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Duck Invaders Proposal

Welcome to Duck Invaders! Your human has come down with bird flu, a result of the invading ducks you must hunt. Swarms of ducks will dive you as you attempt to shoot them from the sky and protect your human. Your goal is to eliminate the enemy and save your human. To win you must defeat many waves of enemies. Good luck hunter. Shoot straight. Shoot well.

Duck Invaders would provide a difficult challenge and well known game that would provide a good thing to put on a resume and would provide good structure for object oriented programming. We would have a class for the player, missiles, enemies, and a ‘game state’ type 2d array that tracks location of objects. Graphically we would implement moving objects, a keyboardListener for our player, a grid like implementation of shape drawing, images for the player and enemies.

Further expansion of the game could include sounds, music, and enemies abilities to fire at the player. It could also include forward and backward movement. In addition, we may utilize multi-threading to improve speed of the game and quality/performance in general.

Space Invaders Explanation

* One player
* Player can move side to side
* Player always fires bullets straight up
* Multiple enemies
  + Move side to side in swarm; move down a little when they hit a wall/side of screen
  + Can take multiple shots to kill
  + If they reach the player, it is game over
  + If they all die, the next level loads
* Multiple levels
  + Each level increases enemy count and speed

Modular approach:

* # enemies should be changeable
* Speed should be changeable
* Enemy type should be changeable

Steps:

1. One player with movement no shooting
2. two enemies, no shooting, just movement.
3. Bullets (without collision)
4. Bullets (with collision)
5. Win/lose conditions
6. Levels