Namespace GBI_Assignment.Components

Classes

[App](#)

[Routes](#)

[_Imports](#)

Class App

Namespace: GBI_Assignment.Components

Assembly: GBI_Assignment.dll

```
public class App : ComponentBase, IComponent, IHandleEvent, IHandleAfterRender
```

Inheritance

object ← ComponentBase ← App

Implements

IComponent, IHandleEvent, IHandleAfterRender

Inherited Members

ComponentBase.OnInitialized() , ComponentBase.OnInitializedAsync() , ComponentBase.OnParametersSet() , ComponentBase.OnParametersSetAsync() , ComponentBase.StateHasChanged() , ComponentBase.ShouldRender() , ComponentBase.OnAfterRender(bool) , ComponentBase.OnAfterRenderAsync(bool) , ComponentBase.InvokeAsync(Action) , ComponentBase.InvokeAsync(Func<Task>) , ComponentBase.DispatchExceptionAsync(Exception) , ComponentBase.SetParametersAsync(ParameterView) , object.Equals(object) , object.Equals(object, object) , object.GetHashCode() , object.GetType() , object.MemberwiseClone() , object.ReferenceEquals(object, object) , object.ToString()

Methods

BuildRenderTree(RenderTreeBuilder)

Renders the component to the supplied RenderTreeBuilder.

```
protected override void BuildRenderTree(RenderTreeBuilder __builder)
```

Parameters

`__builder` RenderTreeBuilder

Class Routes

Namespace: [GBI_Assignment](#).[Components](#)

Assembly: GBI_Assignment.dll

```
public class Routes : ComponentBase, IComponent, IHandleEvent, IHandleAfterRender
```

Inheritance

[object](#) ← [ComponentBase](#) ← Routes

Implements

[IComponent](#), [IHandleEvent](#), [IHandleAfterRender](#)

Inherited Members

[ComponentBase.OnInitialized()](#) , [ComponentBase.OnInitializedAsync()](#) , [ComponentBase.OnParametersSet()](#) , [ComponentBase.OnParametersSetAsync()](#) , [ComponentBase.StateHasChanged()](#) , [ComponentBase.ShouldRender()](#) , [ComponentBase.OnAfterRender(bool)](#) , [ComponentBase.OnAfterRenderAsync(bool)](#) , [ComponentBase.InvokeAsync(Action)](#) , [ComponentBase.InvokeAsync(Func<Task>)](#) , [ComponentBase.DispatchExceptionAsync(Exception)](#) , [ComponentBase.SetParametersAsync(ParameterView)](#) , [object.Equals(object)](#) , [object.Equals(object, object)](#) , [object.GetHashCode()](#) , [object.GetType()](#) , [object.MemberwiseClone()](#) , [object.ReferenceEquals(object, object)](#) , [object.ToString()](#)

Methods

BuildRenderTree(RenderTreeBuilder)

Renders the component to the supplied [RenderTreeBuilder](#).

```
protected override void BuildRenderTree(RenderTreeBuilder __builder)
```

Parameters

`__builder` [RenderTreeBuilder](#)

Class _Imports

Namespace: [GBI_Assignment](#).[Components](#)

Assembly: GBI_Assignment.dll

```
public class _Imports : ComponentBase, IComponent, IHandleEvent, IHandleAfterRender
```

Inheritance

[object](#) ← [ComponentBase](#) ← _Imports

Implements

[IComponent](#), [IHandleEvent](#), [IHandleAfterRender](#)

Inherited Members

[ComponentBase.OnInitialized()](#) , [ComponentBase.OnInitializedAsync()](#) ,
[ComponentBase.OnParametersSet()](#) , [ComponentBase.OnParametersSetAsync()](#) ,
[ComponentBase.StateHasChanged()](#) , [ComponentBase.ShouldRender()](#) ,
[ComponentBase.OnAfterRender(bool)](#) , [ComponentBase.OnAfterRenderAsync(bool)](#) ,
[ComponentBase.InvokeAsync(Action)](#) , [ComponentBase.InvokeAsync(Func<Task>)](#) ,
[ComponentBase.DispatchExceptionAsync(Exception)](#) ,
[ComponentBase.SetParametersAsync(ParameterView)](#) , [object.Equals(object)](#) ,
[object.Equals(object, object)](#) , [object.GetHashCode()](#) , [object.GetType()](#) ,
[object.MemberwiseClone()](#) , [object.ReferenceEquals(object, object)](#) , [object.ToString()](#)

Methods

BuildRenderTree(RenderTreeBuilder)

Renders the component to the supplied [RenderTreeBuilder](#).

```
protected override void BuildRenderTree(RenderTreeBuilder __builder)
```

Parameters

`__builder` [RenderTreeBuilder](#)

Namespace GBI_Assignment.Components. BooseRewriteV2

Classes

[Boose](#)
> A static class to create an instance of the BooseCommandParser

[BooseCommandParser](#)
> Parses a single or multiple lines of BOOSE code and executes the associated methods in the CommandsManager.

[BooseInvalidSyntaxException](#)
> A custom exception for Boose syntax errors. Used to pass the error data to the user.

[CommandsManager](#)
> Holds methods that can be executed by a BooseCommandParser. The method names match the command names in the Boose language. This class can be extended to add more commands.

Class Boose

Namespace: [GBI_Assignment](#).[Components](#).[BooseRewriteV2](#)

Assembly: GBI_Assignment.dll

A static class to create an instance of the BooseCommandParser

```
public static class Boose
```

Inheritance

[object](#) ← Boose

Inherited Members

[object.Equals(object)](#) , [object.Equals(object, object)](#) , [object.GetHashCode()](#) , [object.GetType()](#) , [object.MemberwiseClone()](#) , [object.ReferenceEquals(object, object)](#) , [object.ToString()](#)

Methods

GetBooseInterpreter(Canvas)

Intakes a Canvas and returns a BooseCommandParser with the default CommandsManager

```
public static Task<BooseCommandParser> GetBooseInterpreter(Canvas Canvas)
```

Parameters

`Canvas` Canvas

Returns

[Task](#) <[BooseCommandParser](#)>

A instance of BooseCommandParser with the default command set

Class BooseCommandParser

Namespace: GBI_Assignment.Components.BooseRewriteV2

Assembly: GBI_Assignment.dll

Parses a single or multiple lines of BOOSE code and executes the associated methods in the CommandsManager.

```
public class BooseCommandParser
```

Inheritance

object ← BooseCommandParser

Inherited Members

object.Equals(object) , object.Equals(object, object) , object.GetHashCode() , object.GetType() , object.MemberwiseClone() , object.ReferenceEquals(object, object) , object.ToString()

Constructors

BooseCommandParser(CommandsManager)

Creates a new instance of the BooseCommandParser with the provided CommandsManager.

```
public BooseCommandParser(CommandsManager CM)
```

Parameters

CM CommandsManager

   The CommandsManager to retrieve methods from for parsing and invoking

Methods

RunProgram(string)

Intakes a string of commands and parameters and invokes the associated methods in the CommandsManager.

```
public Task RunProgram(string program)
```

Parameters

program [string↗](#)

The string containing the command / commands to be executed

Returns

[Task↗](#)

Exceptions

[BooseInvalidSyntaxException](#)

Throws an exception if there is a Boose syntax error in the inputted string.

Class BooseInvalidSyntaxException

A custom exception for Boose syntax errors. Used to pass the error data to the user.

```
public class BooseInvalidSyntaxException : Exception, ISerializable
```

Inheritance

[object](#) ← [Exception](#) ← BooseInvalidSyntaxException

Implements

[ISerializable](#)

Inherited Members

[Exception.GetBaseException()](#) , [Exception.GetType()](#) , [Exception.ToString()](#) , [Exception.Data](#) , [Exception.HelpLink](#) , [Exception.HResult](#) , [Exception.InnerException](#) , [Exception.Message](#) , [Exception.Source](#) , [Exception.StackTrace](#) , [Exception.TargetSite](#) , [Exception.SerializeObjectState](#) , [object.Equals(object)](#) , [object.Equals(object, object)](#) , [object.GetHashCode()](#) , [object.MemberwiseClone()](#) , [object.ReferenceEquals(object, object)](#)

Constructors

BooseInvalidSyntaxException()

Throws a empty BooseInvalidSyntaxException.

```
public BooseInvalidSyntaxException()
```

BooseInvalidSyntaxException(string)

Throws a BooseInvalidSyntaxException with a message about the error.

```
public BooseInvalidSyntaxException(string message)
```

Parameters

`message` [string⧉](#)

    The error message to provide the user

BooseInvalidSyntaxException(string, int, string)

Throws a BooseInvalidSyntaxException containing a detailed error message to present to the user.

```
public BooseInvalidSyntaxException(string message, int lineNumber, string command)
```

Parameters

`message` [string⧉](#)

    The error message to provide to the user

`lineNumber` [int⧉](#)

    The line the error occured on

`command` [string⧉](#)

    The original command that caused the error including parameters

Fields

Log

Stores a detailed error message. Created only when a BooseInvalidSyntaxException is thrown with a message, line number and command. Can be directly displayed to the user.

```
public string Log
```

Field Value

[string⧉](#)

Class CommandsManager

Namespace: GBI_Assignment.Components.BooseRewriteV2

Assembly: GBI_Assignment.dll

Holds methods that can be executed by a BooseCommandParser. The method names match the command names in the Boose language. This class can be extended to add more commands.

```
public class CommandsManager
```

Inheritance

object ← CommandsManager

Inherited Members

object.Equals(object) , object.Equals(object, object) , object.GetHashCode() , object.GetType() ,
object.MemberwiseClone() , object.ReferenceEquals(object, object) , object.ToString()

Constructors

CommandsManager(Context2D)

Constructs a new instance of a CommandManager. Must be provided with a Context2D to draw on.

```
public CommandsManager(Context2D ctx)
```

Parameters

`ctx` Context2D

A context 2D for commands to be executed on.

Fields

PenColour

The currently selected pen colour. Default: Black

```
public Color PenColour
```

Field Value

[Color ⬀](#)

Xpos

The Xposition of the cursor on the canvas. Default: 0

```
public double Xpos
```

Field Value

[double ⬀](#)

Ypos

The Yposition of the cursor on the canvas. Default: 0

```
public double Ypos
```

Field Value

[double ⬀](#)

Methods

circle(double)

Draws a circle with the specified radius at the current cursor position.

```
public Task circle(double radius)
```

Parameters

`radius` [double↗](#)

The radius of the circle to draw

Returns

[Task↗](#)

drawto(double, double)

Draws a line from the current cursor position to the specified X and Y coordinates. Also sets the X and Y of the cursor to the new position.

```
public Task drawto(double X, double Y)
```

Parameters

X [double↗](#)

X-Coordinate

Y [double↗](#)

Y-Coordinate

Returns

[Task↗](#)

moveto(double, double)

Moves the cursor on the canvas to the specified X and Y coordinates.

```
public Task moveto(double X, double Y)
```

Parameters

X [double↗](#)

X-Coordinate

Y [double](#)

Y-Coordinate

Returns

[Task](#)

pen(double, double, double)

Changes the color of all future lines drawn on the canvas. Intakes RGB values from 0-255.

```
public Task pen(double R, double G, double B)
```

Parameters

R [double](#)

Red Color Component as a number 0-255

G [double](#)

Green Color Component as a number 0-255

B [double](#)

Blue Color Component as a number 0-255

Returns

[Task](#)

rect(double, double)

Draws a rectangle with the specified width and height at the current cursor position. Rectangle originates from the top left corner.

```
public Task rect(double width, double height)
```

Parameters

`width` [double](#)⧉

    Width of the rectangle

`height` [double](#)⧉

    Height of the rectangle

Returns

[Task](#)⧉

write(string)

Intakes a string and draws the string onto the canvas as text Draws the text at the current cursor position. Origin of the text is the bottom left.

```
public Task write(string text)
```

Parameters

`text` [string](#)⧉

    The text to draw on the canvas

Returns

[Task](#)⧉

Namespace GBI_Assignment.Components. Layout

Classes

[MainLayout](#)

[NavMenu](#)

Class MainLayout

Namespace: GBI_Assignment.Components.Layout

Assembly: GBI_Assignment.dll

```
public class MainLayout : LayoutComponentBase, IComponent, IHandleEvent, IHandleAfterRender
```

Inheritance

object ← ComponentBase ← LayoutComponentBase ← MainLayout

Implements

IComponent, IHandleEvent, IHandleAfterRender

Inherited Members

LayoutComponentBase.SetParametersAsync(ParameterView) , LayoutComponentBase.Body ,
ComponentBase.OnInitialized() , ComponentBase.OnInitializedAsync() ,
ComponentBase.OnParametersSet() , ComponentBase.OnParametersSetAsync() ,
ComponentBase.StateHasChanged() , ComponentBase.ShouldRender() ,
ComponentBase.OnAfterRender(bool) , ComponentBase.OnAfterRenderAsync(bool) ,
ComponentBase.InvokeAsync(Action) , ComponentBase.InvokeAsync(Func<Task>) ,
ComponentBase.DispatchExceptionAsync(Exception) , object.Equals(object) ,
object.Equals(object, object) , object.GetHashCode() , object.GetType() ,
object.MemberwiseClone() , object.ReferenceEquals(object, object) , object.ToString()

Methods

BuildRenderTree(RenderTreeBuilder)

Renders the component to the supplied RenderTreeBuilder.

```
protected override void BuildRenderTree(RenderTreeBuilder __builder)
```

Parameters

__builder RenderTreeBuilder

Class NavMenu

Namespace: GBI_Assignment.Components.Layout

Assembly: GBI_Assignment.dll

```
public class NavMenu : ComponentBase, IComponent, IHandleEvent, IHandleAfterRender
```

Inheritance

object ← ComponentBase ← NavMenu

Implements

IComponent, IHandleEvent, IHandleAfterRender

Inherited Members

ComponentBase.OnInitialized() , ComponentBase.OnInitializedAsync() , ComponentBase.OnParametersSet() , ComponentBase.OnParametersSetAsync() , ComponentBase.StateHasChanged() , ComponentBase.ShouldRender() , ComponentBase.OnAfterRender(bool) , ComponentBase.OnAfterRenderAsync(bool) , ComponentBase.InvokeAsync(Action) , ComponentBase.InvokeAsync(Func<Task>) , ComponentBase.DispatchExceptionAsync(Exception) , ComponentBase.SetParametersAsync(ParameterView) , object.Equals(object) , object.Equals(object, object) , object.GetHashCode() , object.GetType() , object.MemberwiseClone() , object.ReferenceEquals(object, object) , object.ToString()

Methods

BuildRenderTree(RenderTreeBuilder)

Renders the component to the supplied RenderTreeBuilder.

```
protected override void BuildRenderTree(RenderTreeBuilder __builder)
```

Parameters

__builder RenderTreeBuilder

Namespace GBI_Assignment.Components. Pages

Classes

[Error](#)

[Home](#)

[Interpreter](#)

Class Error

Namespace: GBI_Assignment.Components.Pages

Assembly: GBI_Assignment.dll

```
[Route("/Error")]
public class Error : ComponentBase, IComponent, IHandleEvent, IHandleAfterRender
```

Inheritance

object ← ComponentBase ← Error

Implements

IComponent, IHandleEvent, IHandleAfterRender

Inherited Members

ComponentBase.OnInitializedAsync() , ComponentBase.OnParametersSet() ,
ComponentBase.OnParametersSetAsync() , ComponentBase.StateHasChanged() ,
ComponentBase.ShouldRender() , ComponentBase.OnAfterRender(bool) ,
ComponentBase.OnAfterRenderAsync(bool) , ComponentBase.InvokeAsync(Action) ,
ComponentBase.InvokeAsync(Func<Task>) , ComponentBase.DispatchExceptionAsync(Exception) ,
ComponentBase.SetParametersAsync(ParameterView) , object.Equals(object) ,
object.Equals(object, object) , object.GetHashCode() , object.GetType() ,
object.MemberwiseClone() , object.ReferenceEquals(object, object) , object.ToString()

Methods

BuildRenderTree(RenderTreeBuilder)

Renders the component to the supplied RenderTreeBuilder.

```
protected override void BuildRenderTree(RenderTreeBuilder __builder)
```

Parameters

__builder RenderTreeBuilder

OnInitialized()

Method invoked when the component is ready to start, having received its initial parameters from its parent in the render tree.

```
protected override void OnInitialized()
```

Class Home

Namespace: GBI_Assignment.Components.Pages

Assembly: GBI_Assignment.dll

```
[Route("/")]
public class Home : ComponentBase, IComponent, IHandleEvent, IHandleAfterRender
```

Inheritance

object ← ComponentBase ← Home

Implements

IComponent, IHandleEvent, IHandleAfterRender

Inherited Members

ComponentBase.OnInitialized() , ComponentBase.OnInitializedAsync() ,
ComponentBase.OnParametersSet() , ComponentBase.OnParametersSetAsync() ,
ComponentBase.StateHasChanged() , ComponentBase.ShouldRender() ,
ComponentBase.OnAfterRender(bool) , ComponentBase.OnAfterRenderAsync(bool) ,
ComponentBase.InvokeAsync(Action) , ComponentBase.InvokeAsync(Func<Task>) ,
ComponentBase.DispatchExceptionAsync(Exception) ,
ComponentBase.SetParametersAsync(ParameterView) , object.Equals(object) ,
object.Equals(object, object) , object.GetHashCode() , object.GetType() ,
object.MemberwiseClone() , object.ReferenceEquals(object, object) , object.ToString()

Methods

BuildRenderTree(RenderTreeBuilder)

Renders the component to the supplied RenderTreeBuilder.

```
protected override void BuildRenderTree(RenderTreeBuilder __builder)
```

Parameters

__builder RenderTreeBuilder

Class Interpreter

Namespace: GBI_Assignment.Components.Pages

Assembly: GBI_Assignment.dll

```
[Route("/interpreter")]
public class Interpreter : ComponentBase, IComponent, IHandleEvent, IHandleAfterRender
```

Inheritance

object ← ComponentBase ← Interpreter

Implements

IComponent, IHandleEvent, IHandleAfterRender

Inherited Members

ComponentBase.OnInitialized() , ComponentBase.OnInitializedAsync() ,
ComponentBase.OnParametersSet() , ComponentBase.OnParametersSetAsync() ,
ComponentBase.StateHasChanged() , ComponentBase.ShouldRender() ,
ComponentBase.OnAfterRender(bool) , ComponentBase.InvokeAsync(Action) ,
ComponentBase.InvokeAsync(Func<Task>) , ComponentBase.DispatchExceptionAsync(Exception) ,
ComponentBase.SetParametersAsync(ParameterView) , object.Equals(object) ,
object.Equals(object, object) , object.GetHashCode() , object.GetType() ,
object.MemberwiseClone() , object.ReferenceEquals(object, object) , object.ToString()

Fields

BooseParser

The BooseParser that will parse and run the boose code.

```
public BooseCommandParser BooseParser
```

Field Value

BooseCommandParser

LogText

The text to be displayed to the user if there is an error in their boose code.

```
public string LogText
```

Field Value

[string](#)⧉

canvasHeight

The height of the canvas displayed to the user.

```
public const int canvasHeight = 500
```

Field Value

[int](#)⧉

canvasWidth

The width of the canvas displayed to the user.

```
public const int canvasWidth = 500
```

Field Value

[int](#)⧉

codeTextEntry

The text inputted by the user to be executed by the BooseInterpreter.

```
public string codeTextEntry
```

Field Value

[string](#)

helper_canvas

The Canvas component that the BooseInterpreter will draw on.

```
public Canvas helper_canvas
```

Field Value

Canvas

Methods

BuildRenderTree(RenderTreeBuilder)

Renders the component to the supplied [RenderTreeBuilder](#).

```
protected override void BuildRenderTree(RenderTreeBuilder __builder)
```

Parameters

__builder [RenderTreeBuilder](#)

ExecuteBoose()

Uses the codeTextEntry string to intake commands and passes it to the BooseParser to run.

```
public Task ExecuteBoose()
```

Returns

[Task](#)

OnAfterRenderAsync(bool)

Runs after the first render to get the BooseInterpreter and passes it the canvas.

```
protected override Task OnAfterRenderAsync(bool first_render)
```

Parameters

first_render [bool↗](#)

Returns

[Task↗](#)