

Feature Specification – Respawn System



Everything that follows applies to the respawn system in stage 2 and stage 3

Stage 1 should remain just the way it is right now

The rework pursues 3 core aims:

1. Make respawning less disorienting for players
2. Exercise more control over where the player respawns to avoid potential issues
3. Facilitate setting up checkpoints for designers

1. Functionality

On losing all health points, colliding with an object tagged as OutOfBounds, or dropping below the Respawn Height, the player dies

Screen quickly fades to black

Player cannot control character during this time (moving, jumping, shooting, dashing)

Momentum is kept (e.g. if the player is falling and goes out of bounds, they keep falling as the screen fades to black)

Once the screen reached full black, the player respawn is prepared

Position is set to the location values of the last checkpoint they activated

Rotation is set to the yaw value of the last checkpoint they activated, the pitch and roll values are reset to 0

Player exits combat mode

Health bar and screen effects are hidden

Crosshair goes into exploration state

If dash was on cooldown when player died, it is now ready again

After preparation has been completed, player regains control and screen fades in again

Fade in takes just as long and fade out

Player regains control before the fade in starts

Checkpoints are activated by entering their trigger areas

For the respawn, the checkpoint you activated last is used

When starting the level, the initial location and rotation of the player object are stored as the first checkpoint

The Respawn Point variable on the “Health and Respawn_Stage 2” script is **no** longer needed and can be removed (for the stage 1 version, it is still relevant)

2. Setting up checkpoints

Checkpoints are their own prefab

- Parent object has a mesh filter (cube)

- Parent object has a mesh renderer with a semi-transparent green material

- Parent object has a box collider marked as trigger

 - On entering this trigger, the corresponding checkpoint is activated

- Prefab has one child object—the actual respawn point

 - Elongated but flat cube with red material so the position and rotation are visible

 - Positioned at the bottom center of the green trigger cube by default

 - No collision, just cosmetic

 - World position and rotation of this child object are used for the respawn**

Visuals of the checkpoint are only visible in the editor

- On starting the game, the mesh renderers and mesh filters of both the green trigger cube and the red respawn point are deactivated

3. Exposed variables

Fade in/out duration, float in seconds

- Time it takes to fade out to full black on player death and back to game view on respawn

- Part of the “Health and Respawn_Stage 2” script on the parent object of the player

Respawn height, float

- If player drops below this altitude, they respawn

- Part of the “Health and Respawn_Stage 2” script on the parent object of the player