SOCCER FANTASY LEAGUE

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1. INTRODUCTION

There are a number of Web-based services and applications that demonstrate the foundations of the Web 2.0 concept, and they are already being used to a certain extent in education. These are not really technologies as such, but services (or user processes) built using the building blocks of the technologies and open standards that underpin the Internet and the Web. These include blogs, wikis, and multimedia sharing services, content syndication, podcasting and content tagging services. Many of these newer technologies are concatenations, i.e. they make use of existing services. Two such general categories of Web 2.0 services are:

1) Social Networking - Professional and social networking sites that facilitate meeting people, finding like minds, sharing content and uses ideas from harnessing the power of the crowd, network effect and individual production/user generated content.

2) Data 'mash-ups' - Web services that pull together data from different sources to create a new service (i.e. aggregation and recombination). It uses, for example, ideas from data on epic scale and openness of data. Also used to collect and aggregate user data, user attention (what you look at) and their intentions. It uses ideas from the architecture of participation and power of the crowd.

Our project is one such application that aims at combining these two general categories of web services into one application.

2. MOTIVATION

With the advent of what is popularly called Web 2.0 concept, social networking sites and games have become more common. These aim at increasing the interactions between users on a global scale. Interaction games such as Second Life and Super selector for cricket have brought together users from all over the world and allow them to exchange ideas on a common platform while providing entertainment. Second Life® is a 3-D virtual world created by its Residents. Since opening to the public in 2003, it has grown explosively and today is inhabited by millions of Residents from around the globe.

Super Selector is again an online interactive game where users are allowed to create fictional teams and try to make their team win. The team is judged based on the performance of players in the real world. Mashups have become really popular in aggregating the data provided by different services and integrating them.

Google Maps integrated into web apps, sites like http://www.housingmaps.com/ and others combine data from different sources and integrate them into their own system using different APIs. Services such as these have motivated our project of developing a social networking web application game that aims at capturing the interest of global users and allowing them to interact with each other facilitating an exchange of knowledge and information. Our main objective is to design a fantasy soccer league that opens users to the idea of creating their own team with their favorite players, manage their team and use it to win as many points as possible while interacting with other such users over the net.

3. ARCHITECTURE

3.1 THREE LAYER ARCHITECTURE

1) PRESENTATION LAYER

2) BUSINESS LAYER

3) DATABASE
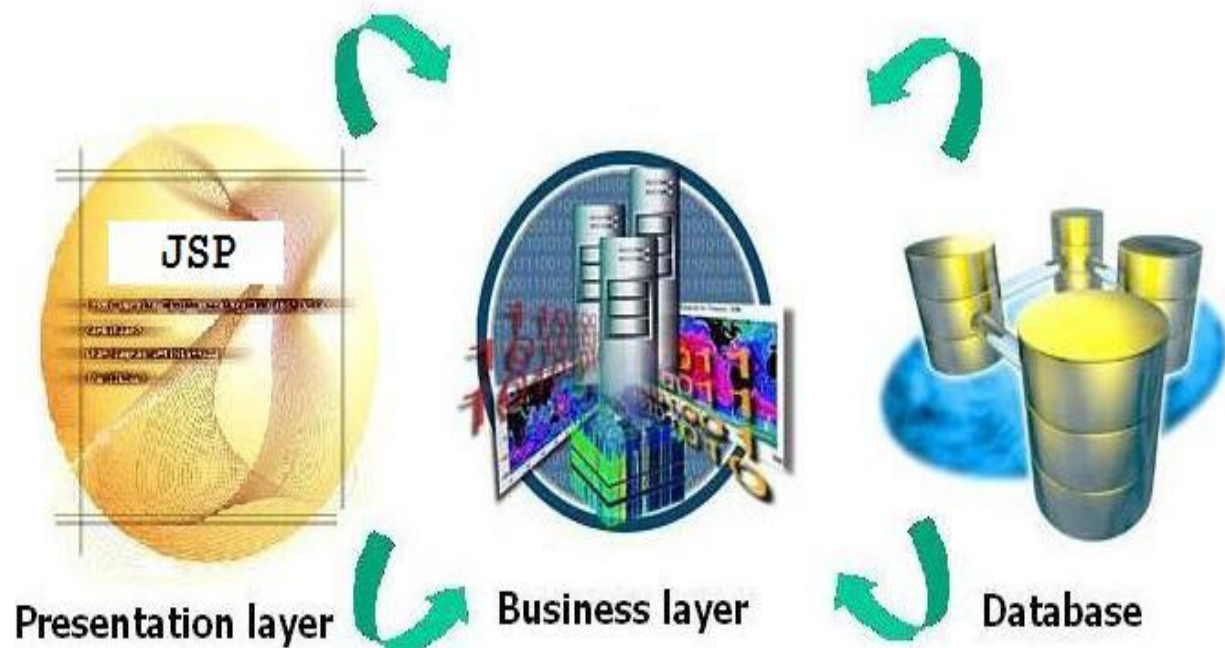
4. TECHNICAL DETAILS

4.1 The Net Beans IDE

The Net Beans IDE is an open-source integrated development environment written entirely in Java using the Net Beans Platform. The Net Beans Platform is a reusable framework for simplifying the development of other desktop applications. Net Beans contains all the modules needed for Java development in a single download, allowing the user to start working immediately. Modules also allow Net Beans to be extended.

4.2 Apache Tomcat

Apache Tomcat is a web container, or application server developed at the Apache Software Foundation (ASF). Tomcat implements the Java Servlet and the JavaServer Pages (JSP) specifications from Sun Microsystems, providing an environment for Java code to run in cooperation with a web server. It adds tools for configuration and management but can also be configured by editing configuration files that are normally XML -formatted.

4.3 JSP

Java Server Pages (JSP) is a Java technology that allows software developers to dynamically generate HTML, XML or other types of documents in response to a Web client request. The technology allows Java code and certain pre-defined actions to be embedded into static content. The JSP syntax adds additional XML-like tags, called JSP actions, to be used to invoke built-in functionality.

JSP does not give anything that you couldn't in principle do with a servlets. By separating the look from the content you can put different people on different tasks: your Web page design experts can build the HTML, leaving places for the servlet programmers to insert the dynamic content.

4.4 Microsoft Access

Microsoft Access is a relational database management system from Microsoft which combines the relational Microsoft Jet Database Engine with a graphical user interface and software development tools. Access can use data stored in Access/Jet, Microsoft SQL Server, Oracle or any ODBC -compliant data container.

Access is used by small businesses, within departments of large corporations, to create ad hoc customized desktop systems for handling the creation and manipulation of data. It can be used for rapid application development, especially for the creation of prototypes and standalone applications that serve as tools for on-the-road salesmen.

5. IMPLEMENTATION AND SCREENSHOTS

5.1 MODULE 1 (THE GAME)

This module represents the gaming application. It can be played by anyone and anywhere in the world since all it needs is a browser to run. This game is simulated upon the games played in the Barclays Premier League (BPL). The main flow of this module is that a new users registers with the system and he is then asked to login to the system.
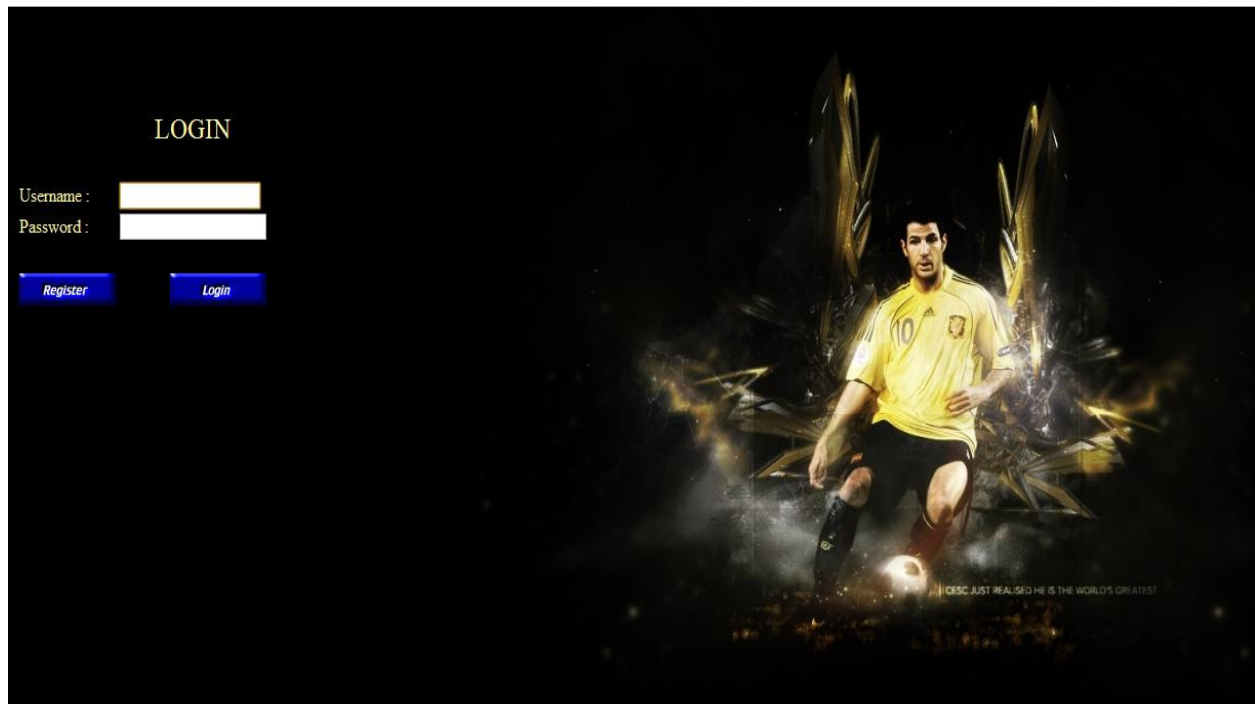

Every user is allowed to create a single team and depending upon how well a contestant manages his team, a winner will be decided. Each player (who plays in the BPL) is assigned a worth which will be a representation of his talent. Each contestant can choose players up to 100 points in a team that consists of 11 players. Each player comes in with a reputation but it does not take him a long time to lose it. One bad month, and he could see his reputation take a hit. Also this prevents each contestant choosing the best players available and forces them to choose wisely.

Each week the scores of all the players are updated and hence the contestant can see how well their team has performed in that week. The game is refreshed every month allowing new players to join whenever they want and a player who has been playing for a long time would have no advantages. For the assistance of each player, there are 11 substitutions available over the course of the month thus team changes can be made anytime.
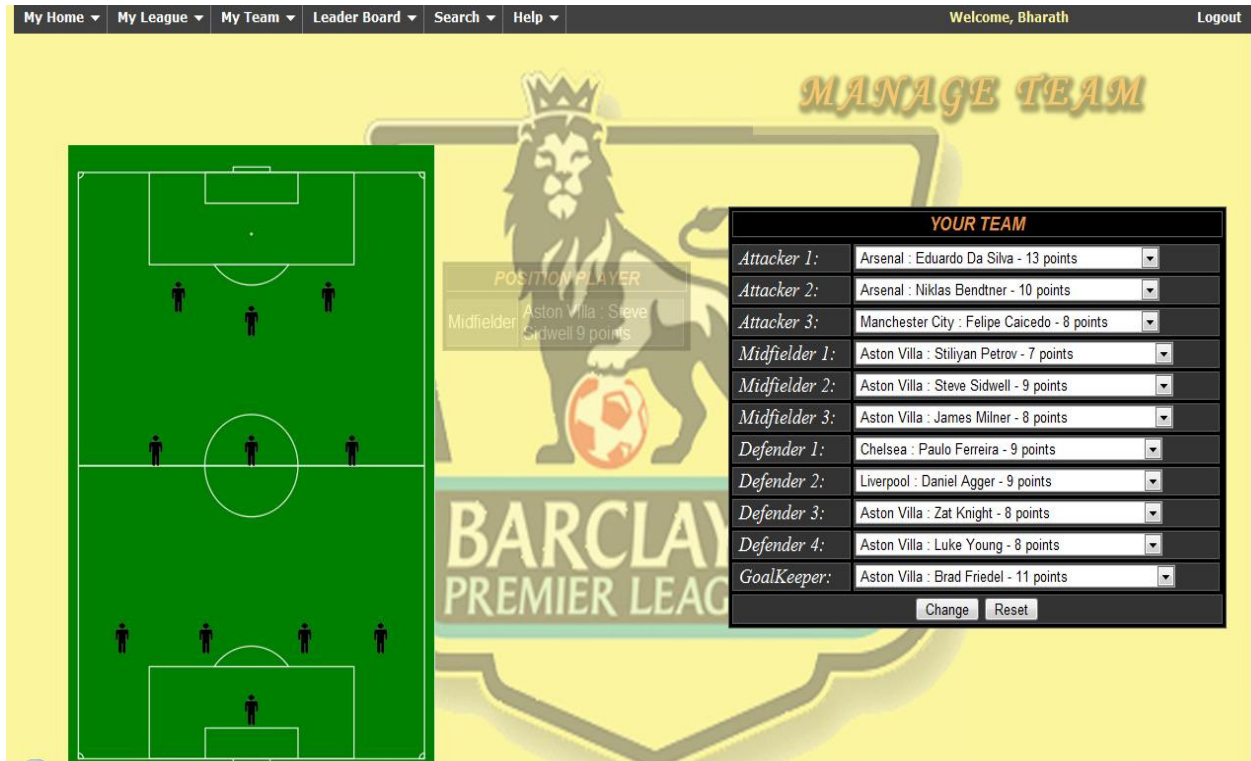
Just to assist the contestants, there is an option to check the leading players for the week as well as the month. This gives the contestants an idea of how the player has been performing.
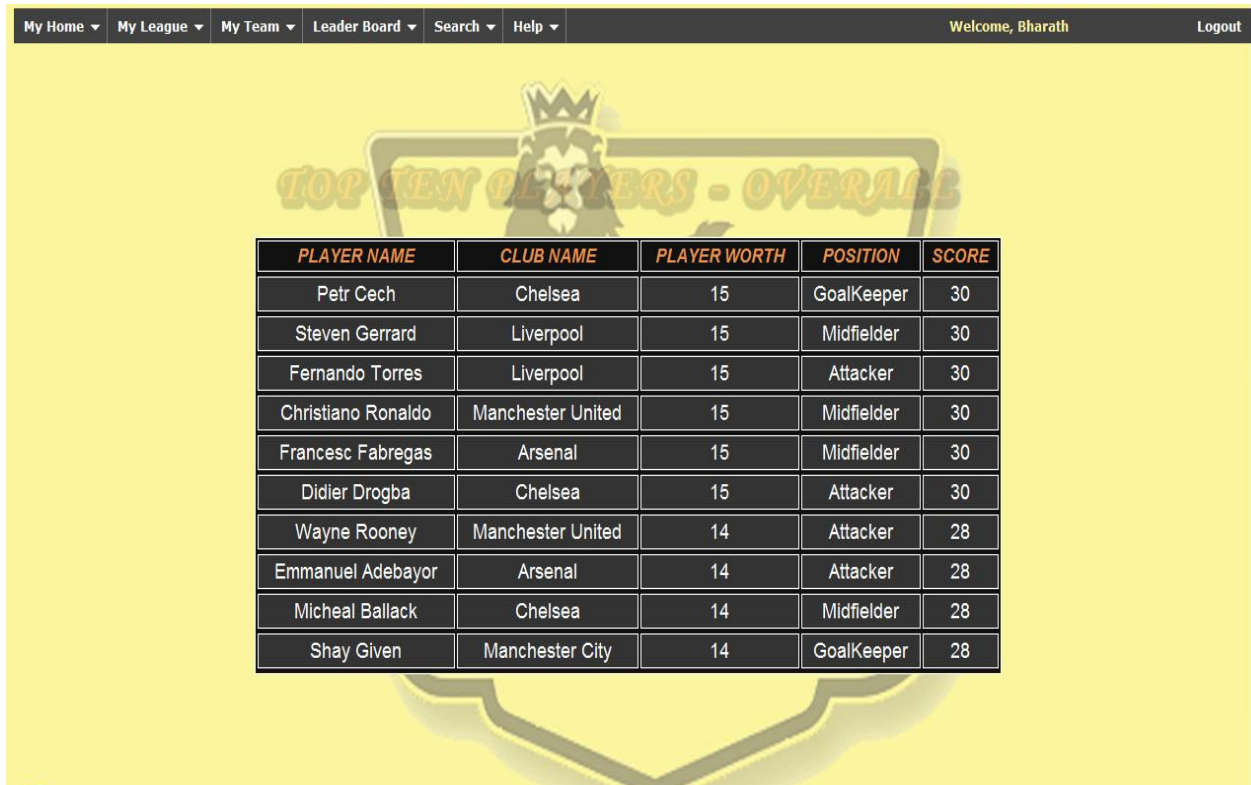
5.2 MODULE 2 (SOCIAL NETWORKING)

This is the module that separates this game to any other games currently available. The contestants playing these games are passionate soccer fans and the one thing common among all the contestants is their love for the game. This module helps bring all these contestants together. This module is implemented on Google Maps and the reason behind this is to actually help contestant meet other contestants near their places and provide a platform for them to share their interests.
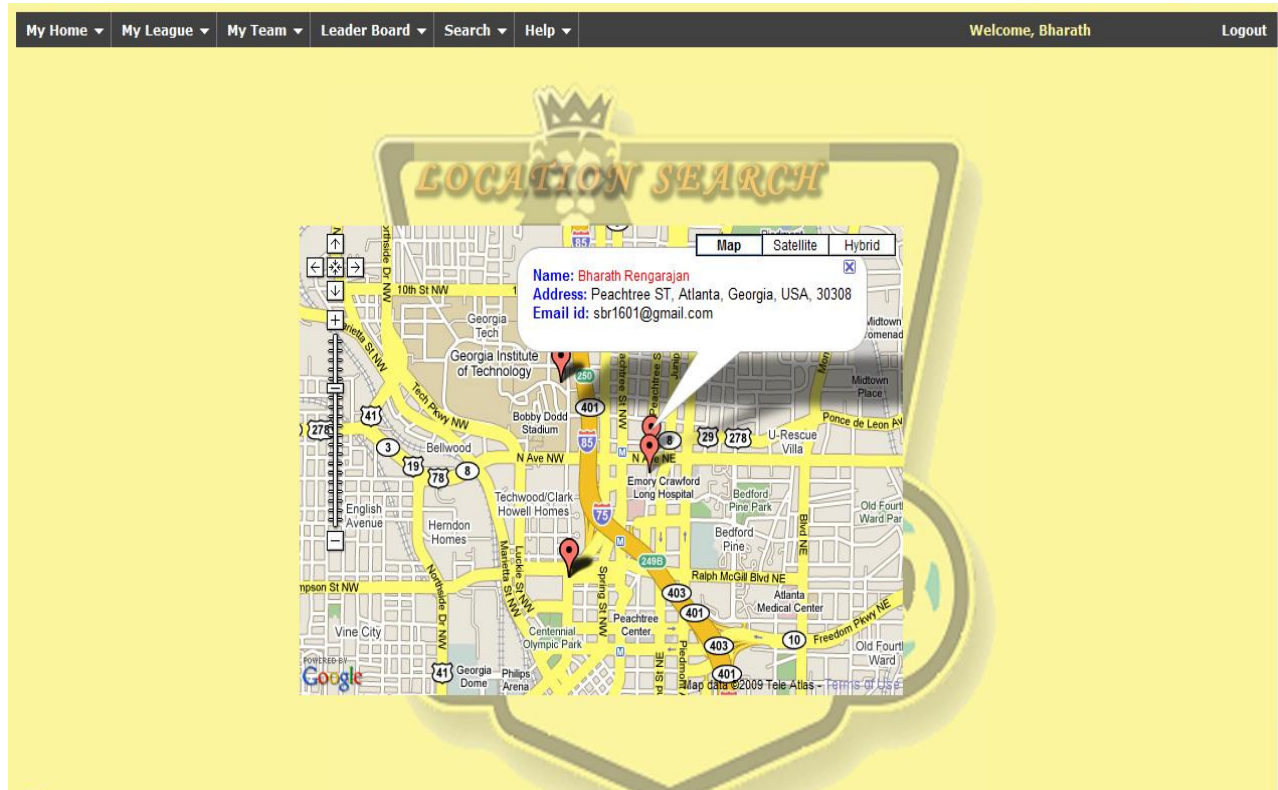
Contestants can then interact with other people and if the contestants find a small group of people playing this game, they can create leagues and ask other people to join this league. The purpose of the leagues is to play just with your friends and see how well are your other friends performing. Each contestant is also playing against each and every participant.

The contestant can also refine the people on the map by choosing just those contestants who share their faith towards the same club or the same player. By clicking on the contestant's name, the page is redirected to the profile page of that contestant. This module can be further improved by giving the user much more refined search criteria and thus choose a particular set of people to appear on the map. Also clicking on a particular player, would move to the player profile page which will help the user get a better idea of how that player is performing.

6. EVALUATION AND TESTING

6.1 SYSTEM TESTING

1) The field values were validated using JavaScript on the client side.

2) Client side validation included testing the following functionalities in each JSP page.
   a. Checking each form objects such as text boxes, select fields, check boxes to make sure that mandatory fields were not empty.
   b. Testing that data entered in these fields was in the correct format. E.g.: Name as String, Zip code as only numerals and email ids in their correct formats.

3) The referential integrity constraints and other semantic constraints associated with fetching data from the database were handled in the back end using JSP and MS Access.

4) Load testing was done by having many users login to the system simultaneously and check the working functionality of the project.

5) Some of the unit test cases are introduced in the next section.

6.2 UNIT TESTING

Case No. 1

Steps:

1) In Login screen, enter no values.
2) Click on Login button.

Result:

The System identifies invalid login attempt and throws the respective error message in a new page.

Case No. 2

Steps:

1) Contestant Logins and tries to change the URL of the page to a page which requires Admin clearance.

Result:

An error message is displayed asking the customer to login with an admin id to access the page.

Case No. 3

Steps:

1) In create team page, the fields are filled with data
2) Click Submit button

Result:

The fields are validated and if any field is filled with a value that violates the rules, an error message corresponding to that field is thrown.

Case No. 4

Steps:

1) An Admin grants a contestant admin controls for the system.

Result:

If the contestant is not already present in the system, displays an error message. If he is, makes him an administrator and grants him privileges.

Case No. 5

Steps:

1) An admin adds the details of updated scores into the database.

Result:

The scores are updated and are reflected when the contestant logs in and views it. After a month the worth of the player is calculated and updated along and the scores are reset.

Case No. 6

Steps:

1) A new contestant registers.

Result:

If the contestant is already present an error message is displayed else he is added to the database and his profile is created.

Case No. 7
Steps:
1) A menu item is clicked
Result:
The appropriate page is displayed with the details.

Similarly other functionalities such as the proper display of page elements and no duplication of data in the tables are checked.

7. FUTURE WORK

7.1 Message Passing

Each user could add contestants as friends and create his own community that he would like to interact with. They should be able to maintain private messages about the leagues they are a part of and interact with each other personally. Since virtual and online communities have also become a supplemental form of communication between people who know each other primarily in real life this will be a common playground for contestants who know each other. Many means are used in social software separately or in combination, including text-based chat rooms and forums that use voice, video text or avatars. We plan to implement chat rooms and messaging service between friends.

7.2 Using Online Data

The scores are presently updated from a central source compiled manually. The admin also has to verify the verity of the information and make sure the data has been updated onto the databases. We plan to replace this by using data obtained online periodically by web mining techniques. Mining over web data sources and compiling them into the central source should make it much faster and more dynamic. The data will be obtained from several trusted web sources dedicated to the sport and data obtained cross checked before being entered into the system thus bringing reliability to the system.

7.3 Implementing Forums

The social networking module could use a lot of improvement in the interactions between the contestants aspect. One way to help contestant come closer is to implement forums. A forum could pertain to a whole club to see how the club players are performing as well as narrowing it down to an individual. This feature would help users talk about their favorite players and clubs.

Each user would be able to create new messages and see what other users of that forum think about it. These discussions could really help them play the game better or just get to know other people better. Users can also be allowed to create polls within a forum. Hence the introduction of forums could give a tremendous boost to the working of the module.

7.4 Stricter Rules

Due to lack of time, the one area where many compromises were made was in the area of rules. The game could become much more interesting and competitive if the rules used to operate the game had much more conditions in them. Some of the examples are to let each team have a captain and the points the captain receives are doubled. The design of the system does not have capability to incorporate the number of players in a team from a particular club. This number could be restricted to a maximum of three allowing contestants to choose players also from certain mediocre clubs. This will help run the game more smoothly and more importantly fairly.

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