Pocket Fantasy Football Analytics

Stage 2 - Conceptual and Logical Database Design

Team # 032 - MangoDB

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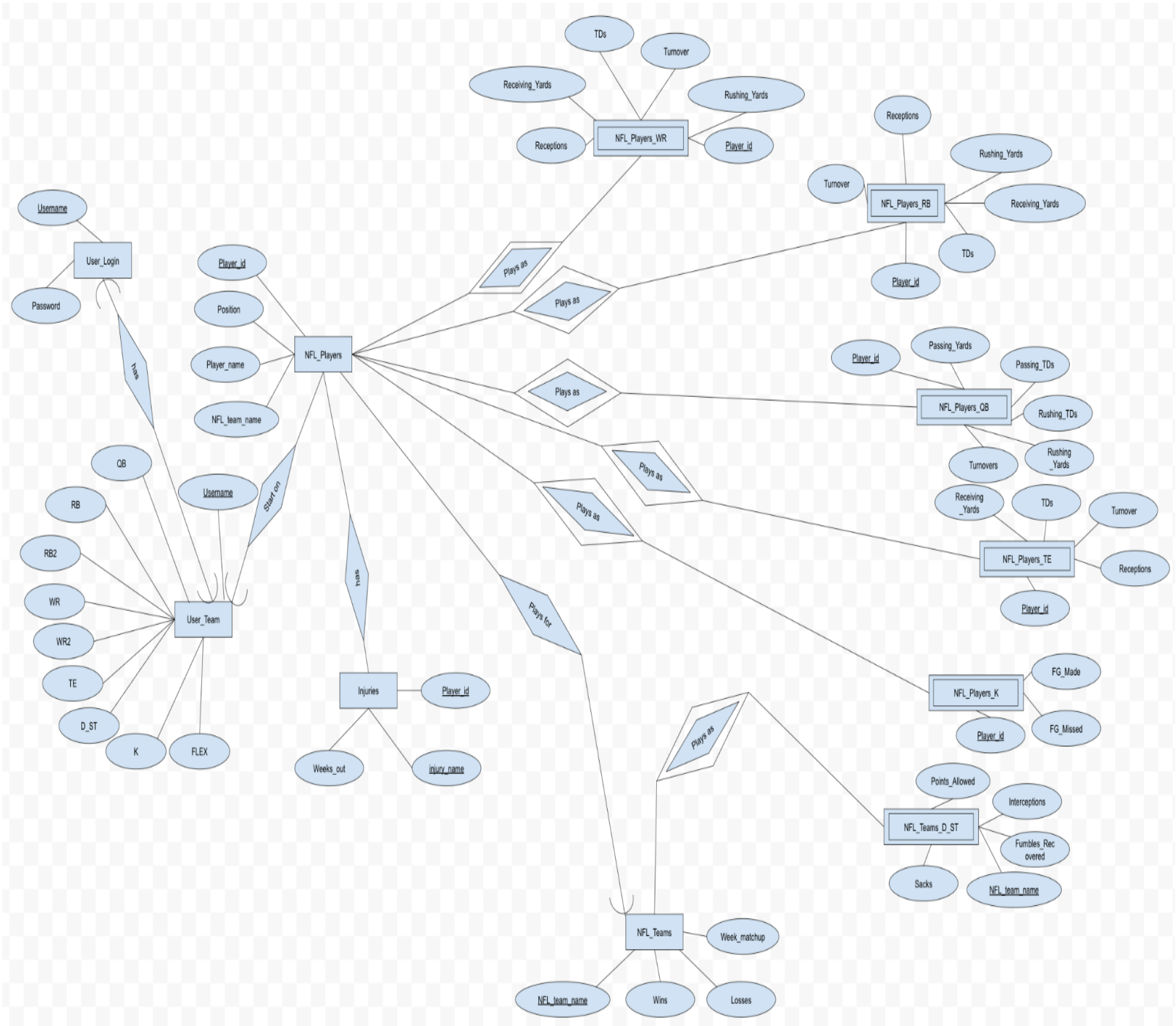
1. ER Diagram


TDs
Turnover
Receiving_Yards
Rushing_Yards
NFL_Players_WR
Receptions
Player_id
Receptions
Rushing_Yards
Turnover
NFL_Players_RB
Receiving_Yards
TDs
Player_id
Username
User_Login
Password
Player_id
Position
Player_name
NFL_team_name
NFL_Players
Plays as
Plays as
has
Plays as
Player_id
Passing_Yards
Passing_TDs
NFL_Players_QB
Rushing_TDs
Turnovers
Rushing_Yards
Plays as
Plays as
QB
RB
RB2
WR
WR2
TE
D_ST
K
FLEX
Username
Start on
User_Team
has
Plays for
Receiving_Yards
TDs
Turnover
NFL_Players_TE
Receptions
Player_id
Injuries
Player_id
Weeks_out
injury_name
Plays as
FG_Made
NFL_Players_K
FG_Missed
Player_id
Points_Allowed
Interceptions
NFL_Teams_D_ST
Fumbles_Recovered
Sacks
NFL_team_name
NFL_Teams
Week_matchup
NFL_team_name
Wins
Losses

2. ER Diagram Descriptions

Description of Entities:

User_Team (Cardinality: 5): The users team that we will be evaluating
NFL_Players (Cardinality: # of NFL players): All current NFL players in the league
NFL_Players_WR (Cardinality: # of NFL WR): Every Wide Receiver in the NFL
NFL_Players_QB (Cardinality: # of NFL QB): Every Quarterback in the NFL
NFL_Players_RB (Cardinality: # of NFL RB): Every Running Back in the NFL
NFL_Players_K (Cardinality: # of NFL K): Every Kicker in the NFL
NFL_Players_TE (Cardinality: # of NFL TE): Every Tight End in the NFL
NFL_Teams_D_ST (Cardinality: 32): Every Defense or Special Teams in the NFL
Injuries (Cardinality: # of live players injured in the NFL): The NFL players that are currently injured
NFL_Teams (Cardinality: 32): All the teams in the NFL
User_Login (Cardinality: # of Users): The login information for the user

Description of Entity Connections:

NFL_Players to User_Team: Connection is from all players to players on the user's team, so this is many to one.
NFL_Players to Injuries: Connection exists if the NFL player is currently injured, so this is many to many.
NFL_Players to NFL_Players_WR: Connection is from all players to players who are wide receivers, so this is many to many.
NFL_Players to NFL_Players_RB: Connection is from all players to players who are running backs, so this is many to many.
NFL_Players to NFL_Players_TE: Connection is from all players to players who are tight ends, so this is many to many.
NFL_Players to NFL_Players_QB: Connection is from all players to players who are quarterbacks, so this is many to many.
NFL_Players to NFL_Players_K: Connection is from all players to players who are kickers, so this is many to many.
NFL_Teams to NFL_Teams_D_ST: Connection is a single team of all the teams in the NFL, so this is many to one.
NFL_Players to NFL_Teams: Connection is all players on each NFL Team so this is many to one.
User_Login to User_Team: Connection from the login to a players team, this is a one to one relationship.

3. Relational Schema

```
CREATE TABLE User_Login (
   Username VARCHAR(255),
   Password VARCHAR(255),
   PRIMARY KEY(Username)
);

CREATE TABLE User_Team (
   Username VARCHAR(255) REFERENCES User_Login(Username) ON DELETE CASCADE,
   QB VARCHAR(255),
   RB VARCHAR(255),
   RB2 VARCHAR(255),
   WR VARCHAR(255),
   WR2 VARCHAR(255),
   TE VARCHAR(255),
   D_ST VARCHAR(255),
   K VARCHAR(255),
   FLEX VARCHAR(255),
   PRIMARY KEY(Username)
);

CREATE TABLE NFL_Players (
 Player_id INT,
 Position VARCHAR(50),
 Player_name VARCHAR(255),
 NFL_team_name VARCHAR (255),
 PRIMARY KEY(Player_id),
 FOREIGN KEY(NFL_team_name) REFERENCES NFL_Teams(NFL_team_name) ON DELETE CASCADE
);

CREATE TABLE Injuries (
   injury_name VARCHAR(255),
   Weeks_out INT,
   Player_id INT,
   PRIMARY KEY(injury_name),
   FOREIGN KEY(Player_id) REFERENCES NFL_Players(Player_id) ON DELETE CASCADE
);

CREATE TABLE NFL_Teams (
   NFL_team_name VARCHAR(255),
```

```
    Wins INT,
    Losses INT,
    Week_matchup VARCHAR(255),
    PRIMARY KEY(NFL_team_name)
);

CREATE TABLE NFL_Players_WR (
    Player_id INT,
    Receptions INT,
    Receiving_Yards INT,
    Rushing_Yards INT,
    TDs INT,
    Turnover INT,
    FOREIGN KEY(Player_id) REFERENCES NFL_Players(Player_id) ON DELETE CASCADE
);

CREATE TABLE NFL_Players_RB (
    Player_id INT,
    Receptions INT,
    Rushing_Yards INT,
    Receiving_Yards INT,
    TDs INT,
    Turnover INT,
    FOREIGN KEY(Player_id) REFERENCES NFL_Players(Player_id) ON DELETE CASCADE
);

CREATE TABLE NFL_Players_QB (
    Player_id INT,
    Passing_Yards INT,
    Rushing_Yards INT,
    Passing_TDs INT,
    Turnover INT,
    FOREIGN KEY(Player_id) REFERENCES NFL_Players(Player_id) ON DELETE CASCADE
);

CREATE TABLE NFL_Players_TE (
    Player_id INT,
    Receiving_Yards INT,
    TDs INT,
    Turnover INT,
    Receptions INT,
    FOREIGN KEY(Player_id) REFERENCES NFL_Players(Player_id) ON DELETE CASCADE
```

```
);

CREATE TABLE NFL_Players_K (
   Player_id INT,
   FG_Made INT,
   FG_Missed,
   FOREIGN KEY(Player_id) REFERENCES NFL_Players(Player_id) ON DELETE CASCADE
);

CREATE TABLE NFL_Players_D_ST (
   NFL_team_name INT,
   Points_Allowed INT,
   Interceptions INT,
   Fumbles_Recovered INT,
   Sacks INT,
   FOREIGN KEY(NFL_team_name) REFERENCES NFL_Teams(NFL_team_name) ON DELETE CASCADE

);
```