

Prototype

Progress Thus Far

The prototype for this stage has three main features: 1) a room with objects, 2) object interaction, and 3) path finding so the owner can chase the dog. For the room, objects can be added that will collide with dog and the owner. These mechanics function similarly to the platforms from lab five. For the object interaction, a Sprite subclass, InteractSprite, was added. This new sprite has an extra hitbox that acts as the “zone of interaction” for the given InteractSprite. This base class will help with later versions of the game since objects that the player can interact with (such as couch cushions, DVD player, etc.) will all extent InteractSprite and have the extra hitbox functionality. These subclasses will throw special events based on the type of interaction. Finally, the ability for the owner to chase the dog was added. To accomplish this, an underlying grid was added to the game. Each cell in the grid stores information (cost values, if it can be traversed, etc.) needed for an A* search. To help with grid creation, a helper class was created to dynamically populate the grid based on the objects added to the game. Every update, the position of the owner and the dog are mapped into their respective grid cells and an A* search is run to find the best path between the owner and the dog while moving around the obstacles in the level. This path is important since it forms the basis of how the owner chases the player.

How to Play the Game

In terms of mechanics, there are a few special interactions for the prototype. First, pooping will intentionally stop the dog from moving for the next half second. This is done to prevent the player from being able to continuously run away from the owner while still pooping. Second, the owner will remain stationary until the player poops for the first time. After they do, the owner will chase the player until it catches them (which will end the game).

The prototype has the following controls:

- Arrow Keys – hold down to move the dog around the screen
- Q/Space – press to poo
- W – press to interact
- Shift – hold down to show debug mode, including an overlay of the A* grid (would highly recommend doing this)

Next Steps (for Alpha)

For the Alpha, the work will be split between cleaning up the prototype code and designing levels. Although most of the prototype was built as an evolutionary prototype, some of the code was added with the expectation of throwing it away and rebuilding the functionality once the mechanic was more complete. For the level design, various types of object interactions

will be added to make the game more interesting. Furthermore, the flow of each level will be worked out so that the player can easily navigate between rooms and around objects while still having areas to hide poo from the owner.