BRD Document
Chess Giant Business Requirement Document, Evelyn Djoewanda, 04/25/2024
Background <Why is this being written? I.e., what is the current state?
Jim Sotheby is a master chess player and entrepreneur. He has a vision of having chess players play against each other online, and he can monetize this new venture while fulfilling one of his lifelong hobbies.
Goal(s) <List the goal of this project>
Create a platform where master level chess players can play each other.

Objectives <list the objectives>

1. **Build a site that supports up to 100,000 master-level players.**
2. **Build an easy-to-use user interface site.**
3. **The site must go live in 12 months.**
4. **This site should support up to 10,000 concurrent users on its launch and can scale to 1 million users.**
5. **Build a site that is scalable to support up to 1 million players.**
6. This site should respond within an industry standard of ~3 seconds.

Scope <List scope items (features)>

1. **The site must allow users to search for players to have a match with.**
2. **The site will keep users' game wins and losses.**
3. **The site will allow users to create usernames and passwords.**
4. **This site will allow users to make payments for their memberships.**
5. **This site should have a secure checkout process.**
6. **This site will allow users to play multiple one-time games.**
7. **This site will retrieve the player's rating from USchess.org.**

8. **This site shall allow users to record their wins and losses.**

9. **The system shall allow an administrator to revoke and suspend disruptive players.**

10. **The site will allow users to post about their recent games on a forum.**

11. This site will allow users to post comments after a game is completed.

Risks <list off project risks>

1. Our developers may not have the prior knowledge and experience to build a site and prior knowledge about chess. This project may require additional resources, such as hiring a consultant or experts. It will increase the budget and extend the timeline.

2. A system of this type has never been built before. It is not confirmed if the servers can hold the volume of players and the data the site requires. This project may require additional hardware or software to support the system. It would extend the budget and the timeline.

3. This site may prove difficult to implement some advanced functionalities by the anticipated initial launch date, such as retrieving players' ratings from USchess.org, finding players online or from the list to compete with, keeping a history of players' movements and matches, etc. These functionalities may extend the project timeline and expand the current project scope.

4. It is not confirmed that the site can be scaled to meet players' needs. It will affect the budget and timeline.

5. Jim, the only chess expert in the company, has limited time to meet with the IT team to work on the project. It will affect the timeline and scope of the project.
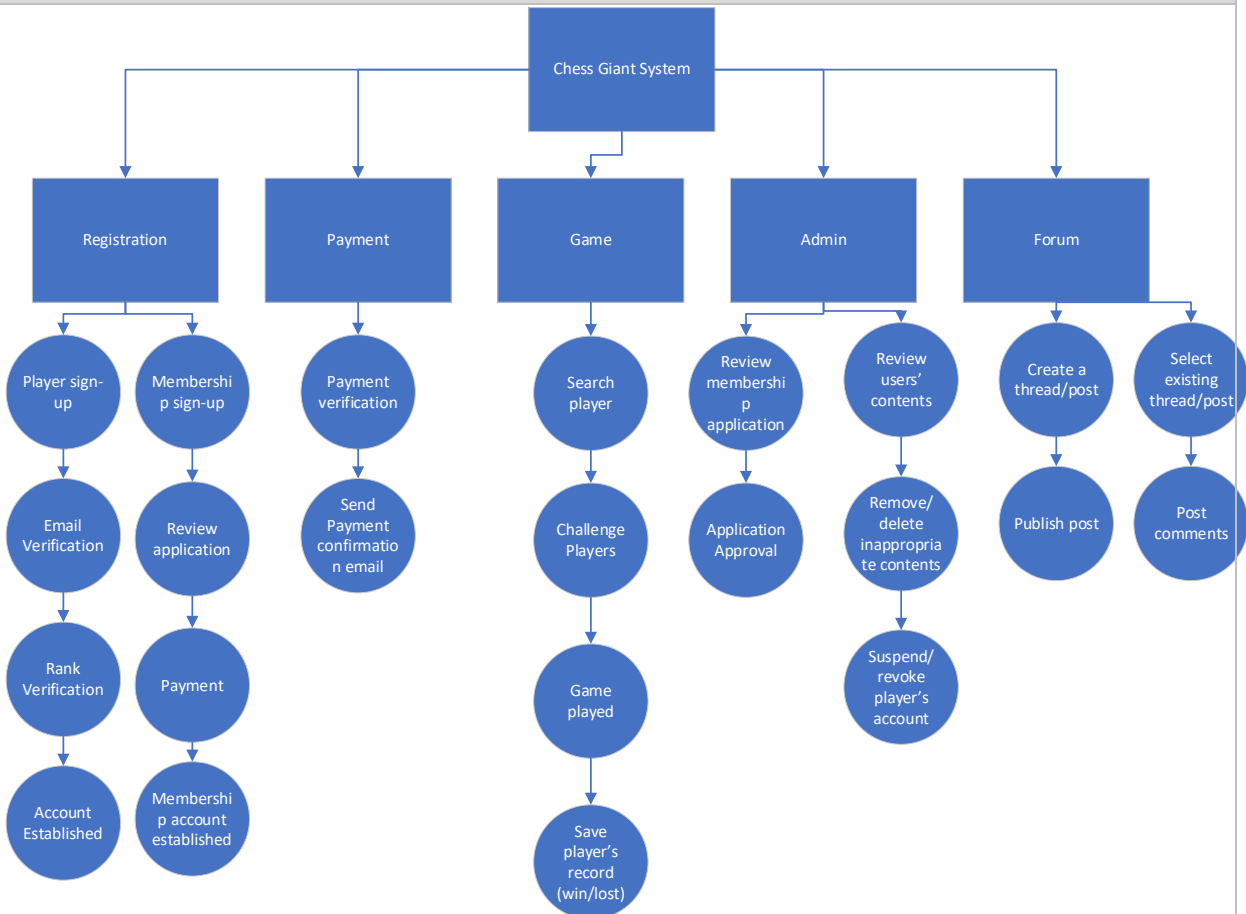
Constraints <List constraints as they relate to the triple constraint>

1. The site must go live within twelve months.
2. The budget is limited to $500,000.
3. The scope is fixed and cannot be cut.

Out of Scope <List items that will not be in scope for this release>

1. **The system will not allow users to sign up for a free trial.**

2. **The site will not allow users to send email to players on the list to play a game with.**

3. **This site will not allow users to play in tournaments.**

4. **The system will not post the top 10 players on the site.**

5. The site will not record the player's movements in each game.

Decomposition

Functional Requirements

1.0 Registration

    1.1 Players Sign Up

        1.1.1   The system shall allow users to sign up for a Chess Giant account with a valid email address.

        1.1.2   The system shall allow users to enter the profile information.

    1.2 Email Verification

        1.2.1   The system shall verify the users' email registered for the account.

1.2.2   The system will send a notification email to users once the email is verified.

1.3 Player's rank verification

     1.3.1   The system shall verify users' ratings by retrieving information through USchess.org.

     1.3.2   The system shall accept users with a chess rating of 2200 or higher.

1.4 Account Established

     1.4.1   The system will create an account for users after the email is verified.

     1.4.2   The system shall recommend signing up for membership once the account is established.

1.5 Chess Giant Membership Sign Up

     1.5.1   The system will allow users with a chess rating of 2200 or higher to sign up for Chess Giant Membership.

1.6 Review Membership Application

     1.6.1   The system will require an administrator to approve or deny users' membership requests.

1.7 Payment

     1.7.1   [Payments]

1.8 Membership Account Established

     1.8.1   The system shall provide a membership account for users whose accounts are approved by the administrator.

2.0 Payment

     2.1 Payment Verification

        2.1.1   The system will allow customers to make a payment.

        2.1.2   The system will verify customers' payment method (credit card/PayPal/gift card/etc.).

        2.1.3   The system shall store customers' payment information on their accounts.

     2.2 Send Payment Confirmation Email

        2.2.1   The system will send a payment confirmation email once payment is established.

3.0 Game

    3.1 Search Player

        3.1.1   The system will allow players to search for players based on their usernames or names.

        3.1.2   The system shall allow players to search for players who are online on the site to play a game with.

    3.2 Challenge Player

        3.2.1   The system will allow players to send a game invite (challenge) to other players.

        3.2.2   The system shall allow players to challenge players with any rankings (higher or lower than themselves).

        3.2.3   The system shall create game pairings once other players accept the challenge requests.

    3.3 Game Played

        3.3.1   The system will allow players to play multiple rounds.

        3.3.2   The system shall have time control.

        3.3.3   The system shall allow players to have a rematch.

    3.4 Save Player's win/losses

        3.4.1   The system will calculate the players' scores.

        3.4.2   The system will save players' records of winning and losing.

4.0 Admin

    4.1 Review Membership Application

        4.1.1   The system will require an administrator to review players' membership request**s**.

        4.1.2   The system will allow the administrator to verify players' ranking.

        4.1.3   The system will allow the administrator to request more documents or information from players to verify their membership.

    4.2 Application Approval

        4.2.1   The system will allow the administrator to approve players' membership accounts once information is verified.

4.2.2   The system shall notify players if their membership requests are approved.

4.3 Review Users' Contents

     4.3.1   The system will allow the administrator to review players' content on the forum.

     4.3.2   The system shall allow the administrator to mark players' disruptive contents.

     4.3.3   The system shall send a warning notification if players post disruptive comments.

4.4 Remove/delete Inappropriate Contents

     4.4.1   The system shall allow the administrator to remove or delete inappropriate or disruptive content from the forum.

4.5 Suspend/Revoke Player's Account

     4.5.1   The system shall allow the administrator to suspend players.

     4.5.2   The system shall allow the administrator to revoke disruptive players' accounts.

5.0 Forum

5.1 Create a Thread/Post

     5.1.1   The system shall allow players to create a new thread/post to share ideas or about their games.

     5.1.2   The system shall allow players to post a new thread if an existing thread does not exist.

5.2 Publish Post

     5.2.1   The system will publish posts submitted by players on Chess Giant's forum page**.**

5.3 Select Existing Thread/Post

     5.3.1   The system will allow players to select existing threads/posts to comment on.

5.4 Post Comments

     5.4.1   The system will allow players to post comments on existing threads/posts on the forum that they choose from.

Non Functional Requirements

1.0 Storage

      1.1 The system shall require 500 gigs of storage.

2.0 Performance

      2.1 The system shall respond within 3-5 seconds.

3.0 Serviceabilit**y**

      3.1 The system shall retrieve data from uschess.org about players' chess ranks.

4.0 Recovery

      4.1 The system shall have disk mirroring.

      4.2 The system shall have a hot backup site.

5.0 Security

      5.1 The system shall deploy SSL.

      5.2 The system will encrypt all players' data.

      5.3 The system shall integrate with well-established payment gateways, e.g., PayPal, Stripe, etc.