# FIFA World Cup Tournament

Database Design Final Project

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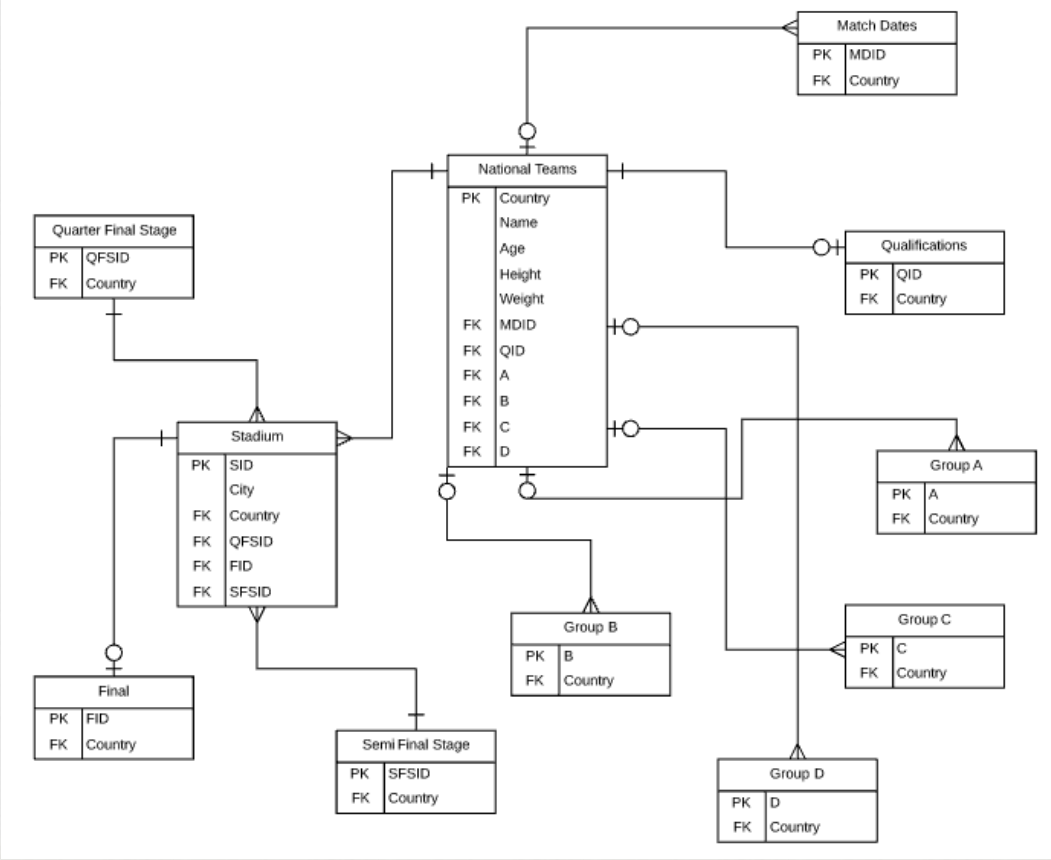
# Executive Summary

- The FIFA World Cup Tournament is hosted every 4 years in a country of the FIFA's choosing. National teams all over the world compete in their own tournament to see if they qualify to participate in the FIFA world cup. Each national team is split up into 4 groups in which they play against each other and the first 2 teams to have the most points advances to the next round. There is quarter final, semi-final, and final stage in the FIFA World Cup and the team to win the most games and score the most points wins the final cup.

# Entity Relationship Diagram



# Tables

Quarter Final Stage

The purpose of the Quarter Final Stage table displays all the information that contains all the teams that had enough points to move on to the quarter final stage of the cup

```
CREATE TABLE Quarter Final Stage
(
        qfsid char(3) NOT NULL,
        country char(20) NOT NULL
REFERENCES National Teams(country),
        PRIMARY KEY(qfsid)
);
```

Functional Dependencies

qfsid → country

# Tables

Semi-Final Stage

The purpose of the Semi- Final Stage table displays all the information that contains all the teams that had enough points to move on to the semi-final stage of the cup

```
CREATE TABLE Semi-Final Stage
(
        sfsid char(3) NOT NULL,
        country char(20) NOT NULL
REFERENCES National Teams(country),
        PRIMARY KEY(sfsid)

);
```

Functional Dependencies

sfsid → country

# Tables

Final

The purpose of the Final Stage table displays all the information that contains the last two standing teams with the most points of all groups to compete for the cup.

```
CREATE TABLE Final
(
        fid char(3) NOT NULL,
        country char(20) NOT
NULL REFERENCES National
Teams(country),
        PRIMARY KEY(fid)
);
```

Functional Dependencies

fid → country

# Tables

Stadium

The purpose of the Stadium table is to represent all the stadiums that will be used to host the matches varying by city.

```
CREATE TABLE Stadium
(
        sid char(4) NOT NULL,
        city text,
        country char(20) NOT NULL
REFERENCES National Teams(country),
        qfsid char(3) NOT NULL
REFERENCES Quarter Final Stage(qfsid),
        fid char(3) NOT NULL
REFERENCES Final(fid),
        sfsid char(3) NOT NULL
REFERENCES Semi Final Stage(sfsid),
        PRIMARY KEY(cid)
);
```

Functional Dependencies

qid → city, country

# Tables

## National Teams

The National Teams table represents all the teams that participate in qualifying for the World Cup and the last names of their players along with other information.

## Functional Dependencies

country → name, age, height, weight

```
CREATE TABLE National Teams
(
                country text NOT NULL,
                name text,
                age integer,
                height integer,
                weight integer,
                mdid char(8) NOT NULL REFERENCES Match
Dates(mdid),
                qid char(2) NOT NULL REFERENCES
Qualifications(qid),
                a text NOT NULL REFERENCES Groups(a),
                b text NOT NULL REFERENCES Groups(b),
                c text NOT NULL REFERENCES Groups(c),
                d text NOT NULL REFERENCES Groups(d),
                PRIMARY KEY(country)
);
```

# Tables

Match Dates

This table represents all the dates for all matches for teams in the World Cup.

```
CREATE TABLE Match Dates
(
        mdid char(8) NOT NULL,
        country char(20) NOT
NULL REFERENCES National
Teams(country),
        PRIMARY KEY(mdid)
);
```

Functional Dependencies

mdid → country

# Tables

Qualifications

This table represents all the teams that have been qualified to move on to the next round of the tournament.

```
CREATE TABLE Qualifications
(
        qid char(2) NOT NULL
REFERENCES Qualifications(qid),
        country char(20) NOT
NULL REFERENCES National
Teams(country),
        PRIMARY KEY(qid)
);
```

Functional Dependencies

qid → country

# Tables

Group A

The Group A table displays all the teams that have been sorted to Group A.

```
CREATE TABLE Group A
(
        a text NOT NULL,
        country char(20) NOT NULL REFERENCES National Teams(country),
        PRIMARY KEY(a)
);
```

Functional Dependencies

a → country

# Tables

Group B

The Group B table displays all the teams that have been sorted to Group B.

```
CREATE TABLE Group B
(
        b text NOT NULL,
        country char(20) NOT NULL REFERENCES National Teams(country),
        PRIMARY KEY(b)
);
```

Functional Dependencies

b → country

# Tables

Group C

The Group C table displays all the teams that have been sorted to Group C.

```
CREATE TABLE Group C
(
        c text NOT NULL,
        country char(20) NOT NULL REFERENCES National Teams(country),
        PRIMARY KEY(c)
);
```

Functional Dependencies

c → country

# Tables

Group D

The Group D table displays all the teams that have been sorted to Group D.

```
CREATE TABLE Group D
(
        d text NOT NULL,
        country char(20) NOT
NULL REFERENCES National
Teams(country),
        PRIMARY KEY(d)
);
```

Functional Dependencies

d → country

# Security

In this database, there are 11 players for each team in which they have the option to view table standings, team statistics, match dates, and personal information such as their age, height, and weight. The players would be the main users of the database to view all information regarding the FIFA World Cup.

# Implementation

- One of the implementations that can be allowed in the future is for the players to see more of their personal information in regards to playing time on the field. They will be able to see information such as yellow and red cards given, skills, stamina, overall performance, and substitution. There will be more information about the player that would let them determine what points they need to work on and how to prepare better for the next match.

# Known Problems/Future Enhancements

## Known Problems

In this database, one of the main problems was to enter player information and have it pertain only to the specific player. Player information would often get mixed up and I would not see the correct information displayed at times.

## Future Enhancements

In the future, some of the things that can be helpful for the players after all the implementations are completed can be performing better on the field by viewing personal statistics and displaying more information about matches and players.