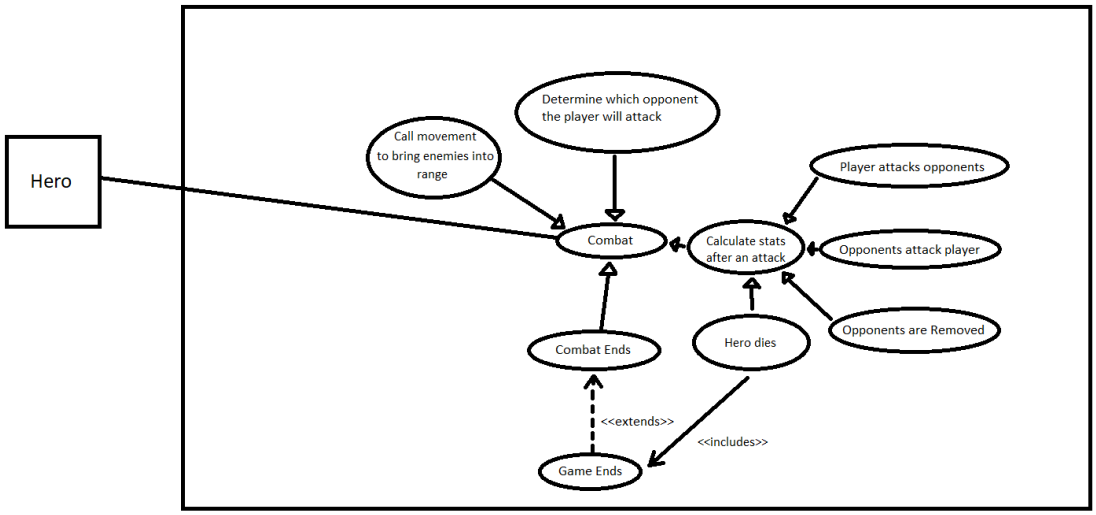
Name: Robert Walko Mark _____/50

1. Brief introduction _/3

Feature: Standard Combat

The combat in the game will be my responsibility. The ability for enemies to recognize that they are out of range and must close into the hero, the ability for the hero to determine which opponent they attack, the ability for the hero and enemy to damage each other, and the ability for the game to remove fallen enemies and stop the game when the hero dies are everything that this responsibility entails.

2. Use case diagram with scenario _14



Name: Standard Combat
Summary: When a player enters a room their hero will begin fighting the opponents in that room.
Actors: Player.
Preconditions: The player's hero has entered a new room.
Basic sequence:

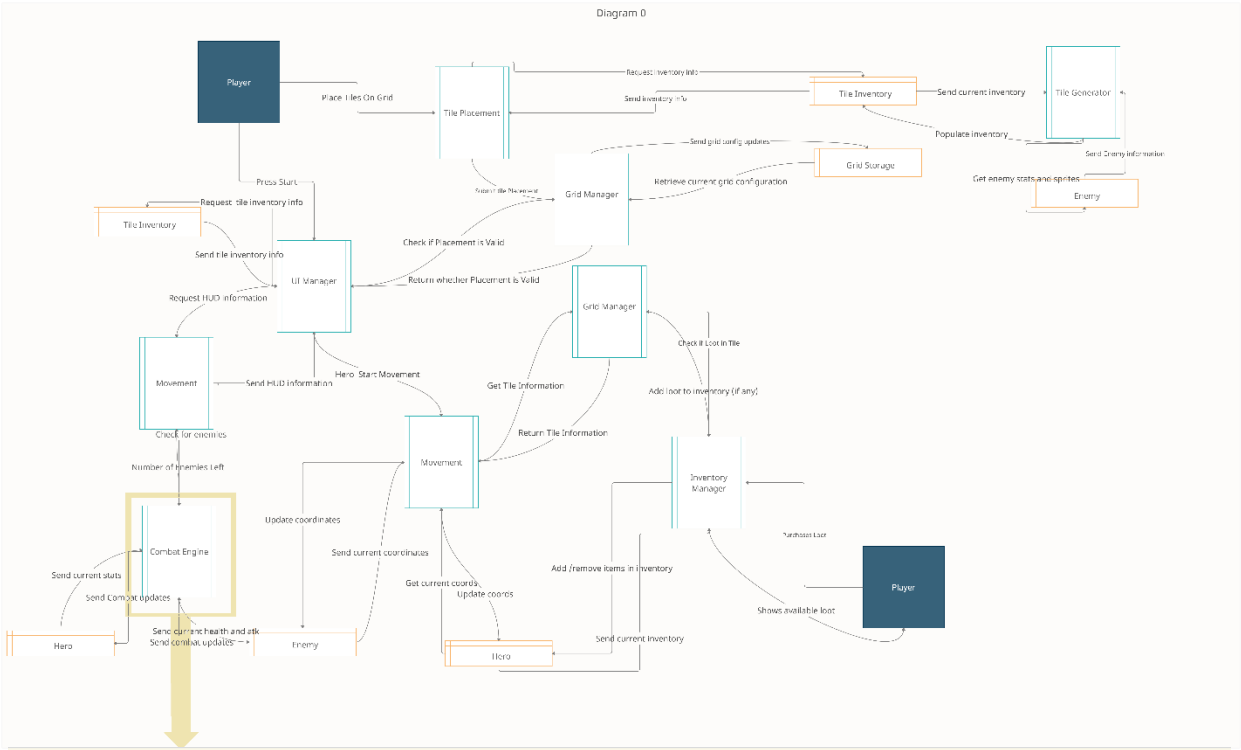
Step 1: Get enemies into combat range with the hero
Step 2: Determine which opponent the hero will attack
Step 3: Have opponents and hero attack each other
Step 4: An opponent's health reduces to zero and is removed
Step 5: Once all opponents have been removed end combat

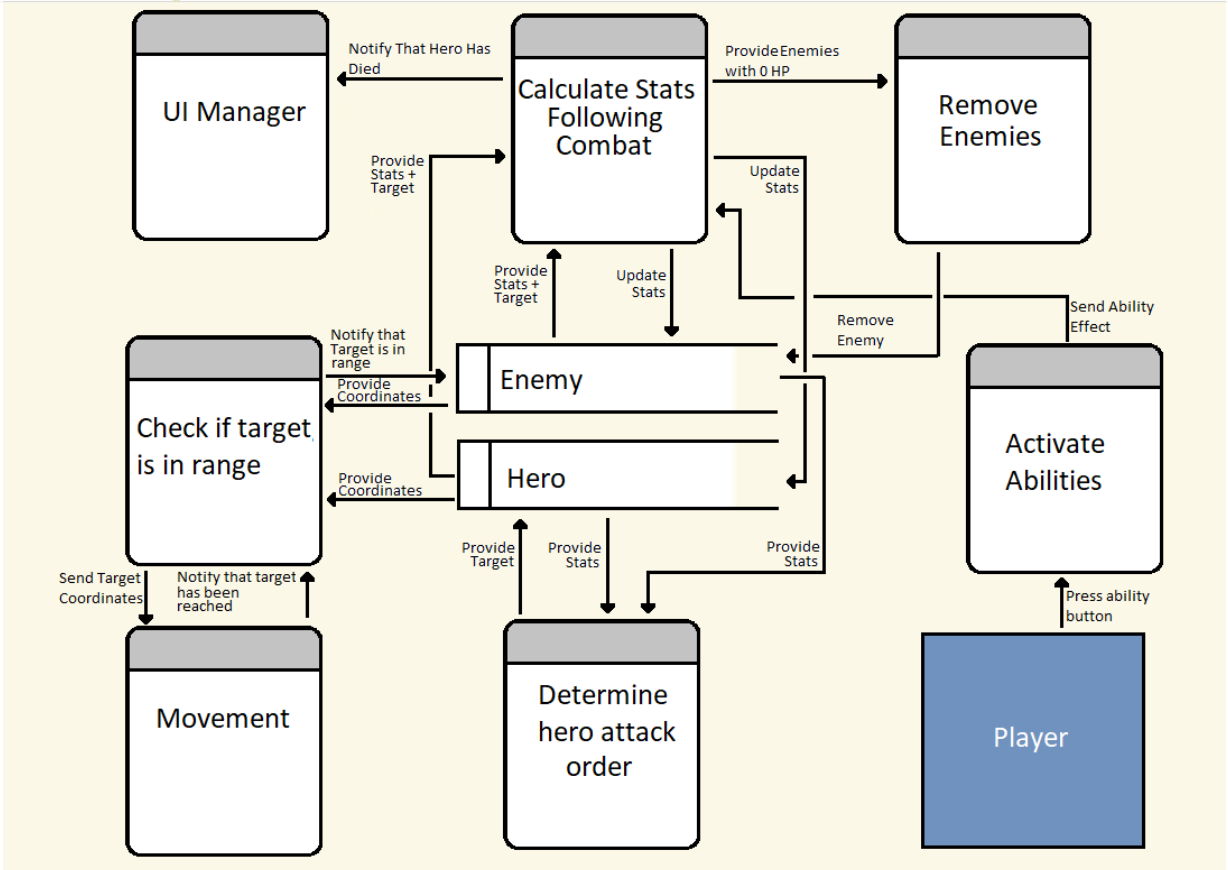
Exceptions:

Step 4: If the Hero's health is reduced to zero before all opponents are removed: Give the player a game over

Post conditions: The player is free to move their hero to the next room.
Priority: 1
ID: BW01

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





When a hero enters a new room with enemies, the first thing that will happen is the enemies will see if the hero is within their attack range, if they are not, the movement process will be called until they are in range, after which the movement process will update the check if target is in range process which can then tell the enemy to begin attacking.
Next, the game will determine the order in which the hero will attack the enemy. We still have not decided upon which method will be used for to determine this, but it will be based on the enemies' stats. The hero and enemies will provide their stats to the determine hero attack order process, which will then update the hero with the order they will defeat the enemies.
After this, the hero and enemies will attack each other until either all enemies' health is reduced to zero or the hero's health is reduced to zero. Each time a hero or enemy must make an attack, they will send their stats and target to the calculate stats following combat process which will then update the target with their new hp, or possibly reduced stats or status effects. If this would result in an entity' health dropping to zero, it would instead notify the UI manager to stop the game or call the remove enemy function depending on which entity's health dropped to zero
Once all enemies have been removed, the hero will continue into the next tile.

4. Acceptance Tests _____9

Acceptance for combat initiation will place all different variations of monsters in different distances and orientations from the hero. Since many different monsters and heroes will be used, attack order could also be tested at this time.

For combat stats and hero updates I will need to closely look at the stats following each attack from every monster and hero. I will probably only test the heroes' attacks against a few monsters. Removing enemies on death could also be tested at this time.

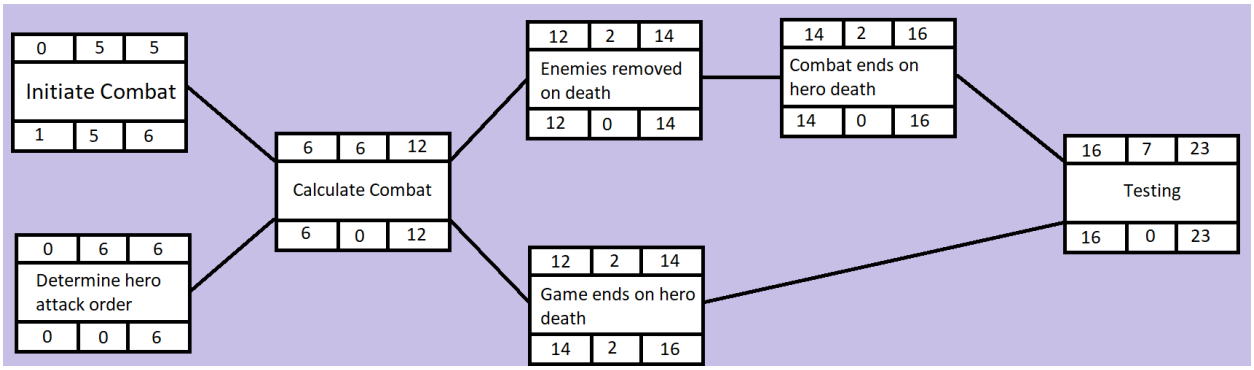
5. Timeline _____/10

Work items

Task	Duration (PWks)	Predecessor Task(s)
1. Initiate Combat	5	-
2. Determine Hero Attack Order	6	-
3. Calculate Combat Stats updates hero/enemies correctly	6	1, 2
4. Enemies removed upon death	2	3
5. Combat ends upon all enemies removed	2	4
6. Game ends upon hero death	2	3

7. Testing to ensure everything works correctly	7	1,2,3,4,5,6

Pert diagram



Gantt timeline