

Getting Started

Adding the NuGet package to your project

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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

(<https://github.com/benpollarduk/BP.AdventureFramework/pkgs/nuget/BP.AdventureFramework>).

First Game

Locations

Items (items.html)

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

+ Characters

Setup

Conditional Descriptions

To start with create a new Console application. Regardless of target framework, it should look something like this:

(conditional-descriptions.html)

Commands BP.AdventureFramework.GettingStarted

(commands.html)

```
internal class Program
```

Frame Builders (frame-

builders.html)

```
private static void Main(string[] args)
```

End Conditions (end-

conditions.html)

```
}
```

Adding a PlayableCharacter

Every game requires a character to play as, lets add that next:

```
private static PlayableCharacter CreatePlayer()
{
    return new PlayableCharacter("Dave", "A young boy on a quest to find the meaning of life.");
}
```

In this example whenever **CreatePlayer** is called a new **PlayableCharacter** will be created. The character is called "Dave" and has a description that describes him as "A young boy on a quest to find the meaning of life.".

Creating the game world

The game world consists of a hierarchy of three tiers: **Overworld**, **Region** and **Room**. We will create a simple **Region** with two **Rooms**. We can do this directly in the **Main** function for simplicity. To start with lets make the **Rooms**:

```
private static void Main(string[] args)
{
    var cavern = new Room("Cavern", "A dark cavern set in to the base of the mountain.", new Exit(Direction.North));
    var tunnel = new Room("Tunnel", "A dark tunnel leading inside the mountain.", new Exit(Direction.South));
}
```

Although the **Rooms** haven't been added to a **Region** yet there are exits in place that will allow the player to move between them.

But if we want to add **Items** to interact with, let's add an item to the tunnel:

```
var holyGrail = new Item("Holy Grail", "A dull golden cup, looks pretty old.", true);
tunnel.AddItem(holyGrail);
```

Looking good, but the **Rooms** need to be contained within a **Region**. **RegionMaker** simplifies this process, but sometimes creating a **Region** directly may be more appropriate if more control is needed. Here we will use **RegionMaker**:

```
var regionMaker = new RegionMaker("Mountain", "An imposing volcano just East of town.")
{
    [0, 0, 0] = cavern,
    [0, 1, 0] = tunnel
};
```

This needs more breaking down. The **RegionMaker** will create a region called "Mountain" with a description of "An imposing volcano just East of town.". The region will contain two rooms, the cavern and the tunnel. The cavern will be added at position x 0, y 0, z 0. The tunnel will be added at position x 0, y 1, z 0, north of the cavern.

The game world is nearly complete, but the **Region** needs to exist within an **Overworld** for it to be finished. We will use **OverworldMaker** to achieve this:

```
var overworldMaker = new OverworldMaker("Daves World", "An ancient kingdom.", regionMaker);
```

This will create an **Overworld** called "Daves World" which is described as "An ancient kingdom" and contains a single **Region**.

All together the code looks like this:

```
var cavern = new Room("Cavern", "A dark cavern set in to the base of the mountain.",
new Exit(Direction.North));

var tunnel = new Room("Tunnel", "A dark tunnel leading inside the mountain.", new Exit(Direction.South));

var holyGrail = new Item("Holy Grail", "A dull golden cup, looks pretty old.", true);
tunnel.AddItem(holyGrail);

var regionMaker = new RegionMaker("Mountain", "An imposing volcano just East of town.");
regionMaker.AddRoom(cavern, 0, 1, 0);
regionMaker.AddRoom(tunnel, 0, 1, 0);

var overworldMaker = new OverworldMaker("Daves World", "An ancient kingdom.", regionMaker);
```

Getting Started (getting-started.html)

+ Locations

Items (items.html)

+ Characters

Conditional Descriptions (conditional-descriptions.html)

Commands (commands.html)

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End Conditions (end-conditions.html)

Checking if the game is complete

For a game to come to an end it needs to reach either a game over state or a completion state.

Firstly lets look at the logic that determines if the game is complete. An **EndCheck** is required, which returns an **EndCheckResult** that determines if the game is complete.

In this example lets make a method that determines if the game is complete. The game is complete if the player has the holy grail:

```
private static EndCheckResult IsGameComplete(Game game)
{
    if (!game.Player.FindItem("Holy Grail", out _))
        return EndCheckResult.NotEnded;

    return new EndCheckResult(true, "Game Complete", "You have the Holy Grail!");
}
```

If the player has the holy grail then the **EndCheckResult** will return that the game has ended, and have a title that will read "Game Complete" and a description that reads "You have the Holy Grail!".

A common game over state may be if the player dies:

```
private static EndCheckResult IsGameOver(Game game)
{
    if (game.Player.IsAlive)
        return EndCheckResult.NotEnded;

    return new EndCheckResult(true, "Game Over", "You died!");
}
```

Getting Started (getting-started.html)

Creating the game

+ Locations

The game now has all the required assets and logic it just needs some boilerplate to tie everything together before it is ready to play.

Items (items.html)

A Characters

A **GameCreationCallback** is required to instantiate an instance of a **Game**. This is so that new instances of the **Game** can be created as required.

Conditional Descriptions

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conditions.html)

This requires some breaking down. The **Game** class has a **Create** method that can be used to create instances of **Game**. This takes the following arguments:

- **Name** - the name of the game.
- **Introduction** - an introduction to the game.
- **Description** - a description of the game.
- **OverworldGenerator** - a callback for generating instances of the overworld.
- **PlayerGenerator** - a callback for generating instances of the player.
- **CompletionCondition** - a callback for determining if the game is complete.
- **GameOverCondition** - a callback for determining if the game is over.

Executing the game

The game is executed simply by calling the static **Execute** method on **Game** and passing in the game creation callback.

```
Game.Execute(gameCreator);
```

Bringing it all together

The full example code should look like this:

```

using BP.AdventureFramework.Assets;
using BP.AdventureFramework.Assets.Characters;
using BP.AdventureFramework.Assets.Locations;
using BP.AdventureFramework.Logic;
using BP.AdventureFramework.Utilities;

```



```

namespace BP.AdventureFramework.GettingStarted

```

Getting Started (getting-started.html)

```

{
    internal class Program
    {

```

```

        private static EndCheckResult IsGameComplete(Game game)
    {

```

+ Locations

```

        if (!game.Player.FindItem("Holy Grail", out _))
            return EndCheckResult.NotEnded;
    }

```

Items (items.html)

+ Characters

```

        return new EndCheckResult(true, "Game Complete", "You have the Holy Grai

```

Conditional Descriptions

(conditional-descriptions.html)

```

        private static EndCheckResult IsGameOver(Game game)
    {

```

Commands

(commands.html)

```

        if (game.Player.IsAlive)
            return EndCheckResult.NotEnded;
    }

```

Frame Builders (frame-builders.html)

```

        return new EndCheckResult(true, "Game Over", "You died!");
    }

```

End Conditions (end-conditions.html)

```

        private static PlayableCharacter CreatePlayer()
    {

```

```

        return new PlayableCharacter("Dave", "A young boy on a quest to find the
meaning of life.");
    }

```

```

        private static void Main(string[] args)
    {

```

```

        var cavern = new Room("Cavern", "A dark cavern set in to the base of the
mountain.", new Exit(Direction.North));

```

```

        var tunnel = new Room("Tunnel", "A dark tunnel leading inside the mounta
in.", new Exit(Direction.South));

```

```

        var holyGrail = new Item("Holy Grail", "A dull golden cup, looks pretty
old.", true);

```

```

        tunnel.AddItem(holyGrail);

```

```

        var regionMaker = new RegionMaker("Mountain", "An imposing volcano just
East of town.")
    {

```

```

        [0, 0, 0] = cavern,
        [0, 1, 0] = tunnel
    };

```

```
var overworldMaker = new OverworldMaker("Daves World", "An ancient kingdom.", regionMaker);
```

```
var gameCreator = Game.Create(  
    "The Life Of Dave",  
    "Dave awakes to find himself in a cavern...",  
    "A very low budget adventure.",  
    x => overworldMaker.Make(),  
    CreatePlayer,  
    IsGameComplete,  
    IsGameOver);
```

Getting Started (getting-started.html)

+ Locations

Items (items.html)

+ Characters

Conditional Descriptions

(conditional-descriptions.html)
Simply build and run the application and congratulations, you have a working BP.AdventureFramework game!

Commands

(commands.html)

Frame Builders (frame-builders.html)

End Conditions (end-conditions.html)

Namespace BP.AdventureFramework. Assets

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Classes

- BP.AdventureFramework.

Assets

ConditionalDescription

(BP.AdventureFramework.Assets.ConditionalDescription.html)

ConditionalDescription

Represents a conditional description of an object.

(BP.AdventureFramework.Assets.C

Description

Description (BP.AdventureFramework.Assets.Description.html)

ExaminableObject

Represents a description of an object.

(BP.AdventureFramework.Assets.E

ExaminationCallback

ExaminableObject (BP.AdventureFramework.Assets.ExaminableObject.html)

ExaminationResult

Represents an object that can be examined.

(BP.AdventureFramework.Assets.E

IExaminable

ExaminationResult (BP.AdventureFramework.Assets.ExaminationResult.html)

IPlayerVisible

Represents the result of an examination.

(BP.AdventureFramework.Assets.II

Identifier

Identifier (BP.AdventureFramework.Assets.Identifier.html)

Item

Provides a class that can be used as an identifier.

(BP.AdventureFramework.Assets.It

Size

Item (BP.AdventureFramework.Assets.Item.html)

+ BP.AdventureFramework.

Assets.Characters

Sprites (BP.AdventureFramework.Assets

+ BP.AdventureFramework.

Assets.Interaction

Size (BP.AdventureFramework.Assets.Size.html)

(BP.AdventureFramework.Assets

Represents a size.

+ BP.AdventureFramework.

Interfaces

(BP.AdventureFramework.Assets

IExaminable (BP.AdventureFramework.Assets.IExaminable.html)

Commands

Represents any object that is examinable.

(BP.AdventureFramework.Corr

IPlayerVisible (BP.AdventureFramework.Assets.IPlayerVisible.html)

Conversations

Represents any object that is visible to a player.

Delegates

ExaminationCallback (BP.AdventureFramework.Assets.ExaminationCallback.html)

Represents the callback for examinations.

- BP.AdventureFramework.

Assets

(BP.AdventureFramework.Assets)

ConditionalDescription

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Description

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ExaminableObject

(BP.AdventureFramework.Assets.E

ExaminationCallback

(BP.AdventureFramework.Assets.E

ExaminationResult

(BP.AdventureFramework.Assets.E

IExaminable

(BP.AdventureFramework.Assets.II

IPlayerVisible

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Identifier

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Item

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Assets.Characters

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+ BP.AdventureFramework.

Assets.Interaction

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+ BP.AdventureFramework.

Assets.Locations

(BP.AdventureFramework.Assets)

+ BP.AdventureFramework.

Commands

(BP.AdventureFramework.Commands)

+ BP.AdventureFramework.

Conversations