

**Title: Contagion****Story:**

The player controls a city and its local police force during a zombie outbreak scenario. As the leader of your community, you must direct law enforcement as well as city engineers to defend the city's population from zombie infection. Over time, citizens will become infected, which can spread via direct attacks to healthy people. The player will be in charge of deploying police to isolate and contain the infection. The player can also send engineers to build barricades and other defences to slow down zombie attacks or quarantine areas. The goal is to maintain a certain number of healthy citizens for as long as possible in the face of the zombie threat. To win, the player must keep a certain number of citizens alive for a predetermined amount of time.

**Technical Elements:**

- 2D - The simulated aspects of the game occur within a 2D plane.
- Controllable police - The player can select individual officers or groups of officers and send them to specified parts of the city.
- Buildable defences - The player can spend resources to build barricades or other defences at various points in the city. These defences could be destroyed by zombies and might include fences or traps.
- Path finding and decision making for citizens and zombies - Citizens will flee zombies when they see them, picking the path that either gets them away from the most zombies the fastest, or towards nearest visible law enforcement. Likewise, zombies will wander semi-randomly until they come into proximity of a living person, at which point they will chase until killed or the person escapes.
- Random zombie spawning - At the beginning of the game, a proportion of citizens would be infected, turning into zombies after some amount of time. After that, zombies would spawn at the map edges after specified intervals.
- 2D Physics - Entity movement is based on 2D physics, allowing entities to collide with static structures and barriers,

projectiles, and other entities. Because nearby zombies are likely to seek the same goal, zombies are likely to "pile up", and push with their combined force towards their objective, their combined strength allowing them to force their way through barriers in their path.

- Particle effects - Gunfire, as well as some (tame) blood effects upon actor injury.
- Pause game - The player can pause the game, halting the simulation loop (but not the camera or UI).
- Save games - The player can save the game at any point, and load a game to resume it later. Save/load code must correctly persist all aspects of the simulation state.

Sketch:

