

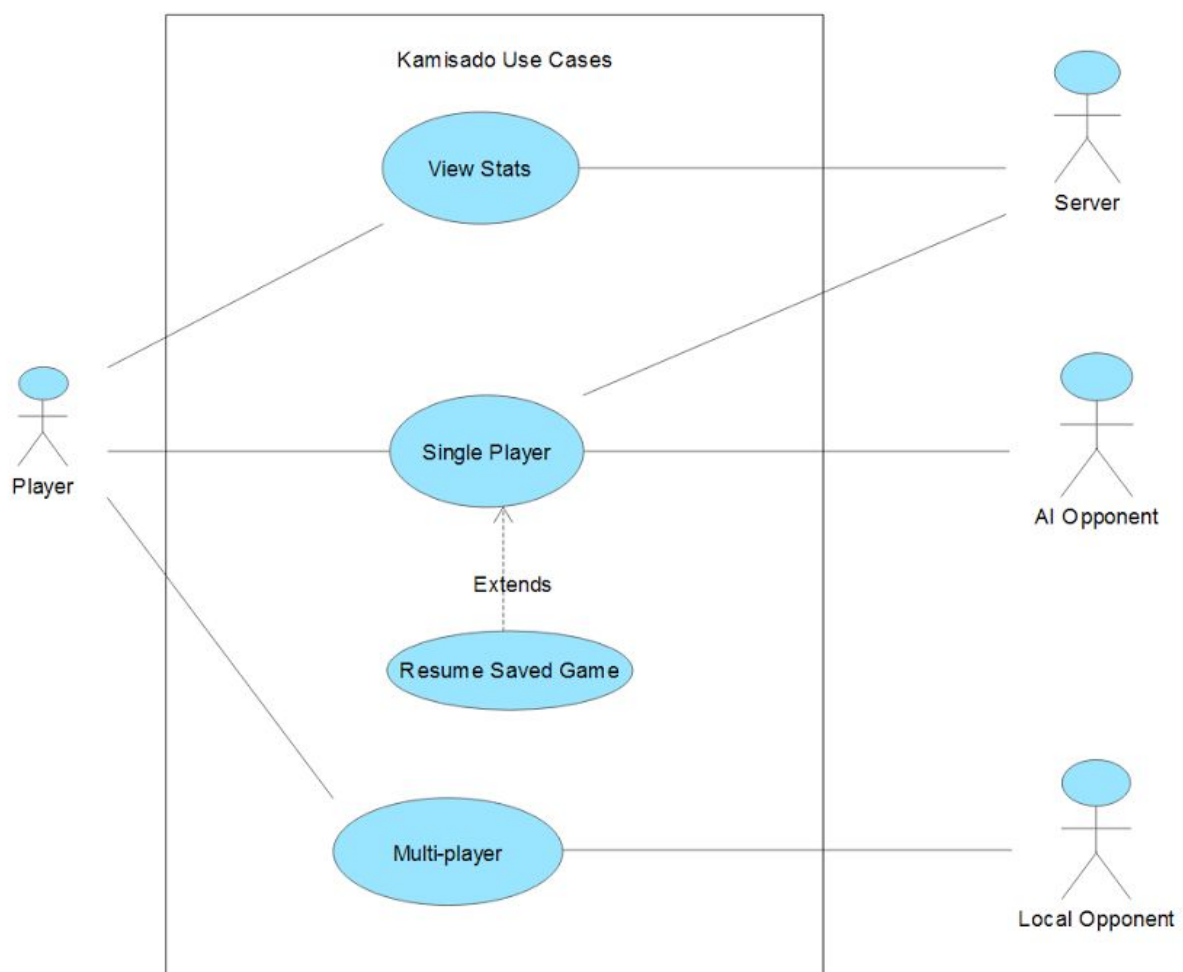
Kamisado

Kamisado is a computer game featuring a single player mode where the player can play the same against a variety of advanced AI opponents, and a two-player mode where the user can play against other users. The game allows the player to enter their moves via mouse or keyboard.

In single player mode the player can undo their last move, so they can take back their moves if they have played badly or wish to explore an alternative strategy. Single-player games can be saved to the local disk and resumed later. The player will have a choice of a variety of AI opponents offering different levels of difficulty. To ensure a fun experience for the player, the AI player will always make its move within 5 seconds.

In two-player mode the player can play with a friend on the same machine.

The user will be able to view their win-loss record as well as their record match times.



Functional requirements

1. Implements the rules of Kamisado
2. Play the game against local user
3. Play the game against AI
4. Different AI difficulty levels
5. AI will play within time limit
6. Player can reset the game
7. Player can save game in one player mode and play a different game before coming back to the original
8. Player can request re-match in two-player mode
9. Player can undo their last move in one-player mode
10. Player can choose whether to play as black or white.
11. Client will allow user to view statistics from previous matches
12. Allow player to set personal time limit
13. Player will be able to setup up account
14. The system will take input from any of keyboard or mouse

Non-functional requirements

1. AI opponent must respect time limit (a constraint on the possible moves and AI can make)
2. Support screen sizes of all supported hardware platforms.

Actors in the System

There are four actors: the player; the local opponent; the AI opponent; and the server.

Use Cases

1. Play Kamisado against AI
2. Play Kamisado against local player
3. View Statistics
4. Resume saved game

Features

1. Mouse or keyboard input
2. Display current state of game
3. Keep track of game state
4. Reset game state
5. Validate player moves as legal or illegal
6. Detect game end conditions (2 - opponent wins or player wins)
7. Choice between AI opponents
8. Timer to limit AI player
9. Optional timer to limit human player
10. Resume saved game

Matrix of Use Cases Against Features:

	1	2	3	4	5	6	7	8	9	10
<i>Play against AI</i>	•	•	•	•	•	•	•	•	•	•
<i>Play locally</i>	•	•	•	•	•	•				
<i>View Stats</i>			•			•		•	•	
<i>Resume Saved Game</i>										•

Structured Descriptions of Use Cases

Use Case One: Play Kamisado Against AI

Play a game of Kamisado against an AI.

Playing against AI

Primary Actor: Player

Supporting Actor: Server, AI opponent

Preconditions

Java environment on PC

Player has account on server

Post-conditions

Rematch

Exit game

Main Flow:

1. Select difficulty level
2. Play Kamisado
3. Game finished

- a. Generate match report
- b. Send match report to Server

Alternative Flow:

- 1. Open Settings
- 2. Adjust Settings
 - a. Send Settings to Server
- 3. Select difficulty level
- 4. Play Kamisado
- 5. Game finished
 - a. Generate match report
 - b. Send match report to Server

Use Case Two: Play Kamisado Two Player Locally

Play a game of Kamisado against another human.

Playing against human

Primary Actor: Player

Supporting Actor: Server, Local opponent

Preconditions

Java environment on PC

Player has account on server

Post-conditions

Rematch

Exit game

Main Flow:

- 1. Find opponent
- 2. Play Kamisado
- 3. Game finished
 - a. Generate match report
 - b. Send match report to Server

Alternative Flow:

- 1. Open Settings window
- 2. Adjust Settings
 - a. Send Settings to Server
- 3. Find an opponent
- 4. Play Kamisado
- 5. Game finished
 - a. Generate match report
 - b. Send match report to Server

Use Case Three: View Stats

View your game stats

Primary Actor: Player

Supporting Actor: Server

Preconditions

Java environment on PC

Player has account on server

Post-conditions

Exit game

Main Flow:

1. Open Stats window
2. View Stats
3. Close Stats window

Use Case Four: Resume Saved Game

Playing against AI

Primary Actor: Player

Supporting Actor: Server, AI opponent

Preconditions

Java environment on PC

Player has account on server

Post-conditions

Rematch

Exit game

Main Flow:

1. Select saved game
2. Load game
3. Play Kamisado
4. Game finished
 - a. Generate match report
 - b. Send match report to Server