Sprite Engine

This asset is an easy sprite animator which doesn't use unity animation system. Don't need to create an animator component + an animation clip for each sprite you want to animate anymore !

We recommend you to open the demo scene and demo scripts to understand the asset even better !

bool -> parameters bool -> optional parameter

Documentation for SpriteEngine class :

- ### Constructor :

SpriteEngine(SpriteRenderer renderer,Sprite[] sprites,float duration,bool loop)
SpriteEngine(Image renderer,Sprite[] sprites,float duration,bool loop)

Set the basic property, as the renderer for the animation, the **Sprites** property and the **Duration** property. Note that it works with a SpriteRenderer component but also on Image component. the **loop** parameter is optional its default value will be false.

- ### Public Methods :

void PlaySpriteAnim() : Launch the animation
return with no effect if : - the instance is already animating
- the Sprites array is null or empty

void StopSpriteAnim() : Stop the animation and reset the Renderer to the first sprite of the array.
return with no effect if : - the instance is not animating

void PauseSpriteAnim() : Pause the animation at the frame, call PlaySpriteAnim() and it will resume.

return with no effect if : - the instance is not animating

void Restart() : It's just StopSpriteAnim() and PlaySpriteAnim(), it restarts the animation, it's usefull when you want to apply parameters (as sprites array for instance) and refresh the animation.

void AddCustomSpriteTiming(int spriteIndex,float timeGapPerCent,Action customEvent) : Add a CustomTime object (see the CustomTime class) at index in the **Sprites** property .It sets **timeGapPerCent** property to **timeGapPerCent** , the **customEvent** as a listener to **Event** property and finally sets the **spriteIndex** property to **spriteIndex** property. If there already is a custom sprite timing at the spriteIndex, it will override it.

return with no effect if : - sprites array is null or empty

void RemoveCustomTimeAtSpriteIndex(int index) : Remove a custom time at index in the **Sprites** property.

return with no effect if : - there is no custom time at the index.

bool isAlreadyCustomTimeAtSpriteIndex(int index) : return true if there is a custom time at index in the **Sprites** property. return false if there is not.

CustomTime GetCustomTimeAtSpriteIndex(int index) : return a CustomTime object if there is custom time at index in the **Sprites** property. Return null if there is not.

- Public properties (get/set) :

Sprites **Sprite[] array** : it stores all the sprites of the animation (you have to put them in the chronological order)
Loop **bool** : true -> animation will loop / false->animation won't loop
Duration **float** : the total time which the animation last.
CustomTimes **CustomTime[] array** : it stores all the CustomTime objets, but we recommend you to manipulate custom time throughout the CustomTime methods in the SpriteEngine class.

OnStart **CustomTimeEvent** : it stores a CustomTimeEvent, this CustomTimeEvent will be call at the start of each animation cycle.
OnEnd **CustomTimeEvent** : it stores a CustomTimeEvent, this CustomTimeEvent will be call at the end of each animation cycle.
OnEndFrame **CustomTimeEvent** : it stores a CustomTimeEvent, this CustomTimeEvent will be call at the end of each frame of the animation.

- Public properties (get) :

IsPlaying bool : true -> animation is playing / false->the animation is not playing
IsPaused bool : true -> animation is paused / false->the animation is not paused

Documentation for CustomTime class :

- Constructor

CustomTime(float duration,float spriteLenght,int index) : These parameters set a **timeGapPerCent** equal to the average sprite duration at index in the Sprites array. In other word, this constructor create a new CustomTime without affecting the animation yet. Remember that **AddCustomSpriteTiming()** in the SpriteEngine class handle all of this. It also create a CustomTimeEvent instance. It also set the **spriteIndex** to index

- Public Methods :

void newEvent(UnityAction action) : Add a non persistent listener (action) to the Event property.

- Public properties (get/set) :

spriteIndex int: the index of the Sprites property on which the custom event is.
timeGapPerCent float : it represent how much (per cent) the sprite (spriteIndex) will take on the total duration. For instance if the Duration is 2sec and the first sprite has a CustomEvent with timeGapPerCent of 50, the first sprite will last 1sec and all the others 1sec.
Event CustomTimeEvent : A CustomTimeEvent invoke each time the sprite (spriteIndex) is shown in the animation.

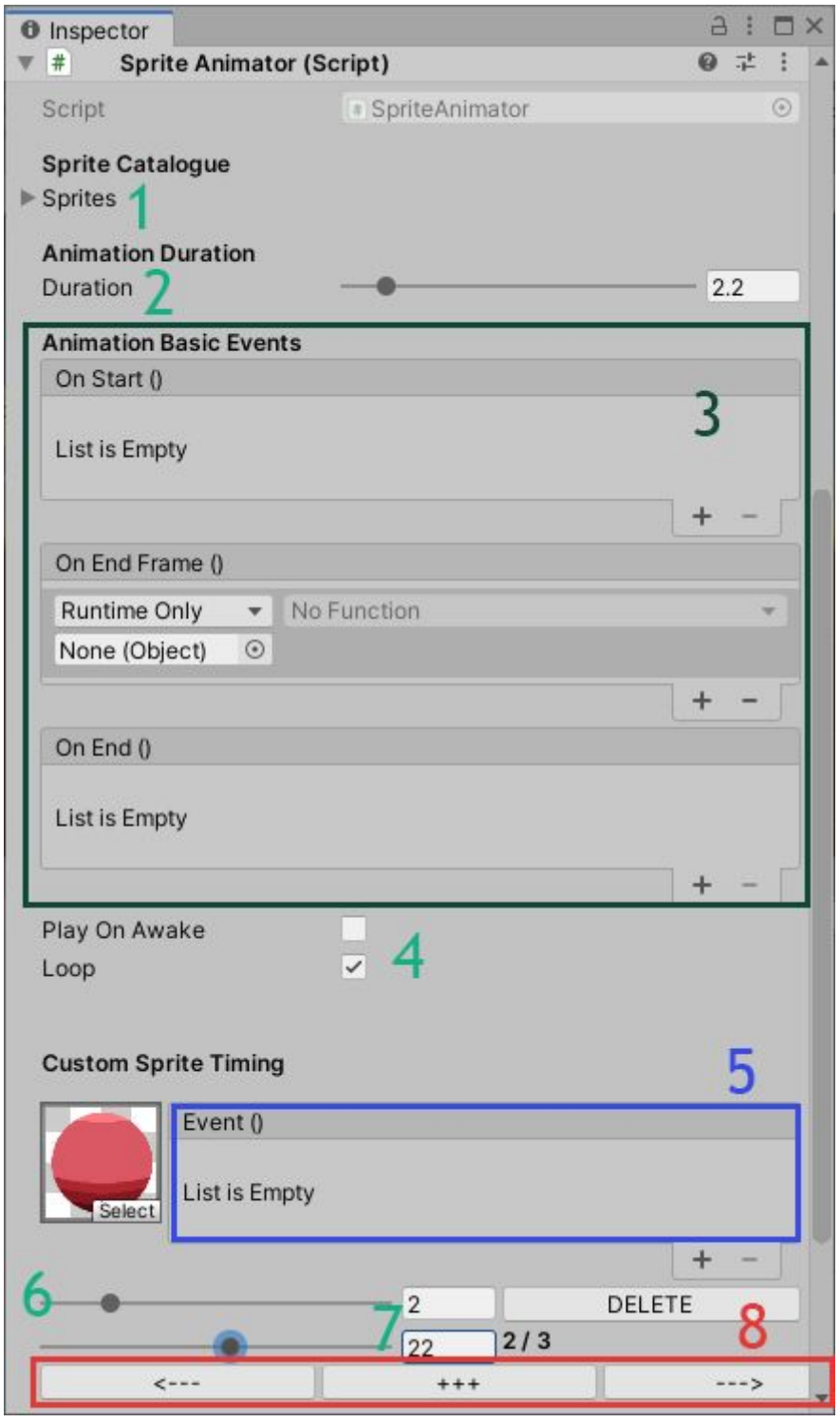
Documentation for CustomTimeEvent class :

Derives from UnityEvent.

It's a class to handle all events in the SpriteEngine class. You can access for instance to the AddListener method which allows you to add an UnityAction to it. You can call custom method easily thank to this.

Documentation for SpriteAnimator component:

This component allows you to set up quickly an animation throughout the editor. You can easily access to main features of the SpriteEngine. As its property : duration, loop, sprites,OnStart,OnEnd,OnEndEvent. But you can also add custom time to sprite thank to this interface.



This is what the SpriteAnimator component looks like.

Caption :

1 : Sprites property, drag and drop all your sprites in the chronological order.
2 : Duration property, to set the duration of the animation.
3. Add persistent listener to OnEnd,OnStart,OnEndFrame Event
4. Two bools parameters. Loop -> to set the Loop property, animation will loop or not and the PlayOnAwake property -> if the animation will start on Awake(On play) or not.(If not you'll have to Play the animation thank to a script).

CustomTime Editor :
5. To add a persistent listener to the CustomTimeEvent of the selected CustomTime.
6. The spriteIndex property, a whole number slider which allows you to chose the sprite which you want to add a CustomTime
7. The timeGapPerCent property, a slider to set timeGapPerCent. No worry if the slider doesn't reach 99, all your CustomTime added can't be over 99 so the slider is automatically updated.
8. The navigation panel. The CustomTime that you're currently editing is shown thank to the "2 / 3" label. If you want to add one CustomTime more click on "+++" button, you can navigate and see all your CustomTimes thank to the rigth and left arrow. Note that once you've added a CustomTime you don't need to confirm anything.

SpriteAnimator component methods :

void Apply() : if you made a variable changement at runtime without the editor, you'll need to call this method to Apply changements you've made.

SpriteAnimator component property:

Sprites **Sprite[] array** : it stores all the sprites of the animation (you have to put them in the chronological order)
Loop **bool** : true -> animation will loop / false->animation won't loop
PlayOnAwake **bool** : true -> animation play on Awake method / false->animation won't play on Awake method
Duration **float** : the total time which the animation last.
CustomTimes **CustomTime[] array** : it stores all the CustomTime objets, but we recommend you to manipulate custom time throughout the CustomTime methods in the SpriteEngine class.

OnStart **CustomTimeEvent** : it stores a CustomTimeEvent, this CustomTimeEvent will be call at the start of each animation cycle.

OnEnd **CustomTimeEvent** : it stores a CustomTimeEvent, this CustomTimeEvent will be call at the end of each animation cycle.
OnEndFrame **CustomTimeEvent** : it stores a CustomTimeEvent, this CustomTimeEvent will be call at t

Engine **SpriteEngine** : access to the instance -> Access to Play,Pause,Stop methods, property(we recommand you to change the SpriteAnimator property then call the Apply() method instead of directly change property in Engine property)