



Bilkent University

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# Spring 2020 CS353 Project

*Footballer Scouting Application*

## Project Proposal Report

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## **1) INTRODUCTION**

This report is proposal for our Scouting Platform for Football Clubs project that explains functionalities and extent of the project. This report has 6 part which includes project description, requirements, limitations, E/R diagram and use of database within the project. Project Description of the project will be the first subject of this report. In project description, scope and properties of the project will be explained. After project description, requirements will be explained in two part which are functional and non-functional. Under functional requirements part, functionalities and extent of the project will be established and under non-functional. In limitation part we explained the boundaries and constraint of the system. In section 3 we explained why we need and how we can use database within Scouting Platform for Football Clubs. At the end, E/R diagram of the database system is included in the report. This part will be used as a basis of our project's database design. This design is shaped by our functional and non-functional requirements.

## **2) PROJECT DESCRIPTION**

Scouting Platform for Football Clubs is a web-based application for mainly five different user types; football clubs, scout agencies, football players' agents, and press members. Each user can use different functionalities of the system. Clubs can communicate with scout agencies to find a player with specifications or to watch specific players and receive reports about their requests. After scouts find appropriate players, clubs can contact with player's agent and make offer using the interface. Clubs can also see a table that contains 20 football players that take attention. From that table clubs can choose a player directly and make request for that player to scout agency. Scout agencies can assign available scouts in their agencies to clubs according to their proficiency. Scouts will join their scout agency page with activation key and after that they can be informed by the system if they are assigned for a job. Scouts can send their reports to clubs using the system. Agents can receive offers and reply them by using the system. Agents can see clubs' budget and value information to arrange the offer. Agents can also recommend players they represent to a club. Clubs can make request to

scout agency to watch the recommended player. Press members will be notified if they subscribed the system and the teams they want to be notified. Notifications will be about subscribed teams' interests. For example, if a team send a request for a certain position to scout agency, press member will be notified about that team looking for a player for that position. There are three type of subscription for press members; they can get notifications for one, five or ten clubs according to their subscription type.

By using this website clubs, agents will save time, agencies will be managed easily football fans can display their favourite teams without using any other applications or newspaper etc. and lastly press members can reach information directly from clubs without putting any efforts. This is an online platform for anyone that has interest on football.

### **3)WHY/HOW A DATABASE IS GOING TO BE USED AS A PART OF THE SYSTEM**

Our web application is built to be used as an online platform that provides a system for football clubs, scouting agencies, and press members. All these users need to sign up to use functionalities of the system. In other words, our application has an account system that keeps different data sets for all different user types. Which means that with the help of a database, we will be able to keep the user information in our database in order to limit their permissions and adjust the application according to their needs. This is one reason why our website needs a database. These informations will be updated continuously, so database system will make things easier. In the system, we also need to store all professional football players, clubs and their information and stats. Similar to user data, this information also change in time. For example, when a club makes a transfer, its value, squad and budget need to change as well.

## **4) REQUIREMENTS**

### **4.1. Functional Requirements**

#### **4.1.1. User**

Users are the managers of club, agency, scout and agent profiles as well as the journalists.

- Users can sign up by a username and a password.
- Users can edit their profiles.

#### **4.1.2. Club**

Clubs will have id, name, budget, league, city, director, total value and number of players attributes. Clubs' profile pages will be available even if they don't choose to manage them, only for viewing purposes.

- Clubs have footballers under their roofs.
- Clubs can choose to manage their profiles and become Users.
- Clubs can make a request of scouting service from agencies by specifying nationality, age or position of footballers.
- Clubs can view scout reports.
- Clubs can make transfer offers to agents about a footballer.
- Clubs can give feedback to the reports they receive.

#### **4.1.3. Agency**

Agencies are organizations that offer scouting service to clubs via the scouts under their roofs. They have id, name, rating and activation key attributes. Agencies ratings are the average of their scouts' ratings.

- Agencies sign up to the website.
- Agencies have scouts working for them.
- Agencies can take scouting requests from clubs.
- Agencies can assign scouts to requests for a time period.
- Agencies can cut their relations with scouts.

#### **4.1.4. Scout**

Scouts are people who work for agencies to give scouting services. They have id, name, rating, availability as well as their position experience and league experience information.

- Scouts have to work with an agency.
- Scouts sign up to the website using activation key of an agency.
- Scouts can watch one or more footballers.
- Scouts can report their findings to clubs.

#### **4.1.5. Agent**

Agents work with footballers. They have id and names.

- Agents sign up to the website.
- Agents add footballers they are working with on their profiles.
- Agents can view clubs' transfer offers to the footballers they are managing.
- Agents can recommend footballers they are managing o the clubs.

#### **4.1.6. Footballer**

Footballers don't sign up to the website nor they manage their profiles. However they have profile pages for viewing purposes. They have id, name position, age, value, potential, ability, nationality and trophy information. Footballers may or may not work in a club at a time, if they do there is also salary and contract end date information.

#### **4.1.7. Journalist**

Journalists' profile pages will be visible to only themselves. Only discriminative point of their profiles is that they get notifications about scouting requests of clubs they are subscribed to along with the specification informations of the request.

- Journalists can sign up to the website.
- Journalist can subscribe to clubs.

#### **4.1.8. System Requirements**

- The system should calculate the statistical information of clubs and footballers and be able to update them over a time period.
- The system should be able to deliver the scout reports to the clubs.
- The system should notify journalists when there is a new scouting request from a club with the specifications of the footballers.
- The system should be able to delete reported fake accounts.

### **4.2. Non-Functional Requirements**

#### **4.2.1. Authentication and Security**

Two most important requirements are no account should be fake and security of the accounts and the information of both the profiles and communication between profiles must be secure. In order to achieve that passwords are not kept as simple text in the database. They are hashed along with a randomly generated salt, which increases security immensely. Using salts guarantee security in the case of users who use the same password for different websites. The hashing algorithm that is going to be used is SHA256 [1].

#### **4.2.2. Data Accuracy**

The website will be built on a huge amount of data. It must be made sure that the mistake ratio of writing and fetching does not exceed 2 % in total.

#### **4.2.3. Scalability**

The system should be able to handle even larger amount of data in the future. It should not give up on its performance while doing so.

### **4.3. Pseudo Requirements (Constraints)**

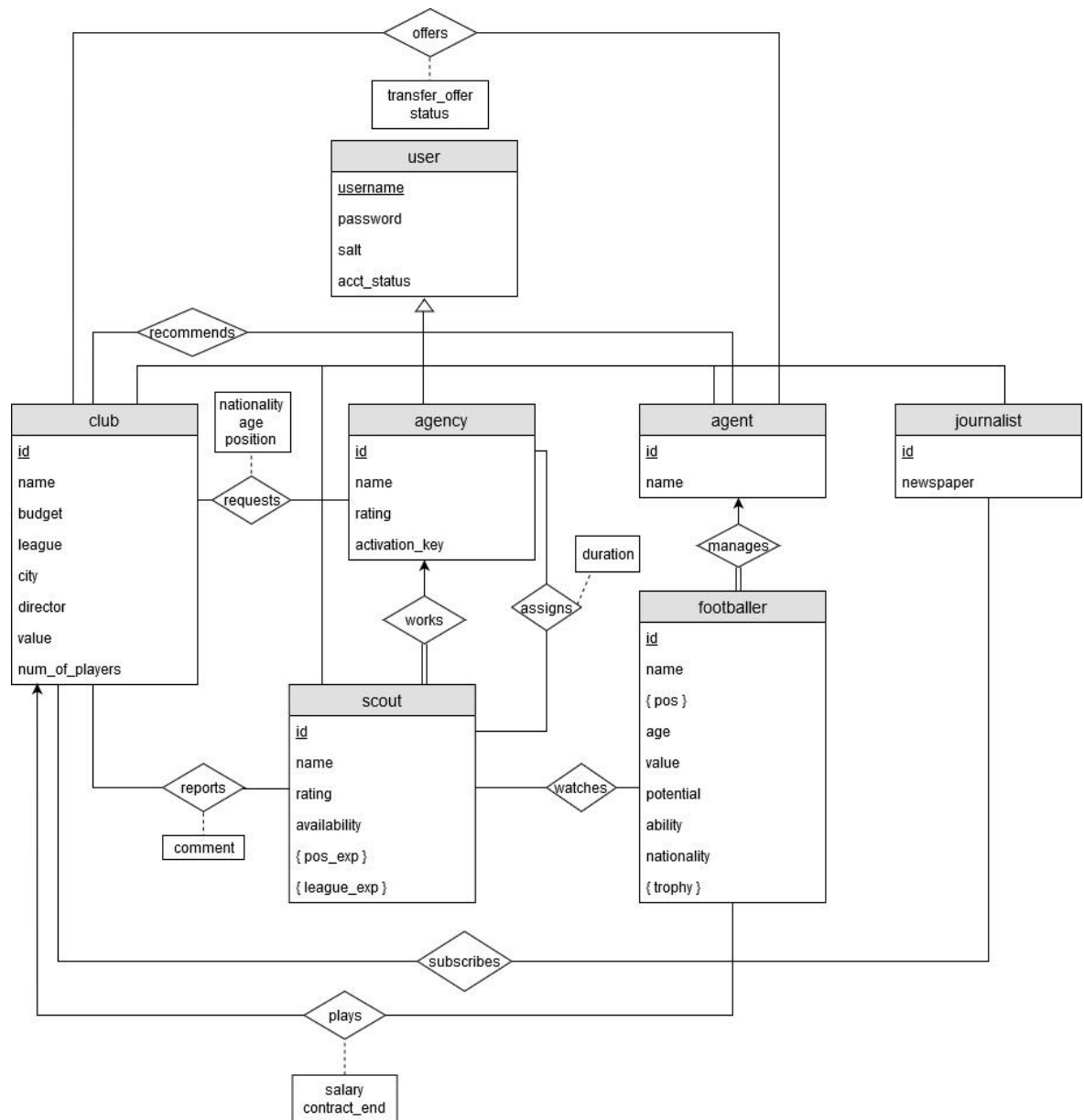
In the implementation process, Spring Framework for the back-end, ReactJS for the front-end and SQL for the database will be used.

## 5) LIMITATIONS

- Only agents, scouts, agencies and press members(journalists) can register the system.
- Each subscription type has different subscription fee. It could be free or paid.
- Clubs can use club account by communicating website admins. Football clubs' team accounts are created at first. Football club registration will not be accepted.
- Agents manages at least one footballer. Agents enter the footballers who they manage in registration.
- Scouts can only sign up with activation key of agencies.
- Scout without any agency cannot register to the website. They have to be involved in an agency to sign up.
- Each scout can work with exactly one agency.
- Agencies can register to the website without any limitation. The system will give them a activation key for their scouts.
- Press members will be notified for exact number of clubs according to their subscriptions. They can be notified for 1, 5 or 10 clubs according to subscriptions.
- Press members(journalists) can register to the website without any limitations. These users can only see which football team requested which player or position to watch from an agency. They cannot see which football team contacts with which agent.
- Agents can recommend his/her player to a club.
- Clubs could request a scout for footballers from an agency filtering age, position or nationality. Also they could request from an agency for a specific footballer.
- Clubs cannot communicate with agents directly, they have to get a report from scouts.
- Clubs cannot communicate with scouts directly, they have to communicate with an agency first and that agency will assign a scout to clubs.
- Each assign for a scout has a time limit.
- Each footballer plays for exactly one club like in real life.



## 6) ER DIAGRAM



## 7) WEBSITE

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## 8) REFERENCES

[1]"Salt (cryptography)", *En.wikipedia.org*, 2020. [Online]. Available: [https://en.wikipedia.org/wiki/Salt\\_\(cryptography\)](https://en.wikipedia.org/wiki/Salt_(cryptography)). [Accessed: 02- Mar- 2020].