

The logic and interface of this game, described in the previous rules, can be captured in the following use cases:

ID: UC-01

Name: 4 players play a game of Quests

Description: 4 players join in a game of quest and take turns until one or more of them win.

Actors: 4 players + the game

Triggering event: The game application is started

Sequence:

1. The game sets up the adventure and event decks
2. The game distributes 12 adventure cards to each player, updating the adventure deck.
3. In the order P1 then P2 then P3 then P4 then back to P1, each player plays a turn (UC-02) **until** one or more winners are identified by the game
4. The game displays the id of the winner(s) and terminates

Post-condition: The game has terminated

Resulting event: The ids of the winner(s) are displayed

ID: UC-02

Name: A player takes their turn

Description: The current player plays their turn.

Actors: 1 player + the game

Triggering event: The game indicates whose turn it is and displays this player's hand

Sequence:

1. The game 'draws' (i.e., displays) the next event card
- 2a.1 The current player has drawn an E card
- 2a.2 The game carries out the action(s) triggered by this E card, namely:
 - i. Plague: current player loses 2 shields
 - ii. Queen's favor: current player draws 2 adventure cards and possibly trims their hand (UC-03)
 - iii. Prosperity: All players draw 2 adventure cards and each of them possibly trims their hand (UC-03)

OR

2b The game has drawn a Q card (UC-04)

3. The game indicates the turn of the current player has ended and clears the 'hotseat' display once that player presses the <return> key

4. The game checks if one or more players have won, i.e., has accumulated 7 or more shields

5a The game determines there are one or more winners (enabling step 4 of UC-01)

OR

5b There are no winners and the game indicates it is the turn of the next player (who is assumed to then sit in the 'hotseat') and displays the hand of that player
(i.e., triggers UC-02 for the next player)

ID: UC-03 **Name:** A player trims their hand

Description: The player reduces their hand to 12 cards. **Actors:** 1 player + the game

Triggering event: The player has more than 12 cards in their hand

Sequence:

1. The game computes *n*, the number of cards to discard by that player

For *n* times:

2.1 The game displays the hand of the player and prompts the player for the position of the next card to delete

2.2. The player enters a **valid** position

2.3. The game deletes the card from the player's hand and displays the trimmed hand

ID: UC-04 **Name:** A Q card is drawn

Description: A quest is played out. **Actors:** 4 players + the game

Sequence:

1. Starting with the *current* player, the game prompts a player as to whether or not that player sponsors the current quest.

2a All players decline to sponsor this quest, in which case the quest has ended, as well as the turn of the current player (and this UC)

OR

2b A sponsor has been found

3. The sponsor sets up a valid quest (UC-05)

4. For each stage of the quest in order:

4.1 The game determines and displays the set of *eligible* participants for that stage

4.2 The game prompts *in turn* each eligible participant as to whether they withdraw from the quest or tackle the current stage of the quest. An eligible participant who withdraws becomes *ineligible* to participate in subsequent stages of this quest.

4.3 An eligible participant who chooses to participate draws 1 adventure card and possibly trims their hand (UC-03)

4.4 The quest ends if there are no participants for the current stage (go to step 5).

4.5 Otherwise each participant for the current stage in turn sets up a *valid* attack (UC-06)

4.6 The game resolves the attack(s) against the current stage:

4.6.1 participants with an attack less than the value of the current stage lose and become ineligible to further participate in this quest.

4.6.2 participants with an attack equal or greater to the value of the current stage are eligible for the next stage (if any). If this is the last stage, they are winners of this quest and earn as many shields as there are stages to this quest.

4.7 All participants of the current stage have *all* the cards they used for their attack of the current stage discarded by the game.

4.8 Unless this is the last stage, the quest ends if there no eligible participants for the next stage. If this is the last stage, the shield total of each winner (if any) is increased and the quest ends.

5. All cards used by the sponsor to build the quest are discarded by the game

Post-condition: The quest has ended

ID: UC-05

Name: Sponsor sets up a **valid** quest

Description: The sponsor sets up the stages of a quest

Actors: 1 player + the game

Sequence:

For each of the stages of the quest:

Until 'quit' is entered **and** the built current stage is valid (ie non-empty **and** of a value greater than the previous stage):

1. The game displays the hand of the sponsor and prompts the sponsor for the position of the next card to include in that stage or 'Quit' (to end building that stage).

2a1 The sponsor enters a **necessarily valid** position of a card (and is re-prompted to do so after an explanation of the invalidity) **until** the selected card is valid (i.e., sole foe or non-repeated weapon card).

2a2 The selected card is included in the set of cards for the current stage, which is displayed

OR

2b 'Quit' is entered *but* the stage has no card associated with it, in which case the game displays 'A stage cannot be empty'

OR

2c 'Quit' is entered *but* the stage is of insufficient value compared to the previous one (if there is a previous stage), in which case the game displays 'Insufficient value for this stage'

OR

2d 'Quit' is entered *and* the stage is valid in which case the cards used for this stage are displayed

Post-condition: The quest is ready to be resolved

ID: UC-06

Name: A participant sets up a **valid** attack

Description: An eligible participant sets up their attack against the current stage

Actors: 1 player + the game

Sequence:

Until 'Quit' is entered **and** the built current attack is valid (ie is a *possibly empty* set of non-repeated weapon cards):

1. The game displays the hand of the player and prompts the participant for the position of the next card to include in the attack or 'quit' (to end building this attack)

2a1 The participant enters the **necessarily valid** position of a card (and is re-prompted to do so after an explanation of the invalidity) **until** this card is valid (ie non-repeated weapon card),

2a2 The selected card is included in the attack, which is displayed

OR

2b 'Quit' is entered, in which case the cards (if any) used for this attack are displayed

Post-condition: The attack of that participant is ready