Timer System

This project implements a modular timer system in Unity meant to be intuitive to work with, customizable within the Editor, and versatile for many different situations.

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Overview

The Timer system allows you to visually represent countdowns or timers using different UI components such as text, sliders, and images. It is built to be modular, extensible, and easy to integrate into any Unity project.

Folder Structure

```
Assets/
├── Timer/
    ├── Prefabs/          # Prefabs for drag-n-drop use.
    ├── Scenes/           # Example scenes demonstrating the Timer system
    ├── Scripts/          # Core scripts for the Timer system
        ├── UI/           # UI-specific scripts
            ├── TimerImage.cs
            ├── TimerSlider.cs
            ├── TimerText.cs
        ├── Timer.cs       # Core Timer logic
```

Scripts

Core

Timer.cs

The **Timer.cs** script is the core logic of the Timer system. It handles:

- Timer countdowns and elapsed time.
- Configurable duration and change factor.
- Event callbacks for update, and completion.

Properties

- `TickType tickType` : Determines the frame-specific method ticking time.
- `float duration` : The length of time (in seconds) for the timer.
- `float timeElapsed` : The time elapsed (from 0; in seconds).

Methods:

- `Tick(float value)` : Increments the timer's elapsed time by a value.
- `GetTimeLeft():float` : Gets the timer's time left until duration is elapsed.
- `SetElapsedTime()` : Helper function to set the `elapsedTime` property through the Editor.

UI

TimerImage.cs

The **TimerImage.cs** script visually represents the timer using an image, typically with a circular fill.

Key Features:

- Configurable image fill types (e.g., radial or horizontal).
- Dynamically updates based on the timer's progress.

Usage Example: Attach this script to a UI Image component to display a circular countdown.

TimerSlider.cs

The **TimerSlider.cs** script uses a Unity Slider to visually represent the timer’s progress.

Key Features:

- Slider-based UI representation.
- Automatically updates the slider's value based on the timer's progress.

Usage Example: Attach this script to a Slider component to display a progress bar for the timer.

TimerText.cs

The **TimerText.cs** script displays the timer’s current value as text, formatted as seconds, minutes, or custom formats.

Key Features:

- Customizable text format (e.g., MM:SS).
- Dynamically updates the text as the timer progresses.

Usage Example: Attach this script to a Text or TextMeshPro component to display the remaining time.

Getting Started

Usage

1. Drag and drop the `Timer` prefab from `Assets/Timer/Prefabs` into your scene.
2. Customize the duration, change factor.
3. Add any custom logic to the timer events in the Unity Editor.

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