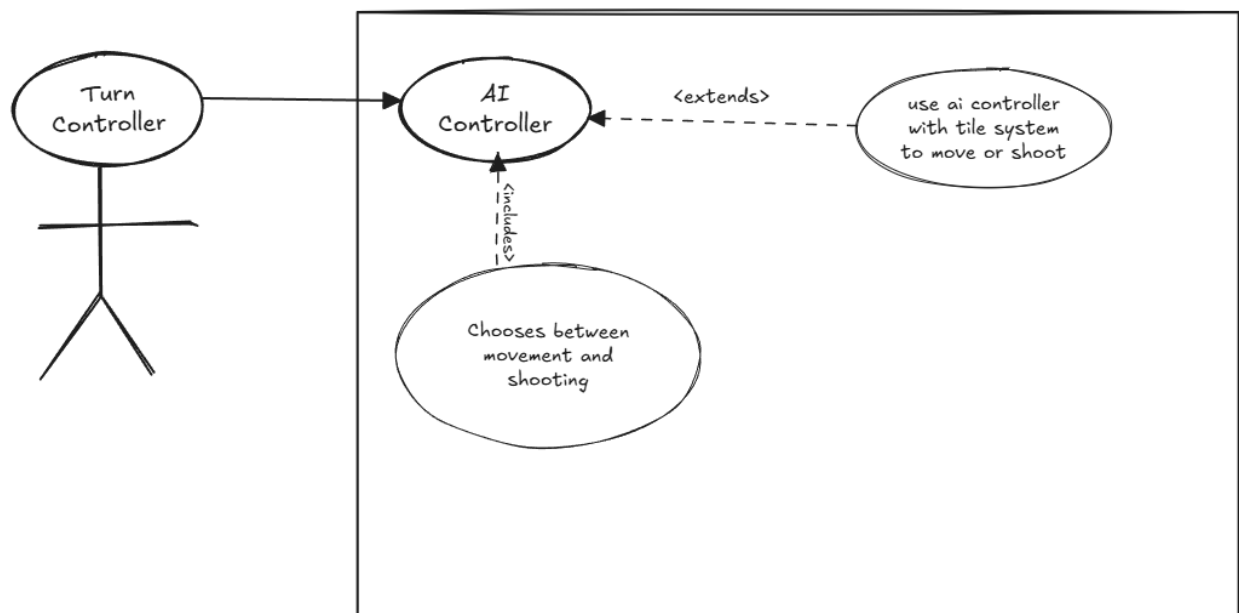


Brenden Godbehere

1. Brief Introduction __/3

My feature for HexTanx videogame is the turn controller for the enemy and player tanks. The turn controller will determine if it's the players or the enemy tanks' turn. A core characteristic of HexTanx will be the turn-based aspect of the game. A turn-based game would be for example checkers where one player goes, then the other. I will also be doing animations for players, enemies, and explosions from shooting and I will also be doing enemy creation/generation.

2. Use case diagram with scenario __/14



Scenario: The turn controller has determined that it is the enemy's turn and now the enemy must decide whether to move or shoot.

Name: Enemy Turn

Summary: The turn controller will tell the AI controller it is their turn to move or shoot.

Actors: Turn Controller

Preconditions: Level has been generated, and it is now enemies' turn.

Basic Sequence:

Step 1: Receive notice of turn

Step 2: Use random numbers to determine whether to move or shoot.

Step 3: Return control to turn controller once turn is over.

Exceptions:

Step 2.1.1: Enemy chooses to shoot.

Step 2.1.2: Random Number decides if enemy hits or misses.

Step 2.2.1: Enemy chooses to move.

Step 2.2.2: Enemy tank moves to random square.

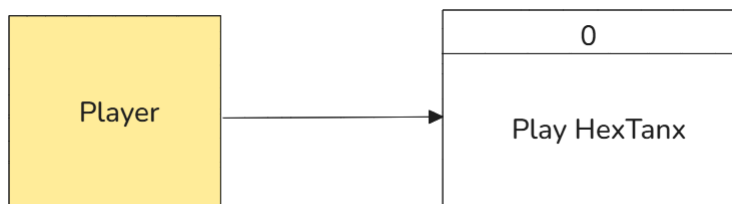
Post conditions: Enemy moved to new tile, or enemy shoots and either misses or hits.

Priority: 2*

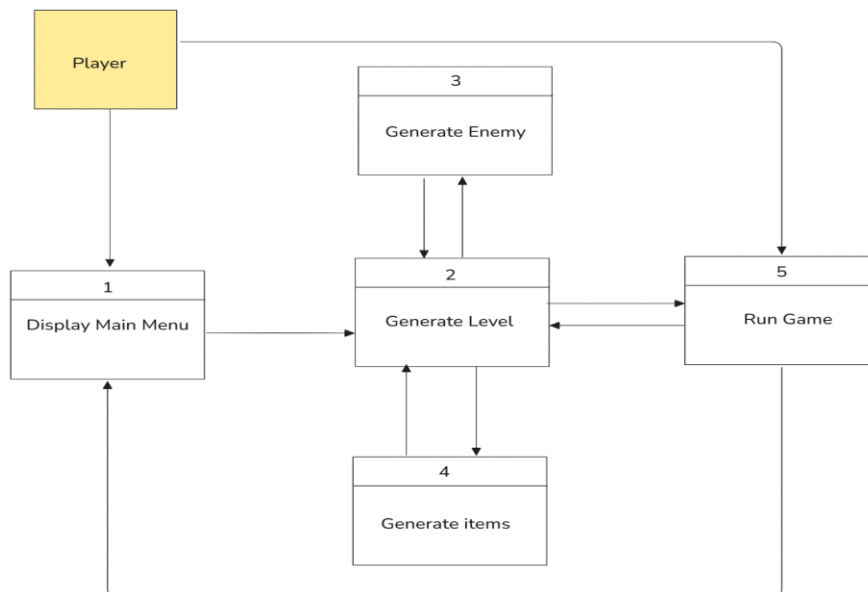
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3. Data Flow diagram(s) from Level 0 to process description for your feature __/14

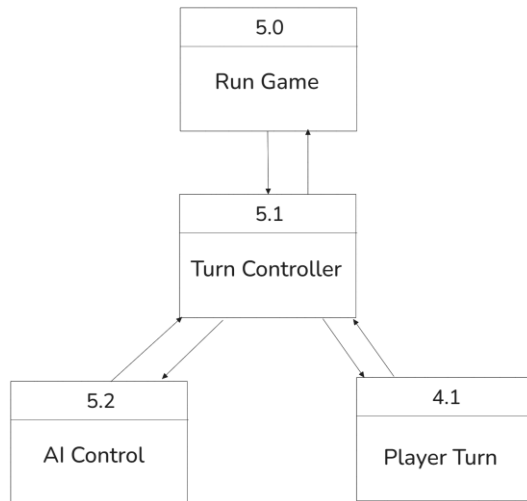
Level 0



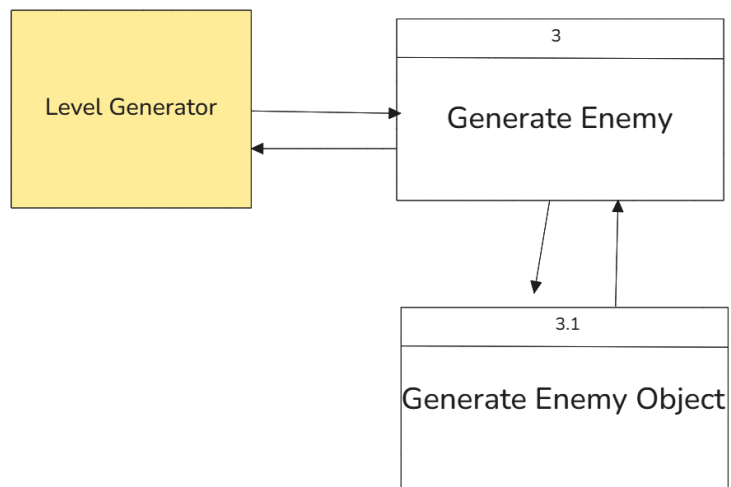
Level 1



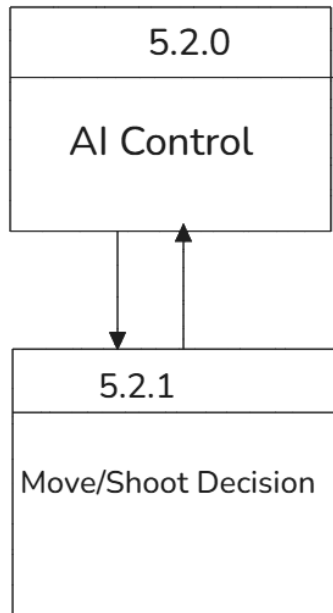
Level 2 Diagram 1



Level 2 Diagram 2



Level 3



Process Description

Process 3.1: Generate Enemy Object

The generate enemy object process will generate an enemy onto the game field.

Process 5.2.1: Move/Shoot Decision

The Move/Shoot decision process will decide whether the enemy AI will move or shoot, if they choose to move, they move to an adjacent tile, if they choose to shoot then a random number is generated to see if the enemy hits the player.

4. Acceptance Tests __/9

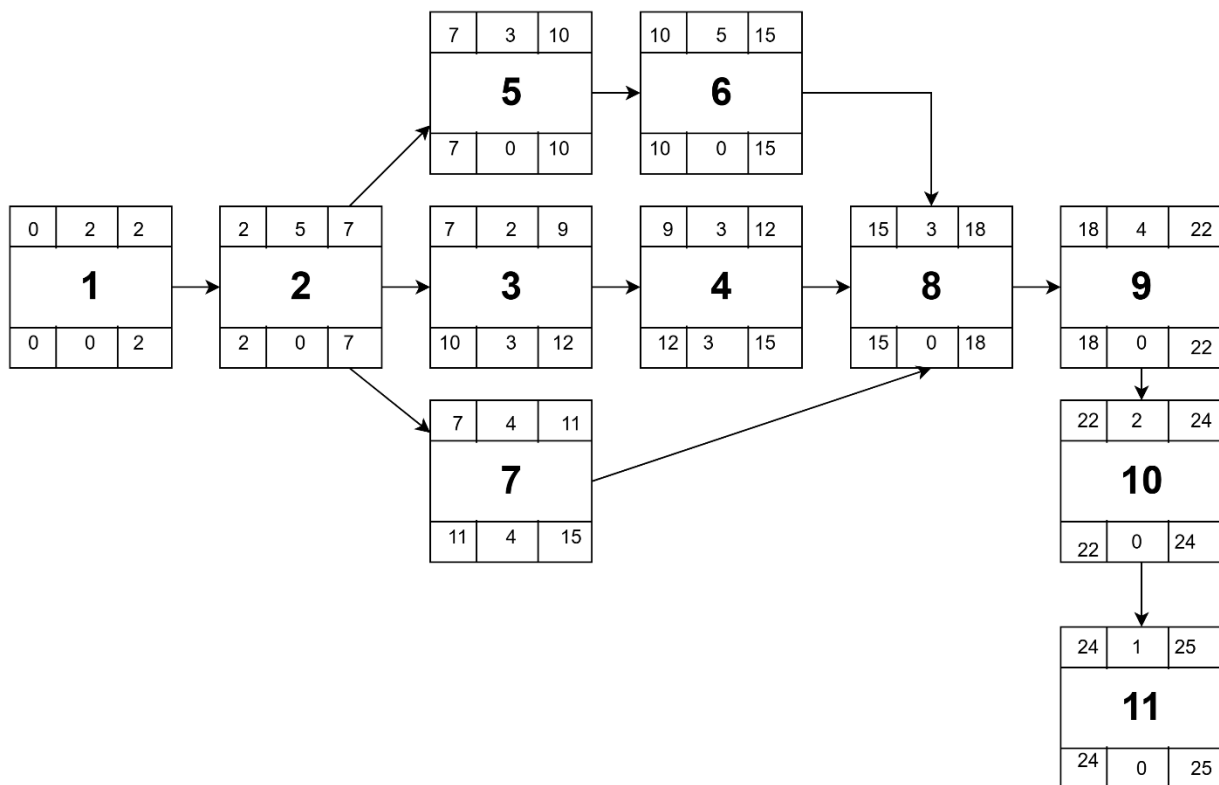
Have the AI character moved 25 times. The output file will track all the following:

- Number of moves made: this number should be 25 obviously.
- Trackable location of each tile moved to, if the tiles jumped aren't adjacent and the enemy seems to "teleport" that's a problem. You should only be able to move to the 6 hex tiles around its location.

5. Timeline __/10

Task	Duration (Hours)	Predecessor Tasks
1. Enemy design	2	-
2. Enemy implementation	5	1
3. Turn controller design	2	2
4. Turn controller implementation	3	3
5. AI controller design	3	2
6. AI controller implementation	5	5
7. Enemy Move/Shoot Design	4	2
8. Enemy Move/Shoot Implementation	3	4,6,7
9. Documentation	4	8
10. Testing	2	9
11. Installation	1	10

Pert Diagram



Gantt Chart

