

ICG: Final Project

Animation with Geometry Shaders

1. Model Status

2. Physics Mechanism

3. Geometry Shaders

Model Status

- Position: (x, y, z)
- Speed: (x, y, z)
- Angle: (h, v)
- Angular speed: (h, v)
- Glow: flag
- Expand: flag
 - Expand ratio
- Emit Ray: flag

Name

每個模型的比例不同



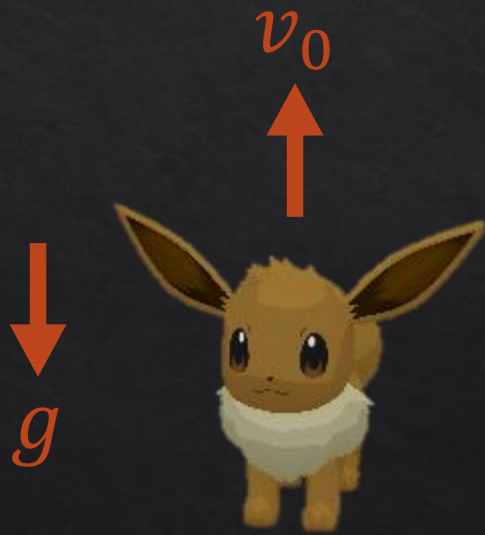
提供統一的介面

底層再去轉換比例來畫

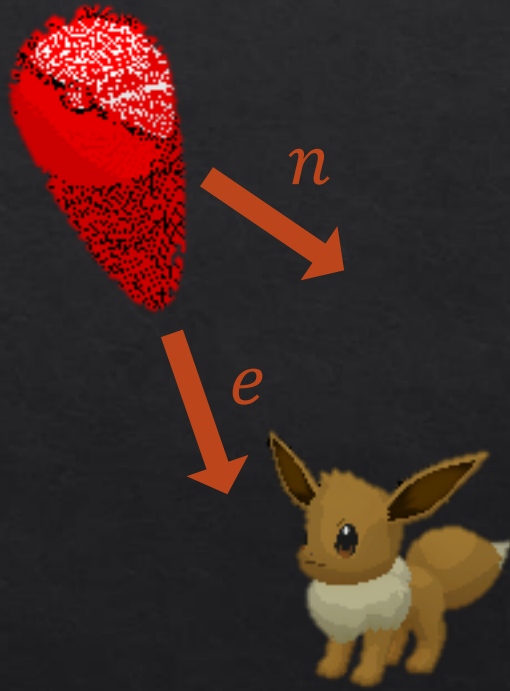
Physics Mechanism

$$v = v_0 + at$$

$$x = x_0 + vt$$

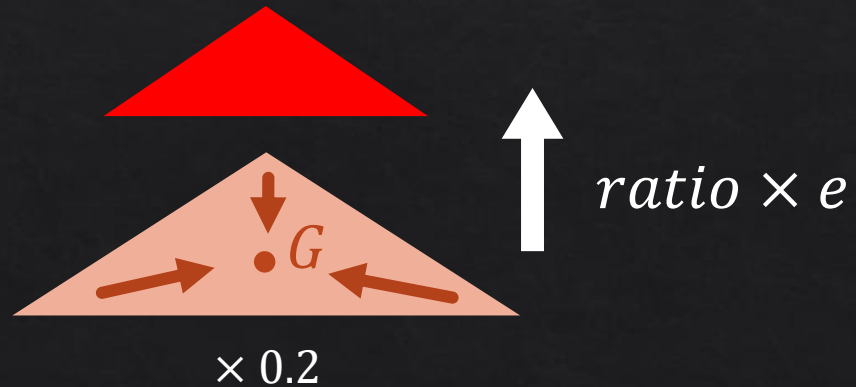


Geometry Shaders



triangles \longrightarrow triangle_strip (6 vertices)

$$ratio \begin{cases} -0.05, & \text{if } n \cdot e < 0 \\ (n \cdot e) \times 0.5, & \text{otherwise} \end{cases}$$



Geometry Shaders

triangles \longrightarrow triangle_strip (3 vertices)

ratio: passed by **uniform**

