Users: Mangers, coaches, agents, journalists, recruiters, fans.

1. FootLab

The objective is to ==develop== ==a database== management system to ==store== informative ==data== about soccer players. This system will ==provide== easy access to ==factual==, ==historical==, and ==performance-related== information about individual ==players== for various users, including ==coaches==, ==agents==, ==journalists==, ==recruiters==, ==fans==, and others. The database will ==capture== details such as player ==profiles==, ==past== and current ==teams==, ==trophies==, and ==statistics==. ==Coaches== can ==use== it to gain deep ==insights== into players, while ==agents== can ==leverage== the data to ==optimize== marketing strategies. Journalists can use it as reference to provide informed commentary during games or when writing articles. Additionally, ==sports betting companies== and ==fans== will be able to make informed decisions and manage risks more effectively when setting up parlays.

2. Summary of the problem description

FootLab is a database management system that provide tool for managers, coaches, agents, journalists, recruiters and any other fans to easily access important and details information about soccer players in a short amount of time. The tool provides a description of players profiles, past and current teams, trophies and statistics.

3. Collections of Nouns and Verbs
- Nouns:

- Database	- Data
- Factual	- Historical
- Performance-related	- Players
- Coaches	- Agents
- Fans	- Journalists
- Recruiters	- Profiles
- Teams	- Trophies
- Statistics	- Sport-betting companies

- Verbs
  - Develop
  - Provide
  - Use
  - Optimize
  - Store
  - Capture
  - Leverage

4. Rules of Business
- The platform will be used to collect data from players
- Users can create their account with different types of identifiers (emails, username, number, password)
- The platform will give a detailed profile and statistics about each player
- The platform will be available to managers, recruiters, sport betting companies, coaches, players, and any other user.

5. Challenging Questions
- What type of technology will be used to analyze current players' statistics? especially getting the frequency of his position on field.
- How to develop a technology that can automatically update players' statistics?

6. Classes extraction
- UML
- https://lucid.app/lucidchart/5ee15ffe-6c60-43f4-b51f-3c8f638f43c5/edit?viewport_loc=-950%2C-1399%2C3312%2C1503%2C0_0&invitationId=inv_e548dbdf-7590-4669-a4d4-6a7b20dcbb7a
- ERD
- https://lucid.app/lucidchart/bb2d66a2-97ea-43ac-990b-ba0964b961ec/edit?viewport_loc=-648%2C-

7. BCNF

1. User Table:
   o Attributes: (user_id, password, type)
   o Functional Dependency: user_id → password, type
   o The relation is in BCNF since user_id is the superkey.

2. Player Table:
   o Attributes: (player_id, first_name, last_name, user_id, surname, description, image, date_of_birth, news)
   o Functional Dependency: player_id → first_name, last_name, user_id, surname, description, image, date_of_birth, news
   o The relation is in BCNF because player_id is the superkey.

3. Team Table
   o Attributes: (team_id, name, player_id)
   o Functional Dependency: team_id → name, player_id
   o The relation is in BCNF because team_id is the superkey.

4. NationalTeam Table:
   o Attributes: (national_team_id, name, continent_id, team_id)
   o Functional Dependency: national_team_id → name, continent_id, team_id
   o The relation is in BCNF because national_team_id is the superkey

5. Club Table:
   o Attributes: (club_id, name, league_id, team_id)
   o Functional Dependency: club_id → name, league_id, team_id
   o The relation is in BCNF because club_id is the superkey.

6. Competition Table:
   o Attributes: (competition_id, name, division, entity)

- Functional Dependency: competition_id → name, division, entity
- The relation is in BCNF because competition_id is the superkey.