CS 665 Project Report

National Basketball Association Database Application

Purpose of Application: To give easy access to user about basic information on each respective team in the National Basketball Association.

Entities: Teams, Players, Contracts, Owners, Colors, Mascot, Coaches

Relations: HasColors

- **Entity Description:**
  - **Teams** -- will include all 30 teams in the NBA and will include:
    - *Tname (key)*
    - City
    - Division
  - **Players** -- will be members of each team that they play for and include:
    - College
    - *Name (key)*
    - Jersey #
    - Age
    - DraftClass
    - Tname *(foreign Key)*
  - **Owners** -- the primary owner/higher-up amongst all partners/shareholders, will include:
    - *Owner name (key)*

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        - Years owned
    - **Colors** -- colors that represent the team's identity and brand, includes:
        - *Color (key)*
    - **Mascot** -- another representative/face of the team's brand, includes:
        - *Mascot (key)*
    - **Coaches** -- individuals that train their team and develop their players, includes:
        - *Coach name (key)*
        - Playstyle
        - Tname *(foreign Key*

- **Relation Description:**
    - **HasColors –** Each team represent different color:
        - *Color (foreign key)*
        - *Tname (foreign key)*
    - **OnRoster –** The list of players on the team
        - *PName (foreign key)*
        - *Tname (foreign key)*

- **Entity Relationships:**

- **Team** -- The entity ‘Team’ will have relations with the entities ‘Owners’, ‘Colors’, ‘Mascot’, ‘Coaches’, and ‘Players’. Each ‘Team’ can have many ‘Owners’. Many-to-Many, as each ‘Team’ will have many ‘Colors’ for the team’s identity and brand. 1-to-1, as each ‘Team’ will have a ‘Mascot’, which will be a type of ambassador that represents the ‘Team’. Many-to-1, as each ‘Team’ will have many ‘Coaches’ that train the team. Many-to-1, as there will be many ‘Players’ on a ‘Team’.
- **Players** -- The entity ‘Players’ will have relations with the entities ‘Teams’. Many-to-1, as many ‘Players’ will be on the roster of a team.
- **Owners** -- The entity ‘Owners’ will have a relation with the entity ‘Teams’. Many-to-1 relation, as there can be multiple owners for each team.
- **Colors** -- The entity ‘Colors’ will have a relation with the entity ‘Teams’. Many-to-Many, as many colors will help identify and brand for each team.
- **Mascot** -- The entity ‘Mascot’ will have a relation with the entity ‘Teams’. 1-to-1, there will be a mascot for each team.
- **Coaches** -- The entity ‘Coaches’ will have relations with the entities ‘Teams’. For its relation with ‘Teams’, it is Many-to-1, as there will be many coaches on a team.

- **Information expected to have answers:**
  - Team info (division, city, name)
  - Player info (name, Age, college, Jersey #, draft class)
  - Owner info (name, years owned)
  - Color info (colors that represent each team)
  - Mascot info (mascot of each team that represents the team)
  - Coach info (name, playstyle)

- **The Updates:**
    - Player activity/inactivity (if players are injured)
    - Coaches (if a coach gets fired/hired)
    - Ownership change (if they team is sold/purchased)

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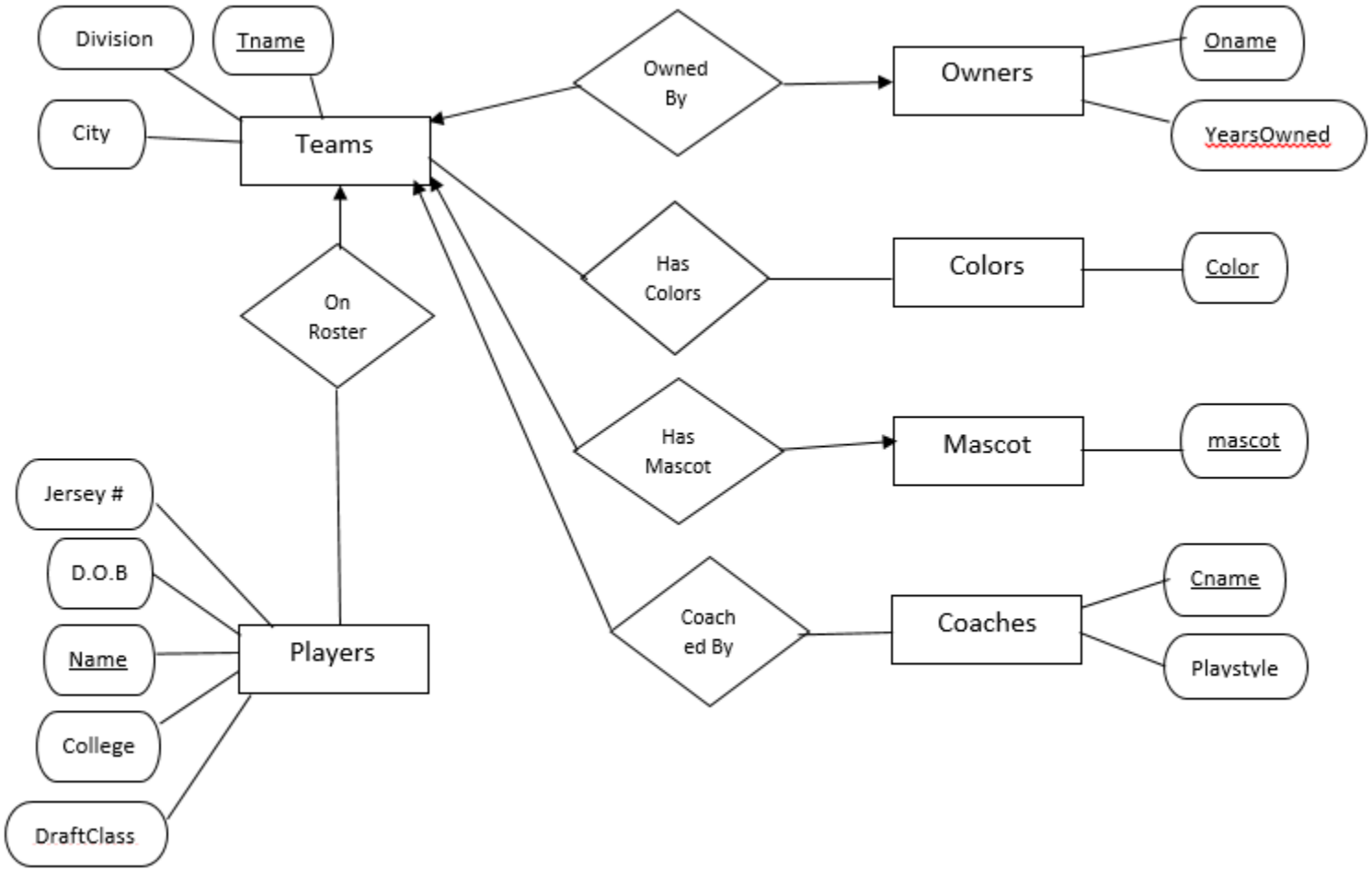

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Entities:

Teams (City, Division, Tname)

Players (Jersey#, D.O.B, Name, College, DraftClass, Tname)

Owners (Oname, YearsOwned)

Colors (color)

Mascot (Mascot)

Coaches (Cname, Playstyle, Tname)

Relations:

HasColors (Color, Tname)

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Code Description:

The code will present the user with a menu, which will essentially be connecting the user to a larger program with more options. Testing connection to the mariaDB server will occur for our PlayerTeam aspect of the code. This will connect to the database server and will output the lists of Players, jersey number, teams, etc. There is another aspect of the code which updates the teams and players based on movement. If there is Player A from Team A, but then they get traded to Team B, it will update Player A to now being on Team B with a different jersey number if their current number is taken.

Source Code on Next Page

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