

「UI

User Interface

Documentation」

UI

Interfaces

Interface Name	Description
IUserInterface	Defines methods for displaying and hiding the user interface.
IUISwitcher	Defines methods for displaying and hiding objects using animated transitions.
InactiveStart	Defines the InactiveStart method, called when an object starts for initialization in an inactive state.
IDataRecipient<T>	Defines a method for receiving data of type T.
IDataProcessor<T>	Defines the ProcessedSuccessfully event that occurs after successful processing of data of type T.
IClickHandler	Defines the HandleClick method for handling button clicks or other interface element events.

Panels

Abstract class Panel

Field/Method	Description
Inherits	Inherits from the MonoBehaviour class, implements the IUserInterface.
Show()	Displays the panel.
Hide()	Hides the panel.

Class InformationPanel<T>

Fields/Methods	Description
Inherits	Inherits from the Panel class and IDataRecipient<T> interface.
Show(T info)	Displays the panel and passes information of type T.
Receive(T t)	Abstract method for processing received information of type T.

Class ObjectCreationPanel<T>

Event	Description
Inherits	Inherits from the Panel class and IDataProcessor<T> interface.
ProcessedSuccessfully	Event that occurs after successful creation of an object of type T.

Class DataHandler<T0, T1>

Event	Description
Inherits	Inherits from the Panel class, implements IDataRecipient<T0> and IDataProcessor<T1> interfaces.
ProcessedSuccessfully	Event that occurs after successful processing of data of type T1.
Receive(T0 t)	Abstract method for receiving and processing data of type T0.

Class Message

Method	Description
Inherits	Inherits from the InformationPanel<string> class.
Receive(string t)	Sets textual information on the message panel.

Class YesNoQuestionnaire

Method	Description
Inherits	Inherits from the DataHandler<string, bool> class.
AskQuestion(string question)	Displays a panel with the user-provided question.
Receive(string t)	Sets the text of the question on the questionnaire panel.
HandleYes()	Handles the user's "Yes" response on the questionnaire panel.
HandleNo()	Handles the user's "No" response on the questionnaire panel.

Class ShapeCreator

Method	Description
Inherits	Inherits from the ObjectCreationPanel<ShapeData> class.
CreateShape()	Creates an object of type ShapeData based on input parameters and triggers the ProcessedSuccessfully event.
GetColor(int index)	Returns a color based on the index in a random selection.
GetFigure(int index)	Returns an object (shape) based on the index in a random selection.

Switchers

Interface IUISwitcher

Methods	Description
Disappear()	Method for disappearing (hiding) the interface or object.
Appear()	Method for appearing (showing) the interface or object.

Class ActiveSwitcher

Methods	Description
Inherits	Inherits from the MonoBehaviour class, implements the IUISwitcher interface.
Disappear()	Deactivates a group of objects by setting their state to inactive.
Appear()	Activates a group of objects by setting their state to active.

Class ScaleSwitcher

Fields/Methods	Description
Inherits	Inherits from the MonoBehaviour class, implements the IUISwitcher interface.
Disappear()	Reduces the size of a group of objects using animation.
Appear()	Increases the size of a group of objects using animation.

Class FadeSwitcher

Fields/Methods	Description
Inherits	Inherits from the MonoBehaviour class, implements the IUISwitcher and IInactiveStart interfaces.
InactiveStart()	Initiates the collection of objects for animated fading/unfading.
Disappear()	Fades out a group of objects using animation.
Appear()	Fades in a group of objects using animation.
PlayAnimation()	Initiates the fading/unfading animation.
ChangeAlpha(float percent)	Changes the transparency of the objects in the group according to the specified percentage.
OnValidate()	Checks and automatically adds ImageColorChanger and TextColorChanger components to images and texts. Standardizes color change for different types of components.

Color Changers

Interface IColorChanger

Method	Description
ChangeAlpha(float percent)	Method for changing the alpha channel according to the specified percentage.

Abstract class BaseColorChanger<T>

Fields/Methods	Description
Inherits	Inherits from the MonoBehaviour class, implements the IColorChanger interface.
ToChangeColor	The object whose color will be changed.
InitialAlpha	Initial alpha channel (transparency) value.
InactiveStart()	Initializes ToChangeColor and InitialAlpha during start.
GetInitialAlpha()	Abstract method to obtain the initial alpha channel value.
ChangeAlpha(float percent)	Abstract method to change the alpha channel according to the specified percentage.

Class ImageColorChanger

Fields/Methods	Description
Inherits	Inherits from the MonoBehaviour class, implements the IColorChanger interface.
GetInitialAlpha()	Returns the initial alpha channel value for an Image.
ChangeAlpha(float percent)	Changes the alpha channel for an Image according to the specified percentage.

Class TextColorChanger

Fields/Methods	Description
Inherits	Inherits from the MonoBehaviour class, implements the IColorChanger interface.
GetInitialAlpha()	Returns the initial alpha channel value for TextMeshProUGUI.
ChangeAlpha(float percent)	Changes the alpha channel for TextMeshProUGUI according to the specified percentage.

Explanation of Color Change Approach

Since color change in Unity is implemented differently for images (Image) and text (TextMeshProUGUI) through various interfaces with different logics, there was a need to standardize this process for easy application to all components.

- IColorChanger and BaseColorChanger<T>:
 - IColorChanger is an interface defining the ChangeAlpha(float percent) method for changing the alpha channel.
 - BaseColorChanger<T> is an abstract class implementing the IColorChanger interface and defining the InactiveStart() method for initializing ToChangeColor and InitialAlpha.
- ImageColorChanger and TextColorChanger:
 - Classes that inherit from BaseColorChanger<Image> and BaseColorChanger<TextMeshProUGUI>, respectively.
 - Implement the abstract method GetInitialAlpha(), which returns the initial alpha channel value for the corresponding component type.
 - Implement the method ChangeAlpha(float percent), which changes the alpha channel according to the specified percentage.

This approach allows you to create a universal mechanism for color change that can be easily extended to other types of components without altering the core logic in FadeSwitcher.

Class InactiveStarter

Fields/Methods	Description
Inherits:	Inherits from the MonoBehaviour class.
StartInactiveInChildren()	Initiates the InactiveStart() method for all child objects.
InactiveStart()	Called for component initialization. Typically used to call other methods or events during startup.
OnValidate()	Checks for other InactiveStarter components in child and parent objects and displays a warning if there is more than one.

InactiveStarter is a class that initiates the InactiveStart() method for all child objects during scene startup or component initialization.