CS 353 Database Systems

Project Proposal

Group 1 - Section 3

AlphaBet

Social Betting Platform

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1. Introduction

This report will detail the project proposal for our Social Betting Platform. This paper aims to provide general information about the requirements, limitations and the conceptual design of the project.

Section 2 will include Project Description, which describes the Social Betting Platform in its entirety. It will talk about the scope of the project as well as general expectations and functionalities, and will explain why a database is needed in order to implement it.

Section 3 will detail the requirements which include functional, non-functional and pseudo requirements. Functional requirements are really important in order to understand the functionality, constraints and the properties of our betting platform, furthermore it will detail the role of every major entity in the scope of this project and will provide information on their constraints and capabilities. In non-functional requirements, we analyze our project with respect to security, scalability, extendibility and usability. In the pseudo requirements part, we will explain the technical details about our project such as the frameworks and languages that we will use.

Section 4 is Limitations, which will detail the boundaries of a system.

Section 5 will include the E/R diagram for our system. It will display the entities, relations and connections between them.

2. Project Description

This project aims to build a web-based application which will serve as a betting site as well as a social platform. It is designed for people who want to place their bets on certain sports contests.

Since this is a betting platform at its core, regular users will be able to view daily match schedules and the bets associated with each match. Within a match, users will be able to see the information regarding two opposing teams, their lineup, their results in the previous matches and so on. With this information, users can create their bet slips using their bets. This platform will also allow users to get in touch with one another. A user will be able to add another user as a friend, share their bet slips and comment on matches and other user's shared bet slips. A user will also be able to bet on his/her friends shared bet slips. These activities will be visible to the user in their timeline. We also introduce group betting, which will allow users to form groups and bet on a bet slip together, and if they win, the income will be distributed to the members of the group who placed money on the bet.

There will be editors who share their bet slips with people who follow them. Editors can comment on the matches and other bet-slips, and their comments will be visible to others who follow them. There will also be super-users in the system called administrators. Admins determine odds of bets, they can change the odds or remove a bet completely. They can also ban users.

Using a database is crucial for our betting platform because there is a vast amount of complex information that needs to be stored and related to each other. This information should be presented to the user efficiently and fluently. For example match information needs to be stored, matches will include two opposing teams and the user will be able to see further information about those teams, including their previous results. Each team consists of

a number of players whose information is also stored and will be accessible to the user. This information must be stored in a database.

3. Requirements

3.1. Functional Requirements

3.1.1. Users

- Users should be able to add to their account balance or withdraw cash.
- Users should be able to view matches on the platform.
- Users should be able to view teams, matches and players information.
- Users should be able to place bets on future matches of different sport branches including both team sports and individual sports.
- Users should be able to place bets with different types and odds.
- Users should be able to add friends and see their friends' activities on their timeline such as bet slips and comments posted by them.
- Users should be able to follow editors and see their bet slips and comment on their timeline.
- Users should be able to choose their favorite teams and get notifications on the upcoming bets regarding that team.
- Users should be able to comment on matches and bet slips.
- Users should be able to vote on upcoming matches' result.
- Users should be able to form groups in order to bet together and share messages into the groups.
- Users should be able to give different amounts of money in a group bet.
- Users should be able to add cash to their account.

3.1.2. Administrators

- Admins should be able to add bets.
- Admins should be able to change the odds of bets.
- Admins should be able to remove a bet completely.
- Admins should be able to ban users and editors.

3.1.3. Editors

- Editors should be able to create bet slips.
- Editors should be able to share bet slips with their followers.
- Editors should be able to comment on matches and other bet slips.

3.2. Non-functional Requirements

3.2.1. Authentication & Security

- The system must secure the accounts in order to prevent the withdrawal of cash by third parties.
- There should be a password criteria on what type of password a user can choose in order to enhance account security. These criteria may include: the use of both upper-case and lower-case, minimum length, inclusion of special characters etc.

3.2.2. Performance

- The system should be as fast as possible. The user should be waiting for a minimum amount of time while loading. There is a big amount of data which grows by time and since there might be multiple user requests and interactions with the system, the system should be designed in a way that it has less than 2000 ms response time.

3.2.3. Extendability

- The project can be further extended with the upcoming feedback coming from the users. These extensions can be adding a new sport or a new bet type to the system. In order to overcome the issues caused by the extensions, an extensible database design will be used in our project.

3.2.4. Usability

- Users should be able to familiarize with the system after playing one bet.
- The design of the system should provide an easy-to-understand interface to perform all tasks such as making bets, sharing bet slips, adding friends etc.
- The system should not have complicated features in order to avoid confusion.

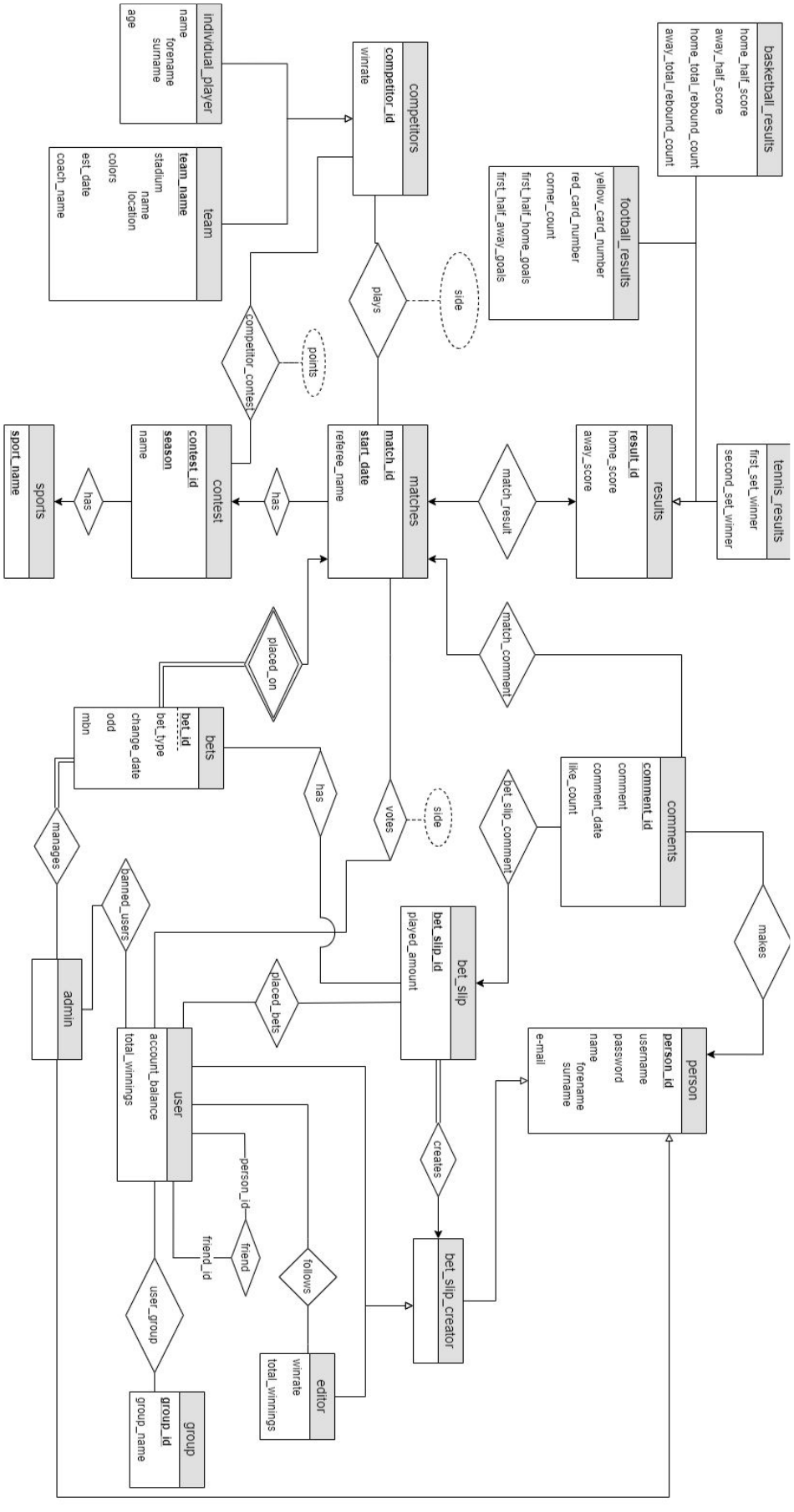
3.2.5. Reliability

- As this is a platform where people can deposit or withdraw their money and bet on matches at the last minute, reliability is an important factor. The system should run without any failures, and if a failure occurs, the time between the occurrence and the fix should be minimal.

4. Limitations

- Users must choose a unique username while signing up.
- Number of bets in a slip must be equal to or greater than the maximum of the MBN (minimum betting number) of bets in that bet slip.
- Bets should be placed before the match starts.
- Odd of a users paid bet must remain the same even after admin changes its odd or removes the bet.
- Users must follow editors to see their bet slips.
- 3 TL is the minimum cash limit for placing a bet slip.
- There can be at most 20 matches in a bet slip.
- There can be at most 10 people in a group.

5. Conceptual Design



6. Website

Our project information website link: https://busrabgz.github.io/