

## Use case: Collision

**Summary:** This describes how a black hole collides with an other entity.

**Priority: High**

**Extends: -**

**Includes:** Swallow Entity, Collision

**Participators:** A black hole. The entity the black hole collided with.

### Normal flow of events

There is no normal flow. The user case is built up of a couple of alternate flows depending on the colliding entity. Enemies cannot use powerups, so they are never under the effect of some powerup.

#### Flow 1.1 The black hole collides with the edge of the stage

|       | Actor | System   |
|-------|-------|--|
| 1.1.1 |       | The black hole collides with the wall. Handled by the physics engine |

#### Flow 1.2 The black hole runs into an obstacle

##### Flow 1.2.1 The black hole is not the under effect of the “Eat obstacle” powerup

|         | Actor | System  |
|---------|-------|---|
| 1.2.1.1 |       | The player collides with the obstacle. Handled by the physics engine. |

##### Flow 1.2.2 The black hole is under the effect of the “Eat obstacle” powerup

|         | Actor | System   |
|---------|-------|--|
| 1.2.2.1 |       | The obstacle is eaten, as described in UC Swallow entity |

#### Flow 1.3 The black hole runs into a planet

##### Flow 1.3.1 The planet is bigger than the black hole

|         | Actor | System   |
|---------|-------|--|
| 1.3.1.1 |       | The black hole collides with the planet, handled by the physics engine |

##### Flow 1.3.2 The planet is smaller than, or of the same size as the black hole.

|         | Actor | System   |
|---------|-------|--|
| 1.3.2.1 |       | The planet is eaten, as defined in UC Swallow entity |

#### Flow 1.4 The black hole runs into another black hole

|       | Actor | System   |
|-------|-------|--|
| 1.4.1 |       | Per UC Swallow entity, the smaller black hole is |

|  |  |  |
|--|--|--|
|  |  | swallowed. If they are of equal size and none is player, then the eaten hole is randomly determined. If one is player controlled, then player always wins. If the swallowed black hole is player controlled then UC Player Swallowed is applied. |
|--|--|--|

**Flow 2.4 The player runs into a powerup(not applicable for enemies)**

|       |       |  |
|-------|-------|--|
|       | Actor | System   |
| 2.4.1 |       | The player get some temporary status modifier applied, as described in UC swallow entity |