

Final Project Proposals

Tower Defense

This is a game similar to **Balloon Tower Defense**. The player will be facing waves of attacks from enemies and has to defend his/her base by creating and upgrading his/her machines.

Insert hierarchy here

- Enemy
 - Enemy subclasses
 - Diff instance vars (health, damage)
- Tower
 - Tower subclasses
 - Diff instance vars(damage, cost)

Insert features here

1. different levels/mazes for the enemies to travel
 - Each level is created in a .txt file using ASCII symbols
 - The file is read by the program and interpreted by the program
 - A visual representation is drawn in processing
2. Enemies use a path finder algorithm to traverse the maze
3. different defenses
 - Tower superclass
 - Tower types subclasses
4. Ability to upgrade defenses
 - As towers get upgraded, they progress down a hierarchy of more specific subclasses

Concepts used

1. Queues for tower creation
 - A queue of tower, FIFO, in order of creation
2. Priority Queue used to release enemies
 - Each round begins by creating an assortment of random enemies based on a player's score
 - These enemies are stored in a priority queue, where weaker ones are given higher priority
3. Recursion
 - Each balloon will follow a recursion algorithm to find the path out of the maze

Insert to-dos here

- Enemy superclass
- Tower superclass
- Subclasses of towers and enemies

Insert timeline here