**Idea: Cat and Mouse**

**Main Character:** Mouse

* **Mouse is initially starts from small hole**
* Mouse will maneuver throughout floor collecting all the crumbs, cheese and traps to change their score
* If mouse is caught by a cat or the score goes below 0 points the game is over and player loses with some score
* If mouse has collected all the crumbs and **returns to the starting point**, the game will be over and the player wins with some score
* Can only move once during any given tick

**Enemies**

*Moving Enemy:* Cats

* The cats will move towards mouse inorder to catch it
* Can’t collect rewards or punishments
* After a specific intervals of time another cat will spawn
* Can only move once during any given tick

*Punishment:* Mouse traps

* If mouse has stepped over a trap, they will lose points
* There will always be *n* amount of mouse traps at any given time at random locations

**Rewards**

*Regular:* Crumbs

* Specific amounts of crumbs will be scattered across the floor
* Mouse’s objective is to collect all the crumbs
* If collected by mouse, the player gets points

*Bonus:* Cheese

* There will be at least one cheese on the floor at any given them
* Spawn at randoms locations and disappears if not collected after some time

**Barriers**

House hold objects & Walls

* These objects and walls are barriers that neither the cat or mice can pass through directly

**Board**

House Floor (Bird’s eye view)

* The floor is the given area that the user can user can see
* Floor plan will consist of kitchen, living room, …
* Inital map will contain the mouse, *m* cats, all crumbs, *n* traps and objects
* The board will also contain the player’s score and time passed