**Project 1.0**

**Team: Better Bytes**

Template

|  |  |  |
| --- | --- | --- |
| Use Case ID | EU-xxxx : Indicates an essential use case, i.e., a use case  that describes activity in system independent terms | |
| Use Case Name | Enter name of Use Case. | |
| Overview | Describe the purpose of the Use Case and give a brief  description. | |
| Type | Enter Use Case priority (primary, secondary, optional) | |
| Actors | List all actors that participate in this Use Case. Indicate the  actor that initiates the use case by placing “initiator” in  brackets after the actor name. Also, indicate primary actors  by placing “primary” in brackets after actor name. | |
| Properties | Performance |  |
| Security |  |
| Other |  |
| Pre-conditions | Enter the condition that must be true when the main flow is  initiated. This should reference the conceptual model. | |
| Flow | Main Flow: Steps should be numbered | |
| Subflows: Break down of main flow steps | |
| Alternate flows: Include the post condition for each  alternate flow if different from the main flow. | |
| Post-conditions | Enter the condition that must be true when the main flow is  completed. This should reference the conceptual model.  Include the following information in this section | |
| Cross references | References to other Use Cases or textual requirements that  relate to this Use Case | |

|  |  |  |
| --- | --- | --- |
| Use Case ID | 1 | |
| Use Case Name | Start Server | |
| Overview | Start up the main game server | |
| Type | Primary | |
| Actors | Administrator [Initiator, Primary] | |
| Properties | Performance |  |
| Security |  |
| Other |  |
| Pre-conditions | Hardware and other required software are present and correctly configured. | |
| Flow | Main Flow:   1. Start server | |
| Subflows | |
| Alternate flows:  1a Connection to server fails during startup process  1a1 Server fails to start | |
| Post-conditions | Server is running and correctly configured | |
| Cross references |  | |

|  |  |  |
| --- | --- | --- |
| Use Case ID | 2 | |
| Use Case Name | Terminate Server | |
| Overview | Terminate the main game server | |
| Type | Primary | |
| Actors | Administrator [Initiator, Primary] | |
| Properties | Performance |  |
| Security |  |
| Other |  |
| Pre-conditions | Server is running normally | |
| Flow | Main Flow:   1. Terminate server | |
| Subflows | |
| Alternate flows:  1a Connection to server fails  1a1 Game server still running | |
| Post-conditions | No elements of the server are running | |
| Cross references | Server must be running (1), | |

|  |  |  |
| --- | --- | --- |
| Use Case ID | 3 | |
| Use Case Name | Connect to server | |
| Overview | User connects to on to main server | |
| Type | Primary | |
| Actors | User [Initiator, Primary] | |
| Properties | Performance | Connecting should take less than 3 seconds |
| Security |  |
| Other |  |
| Pre-conditions | Server has been started | |
| Flow | Main Flow:   1. User enters server details 2. User is connected to server 3. User is prompted with login screen | |
| Subflows | |
| Alternate flows  2a User is unable to connect to server  2a1 Display error message  2a2 Return to step 1 | |
| Post-conditions | User is connected to server and ready to log on | |
| Cross references | Server must be running(1) | |

|  |  |  |
| --- | --- | --- |
| Use Case ID | 4 | |
| Use Case Name | Log on to server | |
| Overview | User logs on to main server | |
| Type | Primary | |
| Actors | User [Initiator, Primary] | |
| Properties | Performance | Logging on should take no more than three seconds |
| Security | Password should not be sent in plain text |
| Other |  |
| Pre-conditions | Server has been started | |
| Flow | Main Flow: Include(3)   1. User is prompted with login screen and enters username and password 2. Server authenticates user 3. User is logged on to server and prompted with main game screen | |
| Subflows: | |
| Alternate flows  2a User is unable to be authenticated  2a1 Display error  2a2 Return to step 1  3a User is unable to connect to server  3a1 Display error  3a2 Return to step 1 | |
| Post-conditions | User has an account | |
| Cross references | Server is running(1),User has an account(5) | |

|  |  |  |
| --- | --- | --- |
| Use Case ID | 5 | |
| Use Case Name | Register New account | |
| Overview | User creates a new account on the server | |
| Type | Primary | |
| Actors | User [Initiator, Primary] | |
| Properties | Performance |  |
| Security | Password is not sent in plain text |
| Other |  |
| Pre-conditions | Server has been started | |
| Flow | Main Flow: Include(3)   1. User enters desired username and password 2. Server validates username and password 3. User is registered and logged on | |
| Subflows: | |
| Alternate flows  2a User enters a duplicate username – server invalidates request  2a1 Display error message  2a2 User is not registered | |
| Post-conditions | New account has been created, user is logged on | |
| Cross references | Connect To Server (3) | |

|  |  |  |
| --- | --- | --- |
| Use Case ID | 6 | |
| Use Case Name | Logout | |
| Overview | User logs off of the server | |
| Type | Primary | |
| Actors | User [Initiator, Primary] | |
| Properties | Performance |  |
| Security |  |
| Other |  |
| Pre-conditions | Server has been started. User is logged into the server | |
| Flow | Main Flow:   1. User requests to logout 2. Client prompts user to confirm logout 3. User confirms logout 4. User sends logout request to server 5. User returns to home screen | |
| Subflows: | |
| Alternate flows:  3a User does not confirm logout  3a1 User stays logged in | |
| Post-conditions | User is logged out of sever | |
| Cross references | Server is running(1),User is logged on(4) | |

|  |  |  |
| --- | --- | --- |
| Use Case ID | 7 | |
| Use Case Name | Check active games | |
| Overview | User receives a list of the state of their active games | |
| Type | Primary | |
| Actors | User [Initiator, Primary] | |
| Properties | Performance |  |
| Security |  |
| Other |  |
| Pre-conditions | Server is started. User is logged into the server | |
| Flow | Main Flow:   1. User requests states of active games 2. Server returns active games (see Alt1) | |
| Subflows: | |
| Alternate flows:  1a Server connection failure -- could not fetch active games  1a1 Display error message | |
| Post-conditions | User has data of their current games | |
| Cross references | Server is running(1),User is logged on(4) | |

|  |  |  |
| --- | --- | --- |
| Use Case ID | 8 | |
| Use Case Name | Create new game | |
| Overview | User creates a new game with another player | |
| Type | Primary | |
| Actors | User [Initiator, Primary] | |
| Properties | Performance |  |
| Security |  |
| Other |  |
| Pre-conditions | Server is started. User is logged into the server | |
| Flow | Main Flow:   1. User requests a new game with another player (see Alt1) 2. A new game is created with both players in it | |
| Subflows: | |
| Alternate flows:  1a Player name does not exist  1a1 Display error message  1a2 Game is not created | |
| Post-conditions | User and the other player are both part of a new game match. | |
| Cross references | Server is running (1),User is logged on(4) | |

|  |  |  |
| --- | --- | --- |
| Use Case ID | 9 | |
| Use Case Name | Resume existing game | |
| Overview | User rejoins an existing game they were a part of | |
| Type | Primary | |
| Actors | User [Initiator, Primary] | |
| Properties | Performance |  |
| Security |  |
| Other |  |
| Pre-conditions | Server is started. User is logged into the server. User is part of a previous game | |
| Flow | Main Flow:   1. User requests to join an existing game (see Alt1) 2. Server returns the current game state of the match (see Alt1, Alt2) 3. Client loads the game state | |
| Subflows: | |
| Alternate flows:  Alt1: Connection to server lost  Alt2: Game is already terminated  Post condition: User is not connected to previous game | |
| Post-conditions | User is connected to previous game | |
| Cross references | Server is running (1),User is logged on(4), There is a game that can be resumed | |

|  |  |  |
| --- | --- | --- |
| Use Case ID | 10 | |
| Use Case Name | Make move | |
| Overview | User advances game by making a valid move on the board | |
| Type | Primary | |
| Actors | User [Initiator, Primary] | |
| Properties | Performance |  |
| Security |  |
| Other |  |
| Pre-conditions | Server is started, User is logged into the server, and User is playing a match | |
| Flow | Main Flow:   1. Get current state of the game 2. User requests move 3. System validates the move 4. User confirms move 5. Update Game state | |
| Subflows: | |
| Alternate flows:  3a Requested Move is not valid -- system invalides move  3a1 Block user from making move  3a2 Tell user why move cannot be made  4a User does not confirm move  4a1 State of game does not change | |
| Post-conditions | Updates the game and notifies the opponent of the new move | |
| Cross references | Server is running (1),User is logged on(4), User has resumed a game (9) | |

|  |  |  |
| --- | --- | --- |
| Use Case ID | 11 | |
| Use Case Name | Cancel game | |
| Overview | User terminates a live match | |
| Type | Primary | |
| Actors | User [Initiator, Primary] | |
| Properties | Performance |  |
| Security |  |
| Other |  |
| Pre-conditions | Server is started, User is logged into the server, and User is playing a match | |
| Flow | Main Flow:   1. User requests game termination (concede) 2. Game ends 3. Notify opponent that game is over | |
| Subflows: | |
| Alternate flows: | |
| Post-conditions | Game is terminated and is reflected in the users game history | |
| Cross references | Server is running (1),User is logged on(4), There is a valid game to terminate | |

|  |  |  |
| --- | --- | --- |
| Use Case ID | 12 | |
| Use Case Name | Check Rules | |
| Overview | User can view the rules/manual to the game | |
| Type | Primary | |
| Actors | User [Initiator, Primary] | |
| Properties | Performance |  |
| Security |  |
| Other |  |
| Pre-conditions | Server is started, User is logged into the server | |
| Flow | Main Flow:   1. User requests game rules 2. Display rules to user | |
| Subflows: | |
| Alternate flows: | |
| Post-conditions | Rules are presented in a readable view on the client | |
| Cross references | Server is running (1),User is logged on(4) | |

|  |  |  |
| --- | --- | --- |
| Use Case ID | 13 | |
| Use Case Name | Start Client | |
| Overview | User launches the game interface | |
| Type | Primary | |
| Actors | User [Initiator, Primary] | |
| Properties | Performance | Should take less then 3 seconds |
| Security |  |
| Other |  |
| Pre-conditions | User is on working computer | |
| Flow | Main Flow:   1. User initiates executable 2. Load game interface (Client) 3. Display ‘home’ page | |
| Subflows: | |
| Alternate flows:  2a Game could not be loaded/started  2a1 Display error message  2a2 Close executable process | |
| Post-conditions | User has client running and can being interacting with UI | |
| Cross references | Server is running (1) | |

|  |  |  |
| --- | --- | --- |
| Use Case ID | 14 | |
| Use Case Name | Exit Client | |
| Overview | User closes the game client | |
| Type | Primary | |
| Actors | User [Initiator, Primary] | |
| Properties | Performance |  |
| Security |  |
| Other |  |
| Pre-conditions | User is running game client | |
| Flow | Main Flow:   1. User requests client to shut down 2. Gracefully terminate processes 3. Close out | |
| Subflows: | |
| Alternate flows: | |
| Post-conditions | User has closed out of application | |
| Cross references | Client is running (13) | |

|  |  |  |
| --- | --- | --- |
| Use Case ID | 15 | |
| Use Case Name | Respond to invitation | |
| Overview | User receives and responds to an invite to a game | |
| Type | Primary | |
| Actors | User | |
| Properties | Performance |  |
| Security |  |
| Other |  |
| Pre-conditions | Both users have accounts | |
| Flow | Main Flow:   1. User receives a notification that they have been invited to a game 2. User accepts invite (alternative flow 1) or rejects invite | |
| Alternative 1:  1) User accepts Invite. If already accepted, enter alternative flow 2  2) User enters game  Alternative 2:   1. User is notified that game has already been created with another player and returned to main menu | |
|
| Post-conditions | If user is first to accept, player joins game. Otherwise, invitation is removed | |
| Cross references | Server is running (1),User is logged on(4), invitation must still be valid when accepted | |

|  |  |  |
| --- | --- | --- |
| Use Case ID | 16 | |
| Use Case Name | Check Stats | |
| Overview | User can check their historical game statistics | |
| Type | Primary | |
| Actors | User | |
| Properties | Performance |  |
| Security |  |
| Other |  |
| Pre-conditions | User has an account and is currently logged in | |
| Flow | Main Flow:   1. User clicks/navigates to stats page 2. User can view their stats and sort/manipulate the page | |
| Alternative 1:  1) User has not played any games and all stats are 0/Null  Alternative 2:   1. User loses connection to server and disconnects | |
|
| Post-conditions | User is shown their stats | |
| Cross references | Server is running (1),User is logged on(4) | |

**Use Case Diagram**

