
xSGE Particles Documentation

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CONTENTS

1	xsge_particle Classes	3
1.1	xsge_particle.Emitter	3
1.2	xsge_particle.Particle	4
1.3	xsge_particle.AnimationParticle	4
1.4	xsge_particle.TimedParticle	5
1.5	xsge_particle.BubbleParticle	5
1.6	xsge_particle.AnimationBubbleParticle	6
1.7	xsge_particle.TimedBubbleParticle	6
	Python Module Index	7
	Index	9

Contents

- *xSGE Particles*
 - *xsge_particle Classes*
 - * *xsge_particle.Emitter*
 - *xsge_particle.Emitter Methods*
 - *xsge_particle.Emitter Event Methods*
 - * *xsge_particle.Particle*
 - *xsge_particle.Particle Methods*
 - * *xsge_particle.AnimationParticle*
 - * *xsge_particle.TimedParticle*
 - *xsge_particle.TimedParticle Methods*
 - * *xsge_particle.BubbleParticle*
 - *xsge_particle.BubbleParticle Methods*
 - * *xsge_particle.AnimationBubbleParticle*
 - * *xsge_particle.TimedBubbleParticle*

xSGE is a collection of extensions for the SGE licensed under the GNU General Public License. They are designed to give additional features to free/libre software games which aren't necessary, but are nice to have.

xSGE extensions are not dependent on any particular SGE implementation. They should work with any implementation that follows the specification.

This extension provides particle effects for the SGE.

XSGE_PARTICLE CLASSES

`xsge_particle.Emitter`

```
class xsge_particle.Emitter(x, y, z=0, interval=1, chance=1, particle_cls=<class  
    'xsge_particle.Particle'>, particle_args=None, particle_kwargs=None,  
    particle_lambda_args=None, particle_lambda_kwargs=None, tangi-  
    ble=False, **kwargs)
```

Class for object emitters. These are `sge.dsp.Object` objects which create other `sge.dsp.Object` objects of a specified class at a specified interval.

To randomize the way particles are created, extend `event_create_particle()` in a derived class.

Note: An alarm with the name "`__emitter`" in `event_alarm()` is used to control the timing. It is initially set by `event_create()`.

interval

The number of frames to wait in between the creation of each particle (adjusted for delta timing).

chance

The chance (out of 1) of a particle actually being created at each iteration. This can be used to make particle generation uneven.

particle_cls

The class to use for the particles created. Any class derived from `sge.dsp.Object` will work.

particle_args

The ordered arguments to pass to created particles' constructor methods. If set to `None`, an empty list is used.

particle_kwargs

The keyword arguments to pass to created particles' constructor methods. If set to `None`, an empty dictionary is used.

particle_lambda_args

A list of functions which, when a particle is about to be created, are called and have the returned values passed to the particle's constructor method instead of the corresponding index of `particle_args`. This emitter is passed to each of these functions as the first argument.

Values in the list set to `None` are ignored. If this list is longer than `particle_args`, any arguments not set by either of these lists are set to `None`.

If set to `None`, an empty list is used.

particle_lambda_kwargs

A dictionary of functions which, when a particle is about to be created, are called and have the returned values passed to the particle's constructor method instead of the corresponding key of `particle_kwargs`. This emitter is passed to each of these functions as the first argument.

If set to `None`, an empty dictionary is used.

xsge_particle.Emitter Methods

`Emitter.__init__(x, y, z=0, interval=1, chance=1, particle_cls=<class 'xsge_particle.Particle'>, particle_args=None, particle_kwargs=None, particle_lambda_args=None, particle_lambda_kwargs=None, tangible=False, **kwargs)`

Arguments set the respective initial attributes of the object. See the documentation for `Emitter` for more information.

`x`, `y`, `z`, `tangible`, and all arguments passed to `kwargs` are passed as the corresponding arguments to the constructor method of `sge.dsp.Object`.

xsge_particle.Emitter Event Methods

`Emitter.event_create_particle(particle)`

Called immediately after the emitter creates a particle.

Arguments:

- `particle` – The particle object just created.

xsge_particle.Particle

`class xsge_particle.Particle(x, y, z=0, tangible=False, **kwargs)`

Base class for particles. It is identical to `sge.dsp.Object`, except that it is intangible by default.

xsge_particle.Particle Methods

`Particle.__init__(x, y, z=0, tangible=False, **kwargs)`

`x`, `y`, `z`, `tangible`, and all arguments passed to `kwargs` are passed as the corresponding arguments to the constructor method of the parent class.

xsge_particle.AnimationParticle

`class xsge_particle.AnimationParticle(x, y, z=0, tangible=False, **kwargs)`

Class for particle objects which animate once and are then destroyed. It is otherwise identical to `Particle`.

Note: `event_animation_end()` is used to control the destruction.

xsge_particle.TimedParticle

class xsge_particle.**TimedParticle** (*x, y, z=0, life=None, tangible=False, **kwargs*)

Class for particle objects which are destroyed after a designated amount of time. It is otherwise identical to *Particle*.

Note: An alarm with the name "`__life`" in `event_alarm()` is used to control the timing. It is initially set by `event_create()`.

life

The number of frames (adjusted for delta timing) after which the particle is destroyed. Setting this attribute resets the "`__life`" alarm to the given value. Set to `None` to disable timed destruction.

xsge_particle.TimedParticle Methods

`TimedParticle.__init__` (*x, y, z=0, life=None, tangible=False, **kwargs*)

Arguments set the respective initial attributes of the object. See the documentation for *TimedParticle* for more information.

x, y, z, tangible, and all arguments passed to *kwargs* are passed as the corresponding arguments to the constructor method of the parent class.

xsge_particle.BubbleParticle

class xsge_particle.**BubbleParticle** (*x, y, z=0, turn_factor=1, min_angle=180, max_angle=0, tangible=False, **kwargs*)

Class for particle objects which randomly change their move directions.

Note: `event_step()` is used to control this behavior. `move_direction` is manipulated.

turn_factor

The largest amount of rotation possible.

min_angle

The lowest possible angle permitted.

max_angle

The highest possible angle permitted.

xsge_particle.BubbleParticle Methods

`BubbleParticle.__init__` (*x, y, z=0, turn_factor=1, min_angle=180, max_angle=0, tangible=False, **kwargs*)

Arguments set the respective initial attributes of the object. See the documentation for *TimedParticle* for more information.

x, y, z, tangible, and all arguments passed to *kwargs* are passed as the corresponding arguments to the constructor method of the parent class.

xsge_particle.AnimationBubbleParticle

```
class xsge_particle.AnimationBubbleParticle(x, y, z=0, turn_factor=1, min_angle=180,  
                                             max_angle=0, tangible=False, **kwargs)
```

Inherits the features of both *AnimationParticle* and *BubbleParticle*.

xsge_particle.TimedBubbleParticle

```
class xsge_particle.TimedBubbleParticle(x, y, z=0, life=None, tangible=False, **kwargs)
```

Inherits the features of both *TimedParticle* and *BubbleParticle*.

X

`xsge_particle`, 1

Symbols

`__init__()` (`xsge_particle.BubbleParticle` method), 5
`__init__()` (`xsge_particle.Emitter` method), 4
`__init__()` (`xsge_particle.Particle` method), 4
`__init__()` (`xsge_particle.TimedParticle` method), 5

A

`AnimationBubbleParticle` (class in `xsge_particle`), 6
`AnimationParticle` (class in `xsge_particle`), 4

B

`BubbleParticle` (class in `xsge_particle`), 5

C

`chance` (`xsge_particle.Emitter` attribute), 3

E

`Emitter` (class in `xsge_particle`), 3
`event_create_particle()` (`xsge_particle.Emitter` method), 4

I

`interval` (`xsge_particle.Emitter` attribute), 3

L

`life` (`xsge_particle.TimedParticle` attribute), 5

M

`max_angle` (`xsge_particle.BubbleParticle` attribute), 5
`min_angle` (`xsge_particle.BubbleParticle` attribute), 5

P

`Particle` (class in `xsge_particle`), 4
`particle_args` (`xsge_particle.Emitter` attribute), 3
`particle_cls` (`xsge_particle.Emitter` attribute), 3
`particle_kwargs` (`xsge_particle.Emitter` attribute), 3
`particle_lambda_args` (`xsge_particle.Emitter` attribute), 3
`particle_lambda_kwargs` (`xsge_particle.Emitter` attribute), 3

T

`TimedBubbleParticle` (class in `xsge_particle`), 6

`TimedParticle` (class in `xsge_particle`), 5
`turn_factor` (`xsge_particle.BubbleParticle` attribute), 5

X

`xsge_particle` (module), 1