Anne Johnson Mark _____/50

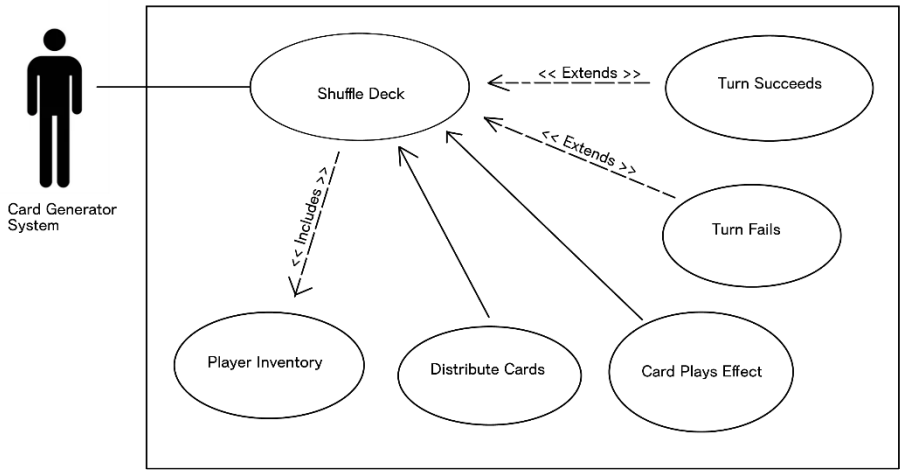
1. Brief introduction _/3

My feature for *Big Top Bananza's* videogame: "Gallion Gambit" is the functionality and design of the player's card deck.

At the start of a level (or turn) my feature will have shuffled and dealt the cards to the player based on what the player has unlocked and bought at the shop (a feature by another teammate). The power of the current playable cards will mirror the current enemies so there will not be an unfair game and provide a fun enough challenge. I will be setting up the stats for the cards and the effect they will have once played. The effects the cards will have will change the player's current power, health, and additional benefits to boost the game.

2. Use case diagram with scenario _14

Use Case Diagrams



Scenarios

Scenario 1: First Use Case

Name: Shuffle Deck

Summary: The card deck is initialized.

Actors: Card Generator System.

Preconditions: Player and turn conditions have been initialized.

Basic sequence:

Step 1: Create deck of current card types

Step 2: Retrieve player inventory to update card deck to contain unlocked/bought cards.

Step 3: Shuffle deck

Step 4: Distribute cards to the player.

Step 5: Restock hand, as necessary.

Exceptions:

Step 1: The turn has succeeded. The player will now be taken to the results.

Step 2: The turn has failed. The player will either restart or end game.

Post conditions: Player can play distributed cards.

Priority: 1*

ID: SD1

Scenario 2: Feature Effects

Name: Effects of Played Card

Summary: The conditions of cards are initiated when being played that effect both the player and enemy.

Actors: Card Generator System & Player.

Preconditions: Player's turn during active game.

Basic sequence:

Step 1: Player draws cards from distributed hand.

Step 2: Card displays effects and boosts the player.

Step 3: Player plays the card.

Step 4: If the card is offensive it harms the enemy, while if card is defensive it will boost player (E.g., health increase, boost other cards, etc.).

Step 5: Card is discarded once effect has been used.

Step 6: return discarded cards to deck.

Exceptions:

Step 1: The turn has succeeded. The player will now be taken to the results.

Step 2: The turn has failed. The player will either restart or end game.

Step 3: Hand does not have sufficient cards.

Post conditions: Player can play distributed cards.

Priority: 2*

ID: SD2

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

In the following flow diagram, I will explain my card shuffle feature via a decision tree with relevant subprocesses.

Data Flow Diagrams

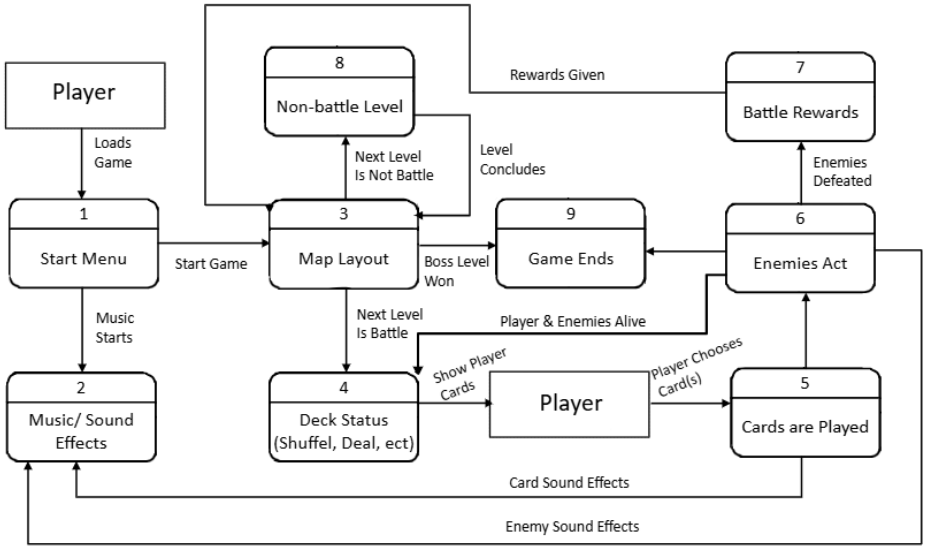


Figure 1 Diagram 0

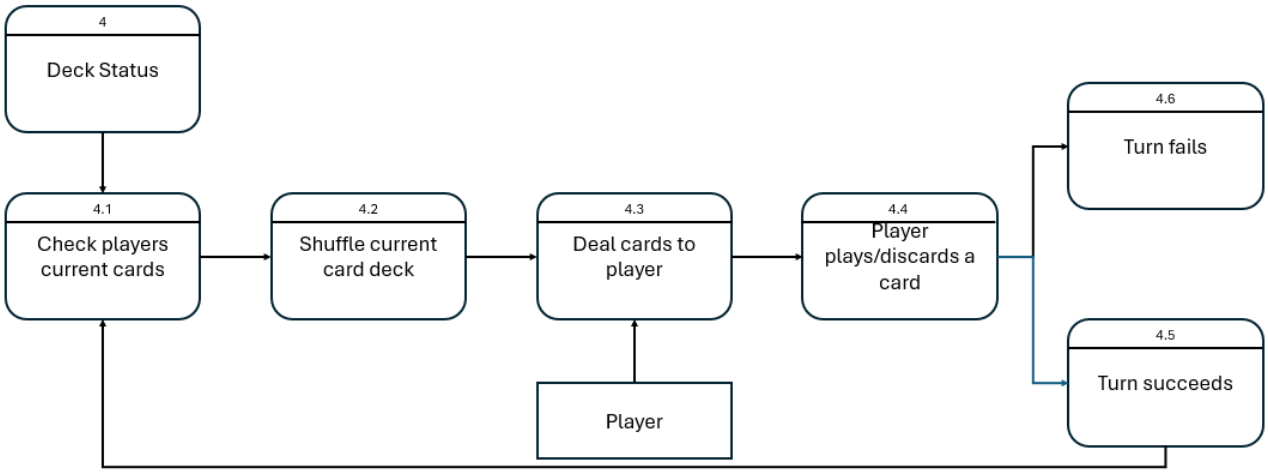


Figure 2 Diagram 5: Deck Status

Process Descriptions

```
public void shuffleDeck(){

CardDeck = base cards + unlocked cards;

\\randomized shuffling currently available cards.

\\give # of cards to player based on current hand ammount.

}

WHILE (level active == true && player's turn == true){

        IF(Player plays card == true){
        //plays selected card and removes it from players hand.
                playCard(CurrentCard);
                discardedCards += CurrentCard;
                PlayerHand -= CurrentCard;
        }
}

public void playCard(Card CurrentCard){

        //Calls the card stats and if offensive will take it's stats
          and use it against enemy.
        if(CurrentCard.getStats() == offensive){
                Enemey Health - CurrentCard.getAttack();
        } else{
                //card will be defensive
                //will boost player with relevant effect
                Player += CurrentCard.Effect();
        }

        //certian cards will have a ingame boost no matter if they're offensive
          or defensive. This will check if it has one and activate it.
        if(CurrentCard.GetBoost(); != null){
                CurrentCard.GetBoost();
        }
}
```

4. Acceptance Tests _____9

The inputs and outputs of the card deck with the player are determined by what card was drawn by the player. If the player draws an offensive card there should be damage done to enemies, while if the player draws a defensive card there should be boosts to the player. Depending on card drawn, there can be effects added to the turn that either boost current cards or affect enemies. All discarded cards should return to the deck and be reshuffled for continued dispersal throughout the game.

User Input	*Effect*	*Results*
Offensive card is drawn	Enemies suffer damage from the card. If applicable, special effects are enabled.	Card is added to discard pile. Reshuffle deck.
Defensive card is drawn	Player is boosted from the card. If applicable special effects are enabled.	Card is added to discard pile. Reshuffle Deck.

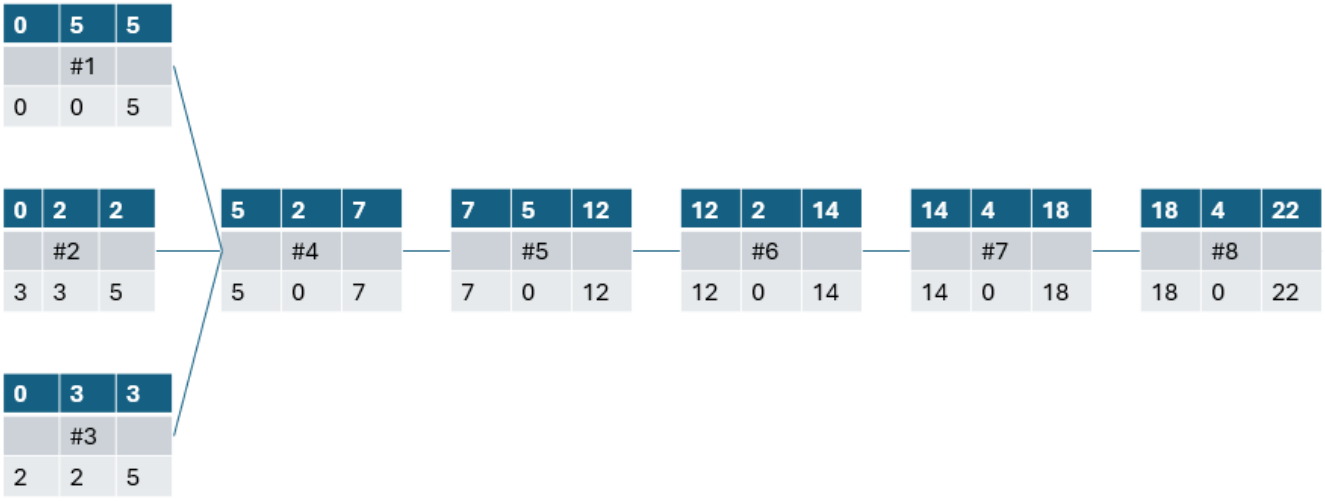
Depletes current card amount.	Random cards from shuffled deck are distributed to player.	Head of shuffled deck is added to player and tail becomes discarded card. Cards are then reshuffled.
User unlocks more cards	More cards are added to the shuffled deck.	Shuffled deck now had possibility of handing out new cards.

5. Timeline _____/10

Work items

Task	Duration (Hrs)	Predecessor Task(s)
1. Create Starter Cards	5	-
2. Create shuffling algorithm	2	-
3. Create a system for issuing cards and discarding cards	3	-
4. Test beginner round with starter cards	2	1, 2, 3
5. Create advanced/progressed cards	5	4
6. Test more complicated cards	2	5
7. Installation	4	6
8. Testing	4	7

Pert diagram



Gantt timeline