Project Phase-3 (Team-62)

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Changes to the database made are as follows:

New Attribute – number of wins for the Team relation is added, number of wins for Captain relation is dropped, name of the umpire(fname, lname) umpiring the match with its nationality as a separate attribute is added in Match relation.

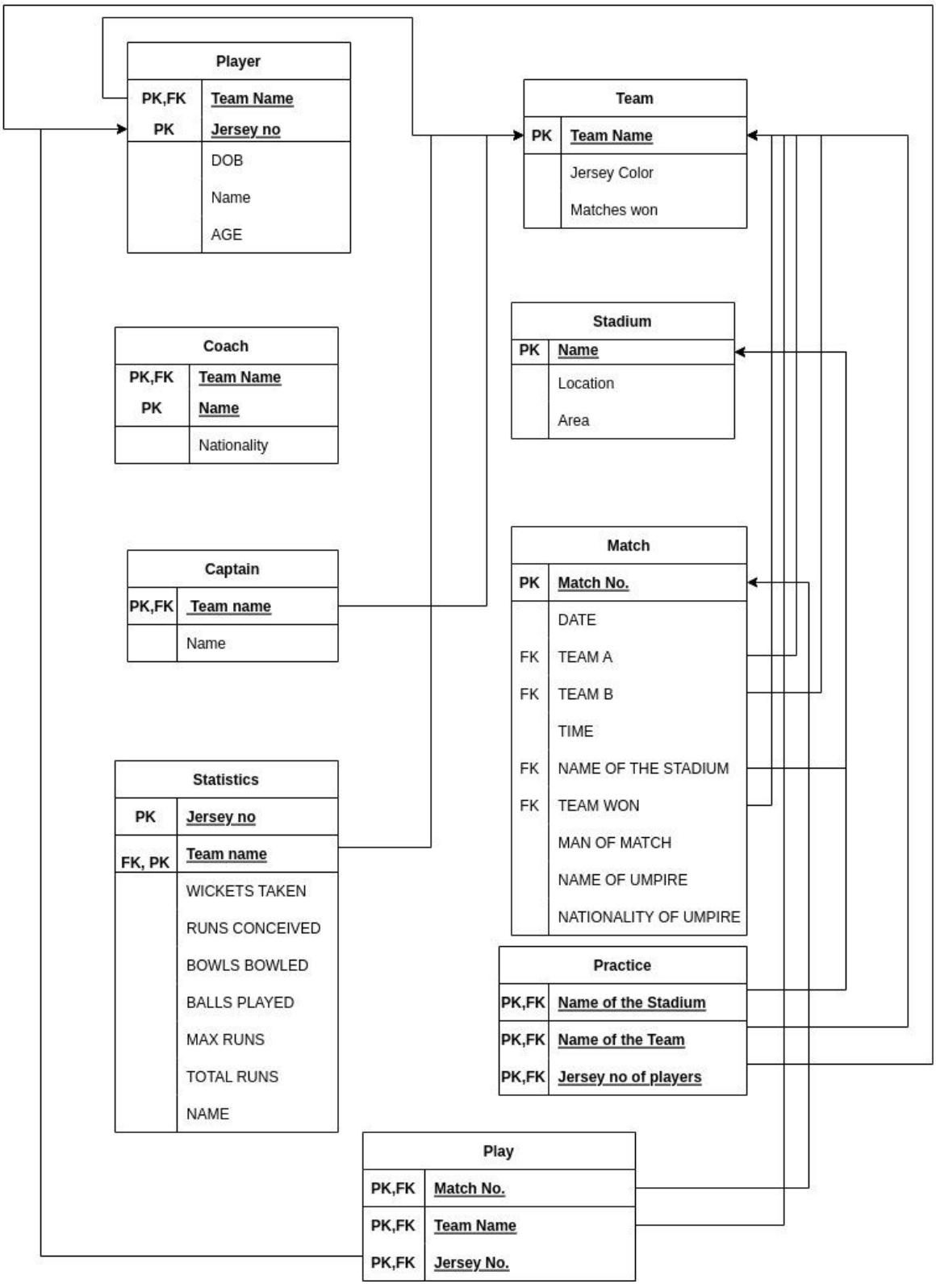
The following are the methods adopted to make the relational model from the ER diagram:

1. For 1:1 cardinality-ratio relationship type between **CAPTAIN** and **TEAMS,** Team name (primary key of **CAPTAIN)** is used in the **TEAMS** table as a foreign key.

2. For N:1 cardinality-ratio relationship type between MATCHES and **STADIUM,** Name of stadium (primary key of **STADIUM)** is used in the MATCHES table as a foreign key.

3.**PLAYERS** Practice in **STADIUM** is a M: N relationship type hence new relation Practice is created with the primary keys of participating entities (**PLAYERS** and **STADIUM)** as foreign keys in Practice Table.

4.For quaternary relationship type a new relation Play is added into the table with the primary keys of participating entities (**PLAYERS, STADIUM, TEAM, CAPTAIN**) as foreign keys in Play Table.

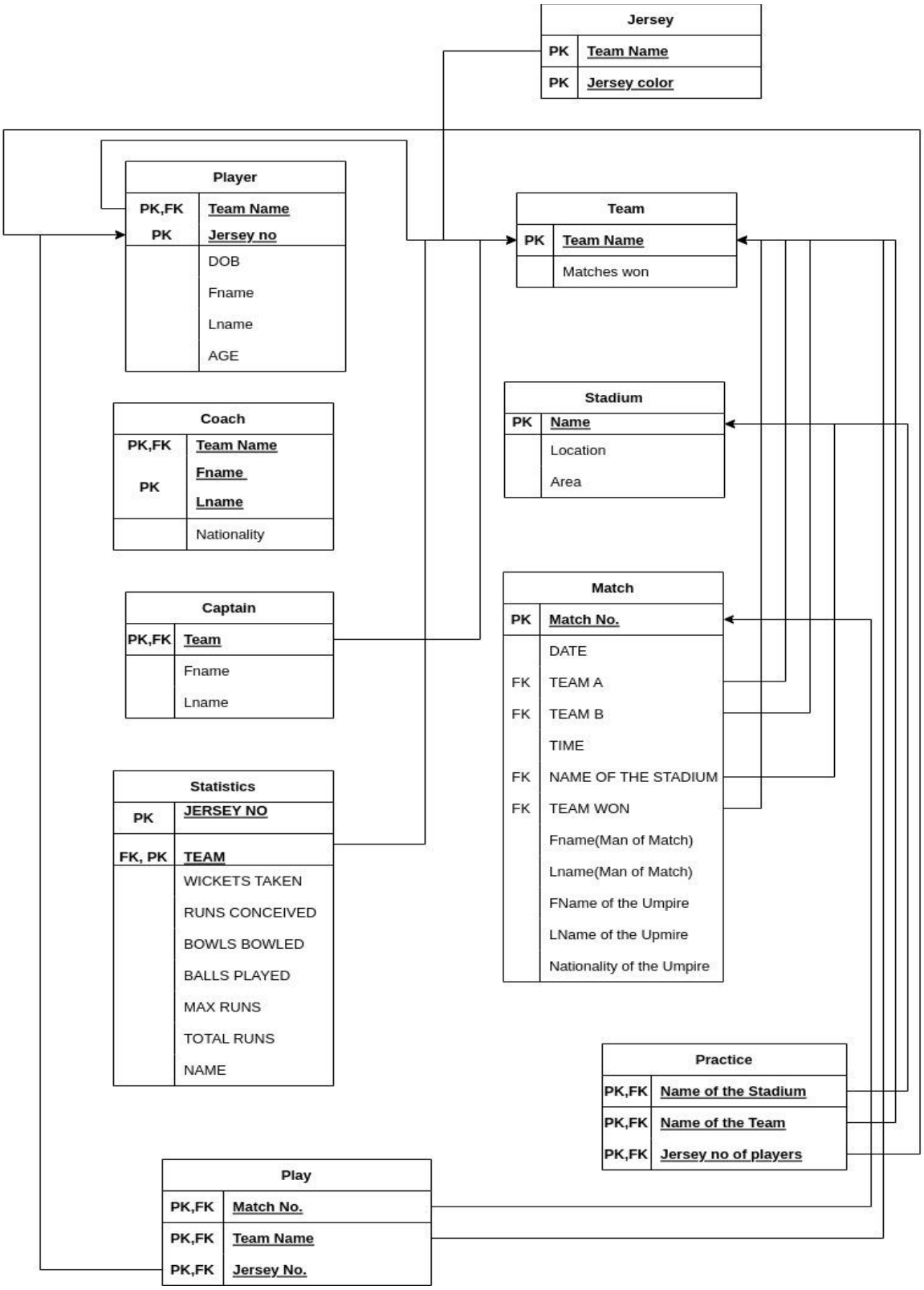

Player
PK,FK Team Name
PK Jersey no
DOB
Name
AGE
Team
PK Team Name
Jersey Color
Matches won
Coach
PK,FK Team Name
PK Name
Nationality
Stadium
PK Name
Location
Area
Captain
PK,FK Team name
Name
Match
PK Match No.
DATE
FK TEAM A
FK TEAM B
TIME
FK NAME OF THE STADIUM
FK TEAM WON
MAN OF MATCH
NAME OF UMPIRE
NATIONALITY OF UMPIRE
Statistics
PK Jersey no
FK, PK Team name
WICKETS TAKEN
RUNS CONCEIVED
BOWLS BOWLED
BALLS PLAYED
MAX RUNS
TOTAL RUNS
NAME
Practice
PK,FK Name of the Stadium
PK,FK Name of the Team
PK,FK Jersey no of players
Play
PK,FK Match No.
PK,FK Team Name
PK,FK Jersey No.

ALSO SINCE WE KNOW THAT THERE CAN BE ONLY 1 PRIMARY KEY IN A TABLE , IN THE DIAGRAM WHEREVER THERE IS PK MENTIONED IN FRONT OF MORE THAN ONE ATTRIBUTES THEN THE ATTRIBUTES TOGETHER FORMS THE PRIMARY KEY OF THE TABLE.

Changes Made for conversion of relational model to 1NF:

1. For multivalued attribute Jersey color in entity **TEAM** a new table **JERSEY** with PK (Jersey Color, Team name) with Team name as foreign key is used.
2. For composite attribute name we have used two different attributes as Fname and Lname.

THE DIAGRAM IS SHOWN IN THE FOLLOWING PAGE


Jersey
PK Team Name
PK Jersey color
Player
PK,FK Team Name
PK Jersey no
DOB
Fname
Lname
AGE
Team
PK Team Name
Matches won
Coach
PK,FK Team Name
PK Fname
Lname
Nationality
Stadium
PK Name
Location
Area
Captain
PK,FK Team
Fname
Lname
Match
PK Match No.
DATE
FK TEAM A
FK TEAM B
TIME
FK NAME OF THE STADIUM
FK TEAM WON
Fname(Man of Match)
Lname(Man of Match)
FName of the Umpire
LName of the Upmire
Nationality of the Umpire
Statistics
PK JERSEY NO
FK, PK TEAM
WICKETS TAKEN
RUNS CONCEIVED
BOWLS BOWLED
BALLS PLAYED
MAX RUNS
TOTAL RUNS
NAME
Practice
PK,FK Name of the Stadium
PK,FK Name of the Team
PK,FK Jersey no of players
Play
PK,FK Match No.
PK,FK Team Name
PK,FK Jersey No.

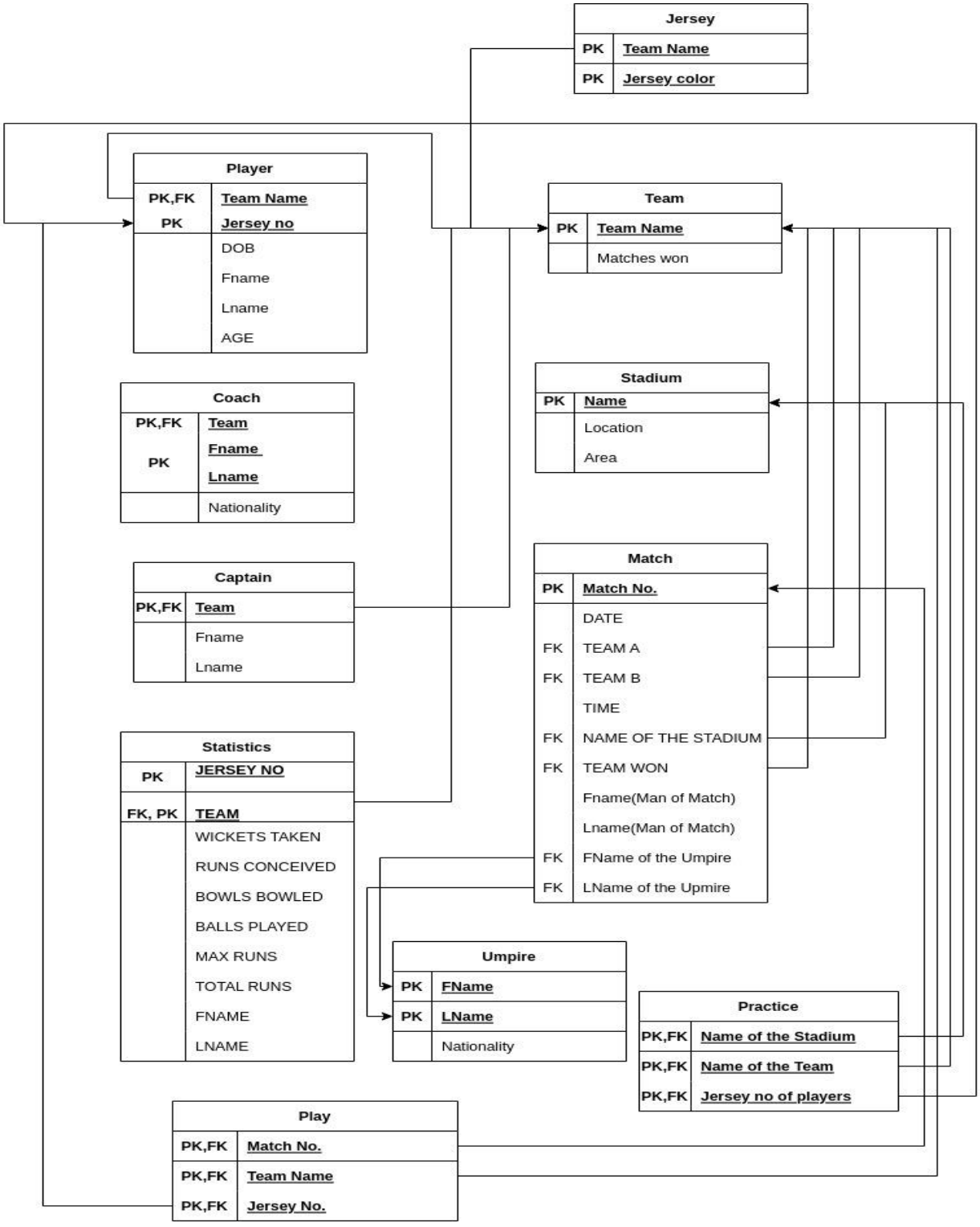
IN OUR DATABASE THE 1-NF FORMS AND 2-NF FORMS ARE SAME

The Changes made for conversion of 2-NF FORM To 3-NF FORM is listed below:

1. Match no -> Name of the umpire is a fully functionally dependent relation and Name of the umpire -> Nationality of the umpire is a fully functionally dependent relation. So, we have made a separate table of the umpire with name(fname,lname) and nationality of the umpire to remove transitive dependency.

THE DIAGRAM IS SHOWN IN THE FOLLOWING PAGE:

ALL THE CHANGES ARE MADE ACCORDING TO THE RULES SPECIFIED IN CHAPTERS 9 AND 14 OF COURSE BOOK.


Jersey
PK Team Name
PK Jersey color
Player
PK,FK Team Name
PK Jersey no
DOB
Fname
Lname
AGE
Team
PK Team Name
Matches won
Coach
PK,FK Team
PK Fname
Lname
Nationality
Stadium
PK Name
Location
Area
Captain
PK,FK Team
Fname
Lname
Match
PK Match No.
DATE
FK TEAM A
FK TEAM B
TIME
FK NAME OF THE STADIUM
FK TEAM WON
Fname(Man of Match)
Lname(Man of Match)
FK FName of the Umpire
FK LName of the Upmire
Statistics
PK JERSEY NO
FK, PK TEAM
WICKETS TAKEN
RUNS CONCEIVED
BOWLS BOWLED
BALLS PLAYED
MAX RUNS
TOTAL RUNS
FNAME
LNAME
Umpire
PK FName
PK LName
Nationality
Practice
PK,FK Name of the Stadium
PK,FK Name of the Team
PK,FK Jersey no of players
Play
PK,FK Match No.
PK,FK Team Name
PK,FK Jersey No.