Name: Derek McNee Mark _____/50

1. Brief introduction _/3

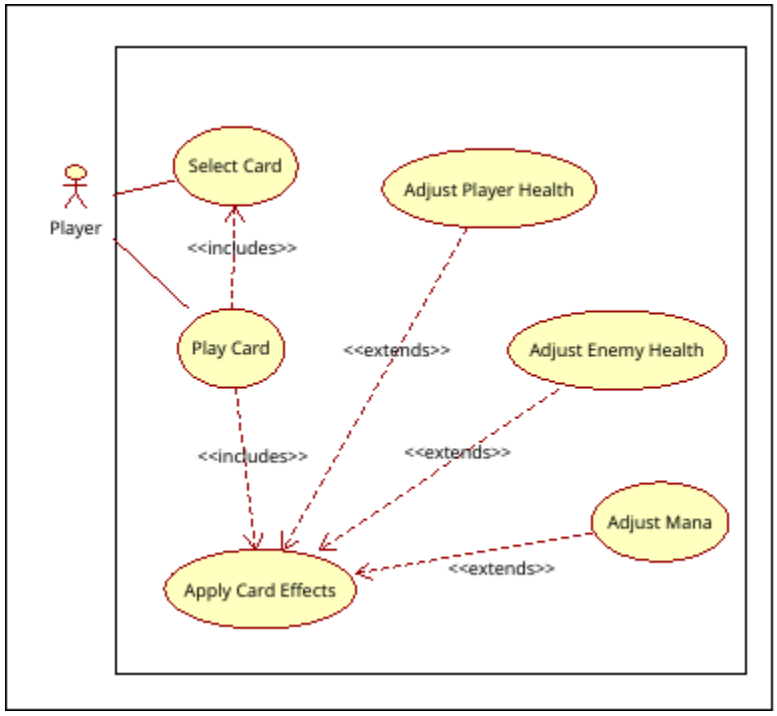
My feature for the Galleon Gambit video game is the act of playing cards and applying the effects of the cards.

Within a main battle the player will have a hand of randomly drawn cards that they can choose to play each turn. The player's ability to play cards is determined by their current mana amount which is impacted by other cards. After a card is selected the effects of the card are applied to the battle. These effects can boost an aspect of the player, or impact aspects of the enemy, such as their health.

It is my job to ensure the player can select and play the correct number of cards, and that the card effects are applied correctly afterwards.

2. Use case diagram with scenario _14

Use Case Diagrams



Scenarios

Name: Player Plays Card
Summary: The player plays a card from their hand and card effects are applied.
Actors: The player.
Preconditions: Hand has been initialized and drawn.

Basic sequence:

Step 1: Player Selects a card.

Step 2: Player plays the selected card.

Step 3: Card properties are read, and effects are calculated.

Step 4: Player health is adjusted.

Step 5: Enemy health is adjusted.

Step 6: Mana value is adjusted.

Exceptions:

Step 1: Player selects play before a card is selected: play nothing.

Step 2: Card has no effect on player health, do not adjust health value.

Step 3: Card has no effect on enemy health, do not adjust health value.

Step 4: Card has no effect on mana, do not adjust mana value.

Post conditions:

Step 1: Card is visually shown as being played.

Step 2: New player health is displayed.

Step 3: New enemy health is displayed.

Step 4: New mana value is displayed.

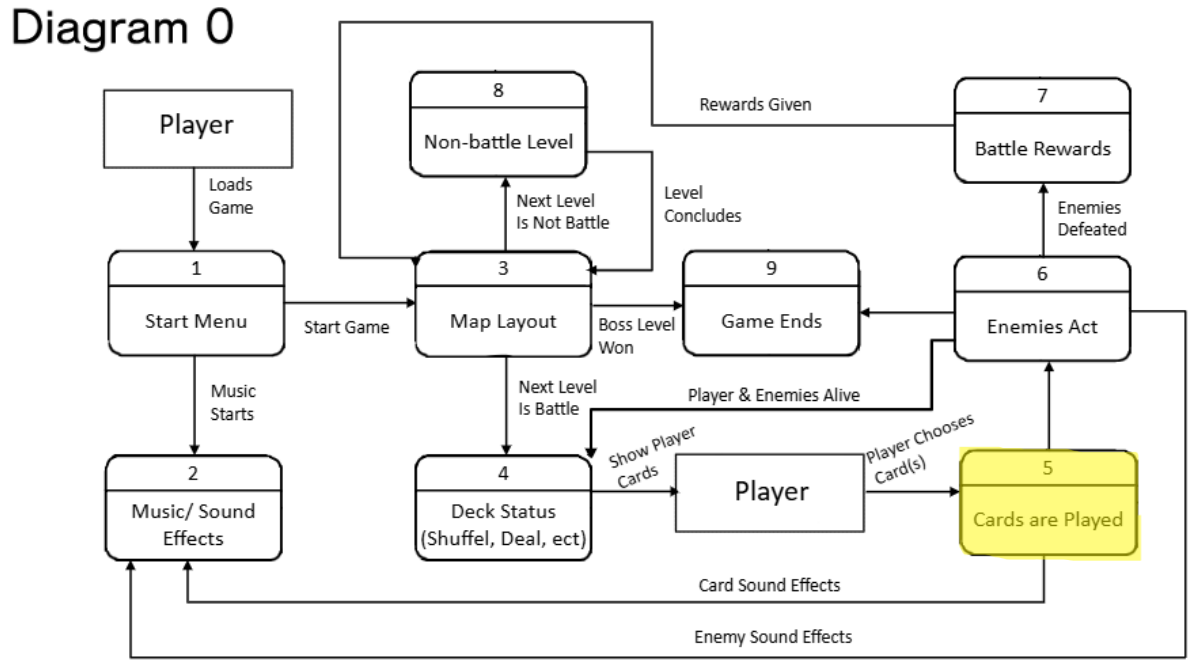
Priority: 1*

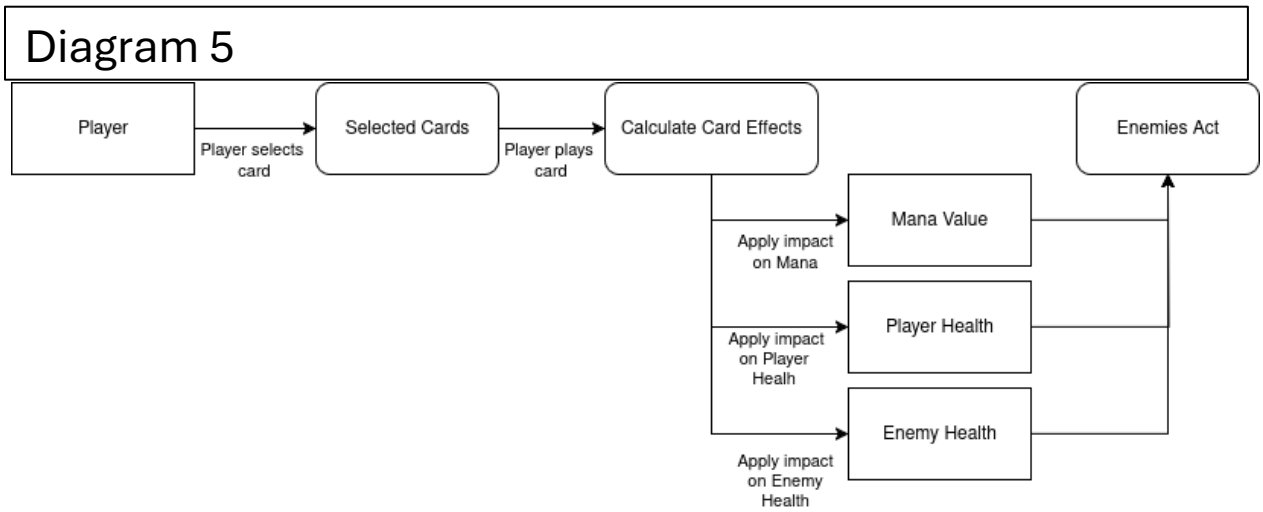
ID: PC1

*The priorities are 1 = must have, 2 = essential, 3 = nice to have.

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

Data Flow Diagrams





Process Descriptions

Selected Cards:

- Receive card ID for what card was selected
- Store card ID in preparation for it to be played
- Wait for play to be selected

Calculate Card Effects:

- Receive ID of what card was played
- Using card ID call subclass of card to get correct changes.
- Calculate changes to health based on played card
- Calculate changes to mana based on played card.
- Change value stored in player health to reflect changes.
- Change value stored in enemy health to reflect changes.
- Change value stored in mana to reflect changes.

4. Acceptance Tests _____9

Applying Card Effects:

Run feature 1000 times, send output to a file.

The input will be a randomly selected card from all the cards we have in the game.

The output file will contain:

- What card was played
- How the player health was impacted
- How the enemy health was impacted
- How the mana value was impacted
- Make note of if the recorded effects match the written effects of the card.

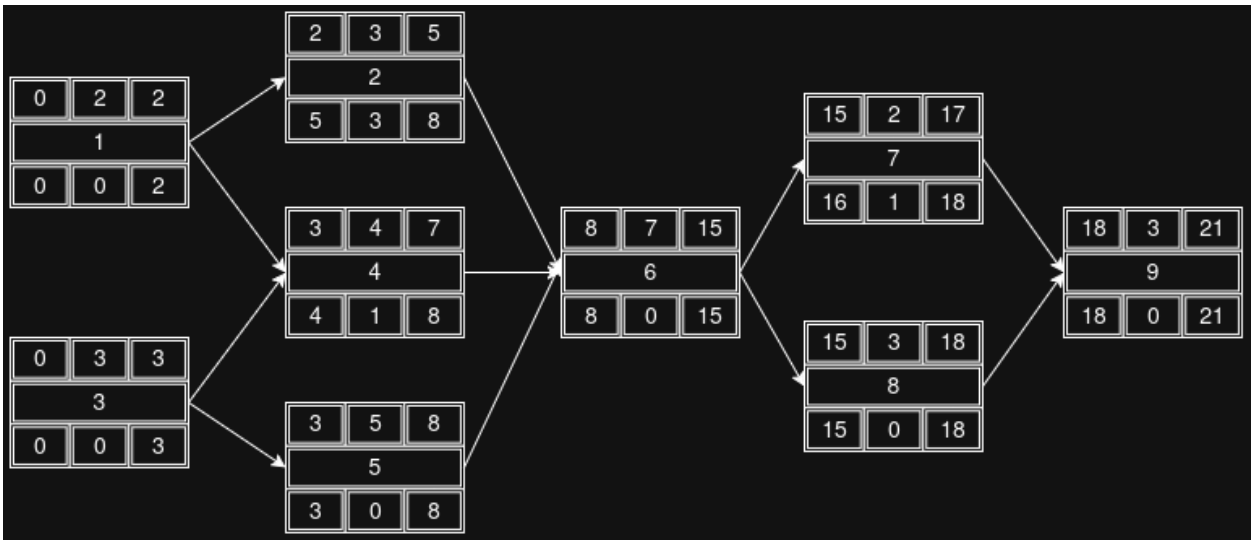
5. Timeline _____/10

Work items

Task	Duration (Hours)	Predecessor Task(s)
1. Design Card Selection	2	-
2. Program Card Selection	3	1
3. Design subclass framework for implementing cards	3	-
4. Design calculation function of played cards.	4	1, 3
5. Program class and subclass of cards in the game	5	3
6. Program Calculation of played cards	7	2, 4, 5

7. Documentation	2	6
8. Testing	3	6
9. Installation	3	7, 8

Pert diagram



Gantt timeline