Project 1 Documentation

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1 Chess Nuts (v1.0)

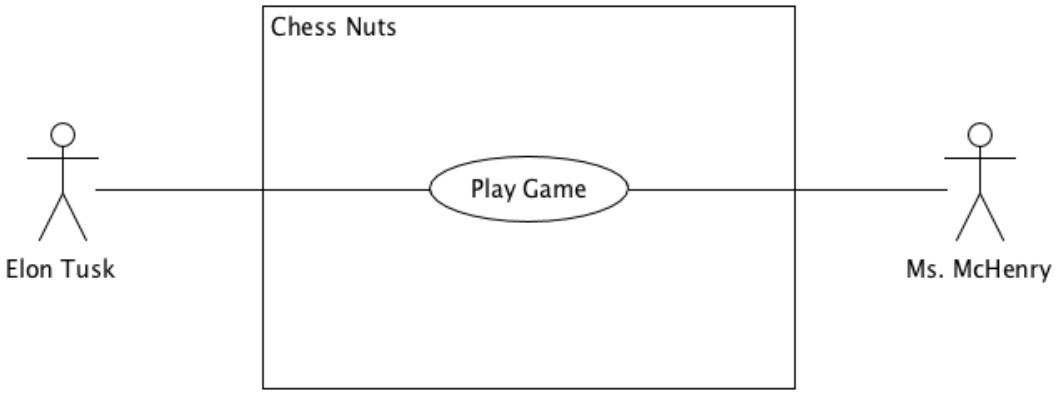

Figure 1: Use Case Diagram 1

Sytem Description

The system description in this analysis consist of software program that allows two human players to play a game of Chess electronically on either Mac, Windows, or Linux. Outside the system there is Elon Tusk(Player 1) and Ms. Kayla McHenry(Player 2). Both Elon and Kayla our the external Initiators for the Chess Nuts system. Inside the system we have the Chess Game software that is initiated by pressing the Play Game button.

Actor's

1. *Elon Tusk*:
   Mr. Tusk is a avid chess fan, who wants to play chest with friends on his computer and excited to use our system.
2. *Ms. McHenry*:
   Ms. McHenry is a master chess player and excited to play this new electronic chess game.

Use Case Scenarios

1. Use Case 1: **Play Game**
   1.) Elon presses the Play Game button
   2.) System Initializes chess board and displays board
   3.) Elon Tusk click black piece to move

4.) System recognizes click on piece and waits for another click
5.) Elon Tusk clicks on empty space for horse piece
6.) System checks that move is valid
7.) System moves horse piece to that location
8.) System displays that its player 2's turn now
9.) Ms. McHentry clicks on white piece to move
10.) System recognizes click on piece and waits for another click
11.) Ms. McHenry clicks on empty space for pawn
12.) System checks that move is valid
13.) Elon Tusk and Ms. McHenry continue this process of moving pieces until at checkmate
14.) System continues to recognizes pieces moving on board and updating board
15.) Elon Tusk moves black queen to tile where white king is located
16.) System recognizes this move and removes white king replacing it with black queen piece
17.) Ms. McHenry has no more moves since just lost the game
18.) System displays who won the game and game ends

2 Chess Nuts `(v 2.0)`

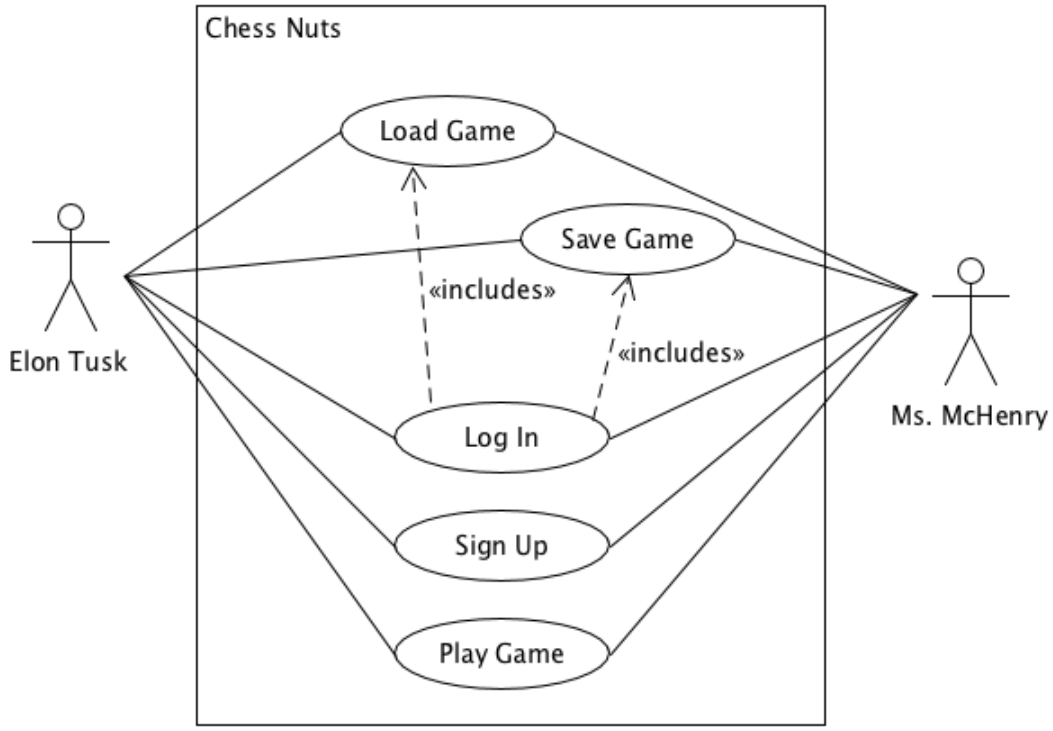

Figure 2: Use Case Diagram 2

System Description Boundary

The system description in this analysis consist of software program that allows two human players to play a game of Chess electronically on either Mac, Windows, or Linux. Outside the system there is Elon

Tusk(Player 1) and Ms. Kayla McHenry(Player 2). Both Elon and Kayla our the external Initiators for the Chess Nuts system.

Inside the system we have the Chess Game software that is initiated by pressing the Play Game button. In this Chess Nuts version 2.0 a Load Game, Save Game, Login, and Sign Up features have been added. We now have our own server side code that handles the database to store user account information as well as authentication. Each user will now be able to save a chess game to player it later by loading the game back up. This feature can only happen when a player is logged in. Now when Play Game will start where the currently loaded board is at.

Actor's

1. *Elon Tusk*:

   Mr. Tusk is a avid chess fan, who wants to play chest with friends on his computer and excited to use our system.

2. *Ms. McHenry*:

   Ms. McHenry is a master chess player and excited to play this new electronic chess game.

Use Case Scenarios

1. Use Case 1: **Play Game**
   1.) Use case scenario described in Chess Nuts version 1.0

2. Use Case 2: **Save Game**
   1.) Elon Tusk clicks on Save Game button
   2.) System Checks that Elon Tusk is logged in and saves game
      2.1 System recognizes Elon is not logged in and request him to log in
      2.2 Elon Tusk then enters username and password to login
      2.3 System validates user credentials and saves the game
   3.) User exits out of game

3. Use Case 3 **Load Game**
   1.) Elon Tusk clicks on Load Game button
   2.) System validates that Elon is logged in
   3.) System displays list of games saved on Elon's account
   4.) Elon clicks on game to be loaded
   5.) System displays yes/no GUI question if Elon is sure about loading game that was clicked
   6.) Elon clicks yes button
      6.1 Elon clicks No button
      6.2 System takes GUI off screen
      6.3 System returns to use case step 3
   7.) System takes GUI off screen
   8.) System loads the chosen game and displays game

4. Use Case 4. **Log In**
   1.) Ms. McHenry clicks on Log In button
   2.) System displays login GUI
   3.) System request username and password from user
   4.) Ms. McHenry enters username and password
   5.) Ms. McHenry clicks submit button or presses Enter on Keyboard
   6.) System validates user credentials by checking database
      5.1 System can't find username or password is incorrect

5.2 System displays to user that incorrect username or password was entered
5.3 Ms. McHenry enters different password
5.4 System finds user and validates username/password
7.) System logs Ms.Henry into her account and displays game screen

5. Use Case 5. **Sign Up**
1.) Elon Tusk clicks on sign up button
2.) System displays Sign Up GUI
3.) Elon Tusk enters first and last name
4.) Elon Tusk enters email address as username
5.) Elon Tusk enters password
6.) Elon Tusk clicks submit button
7.) System validates that all fields were filled in correctly
7.1 System catches that Elon Tusk left a field empty
7.2 System displays red text under field that was empty that need to fill in
7.3 Elon Tusk fills in empty field correctly
7.4 System validates all fields were filled correctly
8.) System creates account for Elon Tusk and updates database
9.) System updates game screen as logged in

3 Chess Nuts `(v 3.0)`

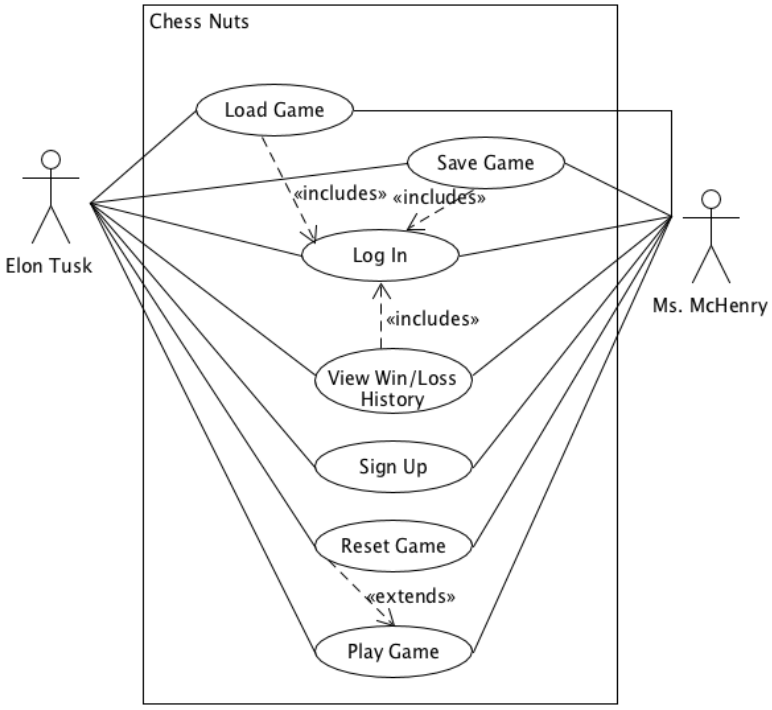

Figure 3: Use Case Diagram 3

Sytem Description

The system description in this analysis consist of software program that allows two human players to play a game of Chess electronically on either Mac, Windows, or Linux. Outside the system there is Elon Tusk(Player 1) and Ms. Kayla McHenry(Player 2). Both Elon and Kayla our the external Initiators for the Chess Nuts system.

Inside the system we have the Chess Game software that is initiated by pressing the Play Game button. In this Chess Nuts version 3.0 we still have Load Game, Save Game, Login, and Sign Up features which were added in version 2.0. We will still have our own server side code that handles the database to store user account information as well as authentication. Each user will now be able to save a chess game and play it later by loading the game back up. This feature can only happen when a player is logged in. Now when Play Game is pressed it will start where the currently loaded board is at. With Chess Nuts version 3.0 out now players will be able view there win loss record. The system will keep track of anytime a game is won or loss as long as the Player is logged in to there account. Reset Game is also another feature that has been added which happens when the Player initiates by pressing the Reset Game button. This allows the user to just restart the game when ever they please and don't have to restart the client or finish the game before starting a new one.

Actor's

1. *Elon Tusk*:

   Mr. Tusk is a avid chess fan, who wants to play chest with friends on his computer and excited to use our system.

2. *Ms. McHenry*:

   Ms. McHenry is a master chess player and excited to play this new electronic chess game.

Use Case Scenario's

1. Use Case 1: **Play Game**

   Use case scenario described in Chess Nuts version 1.0

2. Use Case 2: **Save Game**

   Use case scenario described in Chess Nuts version 2.0

3. Use Case 3: **Load Game**

   Use case scenario described in Chess Nuts version 2.0

4. Use Case 4: **Log In**

   Use case scenario described in Chess Nuts version 2.0

5. Use Case 5: **Sign Up**

   Use case scenario described in Chess Nuts version 2.0

6. Use Case 6: **View Win/Loss History**

   1.) Ms. McHenry clicks on Win/Loss History button

   2.) System validates that Ms. McHenry is logged in

   2.1 System recognizes Ms. McHenry is not logged in and request her to log in

   2.2 Ms. McHenry then enters username and password to login

   2.3 System validates user credentials

   3.) System fetches wins and losses from database

   4.) System displays wins and losses

7. Use Case 7: **Reset Game**

   1.) Elon Musk and Ms. McHenry want to start current game over.

   2.) Elon Musk clicks Reset Game button.

   3.) System displays yes/no confirmation GUI to reset the game.

4.) Elon Musk clicks yes button.
    4.1 Elon Musk clicks No button
    4.2 System removes GUI from screen
    4.3 System returns to game screen
5.) System re-initializes board which starts game over and puts pieces back to starting locations.