

# Documentation - Quest of the Round Table

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## Languages used:

Java on server side and Javascript on client side.

## Libraries used:

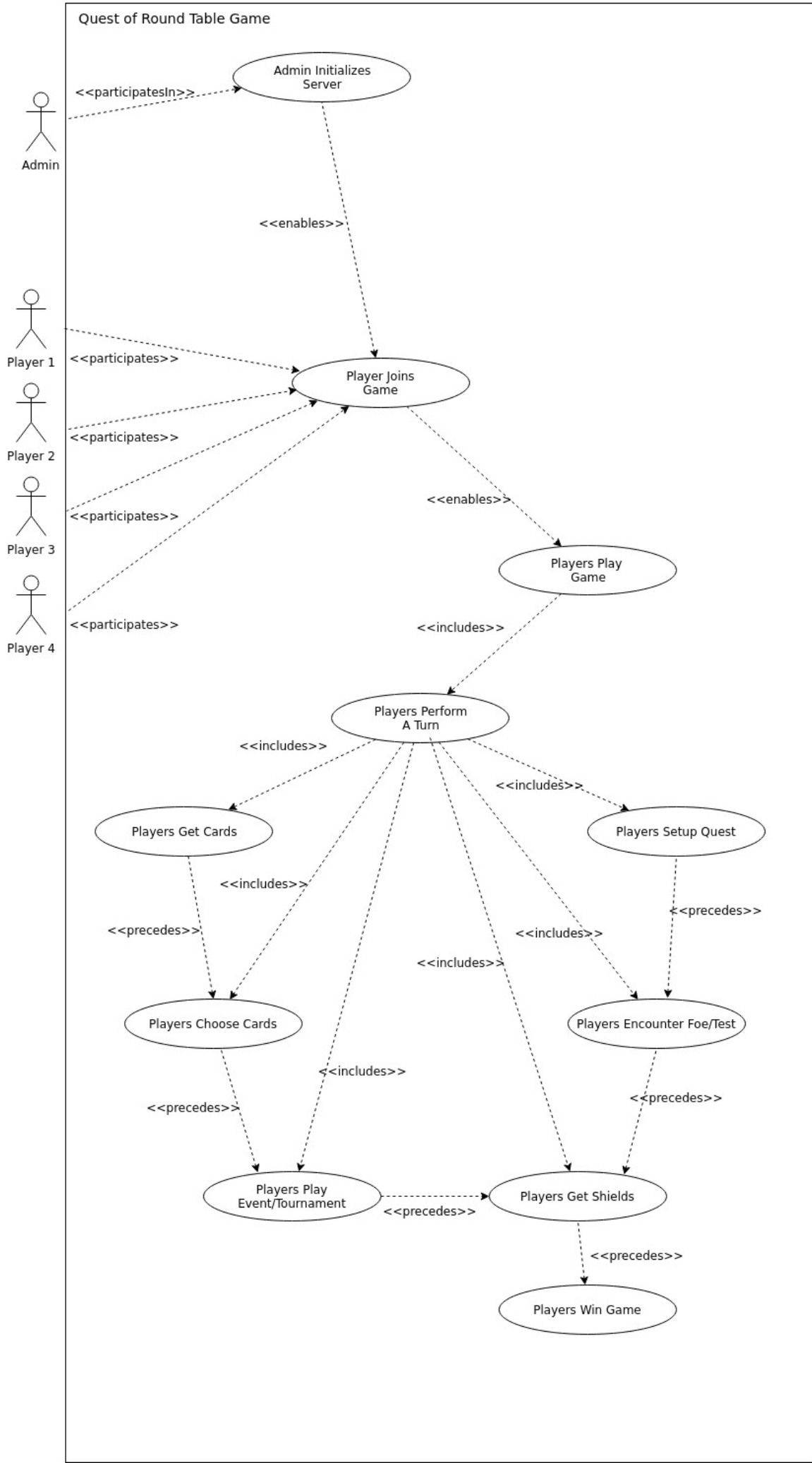
Client:

- jQuery (used for image manipulation)

Server:

- Springboot Framework
- Log4j2 logging
- JSTL (used to render view)
- Apache Tomcat
- Spring Websockets
- Google json (JSON functionality)

# Use Case Diagram



## Use Cases (rules with reference tags below)

<b>UC-01</b>	<b>Admin Initializes Server</b>
Description	Player (as Admin) starts server application so that other players can connect to game.
Actors	Player
Triggering Event	Admin decides to start game
Main Sequence	1. Player runs the server. 2. Server ready to accept player connections. 3. Server shuffles story deck & adventure deck for game start. 4. Player enrolls into game as Player 1.
Resulting Event	Server and game decks are now setup and waits for connections from remaining players.
Traceability	Game components - A01

<b>UC-02</b>	<b>Players Joins Game</b>
Description	Player connects to server and enrolls into game.
Actors	Player
Triggering Event	Player opens webpage to game/connects to server.
Main Sequence	1. Player session connects to server. 2. Player enters nickname for game. 3. Player is added to game participant list.
Resulting Event	If 4 players connected, game starts. Else wait for more players to connect.
Traceability	Logfile: scenario1.txt(46-60)

<b>UC-03</b>	<b>Players Play Game</b>
Description	All players have connected, game view is rendered, hands are dealt, and first player flips story deck.
Actors	4 players

Triggering Event	Final player joins game.
Main Sequence	<ol style="list-style-type: none"> <li>1. Fourth player enrolls into game.</li> <li>2. Each player is dealt a hand.</li> <li>3. First player flips story deck card.</li> <li>4. Game view is rendered (cards in hand, story deck face up card, &amp; rank card face up for each player)</li> </ol>
Resulting Event	Face up card is triggered whether it be event, quest, or tournament.
Traceability	Game setup - A03

<b>UC-04</b>	<b>Players Perform A Turn</b>
Description	After story card is flipped, player must make a decision to either: setup quest, participate in quest, or participate in tournament.
Actors	Player
Triggering Event	Story card being flipped.
Main Sequence	<ol style="list-style-type: none"> <li>1. Story card flipped.</li> <li>2. Player performs a turn.</li> <li>3. Next player in turn performs a turn till all player decisions collected. If quest → player setup quest</li> </ol>
Resulting Event	<p>If quest: A setup quest based off flipped story deck card → all remaining players perform a turn to accept/decline</p> <p>Else: Next player in turn performs a turn (accept/decline tournament OR flip story deck)</p>
Traceability	Game sequence - A04

<b>UC-05</b>	<b>Players Get Cards</b>
Description	Player picks up card(s) into hand from adventure deck.
Actors	1-4 Players
Triggering Event	If player is enrolled in quest then at each stage, before tournaments, or else by certain events.
Main Sequence	<ol style="list-style-type: none"> <li>1. Player is dealt X number of cards.</li> </ol>

	<p>2. If player is holding more than 12 cards they must discard the appropriate number of cards.</p> <p>3. Player discards to complete event or sends test bids or battle equipment for quest.</p>
Resulting Event	Event is completed and next player in turn flips story deck or information for quest is sent to server.
Traceability	Playing a quest, Game sequence - A05

<b>UC-06</b>	<b>Players Choose Cards</b>
Description	Player chooses cards for use in game or to discard because hand contains over 12 cards.
Actors	Player
Triggering Event	Quest setup, event, and quest/tournament participation.
Main Sequence	<p>1. Player chooses card based off current situation.</p> <p>2. Card is removed from player hand and added into gameplay or discard pile.</p>
Resulting Event	Player loses a card
Traceability	Setup Quest, Play Quest, Tournaments - A06

<b>UC-07</b>	<b>Players Setup Quest</b>
Description	Player chooses cards for number of stages on face up quest card.
Actors	Player
Triggering Event	Player chooses to accept sponsoring quest.
Main Sequence	1. For number of stages listed on current quest card Player chooses either Test Card or Foe along with weapons.
Resulting Event	Quest is setup and remaining players are asked to participate.

Traceability	Setup Quest - A07
<b>UC-08</b>	<b>Players Encounter Foe</b>
Description	Player is participating in current quest and sponsor has placed a foe for current stage.
Actors	1-3 Players
Triggering Event	Current stage for quest contains foe.
Main Sequence	<ol style="list-style-type: none"> <li>1. Player chooses cards to use as equipment (weapon, amour, ally) for foe OR does not choose anything.</li> <li>2. Player chooses cards to increase battle foints for upcoming battle.</li> <li>3. Goes into battle concurrently after all other players have chosen equipment.</li> </ol>
Resulting Event	If all quest participants have chosen equipment, battle screen renders. Else, player waits till all other participants have chosen equipment. If player battle points are equal to or higher than foe, player advances to next stage. Else player is ejected from quest. If last stage then player wins quest and receives shields.
Traceability	A foe is encountered - A08

<b>UC-9</b>	<b>Player Encounter Test</b>
Description	Player is participating in current quest and the current stage in play has a test card.
Actors	Player
Triggering Event	Current stage for quest contains test.
Main Sequence	<ol style="list-style-type: none"> <li>1. Player can choose to drop out of test or bid according to current minimum bid.</li> <li>2. Player chooses cards to bid.</li> <li>3. Waits for other participants to finish bidding.</li> </ol>
Resulting Event	Player sends bid to server and next participant in turn is asked to bid. If bid is higher that previous current minimum bid, new minimum bid is set.

	If all other participants have dropped out, test is won and player advances to next stage. If last stage then player has won quest and receives shield.
Traceability	A test is encountered - A09

<b>UC-10</b>	<b>Players Play Event</b>
Description	An event card was flipped which contains rules that includes current player. (number of shields, rank, etc.)
Actors	1-4 Players
Triggering Event	Player fits description stated by event card and so must play event.
Main Sequence	1. Event card is flipped up from story deck. 2. Player must follow rules and do what event states.
Resulting Event	Is dictated by current event card. (Could receive/lose shields)
Traceability	Game sequences - A10

<b>UC-11</b>	<b>Players Play Tournament</b>
Description	All players who accept to participate choose equipment (weapons, armour, ally) to use in Tournament. Player with highest battle points wins. If tie-breaker, players involved discard weapons and re-equip and battle again.
Actors	1-4 Players
Triggering Event	Tournament card is flipped up from story deck.
Main Sequence	1. All players are asked to participate. 2. Participants choose equipment to increase battle points. 3. Participant with highest amount wins the tournament.
Resulting Event	Player who wins receives numbers of shields equal to participants plus any bonus shields listed on current

	Tournament Card.
Traceability	Tournaments - A11

<b>UC-12</b>	<b>Players Get Shields</b>
Description	After completing event, tournament, or quest a player receives X number of shields.
Actors	1-3 Players
Triggering Event	Completed event, winning quest or tournament.
Main Sequence	1. Player is given X amount of shields. 2. Player is then checked for rank advancement and appropriate rank cards are switched and battle points increased if true.
Resulting Event	Players number of shields increases. If player shields is equal to greater than defined rank, player is advances in rank. If player advances to higher than 10 shields the game is over.
Traceability	Shields & Rank - A12

<b>UC-13</b>	<b>Players Win Game</b>
Description	When players gain 10 shields they advance to rank of Knight of the Round Table and win the game. If there is a tie, those of the last rank must participate in a final tournament.
Actors	1-3 Players
Triggering Event	Player gains 10 shields and advances to rank of Knight of the Round Table.
Main Sequence	1. Player gains shields by means of event or winning quest or tournament. 2. Player is checked for rank advancement and has enough shields (10) to reach next rank which is Knight of the Round Table.
Resulting Event	Player is winner of the game. If more than one player advances rank to



	Knight of the Round table at the same time, those players participate in a final tournament.
Traceability	Winning game - A13

## Test Cases

<b>TC-01</b>	<b>Foes with Extra Battle Points</b>
Description	Some foe cards contain two battle points values. When a foe is chosen for a stage of a quest if the current Quest names the foe the second value of battle points is chosen.
Actors	1 Player
Triggering Event	Player sponsoring quest chooses foe for stage where foe is equal to the one listed on quest card.
Main Sequence	<ol style="list-style-type: none"> <li>1. Player chooses cards for quest setup.</li> <li>2. Player chooses foe which equals to that named on quest card.</li> <li>3. Foes battle points equal to the second higher value listed on the card.</li> </ol>
Resulting Event	Foe battle points higher than regular during battle phases.
Traceability	Logfiles: scenario1.txt(71-77, 86, 140) [Boar with sword and dagger = 30 because of extra battle points]

<b>TC-02</b>	<b>Ally/Amour extra bids</b>
Description	When bidding for a test, an ally card or amour will list a bonus bid. If the test is won the number of cards needed to discard is reduced by combined number of bonus bids.
Actors	Player
Triggering Event	Player wins test.
Main Sequence	<ol style="list-style-type: none"> <li>1. Player wins test.</li> <li>2. Player discards needed for test is now minus bonus bids</li> </ol>
Resulting Event	Less cards lost during bidding of tests

Traceability	Logfiles: scenario3.txt(48, 54-56) [player only discards 3 due to bonus bids of King Arthur]
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<b>TC-03</b>	<b>Merlin</b>
Description	Before answering to participate in quest, if player has Merlin in hand then they are given option to preview one stage of setup quest.
Actors	Player
Triggering Event	Player is asked to participate in quest while Merlin is in hand.
Main Sequence	<ol style="list-style-type: none"> <li>1. Player is prompted if they would like to preview stage.</li> <li>2. Player clicks corresponding button to the stage they want to preview.</li> <li>3. Preview is displayed on screen for 10 seconds.</li> </ol>
Resulting Event	Player gains knowledge of one stage of setup quest then can decide whether to participate.
Traceability	Logfiles: scenario1.txt(83-86), merlin_log.txt(81-84), merlin_log(88-91)

# QUESTS OF THE ROUND TABLE

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## QUESTS OF THE ROUND TABLE

### Object of the Game

The goal of the game is to be the first player to become a Knight of the Round Table. A player raises his rank by successfully completing "Quests" and defeating other players in "Tournaments." A player receives "Shields" for each successful Quest and each victory in a Tournament. A player starts with the rank of a Squire, and as soon as he receives enough Shields, advances in rank to become a Knight, and then a Champion Knight. When a player earns enough Shields to become a Knight of the Round Table, he wins the game. (Note: In these directions, "he" always means "he or she.")

### Game Components

The game components consist of Shields and three separate decks of cards: the Rank Deck, the Adventure Deck, and the Story Deck.

#### *The Shields*

There are four sets of differently marked Shields. Each set consists of ten identical Shields. The players earn Shields for victories in Quests and Tournaments and in some Events.

#### *Rank Deck*

There are three kinds of Rank Cards: Squire, Knight, and Champion Knight. One of these cards is placed face up in

front of the player to show his current rank. A player can have only one Rank Card face up at any time. As a player advances in rank, he hands in the card for his previous rank and takes the card representing his new rank.

#### *Adventure Deck*

There are five types of Adventure Cards: Foe Cards, Weapon Cards, Ally Cards, Amour Cards, and Test Cards. Twelve Adventure Cards are dealt to each player at the beginning of the game. Adventure Cards are drawn, played, and discarded throughout the game.

*Foe Cards* are used to challenge your opponents during Quests.

*Weapon Cards* may give extra strength to a Foe, and they may increase your Battle Points when fighting a Foe during a Quest or fighting other players during a Tournament. The number of Battle Points provided by a Weapon is printed on the card.

*Ally Cards* represent characters from the legends of King Arthur and his court. An Ally gives you extra strength during Quests and Tournaments. Some Ally Cards have special abilities that are described on the individual card.

*Amour Cards* represent ladies in waiting, and are played to increase a player's Battle Points during Quests and Tournaments. Amour Cards are kept face up on the table next to the player's rank card and increase the player's Battle Points for all stages of a Quest. A player may not

play more than one Amour Card per Quest or Tournament, and when the Quest or Tournament is over the Amour Card is discarded. (Love is a fleeting thing...) Bid numbers on Amour Cards are used when facing a Test (see below).

*Test Cards* are played to challenge players to a “bidding contest” during a Quest.

### Story Deck

There are three types of Story Cards: Quest Cards, Tournament Cards, and Event Cards. A player draws one Story Card at the beginning of his turn. This card determines players’ actions during that turn. The card is put in the discard pile at the end of the player’s turn.

*Quest Cards* announce an upcoming adventure. However, for the adventure to take place one player must “sponsor” the Quest. Whoever sponsors a Quest challenges opposing players by pitting fierce *Foe Cards*, *Weapon Cards*, and *Test Cards* against them.

*Tournament Cards* announce a gathering of all players of the realm to participate in a friendly contest of arms called a Tournament.

*Event Cards* announce a special Event for that turn which will involve one or more players.

### Game Set-up

Before starting play, separate the cards into the Rank,

Adventure, and Story Decks. Shuffle the Story Deck and place it in the center of the table. **A-01**

Place a Squire Card face up in front of each player to indicate she begins with a rank of Squire. The remaining Rank Cards are placed aside for use later in the game. Each player places his ten identical Shields next to his Squire Card.

Shuffle and cut the Adventure Deck. Deal 12 Adventure Cards to each player. **A-03**

### Game Sequence

The player to the left of the dealer has the first turn. Play always proceeds in a clockwise direction.

At the beginning of each turn, a player turns over the top card of the Story Deck to see what will occur during his turn. What happens depends upon the type of card that is drawn:

#### **A-04**

*Quest Card:* A Quest is announced, and the players follow the rules described in “Quests.”

*Tournament Card:* A Tournament is announced, and the players follow the rules described in “Tournaments.”

*Event Card:* An Event is announced, and the player whose turn it is must follow the rules described on the Event Card. **A-10**

A player may never hold more than 12 cards in his hand.

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If a player draws more than 12 cards, he may examine them and then either discard or play the excess cards to return his hand to 12 cards.

*For example, a player with ten cards draws three cards, giving him a total of 13 in his hand. He holds an Ally card; he may play it instead of discarding to bring the cards in his hand back to 12.*

#### **A-05**

### Battle Points

In the game you will battle other players during Tournaments and will battle Foes during Quests. How well you do in these battles depends upon your strength, which is measured in Battle Points. The more Battle Points you have, the stronger you are. Battle Points are indicated by the number in the bottom center of the Rank, Foe, Weapon, Ally, and Amour Cards.

A Squire has five Battle Points, a Knight has ten Battle Points, and a Champion Knight has 20 Battle Points (these are listed on the Rank Cards). However, you can increase your strength during a Quest or Tournament using Weapon, Ally, and Amour Cards. You add the Battle Points shown on these cards to that of your rank.

*For example, a Squire with a Horse has  $5+10=15$  Battle Points.*

The Foes you fight during Quests also have Battle Points which are indicated on their cards. A Foe may only increase his Battle Points by using Weapon Cards.

### Shields & Rank **A-12**

Each time you win a Tournament or Quest, you receive a certain number of Shields. For details on how Shields are won during Quests or Tournaments, see sections entitled “The End of the Quest” and “Tournaments.” You may also win Shields based on the instructions on an Event Card. Earned Shields are placed on your Rank Card and are used as counters as you progress in rank. The number of Shields needed to advance are:

From Squire to Knight	5 Shields
From Knight to Champion Knight	7 Shields
From Champion Knight to Knight of the Round Table	10 Shields

When you advance in rank, you exchange your current Rank Card for one showing your new rank.

Sometimes you will have more Shields than are needed to advance to the next rank. If so, place the extra Shields on your new Rank Card. These count toward what is needed to advance to the next rank.

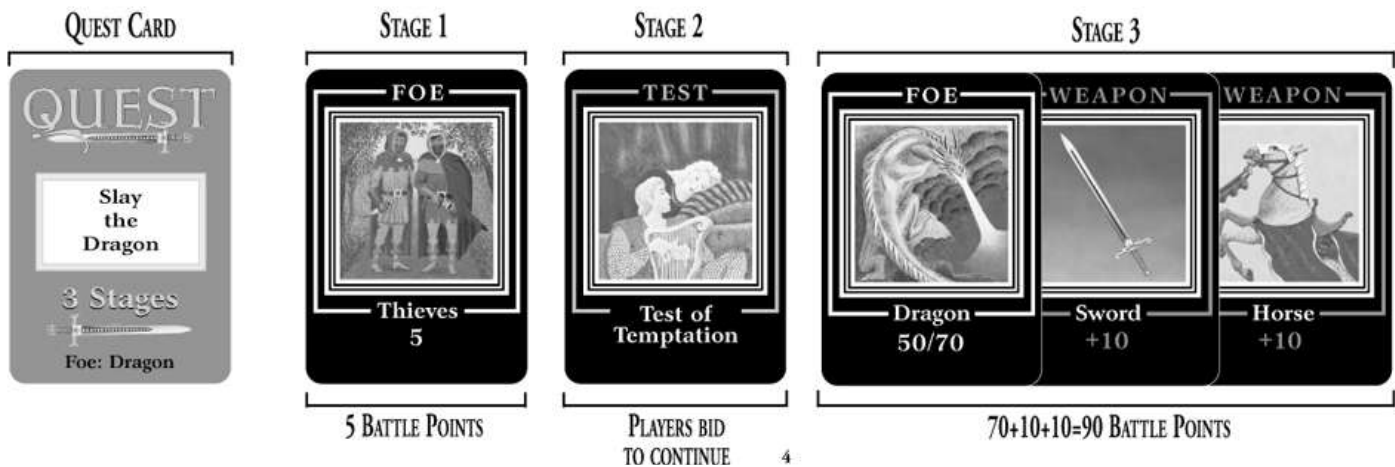
*For example, if you are a squire and you have earned 6 shields, turn in 5, and exchange Rank Cards for the Knight and keep the extra shield on your new Rank Card.*

### Sponsoring a Quest

The player drawing a Quest Card may decide to sponsor the Quest described on the card. The sponsor of a Quest will be able to receive new cards when the Quest is



completed. The Quest's sponsor creates the Quest by setting up a layout of Foe and Weapon Cards, or a Test Card, to represent each stage of the Quest. The sponsor does not compete in the Quest. He oversees the Quest, making sure the rules are followed. If he decides not to sponsor the Quest (the player may lack sufficient cards to create the Quest, or simply may not want to sponsor a Quest), the next player on his left decides whether to become the sponsor. If this second player decides not to sponsor the Quest, the next player to his left chooses, and so on. If all players decline to sponsor the Quest, the card is placed in the Story Deck's discard pile and that player's turn is over. The order of play, regardless of who sponsors the Quest, follows the original sequence.



## Setting Up a Quest A-07

The Quest Card is placed on the table. The Quest Card states how many "stages" are in the Quest. Each stage represents a battle which the players participating in the Quest must overcome to complete that Quest.

For each stage, the sponsor places a Foe Card (which may be supplemented by Weapons Cards) or a Test Card face down on the table in groupings beside the Quest Card. Each grouping of cards represents a "stage" of the Quest. The number of stages played must be equal to the number of stages shown on the Quest Card. A-06

As the illustration below shows, the Slay the Dragon Quest has three stages. The sponsor must place three groupings of cards (stages) face down next to the Quest Card.

As the example shows, only one Foe or Test Card may be played during each stage of the Quest. The sponsor may strengthen a Foe's Battle Points by giving it Weapon Cards from his hand. Each Foe uses as many Weapons as the sponsor wishes to give, but it can never be given two Weapon Cards of the same type, such as two Battle Axes. The sponsor must arrange the Foe Card, or Foe and Weapon Cards, so that the total number of Battle Points coming into play at each stage increases from stage to stage. There must be more Battle Points (Foe Cards + Weapon Cards) in the second stage than in the first, and so on.

*Foe Cards with extra Battle Points:* Some Foe Cards have two Battle Point values, for example "15/25." When a Foe is named on the Quest Card in play, and if the sponsor uses that Foe, the higher Battle Point value applies; if the Foe is not named, the lower value applies.

*For example, the Slay the Dragon Quest is sponsored, and the sponsor plays the Dragon Foe Card with Battle Points of "50/70." The higher value is honored.*

*Test Cards:* Test Cards do not have Battle Points and may be played in any stage of the Quest, regardless of the number of Battle Points in play in the previous or next stage. Only one Test Card may be played in each Quest.

## Playing a Quest

After the sponsor has set up the stages of the Quest, each of the other players decides whether to join the Quest. Players

who choose not to join the Quest must sit out until that Quest is over. The Quest now begins and is played one stage at a time.

Before the Quest begins, and at the beginning of each subsequent stage, the sponsor hands out one card from the Adventure Deck to each player going on the Quest. The sponsor announces whether each stage contains a Foe Card or a Test Card:

*If a Foe is encountered:* Each player must fight the Foe. Before discovering what type of Foe he is encountering however, he must decide how much of his strength he wishes to use to overcome the Foe's Battle Points. (See more details below.)

*If a Test is encountered:* A bidding contest ensues. Players bid cards among themselves to see who is willing to discard the greatest number of cards in order to pass the Test. (See more details below.)

## A Foe is encountered A-08

If the upcoming stage is against a Foe, each player on the Quest now decides which cards in his hand she wants to use against the Foe based on the number of Battle Points needed to defeat him. She places the selected cards face down on the table. A-06

The player's minimum strength is shown by the Battle Points of his current rank. He adds to his strength by playing Weapon, Amour, and/or Ally Cards. A player may



play more than one Weapon Card per stage, as long as he does not play two Weapon Cards of the same type. A player may not play more than one Amour Card per Quest, and when the Quest is over the Amour Card is discarded. A player may play any number of Ally Cards at any time. The Battle Points provided by Ally Cards are added to those of his rank for the duration of the game or until they are taken away by an Event Card or the Mordred Foe Card (see the section entitled "The 'Mordred' Foe Card").

After players in the Quest place the cards they want to use for that stage face down on the table, the sponsor then turns over his Foe Card or combined Foe and Weapon Cards for that stage. The players turn over their cards for that stage.

Each player adds up her Battle Points and compares them to those of the Foe. If the player has more Battle Points than the Foe, or the player and the Foe tie, the player proceeds to the next stage of the Quest. If the Foe has more Battle Points, the player is defeated and must sit out the remainder of the Quest. In any stage, more than one player can defeat the same Foe. In this case, all players to do so continue to the next stage of the Quest. Prior to starting the next stage, the sponsor hands out one new Adventure Card to all continuing players.

After each stage of the Quest, players must discard all Weapon Cards used for that stage. Amour cards are discarded at the end of the Quest. Ally Cards may remain in play.

### *A Test is encountered (Bids are explained)* **A-09**

The Quest's sponsor announces the Test at the beginning of the stage in which it is encountered. He immediately turns the Test Card face up. The players must now bid, starting from the left of the sponsor. A bid is the number of cards a player is willing to discard in order to be the one who continues alone on the remainder of the Quest.

The player to the left of the sponsor begins by announcing how many cards he bids to pass the Test. The next player to the left then bids. Each player's bid must be higher than the last, or the player drops out of the Quest. Players bid until everyone on the Quest has made a bid or has chosen to drop out and continues until no one will bid higher. Note: some Ally and Amour Cards provide bids (see "free bids" on the next page). If a player has these cards in play she may use the bid points to reduce the number of cards she discards. If the bid cards are in hand, they must be played in order to use them. **A-06**

The player who passes the Test (wins the bidding contest and discards the highest number of cards) goes on to the next stage of the Quest.

Sometimes a player will encounter a Test Card when he is the only player left in the Quest. In this case, the player bids the minimum bid indicated on the Test Card. If there is no minimum number on the Test Card, the player must make a minimum bid of three. If he is unable to bid three cards, he drops out and the Quest is over.

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### *Free Bids*

All Amour Cards, as well as some Ally Cards, give players "free bids" if the player has the card in play during a Test. Free bids are given on the Amour or Ally Card. The number of free bids reduces the number of cards that must be discarded if that player wins the bid.

*For example, a player wins a Test by bidding nine cards. He has the Queen Guinevere Ally Card in play which gives him three free bids. He would, therefore, have to discard only six cards of his choice from his hand.*

### *The "Mordred" Foe Card*

This card may be used as a normal Foe or to remove another player's Ally from play. To remove an Ally Card, you simply say which character you wish to remove as you play the card. The Mordred Card and the Ally Card are immediately placed in the Adventure Deck's discard pile.

You may play the Mordred Card during your turn or at any point during a Quest or Tournament in which you are engaged.

### *The End of the Quest*

The Quest ends when either:

- 1) all players are defeated or forced to drop out, or;
- 2) one or more players successfully make it through every stage of the Quest.

All players who successfully complete the Quest receive as many Shields as there were stages in the Quest. If all players on the Quest are defeated or drop out, no Shields are awarded.

The sponsor draws from the Adventure Deck, whether players on the Quest won, were defeated, or dropped out. He draws a number of cards equal to:

the number of cards he used to sponsor the Quest  
PLUS  
the number of stages in the Quest. **A-05**

*For example, in the illustration on page four, the sponsor draws eight cards (five cards used to sponsor the Quest + three stages in the Quest) from the Adventure Deck.*

Once a Quest ends, the sponsor places the cards he used to set up the Quest into the discard piles.

*Discarding:* Once a Quest ends, players place all Adventure and Story Cards used during the Quest (except Ally Cards) into their respective discard piles. Ally Cards remain in play until they are removed by an Event Card or Mordred Card. It is now the turn of the player to the sponsor's left. The top card of the Story Deck is turned over and a new game sequence begins. When the Decks are used up, reshuffle them and continue play.

## **Tournaments**

In the time of King Arthur, Tournaments were held in which knights from all over the realm challenged each other to jousts and sword fights to see who was most skilled and courageous.

Whenever a Tournament Card is drawn from the Story Deck, each player decides whether to enter the Tournament. The player drawing the card announces her decision first, followed by each player to her left. If only one player enters

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the Tournament, that player is automatically awarded one Shield for entering, plus any bonus shields indicated on the Tournament Card. The winner of a Tournament is the player with the most Battle Points.

### ***Tournament Play***

Each player entering the Tournament draws one card from the Adventure Deck.

Next, each player decides which cards from his hand he will use to challenge other players. Players may play Ally, Weapon, and Amour Cards to increase the number of Battle Points of their rank. As usual, a player may not play more than one Weapon of the same type or play more than one Amour Card. **A-06**

In unison, all players place the cards they chose face up in front of them. The player who has the most Battle Points provided by his Rank Card, Ally Card(s) on the table, *plus* the cards he has just played, including Weapon Cards and Amour Cards, wins the Tournament. A player may choose to play zero cards from his hand, giving him only the Battle Points of his Rank Card (and any Ally Cards he already had in play). At the end of the Tournament any Weapon Cards and Amour Cards used towards Battle Points are discarded. Ally Cards on the table remain in play until they are removed by an Event Card or Mordred Card.

The winner of the Tournament receives a number of Shields equal to the number of players who entered the Tournament. Some Tournaments also give the winner

bonus Shields. The number of bonus Shields is on the Tournament Card.

### ***Tie-Breaking in Tournaments*** **A-11**

The players in a tie discard the Weapon Cards just played. Ally and Amour Cards remain in play. Each of these players then decides which cards she will play in the tie-breaking round. This second round is played exactly like the first. If there is still a tie after the second round, all players in the second round receive as many Shields as the number of players who originally entered the Tournament.

## **Winning the Game**

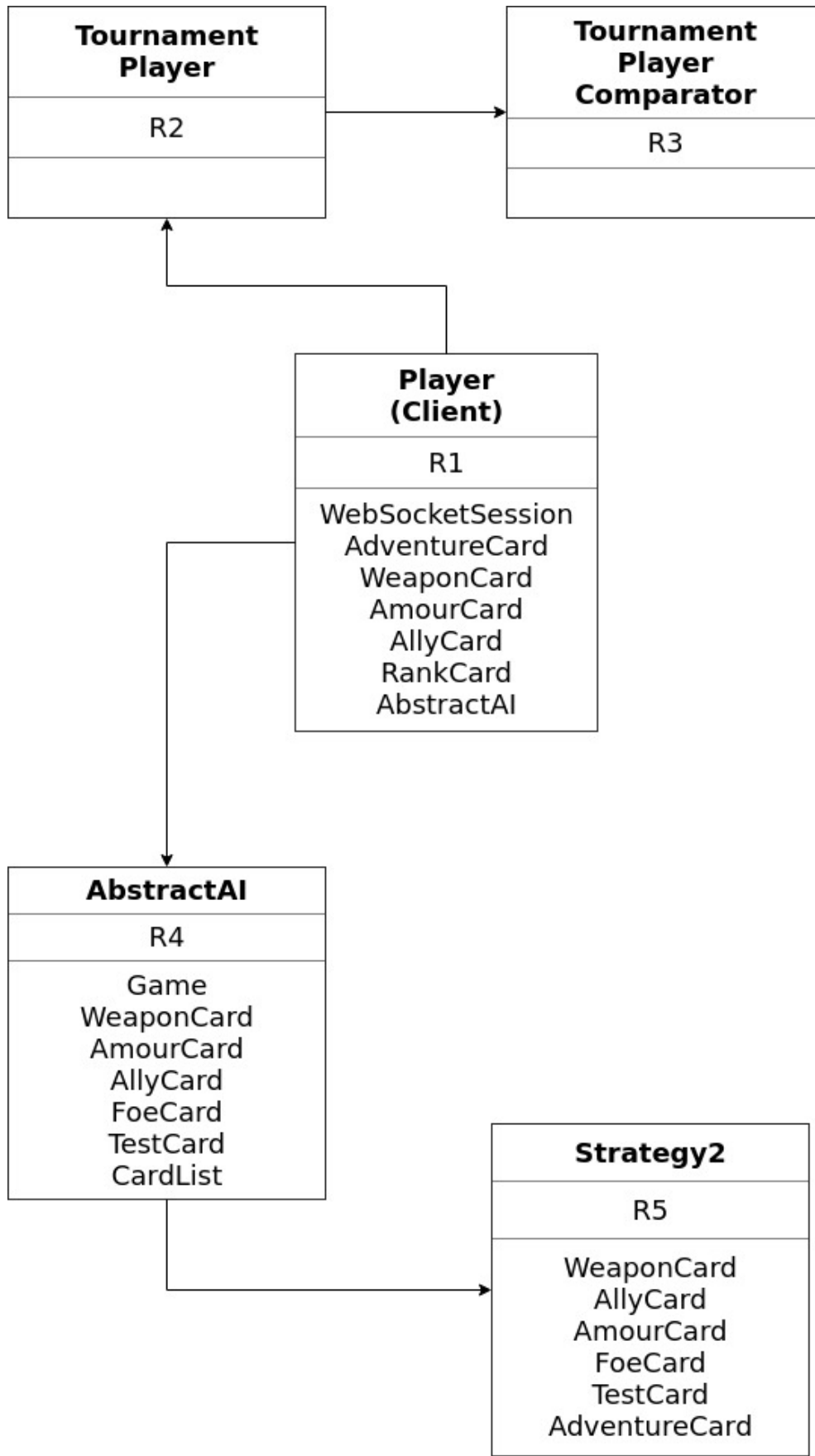
As soon as a player earns enough Shields to become a Knight of the Round Table, he declares himself the winner. It is possible for more than one player to declare himself a winner during the same turn. If this happens, all players who have just become Knights of the Round Table must participate in a final Tournament.

The winner of this last Tournament wins the game. If this final Tournament is also tied, those players in the tie all win the game. **A-13**

## **Two-Player Game**

Sometimes, there will be only two players available to play *Quests of the Round Table*. The rules are the same for a two-player game. However, there will only be one player on a Quest, and there will never be competitive bidding in Tests. This means the player must bid what the card says, or, if there is no minimum bid shown on the Test Card, the

## Client Diagram





## Client responsibilities

R1 - Represents the client in game. Holds all relevant player information and statistics needed for gameplay. As the game is played the class updates information to keep track of progress.

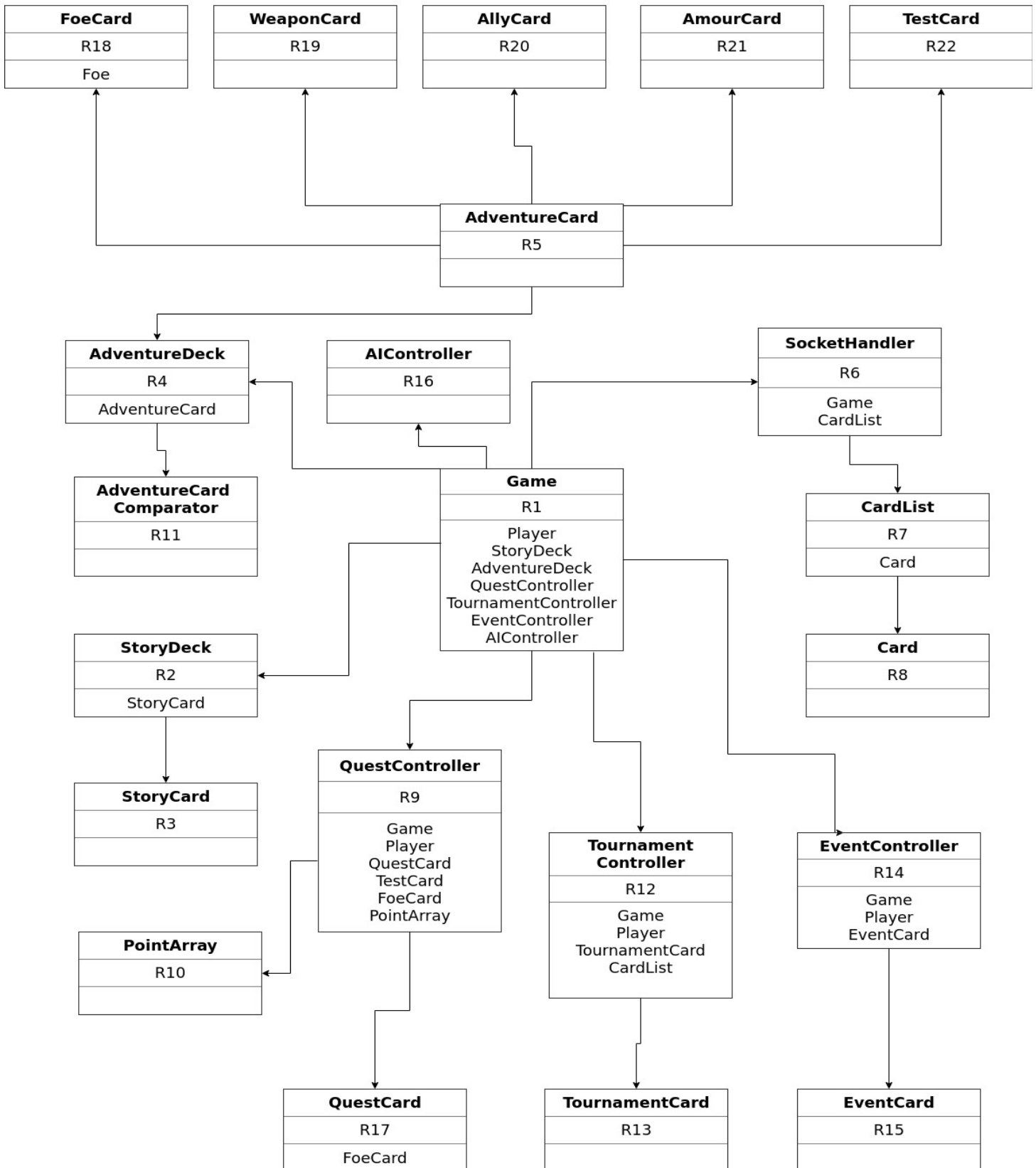
R2 - For tournaments to store contestant information. Used alongside Tournament Player Comparator to determine winner.

R3 - Organizes tournament contestants by increasing battle points to determine winner.

R4 - Provides an outline for various methods to which AI Player strategies are implemented.

R5 - Follows AbstractAI class and implements a specified strategy pattern for non-human players of game.

## Server diagram



## Server responsibilities

R1 - Game class holds game utilities such as deck, player objects, controllers for quest, tournament, and events. Controls turns and flow of the game. The game class is also responsible for initiating the game, dealing players hands, shuffling decks, etc.

R2 - Story deck contains story cards which are flipped up in game. This class also controls deck when rigged game is initiated.

R3 - Story cards can be quest, tournament, or event. Main component of game, card is flipped from story deck at commencement of player's turn.

R4 - Adventure deck class holds the adventure cards which make up the deck for the game. Shuffled to ensure randomness.

R5 - Adventure cards make up the hand of player. Can be of different types each performing a different function.

R6 - Class used to communicate with clients using web sockets.

R7 - CardList class contains all card information. Lists all cards used in gameplay and also implements a finder function to return card object by string name.

R8 - Card is the base object used by all specific card types. Contains a name and image string.

R9 - Controls current quest. Stores all quest information created by sponsor and participants and performs appropriate calculations to find winner and then send results to client side.

R10 - Used to store information of foes and corresponding points when setting up quest.

R11 - Compares adventure cards based on battle points. Sorts in increasing order.

R12 - Controls current tournament. Stores all challengers information then performs calculations to determine winner, deal with tie breaker then send resulting information to be displayed for clients.

R13 - Tournament card placed in story deck to initiate a tournament. Has name, picture, and sometimes bonus shields to be awarded to winner.

R14 - Event controller regulates the flipped event card. Ensures all players perform necessary action and then executes the results dictated by the card.

R15 – Event card from story deck used to initiate tournament. Holds all relevant information needed for players to perform event.

R16 – AIController used to parse information from AI player clients then pass that information to the corresponding strategy class. The results are then parsed by the controller to make the AI player perform the dictated outcome.

R17 – Quest card contains quest information along with number of stages or any special foes. Flipped up from story card and can be setup by current player.

R18 – FoeCard dictates foes in the game. Contains name, image, battle points, bonus points (if applicable) and any specials the card may have.

R19 – WeaponCard dictates weapons in the game to be used by players or foes. Contains battle points, name, and image.

R20 – AllyCard dictates allies for the game. Can be equipped for length of game to strengthen battle points. Some allies contain bids used in tests and other various specials.

R21 – AmourCard used as defense within game. Can be used during any battle to increase battlepoints by ten. Is discarded after quest stage/tournament completion.

R22 – TestCard used in tests to create a challenge where players bid cards against one another. Used in quest setup.

## Architecture Notes

What client does:

- client receives messages from server then parses that information to get player choices and/or render displays
- maintains connection with server socket in order to be able to receive and send messages back and forth throughout the game

What server does:

- receives messages from clients then parses that information to store information about player choices then use that information to execute game logic then send results back to clients
- server maintains a one socket connection with players and stores client session information to easily send messages

How they interact:

- client and server both send information in order to advance game  
all client messages are routed through server, server controls relay messages back to clients
- client sends player choice information while server parses then sends results in order to display results in all client screens