The goal of this project is to create a pseudo-randomized sandbox environment wherein a player is tasked with completing a series of tasks in order to escape in the fastest time. Additionally, the player will be tracked throughout this arena by a pursuant AI, which will stop at nothing to impede the player. The player will possess the ability to alter certain elements of their terrain in order to pursue this goal, however they risk drawing unwanted attention from these actions. Players must accommodate and adapt to changes in their environment, and complete puzzles efficiently whilst avoiding the AI (or other players) in order to achieve the highest score.

-Environment

A house or simple arena which would feature multiple sections each with a specific purpose. This environment would be randomized to a degree providing increased replay ability. In the context of a house, this would include a static hallway with multiple random rooms attached. Rooms could have specific themes with entities tied to those themes, however puzzles and their order would be random. This provides familiarity to the player while adding challenge to subsequent playthroughs.

-Tasks

Simple puzzles in areas would be used to give context to an environment when used correctly. The idea is to implement tasks which could involve collecting items for use elsewhere (say a combination for a safe in some other area) or moving certain obstacles in order to traverse areas. The goal is to have the player interact with most, if not all elements in an area in order to escape. The player could access multiple tools to solve puzzles, providing alternative solutions (as well as outcomes) for tasks.

Potential soft-lock feature, which adds depth by causing players to consider strategy before tackling certain puzzles. This poses the opportunity to explore the entirety of the arena before attempting to complete objectives. Additionally, this could guarantee exposure of the AI character to the player, preventing levels from being too easy.

The main task would be to exit the environment, wherein a player’s score will be generated, and the simulation will end. Ultimately, a players’ goal is to escape as quickly as possible, with bonuses being granted for completing tasks efficiently, in as few actions/attempts as possible, or perhaps some hidden achievements. The final score should be calculated by evaluating the players performance overall as well as weighting individual rooms. Values could include

-AI abilities

Overview

* Omni-directional movement
* Sight, sound, touch detection (Alerts AI to players position, sense represent degrees of alert)
* Grab / Shove (grabs players when they are close resulting in a game over, shoves when they are slightly farther away)
* Interact with environment (move objects / set traps to impede player)
* Reset puzzles

Ideally this pursuant AI should be able to hear, see, and feel actions made by the player. Additional levels of difficulty could be derived from the AI’s reactiveness/aggressiveness in pursuing the player, as well as tweaking the range of its senses.

The AI could see the player as they traverse their environment, or even as they interact with objects in eyesight. It can hear players as they move (varying levels of sound for running, walking, and sneaking) and be confused by other sounds in an area

-Player abilities

Overview

* Omni-directional movement
* Assume stances (walk, run, crouch, crawl)
* Interact with environment (pick up objects, move entities around)
* Directional dive (either every direction or NESW)
* Solve puzzles (separate interface)

The player character will have a range of abilities assisting them navigate their environment. In terms of mobility, the player should be able to walk, run, and sneak across any area. This affects the size of the player hitbox and how it interacts with entities around it (i.e. a player that is running could bump into things in enclosed areas, whereas a sneaking player has a lower stance allowing them to move past obstacles). Players will also need to manage their inventory, which could provide a unique challenge as inventory size could consist of what they can hold in either hand or pocket(for smaller objects).

Perhaps I might implement a directional dive mechanic too, which could save players from being grabbed by the AI player if timed correctly. This could disable the player hitbox temporarily however there should be repercussions for the player if they time it incorrectly. For example, when the player character dives an extended animation could play of them falling to the floor and picking themselves up again before the player can regain control again. By doing so, this mechanic should be useful, but not so reliable that it can be abused to easily beat the game. This could prompt players to use this ability to navigate and avoid the AI in close quarters situations.

-Local Multiplayer

This may or may not fit in the scope of this project, however implementation of some degree of multiplayer (local could simply be one system, multiple players) could add to the overall replay value and create a new experience for players in the same setting. Players would work against each other to escape, with the goal of being the first one to do so.