CommandPattern

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Chapter 1

Namespace Index

1.1 Package List

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

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

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

Chapter 3

Class Index

3.1 Class List

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

Chapter 4

Namespace Documentation

4.1 SadSapphicGames Namespace Reference

4.2 SadSapphicGames.CommandPattern Namespace Reference

Classes

- class AsyncCommand

  The base class of all commands who's execute method involves asynchronous tasks
- class Command

  The base class of all commands
- class CommandStream

  This is the object that stores commands to be invoked and executes them when told to by the client. It has no knowledge of the implementation of commands beyond their interfaces.
- class CompositeCommand

  A Command that is composed of multiple child commands, all of which are executed together and leave one record in the CommandStream's history. <remark> For more information on this type of object seek external documentation on the composite design pattern </remark>
- interface IAsyncCommand

  This Interface of the AsyncCommand abstract class, Similar to ICommand you probably don't need to worry about this unless you want to define your own base class for async commands without inheriting AsyncCommand
- interface ICommand

  This is the Interface of the Command abstract class, probably not needed unless you want to introduce your own base class for your commands that doesn't inherit from the packages abstract Command
- interface IFailable

  Interface implemented by commands that could fail to execute. Commands that would fail do not have their execute method invoked and are not recorded in the CommandStream's history
- class IrreversibleCompositeFailureException

  An exception that indicates a CompositeCommand is executed but one of its children failed and the composite cannot undo its executed commands
- interface IUndoable

  Indicates a command can be undone
- class NullCommand

  A Command that does nothing
- class NullCompositeCommand

  Like the NullCommand this is a composite command that does nothing, multiple times.

- class ReversibleCompositeFailureException

  An exception that indicates a CompositeCommand is executed but one of its children failed, however the composite was able to undo the commands it had executed

- class SimpleComposite

  A CompositeCommand created from a collection of Command's that cannot fail

- class SingletonCommandManager

  A singleton manager for a single-stream, out of the box implementation of the Command pattern. For more complicated implementations create your own CommandStream wrappers. Does not drop Commands from its CommandHistory. Executes the next command in the CommandStream every frame.

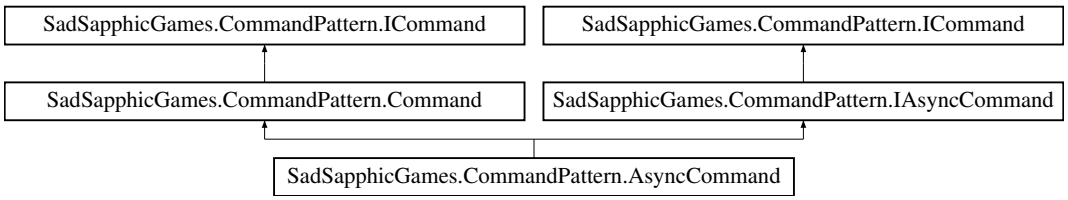
Chapter 5

Class Documentation

5.1 SadSapphicGames.CommandPattern.AsyncCommand Class Reference

The base class of all commands who's execute method involves asynchronous tasks

Inheritance diagram for SadSapphicGames.CommandPattern.AsyncCommand:



Public Member Functions

- sealed override void Execute ()

  This method may not be overridden in asynchronous commands. Use ExecuteAsync for your command's logic instead.
- abstract Task ExecuteAsync ()

  Executes the command asynchronously. Remember to add the async keyword as that is not considered part of the method signature and cannot be added to abstract methods.

Properties

- Task CommandTask `[get]`

  The task for the completion of the ExecuteAsync method after it reaches its first await and returns control back to the calling method (CommandStream.TryExecuteNext())

Events

- Action **OnTaskCompleted**

  This event is invoked when CommandTask is completed. I.E. - when we reach the end of ExecuteAsync(). Subscribe to it to preform an action at after the command has fully completed.

5.1.1 Detailed Description

The base class of all commands who's execute method involves asynchronous tasks

5.1.2 Member Function Documentation

5.1.2.1 Execute()

```
sealed override void SadSapphicGames.CommandPattern.AsyncCommand.Execute ( )  [virtual]
```

This method may not be overridden in asynchronous commands. Use ExecuteAsync for your command's logic instead.

Implements SadSapphicGames.CommandPattern.Command.

5.1.2.2 ExecuteAsync()

```
abstract Task SadSapphicGames.CommandPattern.AsyncCommand.ExecuteAsync ( )  [pure virtual]
```

Executes the command asynchronously. Remember to add the async keyword as that is not considered part of the method signature and cannot be added to abstract methods.

Returns

The task for the completion of this method after it reaches its first await and returns control to the calling method.

Implements SadSapphicGames.CommandPattern.IAsyncCommand.

5.1.3 Property Documentation

5.1.3.1 CommandTask

```
Task SadSapphicGames.CommandPattern.AsyncCommand.CommandTask  [get]
```

The task for the completion of the ExecuteAsync method after it reaches its first await and returns control back to the calling method (CommandStream.TryExecuteNext())

Implements SadSapphicGames.CommandPattern.IAsyncCommand.

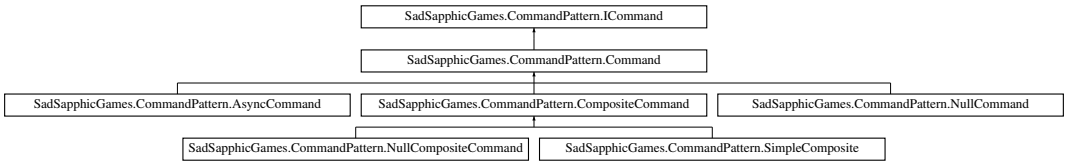
The documentation for this class was generated from the following file:

- C:/Users/Layla/Documents/My Docs/GameDev/CommandPatternDevelopment/Assets/Packages/Command↩ Pattern/Runtime/Commands/AsyncCommand.cs

5.2 SadSapphicGames.CommandPattern.Command Class Reference

The base class of all commands

Inheritance diagram for SadSapphicGames.CommandPattern.Command:



Public Member Functions

- abstract void Execute ()
  Executes the command

5.2.1 Detailed Description

The base class of all commands

5.2.2 Member Function Documentation

5.2.2.1 Execute()

```
abstract void SadSapphicGames.CommandPattern.Command.Execute ( )  [pure virtual]
```

Executes the command

Implements SadSapphicGames.CommandPattern.ICommand.

Implemented in SadSapphicGames.CommandPattern.AsyncCommand, SadSapphicGames.CommandPattern.CompositeCommand, and SadSapphicGames.CommandPattern.NullCommand.

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

- C:/Users/Layla/Documents/My Docs/GameDev/CommandPatternDevelopment/Assets/Packages/Command↩ Pattern/Runtime/Commands/Command.cs

5.3 SadSapphicGames.CommandPattern.CommandStream Class Reference

This is the object that stores commands to be invoked and executes them when told to by the client. It has no knowledge of the implementation of commands beyond their interfaces.

Public Member Functions

- ReadOnlyCollection< Command > GetCommandHistory ()

  Get the CommandStream's history of executed Commands.

- ReadOnlyCollection< Command > GetCommandQueue ()

  Get the queue of commands to be executed by the command stream.

- ReadOnlyCollection< Task > GetRunningCommandTasks ()

  Get the Tasks being being run by AsyncCommands executed by this CommandStream

- CommandStream (float _historyDepth=Single.PositiveInfinity)

  Creates a new CommandStream

- void QueueCommand (Command command)

  This adds a Command to the command Queue

- void QueueCommands (IEnumerable< Command > commands)

  Adds multiple Commands to the queue

- List< Command > DropQueue ()

  This will remove all commands from the CommandStream's queue and replace it with a new empty queue.

- ReadOnlyCollection< Command > DropHistory ()

  This will remove all commands from the CommandStream's history and replace it with a new empty list.

- bool TryQueueUndoCommand (IUndoable commandToUndo)

  Attempt to queue's the undo command of a Command object implementing IUndoable if that command exists in this CommandStream's history

- void ForceQueueUndoCommand (IUndoable commandToUndo)

  Force the stream to queue's the undo command of a Command object implementing IUndoable regardless of whether the command is recorded in this CommandStream's history

- bool TryExecuteNext (out Command topCommand)

  Attempts to execute the next command in the queue, returns false if it is empty or the command is IFailable and would fail.

- bool TryExecuteNext ()

  Attempts to execute the next command in the queue, returns false if it is empty or the command is IFailable and would fail.

- void **ExecuteFullQueue** ()

  Execute's Commands from the CommandStream queue until it is empty. Be warned this will not give any indication of commands failing.

- void ExecuteFullQueue (out List< Command > failedCommands)

  Executes Commands from the CommandStream's queue until it is empty. Returns the a list of any Commands that failed as an out parameter

Properties

- bool **QueueEmpty** `[get]`

  Gets commandQueue.Count == 0

- float **HistoryDepth** `[get]`

  this is the maximum number of commands that will be recorded in the CommandHistory

- int **HistoryCount** `[get]`

  Gets the number of Commands currently recorded in the CommandStream's history.

- int **QueueCount** `[get]`

  Gets the number of Commands currently waiting in the CommandStream's queue.

5.3.1 Detailed Description

This is the object that stores commands to be invoked and executes them when told to by the client. It has no knowledge of the implementation of commands beyond their interfaces.

5.3.2 Constructor & Destructor Documentation

5.3.2.1 CommandStream()

```
SadSapphicGames.CommandPattern.CommandStream.CommandStream (
            float _historyDepth = Single.PositiveInfinity )
```

Creates a new CommandStream

Parameters

_historyDepth	The depth to which previously executed commands will be recorded. Once this depth is reached the oldest commands will be forgotten first. <remark> To not record history, set to zero. To never forget executed commands, set to positive infinity. </remark>

5.3.3 Member Function Documentation

5.3.3.1 DropHistory()

```
ReadOnlyCollection< Command > SadSapphicGames.CommandPattern.CommandStream.DropHistory ( )
```

This will remove all commands from the CommandStream's history and replace it with a new empty list.

<remark> This can be useful if you need the CommandStream to record all of its history but also need it to execute an extremely large number of commands without running out of memory. Even if every command is the same object a CommandStream will run out of memory at 2-3 hundred million commands in its queue or history. </remark>

Returns

The commands in the previous history, in case this information is needed

5.3.3.2 DropQueue()

```
List< Command > SadSapphicGames.CommandPattern.CommandStream.DropQueue ( )
```

This will remove all commands from the CommandStream's queue and replace it with a new empty queue.

<remark> This can be useful to rearrange the commands in a queue. Simple preform the needed changes on the returned list and re-queue it </remark>

Returns

The commands in the previous queue, in case this information is needed.

5.3.3.3 ExecuteFullQueue()

```
void SadSapphicGames.CommandPattern.CommandStream.ExecuteFullQueue (
            out List< Command > failedCommands )
```

Executes Commands from the CommandStream's queue until it is empty. Returns the a list of any Commands that failed as an out parameter

Parameters

failedCommands	A list of any Commands in the Queue that failed to execute

5.3.3.4 ForceQueueUndoCommand()

```
void SadSapphicGames.CommandPattern.CommandStream.ForceQueueUndoCommand (
            IUndoable commandToUndo )
```

Force the stream to queue's the undo command of a Command object implementing IUndoable regardless of whether the command is recorded in this CommandStream's history

<remark>This is equivalent to passing the result of IUndoable.GetUndoCommand() into CommandStream.QueueCommand(Comma directly</remark>

Parameters

commandToUndo	The IUndoable Command to queue the undo-Command of

5.3.3.5 GetCommandHistory()

```
ReadOnlyCollection< Command > SadSapphicGames.CommandPattern.CommandStream.GetCommandHistory (
)
```

Get the CommandStream's history of executed Commands.

Returns

The history of executed commands, null if history is not recorded.

5.3.3.6 GetCommandQueue()

```
ReadOnlyCollection< Command > SadSapphicGames.CommandPattern.CommandStream.GetCommandQueue ( )
```

Get the queue of commands to be executed by the command stream.

Returns

The queue of commands the commandStream will execute.

5.3.3.7 GetRunningCommandTasks()

```
ReadOnlyCollection< Task > SadSapphicGames.CommandPattern.CommandStream.GetRunningCommandTasks
( )
```

Get the Tasks being being run by AsyncCommands executed by this CommandStream

Returns

The tasks that are currently being run

5.3.3.8 QueueCommand()

```
void SadSapphicGames.CommandPattern.CommandStream.QueueCommand (
            Command command )
```

This adds a Command to the command Queue

Parameters

command	The Command to be Queued

5.3.3.9 QueueCommands()

```
void SadSapphicGames.CommandPattern.CommandStream.QueueCommands (
            IEnumerable< Command > commands )
```

Adds multiple Commands to the queue

Parameters

commands	The commands to be queued

5.3.3.10 TryExecuteNext() [1/2]

```
bool SadSapphicGames.CommandPattern.CommandStream.TryExecuteNext ( )
```

Attempts to execute the next command in the queue, returns false if it is empty or the command is IFailable and would fail.

Returns

False if the command queue is empty, or the next command would fail. True otherwise.

5.3.3.11 TryExecuteNext() [2/2]

```
bool SadSapphicGames.CommandPattern.CommandStream.TryExecuteNext (
            out Command topCommand )
```

Attempts to execute the next command in the queue, returns false if it is empty or the command is IFailable and would fail.

Parameters

topCommand	The command that was next in the queue, null if the queue was empty

Returns

False if the command queue is empty, or the next command would fail. True otherwise.

5.3.3.12 TryQueueUndoCommand()

```
bool SadSapphicGames.CommandPattern.CommandStream.TryQueueUndoCommand (
            IUndoable commandToUndo )
```

Attempt to queue's the undo command of a Command object implementing IUndoable if that command exists in this CommandStream's history

Parameters

commandToUndo	The IUndoable Command to try and queue the undo-Command of

Returns

Wether the undo command was queued

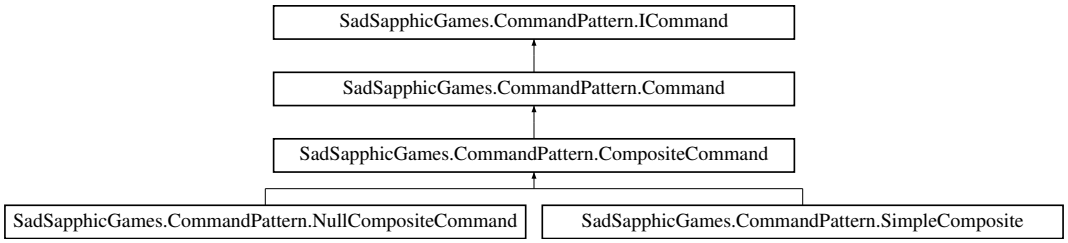
The documentation for this class was generated from the following file:

- C:/Users/Layla/Documents/My Docs/GameDev/CommandPatternDevelopment/Assets/Packages/Command↩ Pattern/Runtime/Commands/CommandStream.cs

5.4 SadSapphicGames.CommandPattern.CompositeCommand Class Reference

A Command that is composed of multiple child commands, all of which are executed together and leave one record in the CommandStream's history. <remark> For more information on this type of object seek external documentation on the composite design pattern </remark>

Inheritance diagram for SadSapphicGames.CommandPattern.CompositeCommand:



Public Member Functions

- override void Execute ()

  Queues all of the child commands into the internal CommandStream and attempts to invoke all of them. Will throw an exception if one of its children fails after attempting to revert all its executed commands.

Protected Member Functions

- virtual void AddChild (Command childCommand)

  Adds a Command to this objects children

Protected Attributes

- List< Command > **subCommands** = new List<Command>()

  The child Commands that will be executed upon executing this object
- CommandStream **internalStream** = new CommandStream()

  An internal CommandStream to provide more control of the execution of the subCommands of the Composite

Properties

- int **ChildCount** `[get]`

  Number of child Commands included in this object

5.4.1 Detailed Description

A Command that is composed of multiple child commands, all of which are executed together and leave one record in the CommandStream's history. <remark> For more information on this type of object seek external documentation on the composite design pattern </remark>

5.4.2 Member Function Documentation

5.4.2.1 AddChild()

```
virtual void SadSapphicGames.CommandPattern.CompositeCommand.AddChild (
            Command childCommand )  [protected], [virtual]
```

Adds a Command to this objects children

Parameters

childCommand	The Command to be added to the objects children

5.4.2.2 Execute()

```
override void SadSapphicGames.CommandPattern.CompositeCommand.Execute ( )  [virtual]
```

Queues all of the child commands into the internal CommandStream and attempts to invoke all of them. Will throw an exception if one of its children fails after attempting to revert all its executed commands.

Be aware that if you override this method you will bypass the implemented failsafe's for children of the CompositeCommand failing such as attempting to undo executed commands

Exceptions

IrreversibleCompositeFailureException	Indicates one of the children of the CompositeCommand failed and it executed one or more commands that cannot be undone. TryExecuteNext will catch this exception and throw it upwards
ReversibleCompositeFailureException	Indicates one of the children of the CompositeCommand failed but it was able to undo all of its executed commands. TryExecuteNext will catch this exception and handle it by returning false.

Implements SadSapphicGames.CommandPattern.Command.

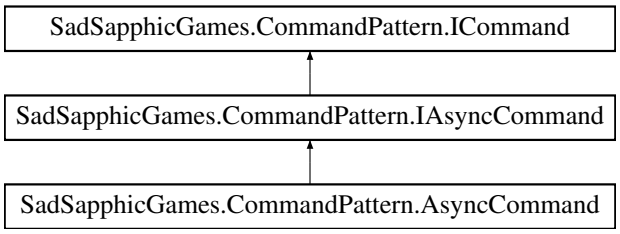
The documentation for this class was generated from the following file:

- C:/Users/Layla/Documents/My Docs/GameDev/CommandPatternDevelopment/Assets/Packages/Command↩ Pattern/Runtime/Commands/CompositeCommand.cs

5.5 SadSapphicGames.CommandPattern.IAsyncCommand Interface Reference

This Interface of the AsyncCommand abstract class, Similar to ICommand you probably don't need to worry about this unless you want to define your own base class for async commands without inheriting AsyncCommand

Inheritance diagram for SadSapphicGames.CommandPattern.IAsyncCommand:



Public Member Functions

- abstract Task ExecuteAsync ()

  This is where the logic of executing the command should be placed for an AsyncCommand, Execute should just store the return in CommandTask and setup the OnTaskCompleted method. Remember to make this method async as that isn't considered part of its signature.

Properties

- Task CommandTask `[get]`

  This should get the asynchronous task returned by ExecuteAsync after it reaches its first await

Events

- Action **OnTaskCompleted**

  This event should be invoked when CommandTask is completed so the CommandStream that executed this object can remove the task from its runningCommandTasks list

5.5.1 Detailed Description

This Interface of the AsyncCommand abstract class, Similar to ICommand you probably don't need to worry about this unless you want to define your own base class for async commands without inheriting AsyncCommand

5.5.2 Member Function Documentation

5.5.2.1 ExecuteAsync()

```
abstract Task SadSapphicGames.CommandPattern.IAsyncCommand.ExecuteAsync ( )  [pure virtual]
```

This is where the logic of executing the command should be placed for an AsyncCommand, Execute should just store the return in CommandTask and setup the OnTaskCompleted method. Remember to make this method async as that isn't considered part of its signature.

Returns

The Task representing the completion of the method after it reaches its first await statement

Implemented in SadSapphicGames.CommandPattern.AsyncCommand.

5.5.3 Property Documentation

5.5.3.1 CommandTask

```
Task SadSapphicGames.CommandPattern.IAsyncCommand.CommandTask  [get]
```

This should get the asynchronous task returned by ExecuteAsync after it reaches its first await

Implemented in SadSapphicGames.CommandPattern.AsyncCommand.

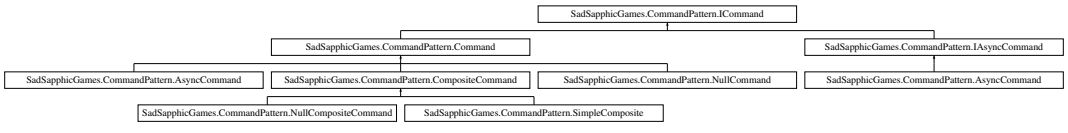
The documentation for this interface was generated from the following file:

- C:/Users/Layla/Documents/My Docs/GameDev/CommandPatternDevelopment/Assets/Packages/Command↩ Pattern/Runtime/Interfaces/IAsyncCommand.cs

5.6 SadSapphicGames.CommandPattern.ICommand Interface Reference

This is the Interface of the Command abstract class, probably not needed unless you want to introduce your own base class for your commands that doesn't inherit from the packages abstract Command

Inheritance diagram for SadSapphicGames.CommandPattern.ICommand:



Public Member Functions

- abstract void Execute ()

  Executes the function of the command

5.6.1 Detailed Description

This is the Interface of the Command abstract class, probably not needed unless you want to introduce your own base class for your commands that doesn't inherit from the packages abstract Command

5.6.2 Member Function Documentation

5.6.2.1 Execute()

```
abstract void SadSapphicGames.CommandPattern.ICommand.Execute ( )  [pure virtual]
```

Executes the function of the command

Implemented in SadSapphicGames.CommandPattern.AsyncCommand, SadSapphicGames.CommandPattern.Command, SadSapphicGames.CommandPattern.CompositeCommand, and SadSapphicGames.CommandPattern.NullCommand.

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

- C:/Users/Layla/Documents/My Docs/GameDev/CommandPatternDevelopment/Assets/Packages/Command↩ Pattern/Runtime/Interfaces/ICommand.cs

5.7 SadSapphicGames.CommandPattern.IFailable Interface Reference

Interface implemented by commands that could fail to execute. Commands that would fail do not have their execute method invoked and are not recorded in the CommandStream's history

Public Member Functions

- bool WouldFail ()

  Determine if the implementing command would be able to be executed or if it would fail

5.7.1 Detailed Description

Interface implemented by commands that could fail to execute. Commands that would fail do not have their execute method invoked and are not recorded in the CommandStream's history

5.7.2 Member Function Documentation

5.7.2.1 WouldFail()

```
bool SadSapphicGames.CommandPattern.IFailable.WouldFail ( )
```

Determine if the implementing command would be able to be executed or if it would fail

Returns

True if the implementing command would fail, false if it would execute successfully.

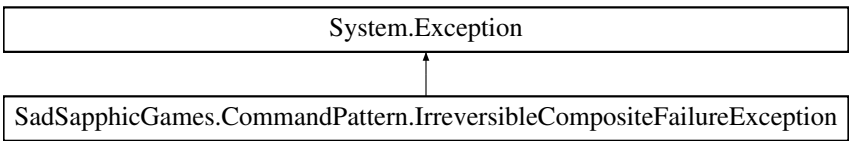
The documentation for this interface was generated from the following file:

- C:/Users/Layla/Documents/My Docs/GameDev/CommandPatternDevelopment/Assets/Packages/Command↩ Pattern/Runtime/Interfaces/IFailable.cs

5.8 SadSapphicGames.CommandPattern.IrreversibleCompositeFailure↩ Exception Class Reference

An exception that indicates a CompositeCommand is executed but one of its children failed and the composite cannot undo its executed commands

Inheritance diagram for SadSapphicGames.CommandPattern.IrreversibleCompositeFailureException:



Public Member Functions

- **IrreversibleCompositeFailureException** (Command failedCommand, List< Command > irreversibleCommands)

Public Attributes

- readonly Command **failedCommand**

  The child command that failed
- readonly List< Command > **irreversibleCommands**

  The executed commands that could not be undone

5.8.1 Detailed Description

An exception that indicates a CompositeCommand is executed but one of its children failed and the composite cannot undo its executed commands

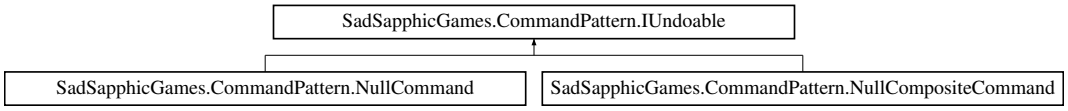
The documentation for this class was generated from the following file:

- C:/Users/Layla/Documents/My Docs/GameDev/CommandPatternDevelopment/Assets/Packages/Command↩ Pattern/Runtime/Commands/CompositeCommand.cs

5.9 SadSapphicGames.CommandPattern.IUndoable Interface Reference

Indicates a command can be undone

Inheritance diagram for SadSapphicGames.CommandPattern.IUndoable:



Public Member Functions

- Command GetUndoCommand ()
  Creates a command to revert the changes of the implementing command

5.9.1 Detailed Description

Indicates a command can be undone

5.9.2 Member Function Documentation

5.9.2.1 GetUndoCommand()

```
Command SadSapphicGames.CommandPattern.IUndoable.GetUndoCommand ( )
```

Creates a command to revert the changes of the implementing command

Returns

a command that reverts the implementing command

Implemented in SadSapphicGames.CommandPattern.NullCommand, and SadSapphicGames.CommandPattern.NullCompositeComm

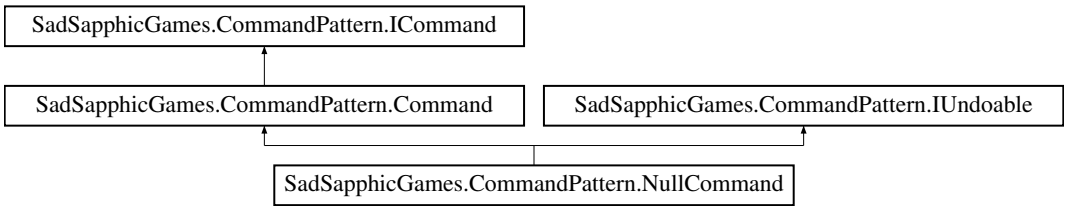
The documentation for this interface was generated from the following file:

- C:/Users/Layla/Documents/My Docs/GameDev/CommandPatternDevelopment/Assets/Packages/Command↩ Pattern/Runtime/Interfaces/IUndoable.cs

5.10 SadSapphicGames.CommandPattern.NullCommand Class Reference

A Command that does nothing

Inheritance diagram for SadSapphicGames.CommandPattern.NullCommand:



Public Member Functions

- override void Execute ()

  Does Nothing
- Command GetUndoCommand ()

  Since the command doesn't do anything it returns itself

5.10.1 Detailed Description

A Command that does nothing

5.10.2 Member Function Documentation

5.10.2.1 Execute()

```
override void SadSapphicGames.CommandPattern.NullCommand.Execute ( )  [virtual]
```

Does Nothing

Implements SadSapphicGames.CommandPattern.Command.

5.10.2.2 GetUndoCommand()

```
Command SadSapphicGames.CommandPattern.NullCommand.GetUndoCommand ( )
```

Since the command doesn't do anything it returns itself

Returns

The same null command object

Implements SadSapphicGames.CommandPattern.IUndoable.

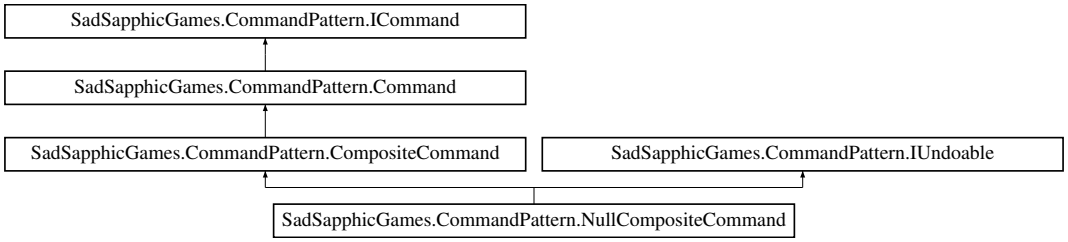
The documentation for this class was generated from the following file:

- C:/Users/Layla/Documents/My Docs/GameDev/CommandPatternDevelopment/Assets/Packages/Command↩ Pattern/Runtime/Commands/NullCommand.cs

5.11 SadSapphicGames.CommandPattern.NullCompositeCommand Class Reference

Like the NullCommand this is a composite command that does nothing, multiple times.

Inheritance diagram for SadSapphicGames.CommandPattern.NullCompositeCommand:



Public Member Functions

- NullCompositeCommand (int size)

  Creates a NullCompositeCommand composed of multiple NullCommands
- Command GetUndoCommand ()

  Like the NullCommand it is composed of, a NullCompositeCommand is its own undo-command

Additional Inherited Members

5.11.1 Detailed Description

Like the NullCommand this is a composite command that does nothing, multiple times.

5.11.2 Constructor & Destructor Documentation

5.11.2.1 NullCompositeCommand()

```
SadSapphicGames.CommandPattern.NullCompositeCommand.NullCompositeCommand (
            int size )
```

Creates a NullCompositeCommand composed of multiple NullCommands

Parameters

size	How many NullCommands to include in the composite

5.11.3 Member Function Documentation

5.11.3.1 GetUndoCommand()

```
Command SadSapphicGames.CommandPattern.NullCompositeCommand.GetUndoCommand ( )
```

Like the NullCommand it is composed of, a NullCompositeCommand is its own undo-command

Returns

This object

Implements SadSapphicGames.CommandPattern.IUndoable.

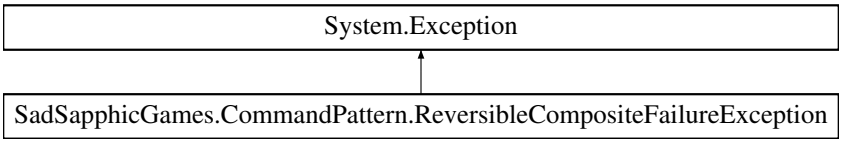
The documentation for this class was generated from the following file:

- C:/Users/Layla/Documents/My Docs/GameDev/CommandPatternDevelopment/Assets/Packages/Command↩ Pattern/Runtime/Commands/NullCompositeCommand.cs

5.12 SadSapphicGames.CommandPattern.ReversibleCompositeFailure↩ Exception Class Reference

An exception that indicates a CompositeCommand is executed but one of its children failed, however the composite was able to undo the commands it had executed

Inheritance diagram for SadSapphicGames.CommandPattern.ReversibleCompositeFailureException:



Public Member Functions

- **ReversibleCompositeFailureException** (Command failedCommand)

Public Attributes

- readonly Command **failedCommand**

  The child command that failed

5.12.1 Detailed Description

An exception that indicates a CompositeCommand is executed but one of its children failed, however the composite was able to undo the commands it had executed

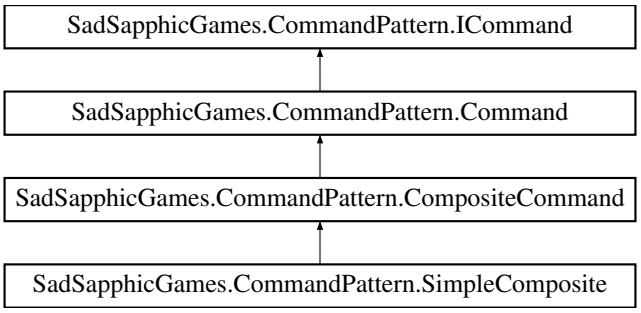
The documentation for this class was generated from the following file:

- C:/Users/Layla/Documents/My Docs/GameDev/CommandPatternDevelopment/Assets/Packages/Command↩ Pattern/Runtime/Commands/CompositeCommand.cs

5.13 SadSapphicGames.CommandPattern.SimpleComposite Class Reference

A CompositeCommand created from a collection of Command's that cannot fail

Inheritance diagram for SadSapphicGames.CommandPattern.SimpleComposite:



Public Member Functions

- SimpleComposite (IEnumerable< Command > subCommands)

  Creates a SimpleComposite from a collection of Command's that cannot fail

Additional Inherited Members

5.13.1 Detailed Description

A CompositeCommand created from a collection of Command's that cannot fail

5.13.2 Constructor & Destructor Documentation

5.13.2.1 SimpleComposite()

```
SadSapphicGames.CommandPattern.SimpleComposite.SimpleComposite (
            IEnumerable< Command > subCommands )
```

Creates a SimpleComposite from a collection of Command's that cannot fail

Parameters

subCommands	The collection of unfailable Commands to be included in the composite

Exceptions

System.ArgumentException	One or more of the Commands included in the argument implement IFailable

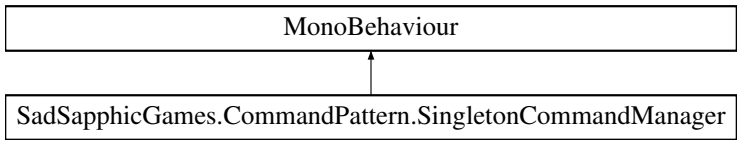
The documentation for this class was generated from the following file:

- C:/Users/Layla/Documents/My Docs/GameDev/CommandPatternDevelopment/Assets/Packages/Command↩ Pattern/Runtime/Commands/SimpleComposite.cs

5.14 SadSapphicGames.CommandPattern.SingletonCommandManager Class Reference

A singleton manager for a single-stream, out of the box implementation of the Command pattern. For more complicated implementations create your own CommandStream wrappers. Does not drop Commands from its CommandHistory. Executes the next command in the CommandStream every frame.

Inheritance diagram for SadSapphicGames.CommandPattern.SingletonCommandManager:



Public Member Functions

- void **ToggleCommandExecution** ()

  Turns command execution off if its on and on if its off
- void ToggleCommandExecution (bool onoff)

  Turns command execution off or on
- ReadOnlyCollection< Command > GetCommandHistory ()

  Get the underlying CommandStream's history
- ReadOnlyCollection< Command > DropCommandHistory ()

  Empties the history of the internal CommandStream and replaces it with an empty one.
- void QueueCommand (Command command)

  Queue's a Command into the CommandManager's CommandStream
- void QueueCommands (IEnumerable< Command > commands)

  Queue's multiple commands into the CommandManager's CommandStream
- bool TryQueueUndoCommand (IUndoable commandToUndo)

  Queue the undo-command of a Command implementing IUndoable into the CommandStream
- void ForceQueueUndoCommand (IUndoable commandToUndo)

  Forces the internal CommandStream to queue and IUndoable commands undo command

Public Attributes

- int **maximumHistoryDepth** = -1

  The value that will be used in the internal CommandStream's constructor, set to negative to record all history

Properties

- static SingletonCommandManager **Instance** `[get]`

  The singleton instance of the CommandManger.
- int **HistoryCount** `[get]`

  The number of Commands recorded by the CommandManager's CommandStream
- float **HistoryDepth** `[get]`

  The depth to which the CommandManager's CommandStream records its history
- int **QueueCount** `[get]`

  The Number of commands queued in the CommandManager's CommandStream
- bool **QueueEmpty** `[get]`

  Wether or not the CommandManger's CommandStream has an empty queue

5.14.1 Detailed Description

A singleton manager for a single-stream, out of the box implementation of the Command pattern. For more complicated implementations create your own CommandStream wrappers. Does not drop Commands from its CommandHistory. Executes the next command in the CommandStream every frame.

5.14.2 Member Function Documentation

5.14.2.1 DropCommandHistory()

```
ReadOnlyCollection< Command > SadSapphicGames.CommandPattern.SingletonCommandManager.Drop↩
CommandHistory ( )
```

Empties the history of the internal CommandStream and replaces it with an empty one.

Returns

The old history of the internal CommandStream

5.14.2.2 ForceQueueUndoCommand()

```
void SadSapphicGames.CommandPattern.SingletonCommandManager.ForceQueueUndoCommand (
            IUndoable commandToUndo )
```

Forces the internal CommandStream to queue and IUndoable commands undo command

Parameters

commandToUndo	The IUndoable commadn to undo

5.14.2.3 GetCommandHistory()

```
ReadOnlyCollection< Command > SadSapphicGames.CommandPattern.SingletonCommandManager.Get↩
CommandHistory ( )
```

Get the underlying CommandStream's history

Returns

A ReadOnlyCollection of all the commands executed by the CommandManager's CommandStream

5.14.2.4 QueueCommand()

```
void SadSapphicGames.CommandPattern.SingletonCommandManager.QueueCommand (
            Command command )
```

Queue's a Command into the CommandManager's CommandStream

Parameters

command	The Command to be Queued

5.14.2.5 QueueCommands()

```
void SadSapphicGames.CommandPattern.SingletonCommandManager.QueueCommands (
            IEnumerable< Command > commands )
```

Queue's multiple commands into the CommandManager's CommandStream

Parameters

commands	The collection of commands to be Queued

5.14.2.6 ToggleCommandExecution()

```
void SadSapphicGames.CommandPattern.SingletonCommandManager.ToggleCommandExecution (
            bool onoff )
```

Turns command execution off or on

Parameters

onoff	if false stops the execution of commands, if true enables it

5.14.2.7 TryQueueUndoCommand()

```
bool SadSapphicGames.CommandPattern.SingletonCommandManager.TryQueueUndoCommand (
            IUndoable commandToUndo )
```

Queue the undo-command of a Command implementing IUndoable into the CommandStream

Parameters

commandToUndo	The IUndoable Command to queue an undo-command for

Returns

Wether the undo command was allowed to be queued

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

- C:/Users/Layla/Documents/My Docs/GameDev/CommandPatternDevelopment/Assets/Packages/Command↩ Pattern/Runtime/Monobehaviours/SingletonCommandManager.cs

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