Software Requirements Specification

For

Online Sports organizing and Management system

Development Team (Alphabetical Order)

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1. Introduction

1.1 Purpose

This document is the software requirement specification for Online Sports Organizing and Management System. The purpose of this document is to collect and analyze all the ideas and concepts regarding the functionality of the Online Sports Organizing and Management System. At the same time, this document will define the system, its requirements with respect to the users and the stakeholders, while it will describe the product, its parameters and goals. Different audiences and their experiences will be emphasized. In this way, designers and developers will understand and realize what this tool should provide to the users who are interested in various sports, teams or look for an opportunity to play.

Generally, the main objective of Online Sports Organizing and Management System is the enhancement of an existing (system-as-is) Online Sports Management system. The experience and satisfaction of the users will be strengthened by using the system-to-be which is described in detail in this document.

1.2 Intended Audience

This requirement document will be useful for individuals who are involved in developing components for organizing sports, people who are involved in managing Sports Events, people who are planning to implement a Event Management System for their Sports Event and any other person who need a higher level abstraction of the Sport Event Management System. This document will be the foundation stone for the designers and developers to assist in the software process.

1.3 Scope of the System

The system will be covering the following perspectives:

1. For individuals :

   a) Finding a team to play with.

   b) Information about nearby sports events on regular basis.

   c) Notification and updates from the team.

2. For teams :

   a) Finding leagues and tournaments to play in.

b) Managing players or team officials.

c) Updating players.

d) Scheduling team events.

3. From organizations end they have following issues:

   a) Finding teams to play.

   b) Managing the participants.

   c) Scheduling the events.

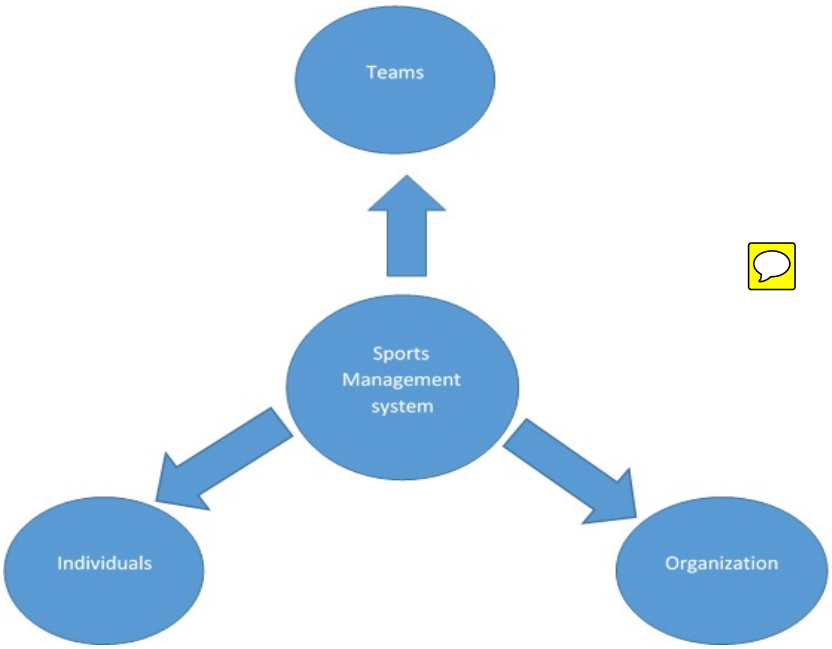
   d) Managing financial transactions.

   e) Managing scoreboards.

The aim of the project is to provide software that will improve the efficiency, reduce cost and time associated with planning and management of a particular sports event. By u[illegible]f this system, people including decision makers, organizers, managers, players, officials, officers, m[illegible]a and fans are directly benefited. Additionally, there can be many other indirect advantages.

It is important also to note here, that this system has good effect not only for the organizing of large events but also for small events as well. Generally, this system will support the promotion, management and marketing of sport events.

Context Diagram :



Users of the system

2. Overall Description

2.1 Product Features

Main features of the product can be listed as below.

1. **Control access to resources information –**
   System will control the access to resource information and it will ensure the system security by giving different access levels to different user groups.

2. **Event scheduling –**
   System will generate the schedule automatically.

3. **Score live update –**
   System will publish live scores though World Wide Web and give interfaces to access data to registered media

4. **Customization –**
   The system will keep track of the user's desired sports and location and customize the results accordingly

5. **Navigation –**
   The system will help individual or team or organization in finding the route to the exact locations where the games are being conducted or played.

6. **Updates –**
   The system will provide the users who are logged in with live updates on the tournaments being conducted or the scores of the games being played.

7. **Live Feeds –**
   The live feed of the games are also provided for the registered users.

2.2 User Classes and Basic Characteristics

There are three different types of users who are involved in the proposed product.

1. Individual users

Individuals are users who would like to use the system, because they want to either find an event or their team news and updates.

2. Teams

Teams are users who take part in a specific team or exercise a specific sport. By using this system they will be able to find tournaments and league so as their team to take part in.

3. Organizations

Organizations are users who want to organize events, tournaments or leagues, and find teams or athletes via this system.

All the above specified users should know some amount of English and the basics of operating a computer and should be familiar with the Internet and any web browser like Google Chrome.MS Internet Explorer, Mozilla FireFox.

2.3 Design and Implementation Constraints

- There should be Internet connection.
- A server should be used.
- The performance should handle any expected traffic.
- The computers used for the access of the proposed system should have installed; MS Internet Explorer 5.0 or higher or Mozilla Firefox 1.0 or higher.
- The system to be implemented will be compatible and accessible via MS Internet Explorer 5.0 or higher or Mozilla Firefox 1.0 or higher.
- The system should have a well-designed and maintained database.
- The database should be updated as soon as a new update is input in the system.
- Should be compatible on any device.

2.4 Assumptions, Dependencies and Guidelines

- The user/team/organization agrees to store the data in system.
- This system will require network access to search for the specified location and desired sport events.
- The system assumes that the users have skill to operate computers and navigate through the software.
- The server assumes it will be installed with a high-speed Internet connection so that the users can communicate with each other.
- The system assumes that the user has a computer that is networked.
- Code is kept clean and simple for future upgrades and maintenance.

3 System Overview

- This system is a 3rd party Online portal that provides information about various sports activities ,events and the teams/leagues associated with different categories of sports.
- The system provides credentials to users/teams and organizations to log in to the system.
- The details needed to sign up to this portal are different for users, teams and organizations. But, for logging in to the system just the username and password is needed.
- The users search for nearby teams and events in the search engine by giving his or her zip code / location name and desired sport as input.
- For connecting the users/teams, the user or teams will be able to chat with each other in the chat box, the user can contact the team so that he/she can join their team.
- The users should be notified periodically about the team information.
- The organization will schedule the different sport events and the list of teams participating in the events.
- The results will be given such that they are matching to the inputs given in the search engine, the user should be able to view the exact location of the games/tournaments on a map.

4. External Interface Requirements

Software Interfaces

Connection to shared resources like databases should be done using the libraries provide in the core of the system. Also each module can have its own library functions which are specific to that module. Module developers should user provided libraries to develop their modules as far as possible. Also there can be lot of web services offered by modules. These are intended of information sharing. Using these modules any stake holder (like hotel owners, transport providers, etc) can interact with the system. Also there can be any number of modules which can provide external interfaces, which can be used to interact with the system.

5. Functional Requirements

User's Profile

- The system shall allow the user to create a new password, so as to log in in the system.
- Registration by the user is required.
- The system shall allow the user to create profile and set his credential.

- The system should authenticate user credentials to view profile.
- The system should allow the user to update the profile information.
- The system shall display the history of the users profile.
- The system shall allow the user to register for newsletters, events notifications and team updates in the profile.
- The system shall allow the user to select if he is a team, or an individual, or an organization.
- The system shall maintain customer email information as a required part of customers profile.
- The system shall use the email of the customer to inform him for new events and notifications upon request of the user.
- The session information is maintained until the user/team/organization logs out.
- After users log out, the system shall disassociate the user.

Organization Users Options

- The system shall allow the user registered as an organization to select participants for its tournament/league or event.
- The system shall allow the user registered as an organization to schedule and promote the events by adding them to the system.
- The system shall allow the user registered as an organization to manage the score board.
- Every registered organization may have individual scoreboards for different teams.
- The system shall allow the user registered as an organization to manage financial operations or transactions (e.g. put a price value for an event) in collaboration with a third party.
- The users registered as "organizations" will be allowed by the system to contact the team members.

Sports Options

- The system shall display all the different sports involved.
- The system shall allow the user to select a sport.
- The system shall display detailed information for the selected sport (e.g. events, teams).
- The system shall provide browser options so as the user is able to select what exactly is looking for (e.g. events/games, teams, competitions)

Search Support

- The system shall enable the user to enter search text on the screen.
- The system shall enable the user registered as individual to search for sport games.
- The system shall enable the user registered as organization to search for teams.
- The system shall enable the user register as a team to search for league and tournaments.
- The system shall display all the matching options based on the search.
- The system shall enable the user to navigate between the search results.
- The system shall notify the user when no matching is found on the search.

Chat Support

- The system shall provide to the users to chat. Individual users/teams may talk to each other using the

Chat option.

- The system shall allow the user to show if he is online, offline, invisible or busy while he is in the system.
- Teams should be able to communicate with each other using Chat.

Customer Support

- The system shall provide online help and FAQ's customer support upon request.
- The system shall allow the user to select the support he wants.

Event Options

- The system shall inform the customer of the events (games, tournaments, leagues) details matching to his sport preference.
- For each event the system shall provide information in detail, including location, date and time.
- For each event, google maps should be opened by using a different tab to show the exact location. The users may view the location of the organization that has his/her desired sport.

6. Nonfunctional Requirements

6.1 Safety Requirements

Since the software will be freely available to use, any kind of loss, damage caused by use of the product will be a concern of the user.

6.2 Performance Requirements

- The system shall be based on web and run from a web server.
- Every function provided by the system should be quite robust without slowing down the system or annoying the users.
- If there are more request queries on the system than it can handle, system should operate without crashing by limiting number of queries.
- The product shall take initial load time depending on Internet connection strength.
- Changing menu options will require very little computation and thus will occur very quickly.
- Server updates should only take a few seconds.
- Search should take only few seconds, as there will be search in the specific database.
- System should not drag the functionalities of the more privileged users.

6.3 Security Requirements

- The system shall use secure sockets that include any confidential customer information. All the data associated with the product should be secure and only the privileged users should have the access to the data.
- The system shall automatically logout all customers after a period of inactivity.
- The system shall not leave any cookies on the customer's computer containing the user's password.
- The customer's web browser shall never display a customer's password. It shall always be echoed with special characters representing typed characters.
- Write on the data should only be provided if there are required privileges. And only read only access should be grated for users who are viewing the data.
- All the manipulation of modification should be logged in details for security auditing.

6.4 Software Quality Attributes

- System should be adaptable to every sport event which needs the functionalities provided by the system.
- All the functionalities provided by the system should be checked for correctness with test data and should guarantee that these are within required standards before use.
- The user interface for the software shall be compatible to any browser such as Internet Explorer, Mozilla or Netscape Navigator by which user can access to the system.

6.5 Interoperability

- All the functionalities in the system should adhere to international standards to improve interoperability.
- System should be used on any platform that support open technologies. Also it should be easily maintainable.

6.6 Usability of software:

- Users of the software should be able to work on the system with minimum training and higher level of comfort.
- The interface should adhere to the design conventions that allow for familiar locations of drop down menus , list, help etc.

6.7 Flexibility of Use:

- Modules developed for the system should be independent of other modules. They should be loosely coupled with the core of the system and flexible to changes.

6.8 Maintainability of software:

- The data should be backed up on a regular basis, so that in case of any major threat of data loss, the data should be secure. The data should be restored quickly in the database.
- The system shall keep a track of all the error history.
- The revision history of the code should be stored, in case of any system failure, the previous stable state of the software can be restored.

6.9 Graphical User Interface (GUI)

- The system shall provide a uniform look at the web pages.
- The different menu options will be home, sports, teams, events, search, help.
- For every option there will be a brief description.
- Additional options will be provided at each menu option when needed.
- Bootstrap will be used for intuitive, and powerful mobile first front-end framework for faster and easier web development. (http://getbootstrap.com/) It is open source an open source framework and it can be used in business projects freely! Its responsive design libraries will made our system to compatible with mobile devices so we will benefit from this. One design will work both on PCs and mobile devices.

6.10 Database and Storage

- The system shall provide storage for all the databases.
- Information of the profiles, credentials, events schedules, teams, sports should be stored.
- MySQL database will be use in this project.

7. Environmental Requirements

7.1 System Hardware Requirements

- PC 1.6 GHz or higher.
- 512 Mb RAM or higher.
- 40 GB Disc Space or higher.
- Video-Graphic Card (800 x 600) 128 Mb or more.
- Internet Access.

7.2 System Software Requirements

Software requirement to run the system:

- Microsoft Windows XP/Vista/7/8 or Linux or Mac OS X/Lion.
- Any version of Chrome, Internet Explorer, Mozilla Firefox, Opera etc.

8. Risks:

- The system is subject to some types of failure such as disk head crash , erroneous data, bad

maintenance. Keeping local copies or fragments of crucial data can be a reliable way to support the need for rapid access to data across the organizations.

- For the system to be robust, it must be able to detect a failure, and recover when a processor or link is repaired.
- Two functions are helpful:
  1) Stores and Maintains the list of the organizations, teams and the users and their respective information
  2) Maintains an appropriate
- Concurrency control scheme to ensure data integrity during the execution of teams information at that system
- It may be difficult to upgrade the application due to the complexity of the system.

9. Future Scope:

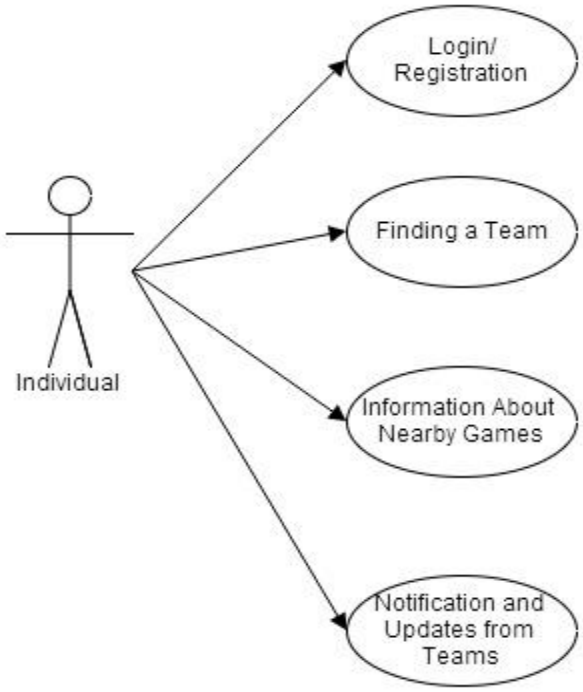
- Rating System and Forum : The users or teams can be able to rate the individual players or teams. Individual users and team players will be able to communicate openly in a forum.
- Recommendations : A recommendation system to recommend new users to join a particular sport based on the highest rating

10. Conclusion:

This document is used to give details regarding the Online Sports Organizing and Management System. In this document all the functional and non-functional requirements are specified in order to get a clear idea on developing the project.

Use Case diagrams:

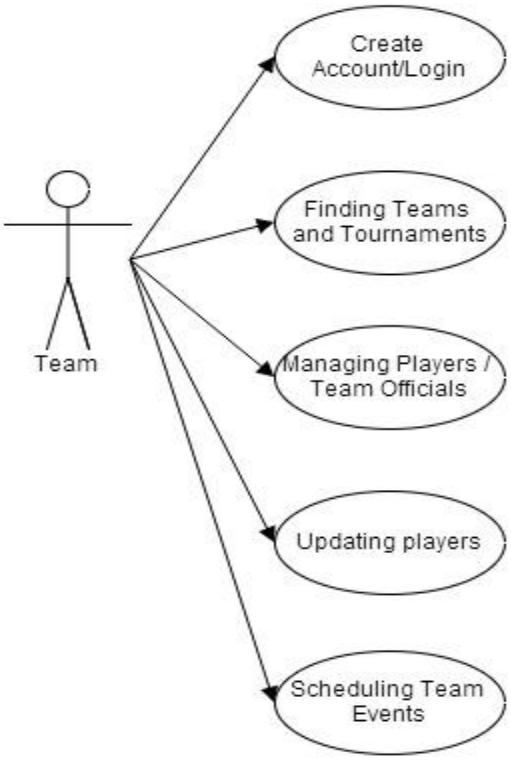
For Individual :



Use cases of the individual are as follows :

1. login/Registration
2. Finding a Team
3. Information about nearby games
4. Notification and updates from teams

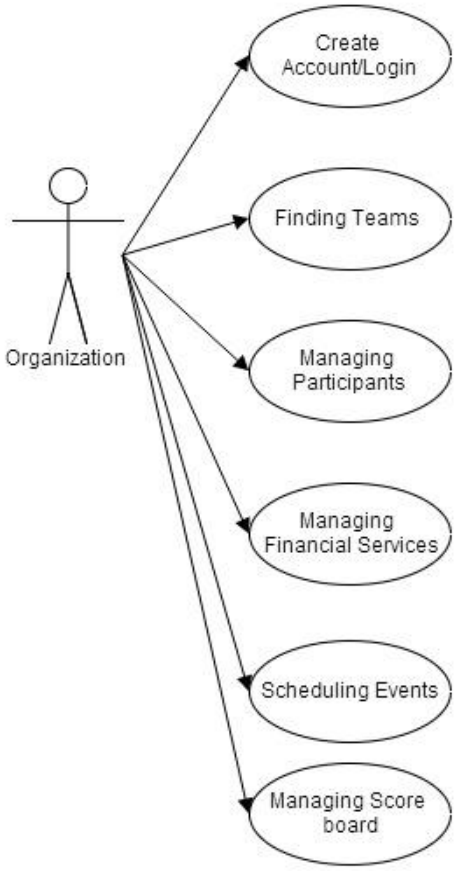
For Team :



Use Cases of the teams are as follows :

1. Create Account/login
2. Finding Teams and Tournaments
3. Managing Players / Team Officials
4. Updating players
5. Scheduling Team Events.

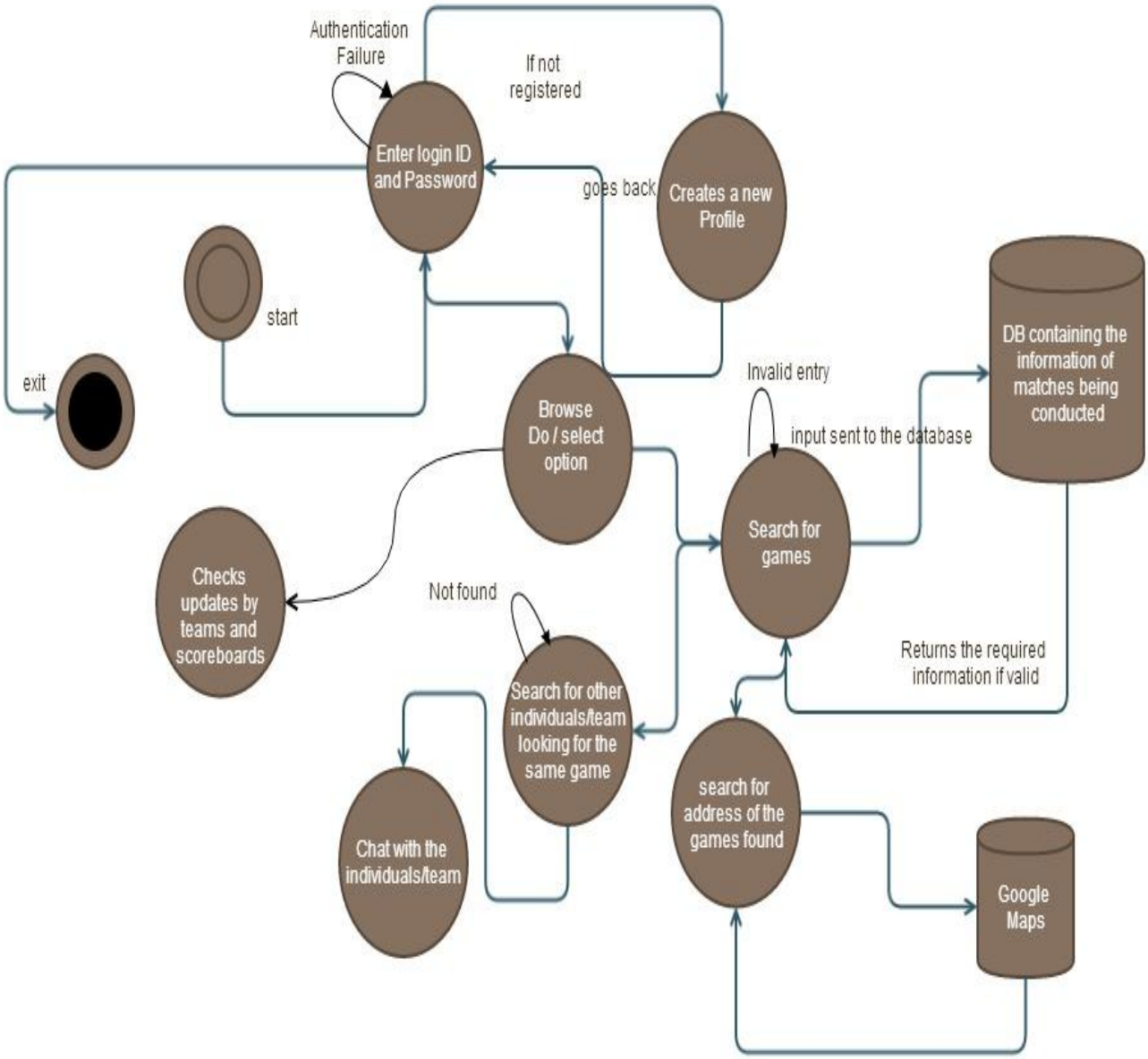
For an Organization:



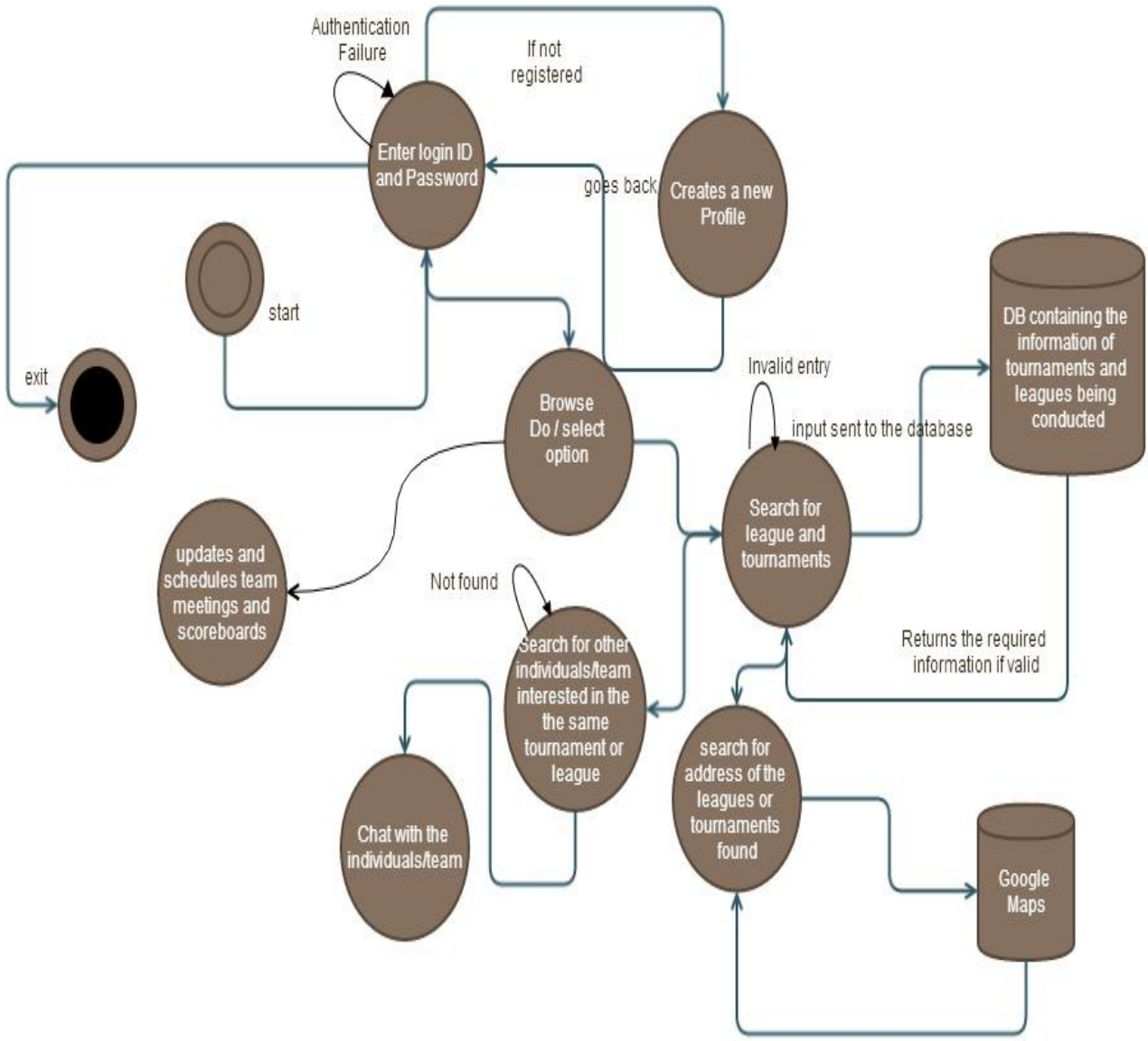
Use Cases for Organization :

1. Create Account/Login
2. Finding Teams
3. Managing Participants
4. Managing Financial Services
5. Scheduling Events
6. Managing financial services
7. Scheduling Events
8. Managing Score board

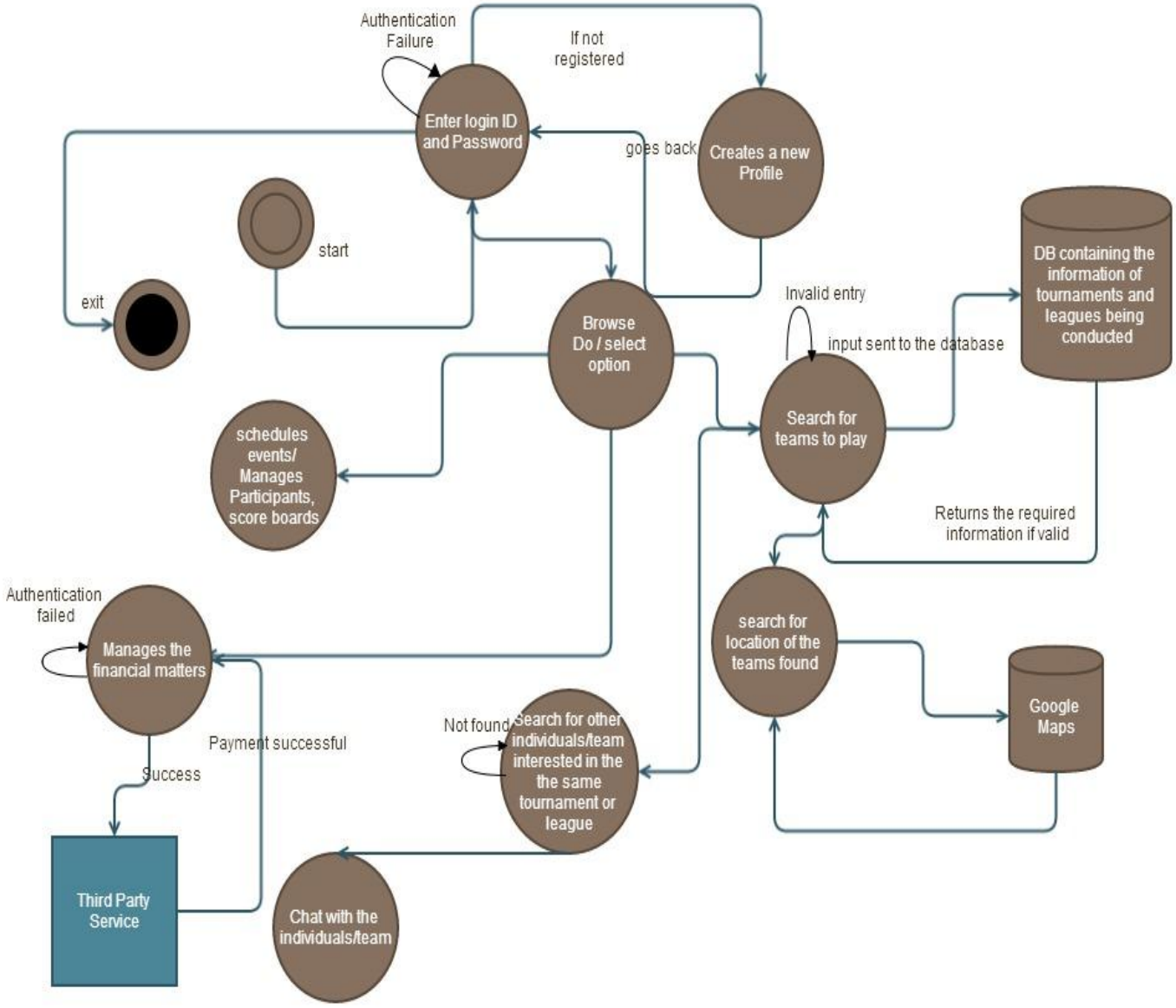
State diagram for individual:



State diagram for team:



State diagram for Organization:



Appendix: Proof of Concept

In this section, one can see how our system will look like with using Bootstrap framework. This will give an idea to stake holders, designers or developers to see if they are on the right track. This is like displaying part of the prototype of the system and showing some critical features of the system.

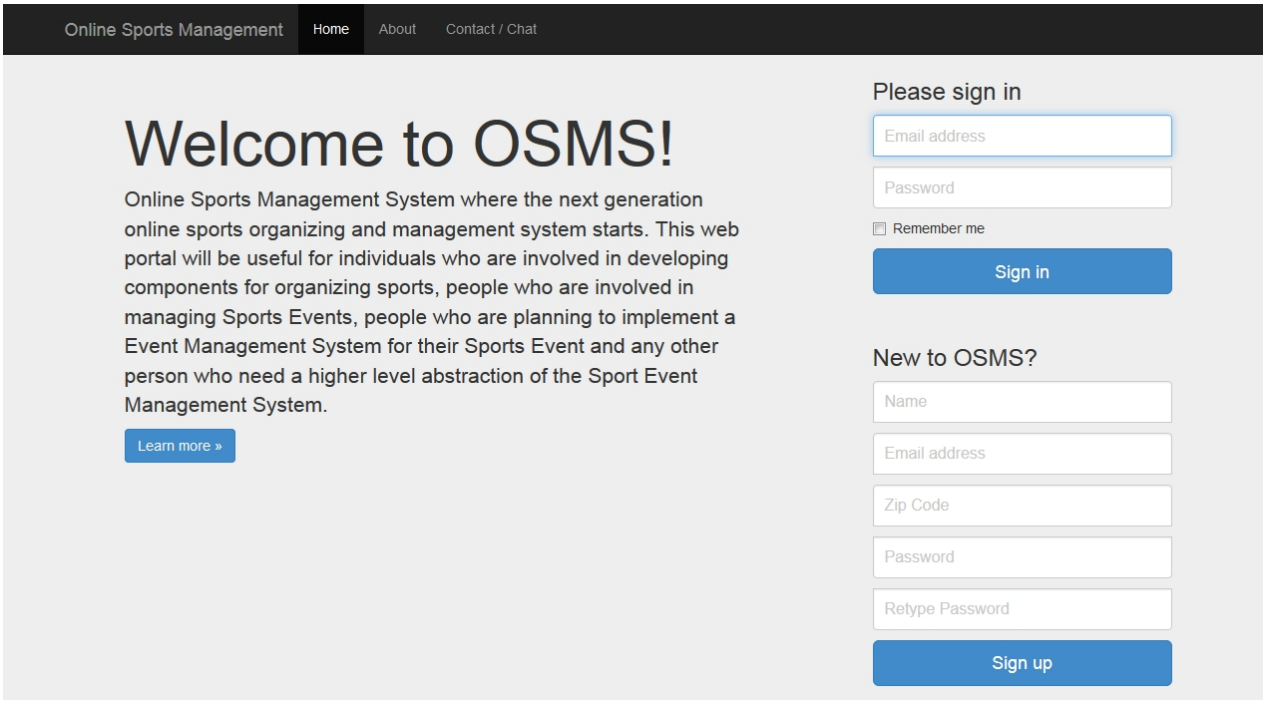


Figure shows main page of the system. User can reach chat option or can sign in or new users can sign up to our system.

Figure shows when user sign in the system he will see team information, notification and updates or nearby sports events. On the left side, user can search about teams and activities.

Figure shows the team page. It displays team related information. Left side of the menu is different than user page. On the right side of the page, one can see pop up menu related to team management options.

Proof of concept is usually small and may or may not complete, also it is not absolute so here we just prepared these pages as samples for our stakeholders to show how our systems will look like. It is a starting point to design and develop the system based on stakeholders input given proof of concept. We are basically demonstrating the feasibility of this system and to show whether our system satisfies some aspect of the purpose it was designed for. Moreover, we already implement these pages and will provide their source codes as deliverable with this report.