**Project 1.0**

**Team: Better Bytes**

Template

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| 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 | |

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| Use Case ID | 1 | |
| Use Case Name | Start Server | |
| Overview | Start up the main game server | |
| Type | Secondary | |
| Actors | Administrator [Initiator, Secondary] | |
| 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 |  | |

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| Use Case ID | 2 | |
| Use Case Name | Terminate Server | |
| Overview | Terminate the main game server | |
| Type | Secondary | |
| Actors | Administrator [Initiator, Secondary] | |
| Properties | Performance |  |
| Security |  |
| Other |  |
| Pre-conditions | Server is up and 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.  User data is still stored but the system is no longer running so any active user sessions will lose connection. | |
| Cross references | Server must be running (1), | |

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| 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) | |

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| 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 | User has connected to the server (3) | |
| Flow | Main Flow: Include(3)   1. User enters username and password into their respective fields 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 by the server (the user entered invalid credentials or has not created an account yet)  2a1 Display error  2a2 Return to step 1 | |
| Post-conditions | User is logged on and directed to the main menu of the UI | |
| Cross references | Server is running(1),User has an account(5) | |

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| Use Case ID | 5 | |
| Use Case Name | Create 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 (1) and user is connected (3) | |
| Flow | Main Flow: Include(3)   1. User enters desired username, email, and password 2. Server validates username and password 3. User is registered and logged on | |
| Subflows: | |
| Alternate flows  2a server invalidates new username, email, and password request (user fails to enter credentials for one of the required fields or enters a duplicate username)  2a1 Display error message  2a2 return user to step 1 | |
| Post-conditions | New account has been created, user is logged on | |
| Cross references | Server is running (1), Connect To Server (3) | |

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| 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) | |

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| 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 | |
| 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) | |

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| 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: (Include 8)   1. User requests a new game by inviting another player(s) 2. User awaits for another player to accept the invitation (see 15) 3. Game is created with the two players | |
| Subflows: | |
| Alternate flows:  1a Player name does not exist  1a1 Display error message  1a2 Game is not created  1a3 Return to main menu where user can request a new game | |
| 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), Accept/decline invitation (8) | |

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| Use Case ID | 9 | |
| Use Case Name | Resume 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 existing game with another player | |
| Flow | Main Flow:   1. User requests to join an existing game 2. Server fetches the current game state of the match 3. Client loads the game state | |
| Subflows: | |
| Alternate flows:  1a Connection to server lost -- cannot join the existing game  3a the fetched game state indicates the match was terminated -- display final game results  3a1 Allow user to exit game when done viewing the final results  3a2 on exit, return user to main menu | |
| Post-conditions | User is connected to the game | |
| Cross references | Server is running (1),User is logged on(4), There is a game that can be resumed | |

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| 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  3a3 Return to step 2  4a User does not confirm move  4a1 State of game does not change  4a2 Return to step 2 | |
| 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) | |

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| 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 | |

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| 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) | |

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| Use Case ID | 13 | |
| Use Case Name | Start Client Program | |
| 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 program executable 2. Load game interface (Client) 3. Display ‘landing page’ for user to enter server details (see 3) | |
| 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) | |

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| Use Case ID | 14 | |
| Use Case Name | Exit Client Program | |
| 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 exits out of client program – (program initiates shut down) 2. Shutdown program -- closes active program session | |
| Subflows: | |
| Alternate flows: | |
| Post-conditions | User has closed out of application (client program) | |
| Cross references | Client is running (13) | |

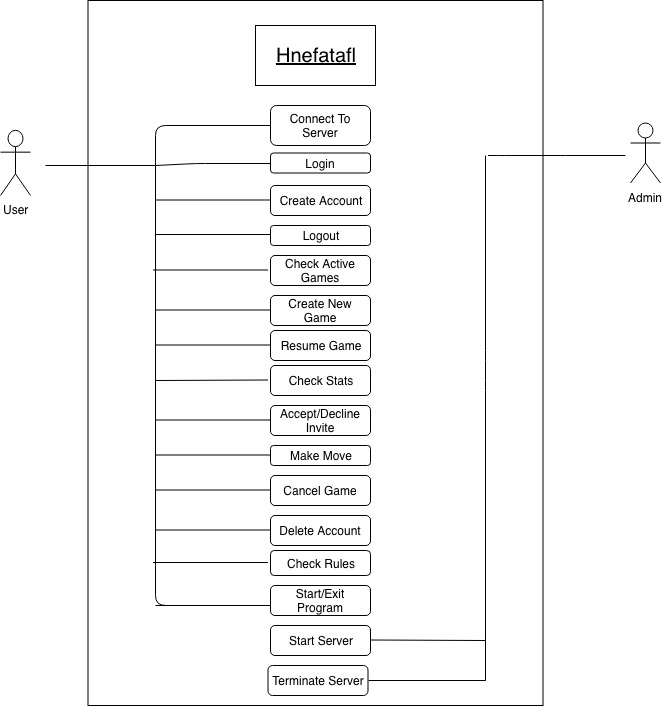
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| Use Case ID | 15 | |
| Use Case Name | Accept/decline invitation | |
| Overview | User receives and responds to an invite to a game | |
| Type | Primary | |
| Actors | User [Initiator, Primary] | |
| Properties | Performance |  |
| Security |  |
| Other |  |
| Pre-conditions | User is connected and logged in. Another player requested a new game by inviting the User (use case 8) | |
| Flow | Main Flow:   1. User receives a notification that they have been invited to a game 2. User accepts invite 3. Invitation is still valid (no other player has accepted the games invitation) 4. User joins game | |
| 2a User declines invite  2a1 User does not join game – return to main menu  3a Invitation is no longer valid (another player has accepted the games invitation)  3a1 Notify user that the game has already been created with another player and the invitation is no longer valid  3a2 User does not join game – return to main menu | |
|
| Post-conditions | If user is first to accept then player joins game. Otherwise, invitation is invalid and player does not join game. | |
| Cross references | Server is running (1),User is logged on(4), Create new game(8) | |

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| Use Case ID | 16 | |
| Use Case Name | Check Stats | |
| Overview | User can check their historical game statistics | |
| Type | Primary | |
| Actors | User [Initiator, Primary] | |
| Properties | Performance |  |
| Security |  |
| Other |  |
| Pre-conditions | Server is running, the 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, game records, and sort/manipulate the page 3. User can view other players stats by clicking on their profile (located in a game record) | |
| 2a User has not played any games and all stats are 0/Null | |
|
| Post-conditions | User is shown their stats | |
| Cross references | Server is running (1),User is logged on(4) | |

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| Use Case ID | 17 |
| Use Case Name | Delete Account |
| Overview | User can delete their account from the game |
| Type | Primary |
| Actors | User [Initiator, Primary] |
| Properties | Performance |
|  | Security |
|  | Other |
| Pre-conditions | Server is running, the User has an account and is currently logged in |
| Flow | Main Flow:   1. User requests account deletion 2. User is prompted with what all that entails (all user data will be lost) 3. User confirms account deletion |
|  | 3a User does not confirm account deletion  3a1 Nothing happens, Return to main menu |
| Post-conditions | Users account credentials are removed from the system and user data is deleted |
| Cross references | Server is running (1),User is logged on(4) |

**New Use Case Diagram**

* **Relationships between actors are now undirected**
* **Removed unnecessary relationships between actors**



**Old Use Case Diagram**

