Particle effects can be generated with same classes that create character sprites.

## Behavior Component

Can contain as many behavior components as we need particles. May be made up of a few, or dozens. Each component will get contain it’s own timer and be attached to a physics particle.

## Physics Component

Will have as many particles as needed. Can use a Force Generator to register all of the particles to move them as designed.

## Rendering

Use a Sprite with a sprite sheet as normal. The 8 directions can be utilized for variations on one particle effect, or to load several different particle effects as needed. We can fix the ‘direction’ of the particle to determine which sprite animation is used. We can also make different behavior states for each.

The Update method can add more flavor to the effect by rotating, scaling, changing hue, etc.

# Example

For a fire effect a particle could start bright yellow, and float up. As it moves further from the source, it turns orange then red, then flickers. Finally it turns into dark smoke, then light smoke, then disappears. If we have a source spawn several of these particles, and a force generator that cause them to move in wavy random patterns, we should create a fire effect.

The different colors of the particle could either be different behavior states, or different ‘directions’ in the sprite sheet.