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CMPT 276 PROJECT PHASE 1: DESCRIPTION

Plan:
Throughout the semester, we will be planning on doing weekly scrum style meetings to see what everyone has worked on in the past week, as well as what everyone will be working on in the coming week, as project phases get released. We will discuss pitfalls and adjust our plan based on that. We will maintain a prioritized backlog of tasks ensuring that the team works on high priority tasks first. Additionally we will use branch version control to allow parallel development without disrupting the main codebase, and pull requests to ensure code quality.
To minimize lose coupling we are clearly defining interfaces. Also, ensuring separation of concerns using code modularity. Lastly, we will develop unit tests to ensure functionality of critical components and catch bugs.

We are planning on splitting each member up into 4 equally sized jobs, which take care of different aspects of the game listed below:

- Renderer: drawing objects, updating images, importing images
- Main / Logic: clock, game states
- Character: enemy ai and player movement
- Object: walls, barriers, items, maze generation

Description:
The game will be fairly similar to the game given in the project description, but we will be adding a stealth mechanic for the player to use. If the player is on a 'bush' square, the enemies will move around randomly. We will discourage the player from abusing the bushes by spawning enemies more rapidly while the player is in a bush.

There will also be 'holes' representing the 'punishment', which will do the same negation of score to the player as a moving enemy. We will implement our bonus reward item as a powerup that will allow the player to 'jump' over these holes, moving 2 spaces in 2 clock ticks (Animate the clock tick in between).

The game will have a difficulty select option in the start menu, allowing the player to choose between easy/medium/hard. Difficulty is represented by an integer in the main class, which will spawn 1(enemy) on easy, 2(enemy) on medium, or 3(enemy) each 'spawnEnemy()' for example.

Upon start, the menu UI will be displayed with 3 options of difficulty. Once the difficulty is chosen, the game will start and the player will be placed on the starting square. The entire map will be generated, with walls, the 3 mandatory items, holes, and the starting number of moving enemies (dependent on difficulty). Every 10 in-game ticks, a new enemy will spawn. Every 20 ticks, a bonus reward will spawn, with a maximum of one bonus reward on the map at a time. Each bonus reward is worth 5 points, and also gives the player the ability to jump over holes. Each mandatory item is worth 3 points, and all 3 must be picked up to finish the game. Getting hit by an enemy or falling into a hole negates 2 points. Standing on a bush square allows the player to hide from enemies, but enemies will spawn more rapidly while the player is on the bush square. The game ends when the player picks up all 3 mandatory rewards and makes it to the end cell, or if the player's overall score becomes negative after too many punishments.