Name: Michael Atkinson Mark _____/50

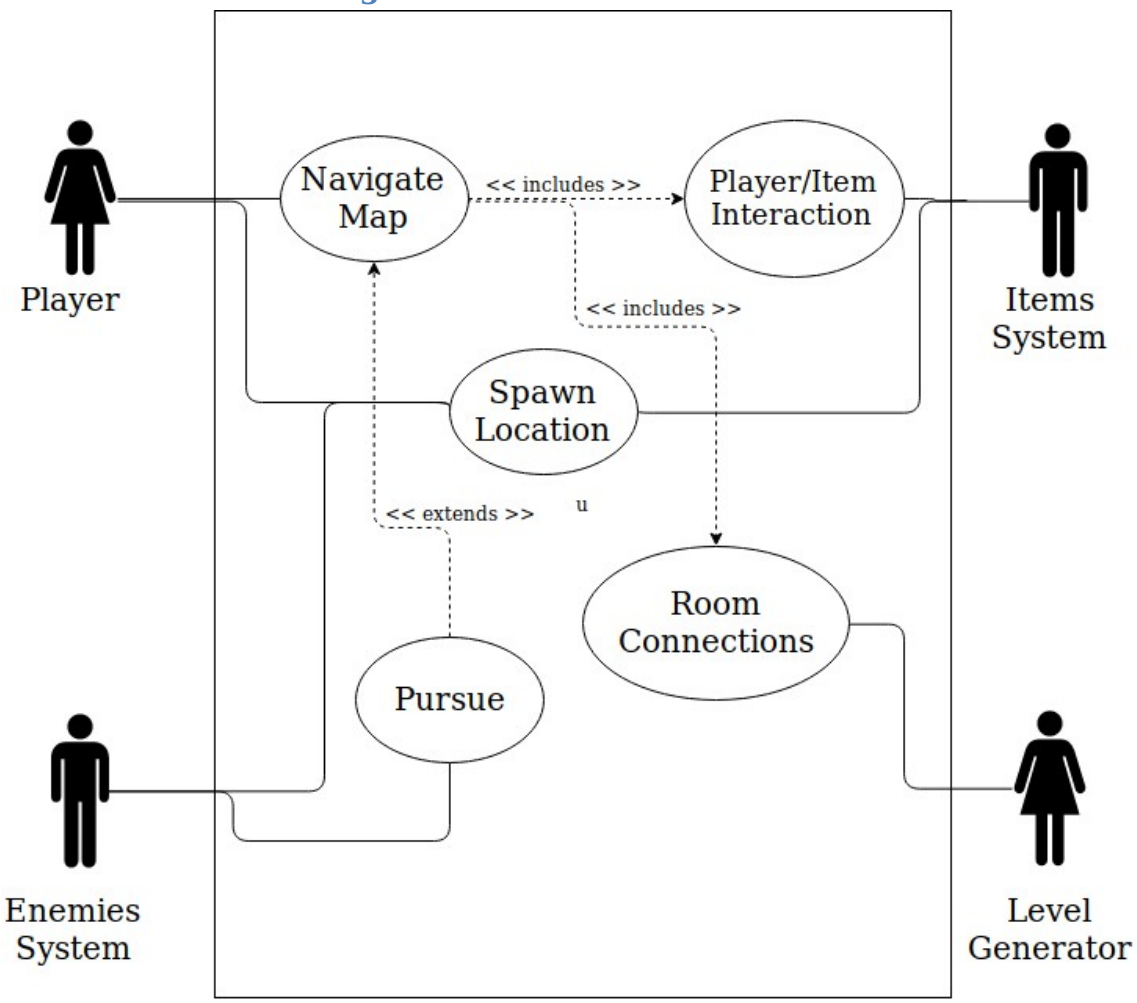
[**Instructions**: Remove everything that is not a heading below and fill in with your own diagrams, etc.]

1. Brief introduction __/3

I am building the Level Design/Layout. My system will generate random levels consisting of collectible items, obstacles to avoid and puzzles to get through, and enemies to battle.

2. Use case diagram with scenario __14

Use Case Diagrams



Scenarios

[You will need a scenario for each use case]

Name: Spawn Location
Summary: The level layout will include randomized locations for different actors in the game to begin.
Actors: Player, Enemy System, Items System.
Preconditions: Level map has been initialized.
Basic sequence:

- **Step 1:** Choose location for player character.
- **Step 2:** Choose location for Enemy characters.
- **Step 3:** Choose locations for other items and objects.

Post conditions: Level is created.
Priority: 1

Name: Navigate map
Summary: The player is able to move around the map.
Actors: Player.
Preconditions: Level map has been initialized.
Basic sequence:

- **Step 1:** The user provides input via keyboard of where the character should move.

Post conditions: The character moves.
Priority: 1

Name: Pursue
Summary: Depending on the level and the type of enemy, the enemy character will attempt to pursue the player.
Actors: Player, Enemy.
Preconditions: Level map has been initialized.
Basic sequence:

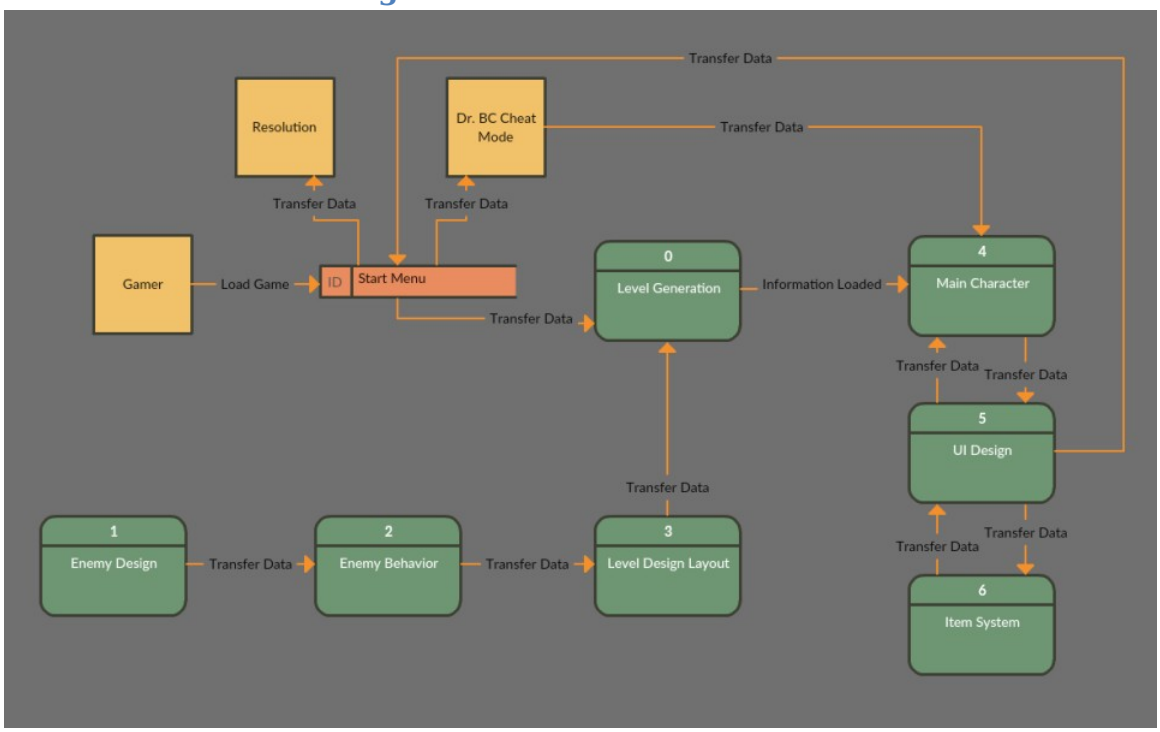
- **Step 1:** The enemy character moves in the direction of the player.

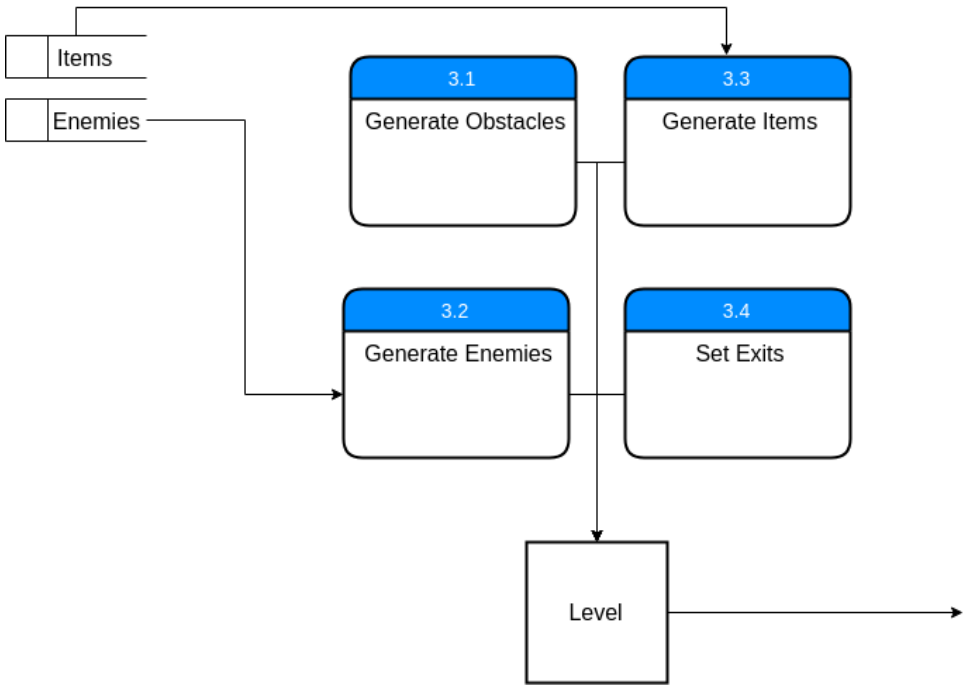
Post conditions: Battle ensues.
Priority: 2

3. Data Flow diagram(s) from Level 0 to process description for your feature _____14

Example:

Data Flow Diagrams





Process Descriptions

4. Acceptance Tests _____9

[Describe the inputs and outputs of the tests you will run. Ensure you cover all the boundary cases.]

- Create 1000 rooms, calling for specific number of items, enemies, and exits.
  Expected behavior:
  - All navigable areas of the room, including exits and items, shall be accessible, and both player and all enemies can navigate to all areas
  - spawn locations for player, enemies, and items shall not overlap.

  Accessibility of room can be determined through a flood-fill algorithm.

5. Timeline _____/10

[Figure out the tasks required to complete your feature]

Example:

Work items

Task	Duration (Hours)	Predecessor Task(s)
1. Requirements Collection	6	-
2. Layout Design	4	1
3. Generation Algorithm	4	2
4. Implementation/ Programming	6	2, 3
5. Documentation	4	3
6. Testing	3	3,4

Gantt timeline