## **Getting Started**

# Adding the NuGet pacakge to your project

You need to pull BP.AdventureFramework into your project. The easiest way to do this is to add the NuGet package. The latest package and installation instructions are available here (getting-tarted (getting-tarted) (https://github.com/benpollarduk/BP.AdventureFramework/pkgs/nuget/BP.AdventureFramework). started.html)

### First Game (executing-a-game.html)

Once the package has been installed it's time to jump in and start building your first game. **+ Locations** 

Items (items.html)

(100111011111

+ Characters

Commands (commands.html)

End Conditions (endconditions.html)

Conditional Descriptions (conditional-descriptions.html)

```
// create the player. this is the character the user plays as
   var player = new PlayableCharacter("Dave", "A young boy on a quest to find the meani
   ng of life.");
   /// create region maker. the region maker simplifies creating in game regions. a reg
 \overline{Y}ion contains a series of rooms
   var regionMaker = new RegionMaker("Mountain", "An imposing volcano just East of tow
  Getting Started (getting-
  started.html a room to the region at position x \ 0, y \ 0, z \ 0
 [0, 0, 0] = new Room("Cavern", "A dark cavern set in to the base of the mountai
  (executing-a-game.html)
+ Locations Create overworld maker. the overworld maker simplifies creating in game overworld
 Items (items Him) Contains a series or regions
   var overworldMaker = new OverworldMaker("Daves World", "An ancient kingdom.", region
+ Characters
  Commandsthe callback for generating new instances of the game
  (commandsihtmnf the game
   // - an introduction to the game, displayed at the start
  End Canditions (end; displayed on the about screen
  cónditions libral that provides a new instance of the games overworld
  // - a callback that provides a new instance of the player
  Conditional Descriptions termines if the game is complete, checked every cycle of the
  (conditional-
  descriptions. That determines if it's game over, checked every cycle of the game var gameCreator = Game.Create(
  Frame Builders (frame-",
  builders.html
       'A very low budget adventure.",
       x => overworldMaker.Make(),
       () => player,
       x => EndCheckResult.NotEnded,
       x => EndCheckResult.NotEnded);
   // begin the execution of the game
   Game.Execute(gameCreator);
```

## Overview

Ganes can be executed either synchronously or asynchronously. Regardless, the **GameExecutor** is responsible for handling all execution of games.

**▼** Filter by title

# Synchronous Execution

Tostarted.html)

### Executing a Game ASYMMBLAGINO.6450) EXECUTION

**Follocations** 

Items (items.html)

+ Characters

Commands (commands.html)

End Conditions (endconditions.html)

Conditional Descriptions (conditional-descriptions.html)

## Overworld

An Overworld is the top level location in a game. A game can only contain a single Overworld. An Overworld can contain multiple Regions Getting Started (getting-

```
started.html)
 Overworld
Executing a Game
(executingeargame.html)
     ├─ Room
Location $Room
```

loveRชิยีสัยใoverworld.html) Region (region.html)

Room (room.html) Exit (exit.html)

### Items (items.html)

JSE Characters

An Overworld can be simply instantiated with a name and description. Commands

```
(commands.html)
```

var overworld = new Overworld("Name", "Description.");

**End Conditions (end-**

conditions.html)

Regions can be added to the Overworld with the **AddRegion** method.

### **Conditional Descriptions**

```
(conditional-
overworld:AddRegion(region);
descriptions.html)
```

Regions early be demonstrated an Overworld with the RemoveRegion method. builders.html)

```
overworld.RemoveRegion(region);
```

The Overworld can be traversed with the **Move** method.

```
overworld.Move(region);
```

### OverworldMaker

The OverworldMaker simplifies the creation of the Overworld, when used in conjunction with RegionMakers.

```
var overworldMaker = new OverworldMaker("Name", "Description.", regionMakers);
```

However, the main benefit of using an OverworldMaker is that it allows multiple instances of an Overworld to be created from a single definition of an Overworld.

Ŧ

var overworld = overworldMaker.Make();;
Getting Started (gettingstarted.html)

Executing a Game (executing-a-game.html)

- Locations

Overworld (overworld.html)
Region (region.html)
Room (room.html)
Exit (exit.html)

Items (items.html)

+ Characters

Commands (commands.html)

End Conditions (endconditions.html)

Conditional Descriptions (conditional-descriptions.html)

## Region

#### Qverview Filter by title

A Region is the intermediate level location in a game. An Overworld can contain multiple Regions. A Region can contain multiple Rooms. Contain multiple Rooms.

#### started.html)

**Overworld** 

Executing a Game

(executingeargame.html)

| ├─ Room

- Locations<sub>Room</sub>

loveRv99ilen(overworld.html)

Regi<mark>on (region.html)</mark>

Room (room.html)

Exit (exit.html)

### A Region (Aleman III) space.

+ Characters

The x location always refers to the horizontal axis, with lower values being west and higher values being east.

Commands ation always refers to the vertical axis, with lower values being north and higher values being (commands.html)

• The **z** location always refers to the depth axis, with lower values being down and higher values being up. **End Conditions (end-**

### conditions.html)

Jse

#### **Conditional Descriptions**

A Region can be simply instantiated with a name and description.

#### descriptions.html)

```
var region = new Region("Name", "Description.");
Frame Builders (frame-
```

#### builders.html)

Rooms can be added to the Region with the **AddRoom** method. The x, y and z location within the Region must be specified.

```
region.AddRoom(room, 0, 0, 0);
```

Rooms can be removed from a Region with the **RemoveRoom** method.

```
region.RemoveRoom(room);
```

The Region can be traversed with the **Move** method.

```
region.Move(Direction.North);
```

The Region can be traversed with the **Move** method.

```
▼
region.Move(Direction.North);
```

#### **Getting Started (getting-**

The start position, that is the position that the Player will start in when entering a Region, can be specified with **SetStartPosition**.

#### **Executing a Game**

```
(executing a game html) (0, 0, 0);
```

- Locations

The Ontoward of Pain of the current Room, which will also unlock the corresponding room.

```
Room (room.html)

Exit (exit.html)
region.UnlockDoorPair(Direction.East);

Items (items.html)
```

±il@lanactersable objects, Regions can be assigned custom commands.

```
Commands
(continuations (conditions (condi
```

## RegionMaker

The RegionMaker simplifies the creation of a Region. Rooms are added to the Region with a specified **x**, **y** and **z** position within the Region.

```
var regionMaker = new RegionMaker("Region", "Description.")
{
    [0, 0, 0] = new Room("Room 1", "Description of room 1."),
    [1, 0, 0] = new Room("Room 2", "Description of room 2."),
};
```

The main benefit of using a RegionMaker is that it allows multiple instances of a Region to be created from a single definition of a Region.

#### ₹

**Getting Started (getting-started.html)** 

Executing a Game (executing-a-game.html)

- Locations

Overworld (overworld.html)
Region (region.html)
Room (room.html)
Exit (exit.html)

Items (items.html)

+ Characters

Commands (commands.html)

**End Conditions (end-conditions.html)** 

Conditional Descriptions (conditional-descriptions.html)

## Room

## **Qverview**

A Room is the lowest level location in a game. A Region can contain multiple Rooms.

```
Getting Started (getting-
  started.httml)
   ├─ Region
  Executing & Game
  (executing-argame.html)
        ├─ Room
- Locations
   Overworld (80erworld.html)
   Region (region.html)
    Room (room.html)
A Room can contain up to six Exits, one for each of the directions north, east, south, west, up and down.
  Items (items.html)
  Sacacters
A Reginmands simply instantiated with a name and description.
  (commands.html)
 End Conditions (end-"Name", "Description.");
  conditions.html)
Exits can be added to the Room with the AddExit method. Conditional Descriptions
  (conditional-
  descriptions: html) Exit(Direction.East));
  Frame Builders (frame-
Exits can be removed from a Room with the RemoveExit method.
   region.RemoveExit(exit);
Items can be added to the Room with the Additem method.
   room.AddItem(new Item("Name", "Description."));
Items can be removed from a Room with the RemoveItem method.
   region.RemoveItem(item);
```

Characters can be added to the Room with the **AddCharacter** method.

```
room.AddCharacter(new Character("Name", "Description."));
```

Characters can be removed from a Room with the RemoveCharacter method.

builders.html)

```
▼
region.RemoveCharacter(character);
  Getting Started (getting-
Rooms can contain custom commands that allow the user to directly interact with the Room.
  Executing a Game room.Commands = (executing-a-game.html)
- Locations CustomCommand(new CommandHelp("Pull lever", "Pull the lever."), true, (game,
    Overworld (overworld.html)
    Region (region. Aim) Exit(Direction. East, true, out var exit);
    Room (roexmi.tht/bh/h)lock();
    Exit (exit. heaturn new Reaction(ReactionResult.OK, "The exit was unlocked.");
  Items (items.html)
+ Characters
  Commands
  (commands.html)
  End Conditions (end-
  conditions.html)
  Conditional Descriptions
  (conditional-
  descriptions.html)
  Frame Builders (frame-
```

### Exit

An Exit is essentially a connector bewtween to adjoining rooms.

```
Getting Started (getting-
| staged.html)
```

An Exacuting an Gaynestantiated with a direction.

(executing-a-game.html)

- Locations = new Exit(Direction.North);

Overworld (overworld.html)

An Exercian be filled of the player by setting its IsPlayerVisible property to false, this can be set in the constructor (room.html)

Exit (exit.html)

Items (items html) xit(Direction, North, false);

+ Characters

Or set explicitly

```
(commands.html)
```

exit.IsPlayerVisible = false

**End Conditions (end-**

conditions.html)

Optionally, a description of the Exit can be specified.

**Conditional Descriptions** 

var exit = new Exit(Direction.North, true, new Description("A door covered in iv descriptions.html)

Frame Builders (frame-

The wind see that the player examines the Exit.

Like all Examinable objects, an Exit can be assigned custom commands.

```
exit.Commands =
    new CustomCommand(new CommandHelp("Shove", "Shove the door."), true, (game, arg
s) =>
        exit.Unlock();
        return new Reaction(ReactionResult.OK, "The door swung open.");
    })
];
```

### ₹

Getting Started (gettingstarted.html)

Executing a Game (executing-a-game.html)

- Locations

Overworld (overworld.html)
Region (region.html)
Room (room.html)
Exit (exit.html)

Items (items.html)

+ Characters

Commands (commands.html)

**End Conditions (end-conditions.html)** 

Conditional Descriptions (conditional-descriptions.html)

## Item

## **Qverview**Filter by title

Items can be used to add interactivity with a game. Items can be something that a player can take with them, or they may be static in a Room.

Getting Started (getting-

started.html)

### USE Executing a Game

Ar(executing-argamestatmd)ed with a name and description.

+ Locations

```
var sword = new Item("Sword", "A heroes sword.");
Items (items.html)
```

By Characterisem is not takeable and is tied to a Room. If it is takeable this can be specified in the constructor.

```
Commands
```

```
(commands-html)Item("Sword", "A heroes sword.", true);
```

#### **End Conditions (end-**

Anciemditions: Interest and the Morph method. The Item that Morph is invoked on takes on the properties of the Item being morphed into a loss of t

(conditional-

```
descriptions.html)
var brokenSword = new Item("Broken Sword", "A broken sword");

Frame Builders (framerd);

builders.html)
```

Like all Examinable objects, an Item can be assigned custom commands.

```
bomb.Commands =
[
    new CustomCommand(new CommandHelp("Cut wire", "Cut the red wire."), true, (game,
args) =>
    {
        game.Player.Kill();
        return new Reaction(ReactionResult.Fatal, "Boom!");
    })
];
```

### Interaction

Interactions can be set up between different assets in the game. The **InteractionResult** contains the result of the interaction, and allows the game to react to the interaction.

```
var dartsBoard = new Item("Darts board", "A darts board.");
   var dart = new Item("Dart", "A dart")
   {
       Interaction = item =>
 ₹
           if (item == dartsBoard)
                return new InteractionResult(InteractionEffect.SelfContained, item, "The
  Getting Started (getting-
dart stuck in the darts board.");
  started.html)
  return new InteractionResult(InteractionEffect.NoEffect, item);

Executing a Game
  (executing-a-game.html)
+ Locations
  Items (items.html)
+ Characters
  Commands
  (commands.html)
  End Conditions (end-
 conditions.html)
  Conditional Descriptions
  (conditional-
  descriptions.html)
  Frame Builders (frame-
```

builders.html)

## PlayableCharacter

player.Give(daisy, goblin);

A Playable Character represents the character that the player plays as throughout the game. Each game has only a single Playable Character. Getting Started (gettingstarted.html) SE Executing a Game A **fexacuting acquarabitm** ply instantiated with a name and description. + Locations var player = new PlayableCharacter("Ben", "A 39 year old man."); Items (items.html) A Mavable Character can be also be instantiated with a list of Items. PlayableCharacter (playablecharacter.html)
var player = new PlayableCharacter("Ben", "A 39 year old man.",
NonPlayableCharacter(nonplayable-character.html)", "A PR\$ Custom 22, in whale blue, of course."), Commands "Wallet", "An empty wallet, of course.") (commands.html) End Conditions (end-A PlayableCharacter can be given items with the AcquireItem method. conditions.html) Conditional Descriptions Item ("Mallet", "A large mallet.")); (conditionaldescriptions.html) A Playable Charactr can loose an item with the **DequireItem** method. Frame Builders (frameplaner Dequire Item (mallet); A PlayableCharacter can use an item on another asset: var trapDoor = new Exit(Direction.Down); var mallet = new Item("Mallet", "A large mallet."); player.UseItem(mallet, trapDoor); A Playable Character cn give an item to a non-playable character. var goblin = new NonPlayableCharacter("Goblin", "A vile goblin."); var daisy = new Item("Daisy", "A beautiful daisy that is sure to cheer up even the m ost miserable creature.");

PlayableCharacters can contains custom commands that allow the user to directly interact with the character or other assets.

+ Locations

Items (items.html)

- Characters

PlayableCharacter (playable-character.html)
NonPlayableCharacter (non-playable-character.html)

Commands (commands.html)

End Conditions (endconditions.html)

Conditional Descriptions (conditional-descriptions.html)

# NonPlayableCharacter

## **Qverview**Filter by title

A NonPlayableCharacter represents any character that the player may meet throughout the game.

```
Getting Started (getting-
ged.html)
```

A FXPAITABLE can be simply instantiated with a name and description. (executing-a-game.html)

+ Locations = new NonPlayable (haracter("Goblin", "A vile goblin.");

#### Items (items.html)

A NonPlayableCharacter can give an item to another NonPlayableCharacter.

Characters

```
PlayableCharacter (playable-var daisy = new Item("Daisy", character.html) ost miserable creature.");
NonPlayableCharacter (non-npc.Give(daisy, goolin);
playable-character.html)
```

Commands
NonPlayableCharacters can contains custom commands that allow the user to directly interact with the character or (commands.html)
or (ther assets.

```
End Conditions (end-
conditions ham) =
```

```
Conditional Descriptions CommandHelp("Smile", "Crack a smile."), true, (game, args) (conditional-descriptions.html)
```

roturn now [

return new Reaction(ReactionResult.OK, "Well that felt weird.");

Frame)Builders (frame-

builders.html)

### Conversations

A NonPlayableCharacter can hold a conversation with the player.

- A Conversation contains Paragraphs.
- A Paragraph can contain one or more Responses.
- A **Response** can contain a delta to shift the conversation by, which will cause the conversation to jump parargraphs by the specified value.
- A **Response** can also contain a callback to perform some action when the player selects that option.

```
goblin.Conversation = new Conversation(
       new Paragraph("This is a the first line."),
       new Paragraph("This is a question.")
       {
           Responses =
 ₹
               new Response("This is the first response." 1),
               new Response("This is the second response.", 2),
 Getting Started (getting-
new Response ("This is the third response.", 2)
  started.html)
  Executing a Game ("You picked first response, return to start of conversation.", -
  (executing-a-game.html)
new Paragraph("You picked second response, return to start of conversation., -

+ Locations
  Items ("You picked third response, you are dead., game => game.Player.Kil
   1())
- Characters
    PlayableCharacter (playable-
    character.html)
    NonPlayableCharacter (non-
    playable-character.html)
  Commands
  (commands.html)
  End Conditions (end-
  conditions.html)
  Conditional Descriptions
  (conditional-
  descriptions.html)
  Frame Builders (frame-
  builders.html)
```

## **Global Commands**

# **Qverview**Filter by title

There are three main types of Command.

Getting Scartera (getting sed to interact with the game.

starGeobalt (Crd)mmands are used to interact with the program running the game.

• Custom Commands allow developers to add custom commands to the game without having to worry **Executing a Game** games interpreters.

(executing-a-game.html)

### Garrines Commands

Items (items.html)

### Pcharacters

Allows players to drop an item. **R** can be used as a shortcut.

(commands.html)

drop sword

**End Conditions (end-**

conditions.html)

The player can also drop all items.

**Conditional Descriptions** 

(conditional-

drop all descriptions.html)

Frame Builders (frame-

### Elyunder in Letral)

Allows players to examine any asset. X can be used as a shortcut.

Examine will examine the current room.

examine

The player themselves can be examined with **me** or the players name.

examine me

or

examine ben

The same is true for Regions, Overworlds, Items and Exits.

### Take

Allows the player to take an Item. **T** can be used as a shortcut.

take sword



Take **all** allows the player to take all takeables Items in the current Room.

**Getting Started (getting**started.html)

**Executing a Game** (executing-a-game.html)

Talk allows the player to start a conversation with a NonPlayableCharacter. L can be used as a shortcut. **Items (items.html)** 

If only a single NonPlayableCharacter is in the current Room no argument needs to be specified. **+ Characters** 

Commands (commands.html)

HomedeConditions (Room contains two or more NonPlayableCharacters then to and the North had it is name must be specified.

**Conditional Descriptions** (conditional/e descriptions.html)

### Frame Builders (framebuilders.html)

Use allows the player to use the Items that the player has or that are in the current Room.

use sword

Items can be used on the Player, the Room, an Exit, a NonPlayableCharacter or another Item. The target must be specified with the on keyword.

use sword on me

Or

use sword on bush

### Move

Regions are traversed with direction commands.

- North or N moves north.
- East or E moves east.
- ▼ South or S moves south.
  - · West or W moves west.
  - Down or D moves down.

Getting-Started (gettingstarted.html)

### EENd cuting a Game

(executing-a-game.html)
Only valid during a conversation with a NonPlayableCharacter, the End command will end the conversation.

+ Locations

Items (items.html)

+ Characters

## Global Commands

(commands.html)

#### Alto du Conditions (end-

**conditions.html)**Displays the a screen containing information about the game.

**Conditional Descriptions** 

(conditional-

descriptions.html)

Frame Builders (frame-

### Commands On / Commands Off

Toggles the display of the contextual commands on the screen on and off.

commandson

Or

commandsoff

### Exit

Exit the current game.

exit

### Help

Displays a Help screen listing all available commands.

help



### Keyfung staktery Coffiting-

Toggles the display of the map key on and off.

Executing a Game (executing-a-game.html)

+ Locations

Orltems (items.html)

+ Characters

Commands (commands.html)

Man Conditions (end-Disponditions) from I) ap screen.

Conditional Descriptions (Conditional-descriptions.html)

Frame Builders (frame-NeW builders.html)

Starts a new game.

new.

### **Custom Commands**

Custom commands can be added to many of the assets, including Room, PlayableCharacter, NonPlayableCharacter, Item and Exit. For more informations see their pages.

## **End Conditions**

# **Qverview**Filter by title

The EndCheck class allows the game to determine if it has come to an end. Each game has two end conditions

Getting Stated (gatting en the game is over, but has not been won.

**starCech plattion** Condition when the game is over because it has been won.

# Executing a Game Care uting-a-game.html)

Who cations Check is invoked it returns an EndCheckResult. The EndCheckResult details the result of the check to see if the game has ended. Items (items.html)

+ Characters atic EndCheckResult IsGameOver(Game game)

```
Commands html ndCheckResult.NotEnded;
```

End Conditions (end Find heckResult (true, "Game Over", "You died!"); conditions.html)

**Conditional Descriptions** 

The Candition and Completion Condition are passed in to the game as arguments when a game is crete criptions.html)

## **Conditional Descriptions**

## **Qverview**Filter by title

Normally assets are assigned a **Description** during the constructor. This is what is returned when the asset is examined **Started (getting-**

Destairted ham I) is aully specified as a string.

```
Executing a Game

(executing-a-game.ntml) "The items name", "The items description.");
```

+ Locations

They can also be specified as a **Desciption**.

Items (items.html)

+ Characters new Item(new Identifier("The items name"), new Description("The items des cription."));

**Commands** 

(commands.html)

However, sometimes it may be desirable to have a conditional description that can change based on the state of the conditions (end-

conditions.html)
Conditional descriptions can be specified with ConditionalDescription and contain a lambda which determines
which កម្មាន ក្រុង គ្រង់ខ្លួន ត្រូវ ត្រូវ ក្រុង អ្នក កម្មាន when the asset is examined.

#### (conditional-

```
descripticlaseIntrollist for demo
  var player = new PlayableCharacter("Ben", "A man.");
Frame Builders (frame-
builders.introlliption to use when the condition is true
  var trueString = "A gleaming sword, owned by Ben.";

// the string to use when the condition is false
  var falseString = "A gleaming sword, without an owner.";

// a lambda that determines which string is returned
  Condition condition = () => player.FindItem("Sword", out _);

// the conditional description itself
  var conditionalDescrption = new ConditionalDescription(trueString, falseString, condition);

// create the item with the conditional description
  var sword = new Item(new Identifier("Sword"), conditionalDescrption);
```

### ₹

Getting Started (gettingstarted.html)

Executing a Game (executing-a-game.html)

+ Locations
Items (items.html)

+ Characters

Commands (commands.html)

**End Conditions (end-conditions.html)** 

Conditional Descriptions (conditional-descriptions.html)

## Overview

In BP.AdventureFramework output is handled using the **FrameBuilders**. A FrameBuilder is essentially a class that builds a **Frame** that can render a specific state in the game. This **Frame** can the be rendered on a **TextWriter** by calling the method. Think of the FrameBuilder as the instructions that build the output display and the Frame as the output itself.

The states (getting Builder, each responsible for rendering a specific game state.

started.html)
SceneFrameBuilder is responsible for building frames that render the scenes in a game.

**Exercitle range Builder** is responsible for building the title screen frame.

(executionMap grame Rwilder is responsible for building a frame that displays a map of a Region.

- TransitionFrameBuilder is responsible for building frames that display transitions.
- + Locations rameBuilder is responsible for building a frame to display the about information.

  - HelpFrameBuilder is responsible for building frames to display the help.
     GameOverFrameBuilder is responsible for building a frame to display the game over screen.
- + Charage ion Frame Builder is responsible for building a frame to display the completion screen.
  - ConversationFrameBuilder is responsible for building a frame that can render a conversation.

A game accepts a FrameBuilderCollection. A FrameBuilderCollection is a collection of all of the different (Commands.html)
FrameBuilders required to render a game. All FrameBuilders are extensible, so the output for all parts of the ga**End Conditions (enide**d.

conditions.html)

**Conditional Descriptions** (conditionaldescriptions.html)