayerInputField.cs

## 5.19 PlayerTexture Class Reference

Inheritance diagram for PlayerTexture:



#### **Public Member Functions**

- override void \_Ready ()
- void SetPlayerTexture (double hp, int maxHp)

Sets the player texture based on the current health of the player.

#### 5.19.1 Member Function Documentation

#### 5.19.1.1 SetPlayerTexture()

Sets the player texture based on the current health of the player.

#### **Parameters**

hp	The health of the player
тахНр	The maximum amount of health of the player

The documentation for this class was generated from the following file:

• player/PlayerTexture.cs

## 5.20 ClassesAndEnums.SpawnPosition Class Reference

#### **Public Attributes**

- Godot.Vector2 Vector
- bool Valid = false

The documentation for this class was generated from the following file:

• manager/ClassesAndEnums.cs

#### 5.21 Staff Class Reference

Inheritance diagram for Staff:



#### **Public Member Functions**

- override void \_Ready ()
- override void \_Input (InputEvent @event)
  Event based Input function for the player.
- override void \_Process (float delta)

#### 5.21.1 Member Function Documentation

#### 5.21.1.1 \_Input()

Event based Input function for the player.

**Parameters** 

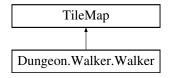
event	Input Event from the player

The documentation for this class was generated from the following file:

· player/Staff.cs

## 5.22 Dungeon. Walker. Walker Class Reference

Inheritance diagram for Dungeon.Walker.Walker:



#### **Public Member Functions**

• Walker (Godot.Vector2 startingPosition, Godot.Rect2 new\_borders)

A walker that walks in a 2D space.

List< Godot.Vector2 > walk (int steps)

A method that makes the walker walk in a 2D space.

• bool step ()

One step of the walker.

void change\_direction ()

Changes the direction the walker walks to.

#### **Static Public Member Functions**

```
 static void Shuffle < T > (List < T > list)
 Helper Method to shuffle a list.
```

#### 5.22.1 Constructor & Destructor Documentation

#### 5.22.1.1 Walker()

A walker that walks in a 2D space.

#### Parameters

startingPosition	The starting position of the Walker
new_borders	The border of the Map

#### 5.22.2 Member Function Documentation

#### 5.22.2.1 Shuffle < T >()

Helper Method to shuffle a list.

#### **Parameters**

list	the list that has to be shuffled

#### **Template Parameters**

T

#### 5.22.2.2 step()

```
bool Dungeon.Walker.Walker.step ()
```

One step of the walker.

Returns

A boolean if the step was taken

#### 5.22.2.3 walk()

```
\label{eq:list_solution} \mbox{List} < \mbox{Godot.Vector2} > \mbox{Dungeon.Walker.Walker.walk} \mbox{ (} \\ \mbox{int } steps)
```

A method that makes the walker walk in a 2D space.

#### **Parameters**

steps	The amount of steps the walker should take
-------	--

#### Returns

stepHistory is a list of Steps the walker has taken

The documentation for this class was generated from the following file:

· Dungeon/Walker.cs

#### 5.23 Wall Class Reference

Inheritance diagram for Wall:



#### **Public Member Functions**

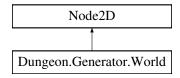
- override void \_Ready ()
- void \_OnWallCollided (Node body)

The documentation for this class was generated from the following file:

devTesting/sceneAssets/Wall.cs

## 5.24 Dungeon.Generator.World Class Reference

Inheritance diagram for Dungeon.Generator.World:



#### **Public Member Functions**

- override void \_Ready ()
- void generate\_level ()

Lets the walker generate a level.

• bool GetStatus ()

Getters for the status of the generation.

#### **5.24.1 Member Function Documentation**

#### 5.24.1.1 GetStatus()

bool Dungeon.Generator.World.GetStatus ()

Getters for the status of the generation.

#### Returns

boolean if the generation is done

The documentation for this class was generated from the following file:

· Dungeon/World.cs

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