**Soccer Transfers**

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)

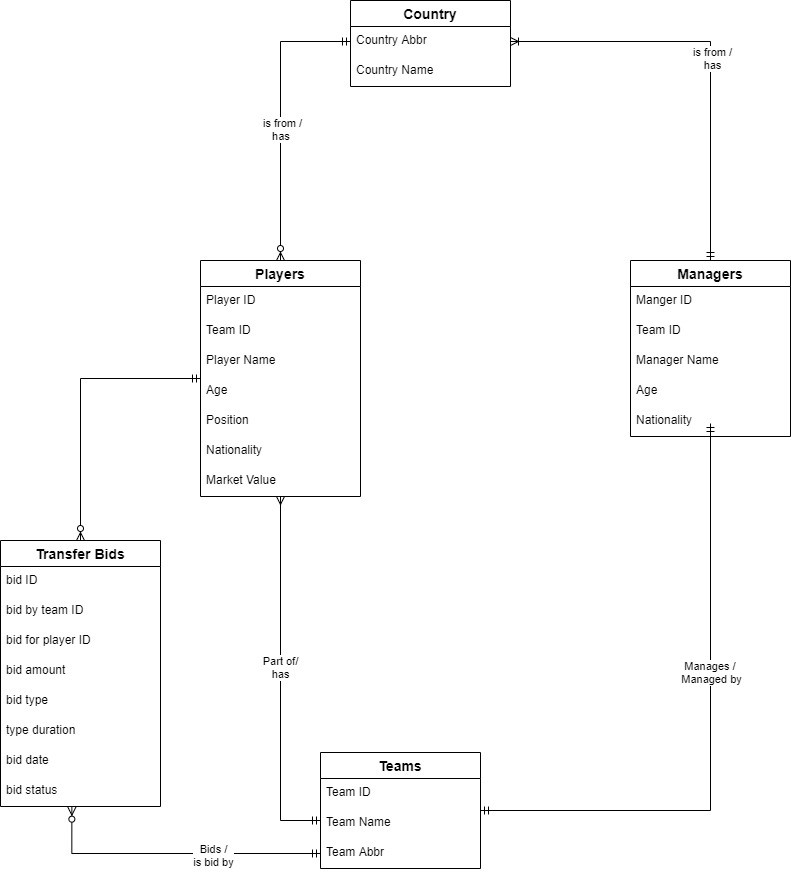
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An application in which multiple teams with multiple players are present. Each team will have a manager. For each player multiple teams can bid. The bid will be accepted /rejected/stalled by the manager. Highest bids are accepted. If bid amount is not greater than the current highest bid, the bid will not go through.



**Tables:**

Player

Manager Transfer bids Teams

Countries Team Stats

**Views:**

Each team has a view ( eg : fc Barcelona, Real Madrid, FC Bayern Munich, Manchester City, Manchester United) Transfers accepted.

Transfers rejected.

**Transactions:**

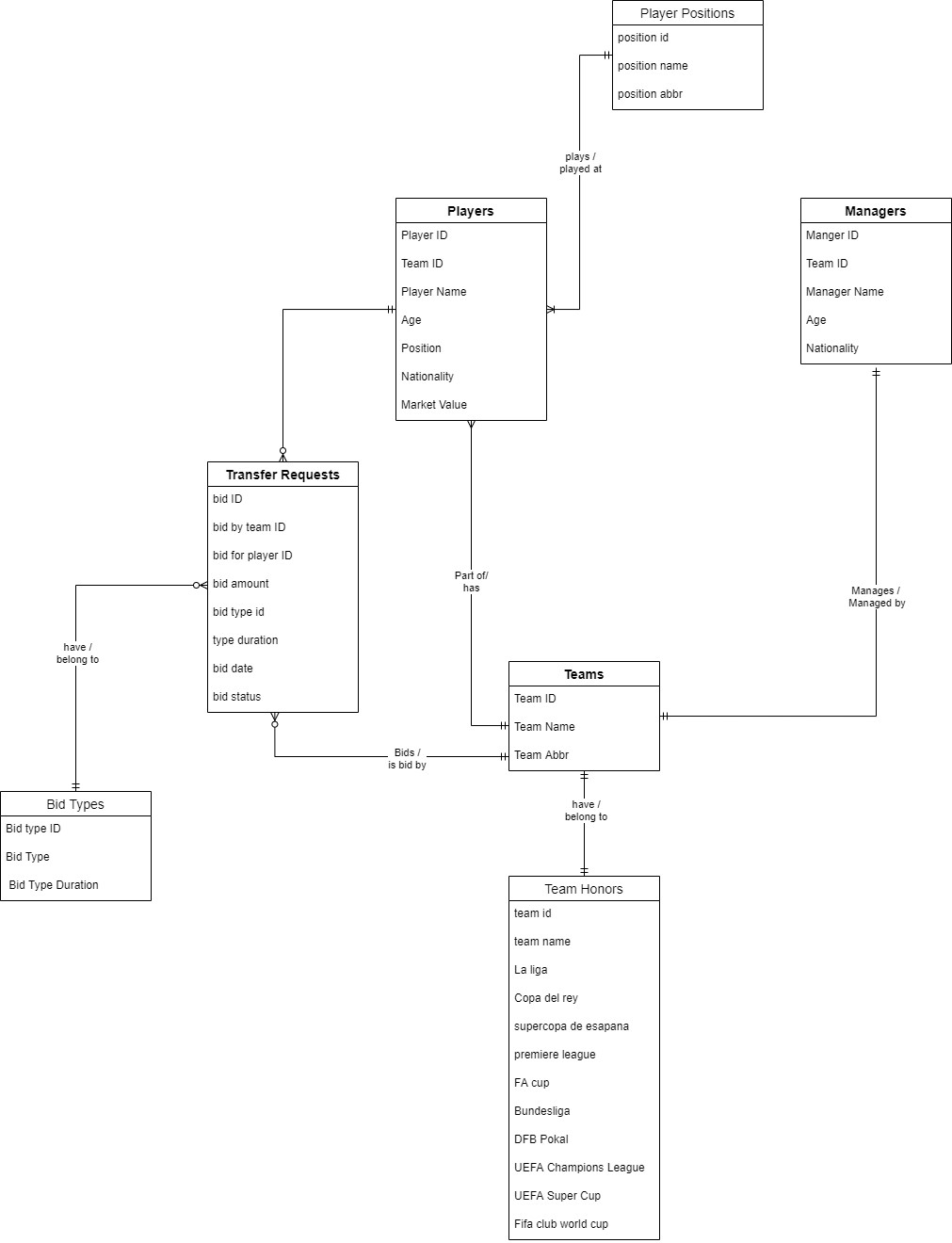
For each player only one bid is accepted, transaction on transfer request.

**Triggers:**

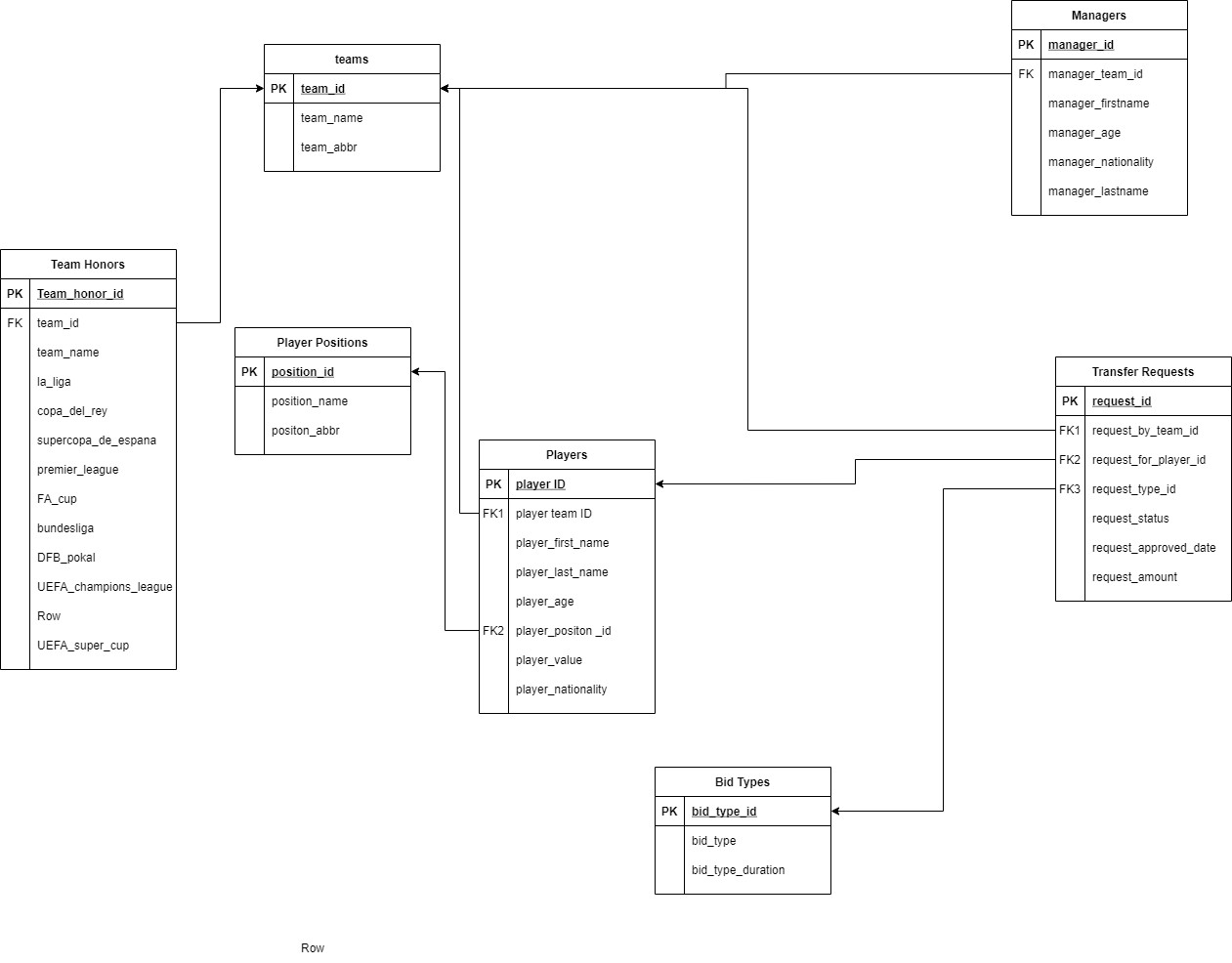
When a bid is accepted, as the date changes, the bid status changes from pending bid to approved. The status is changed from pending to approved and the player is team ID is upated.

While actually implementing the project we made multiple changes to our design.

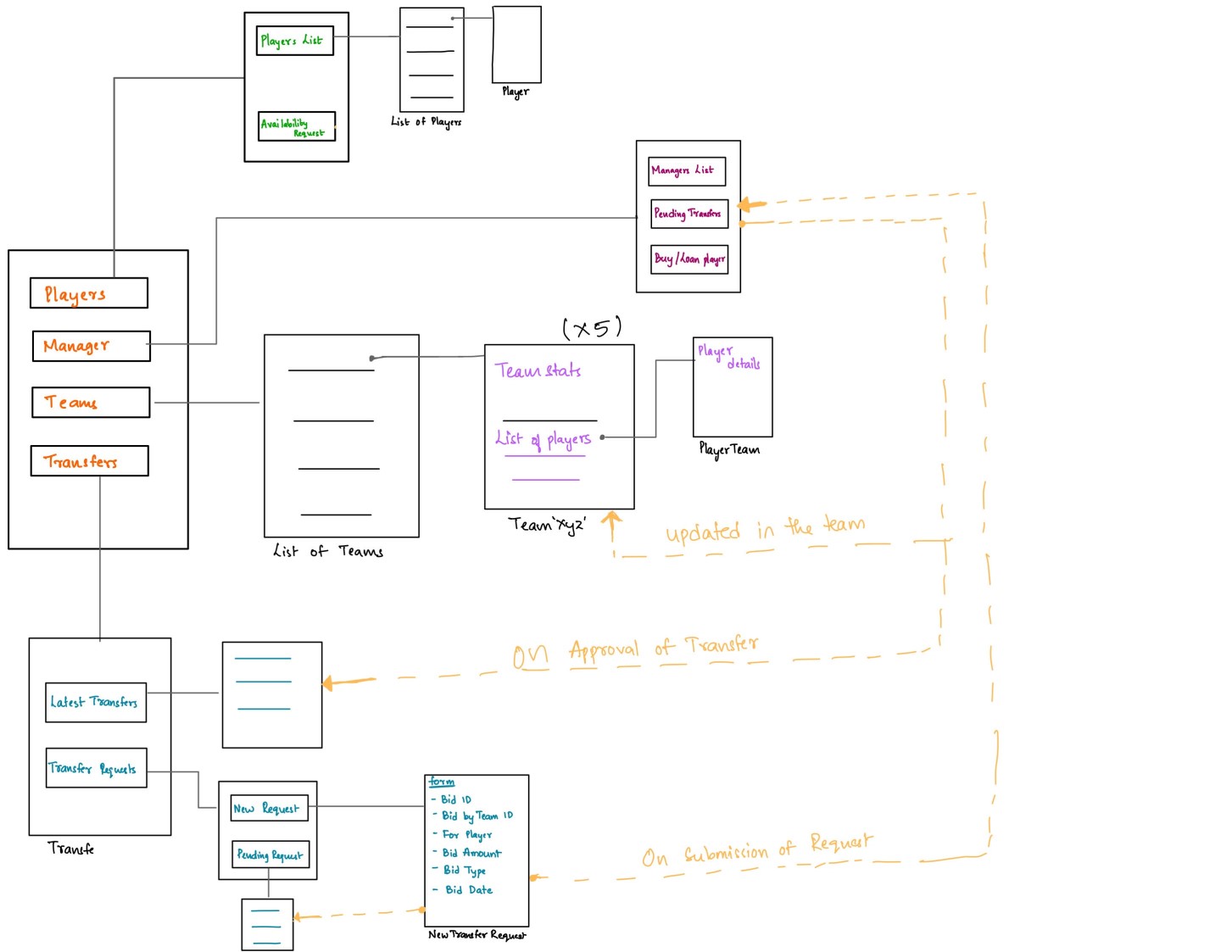
We generated a different ER diagram compared to the one that we submitted as the initial idea.



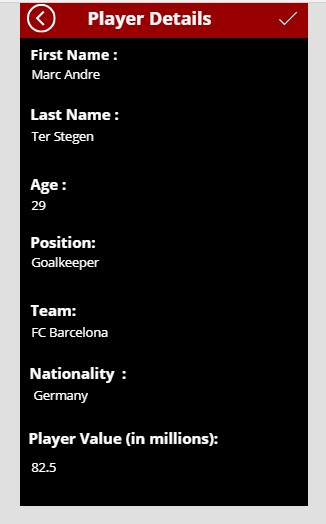
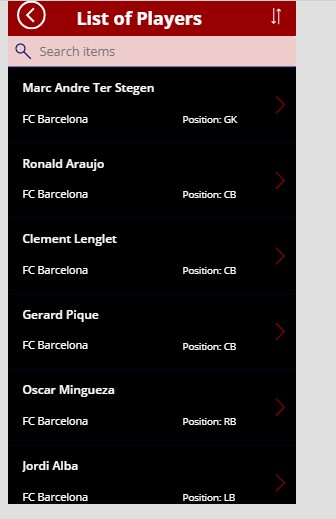
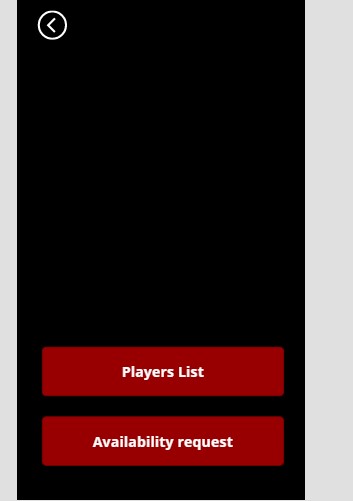
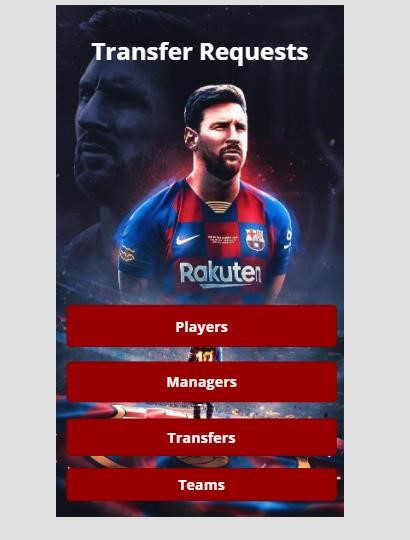
**Logical model for the generated database application**



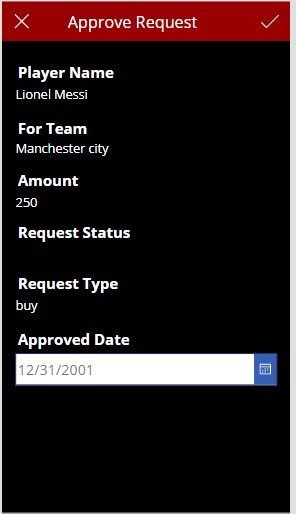
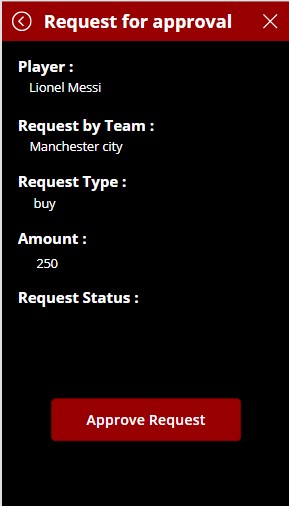
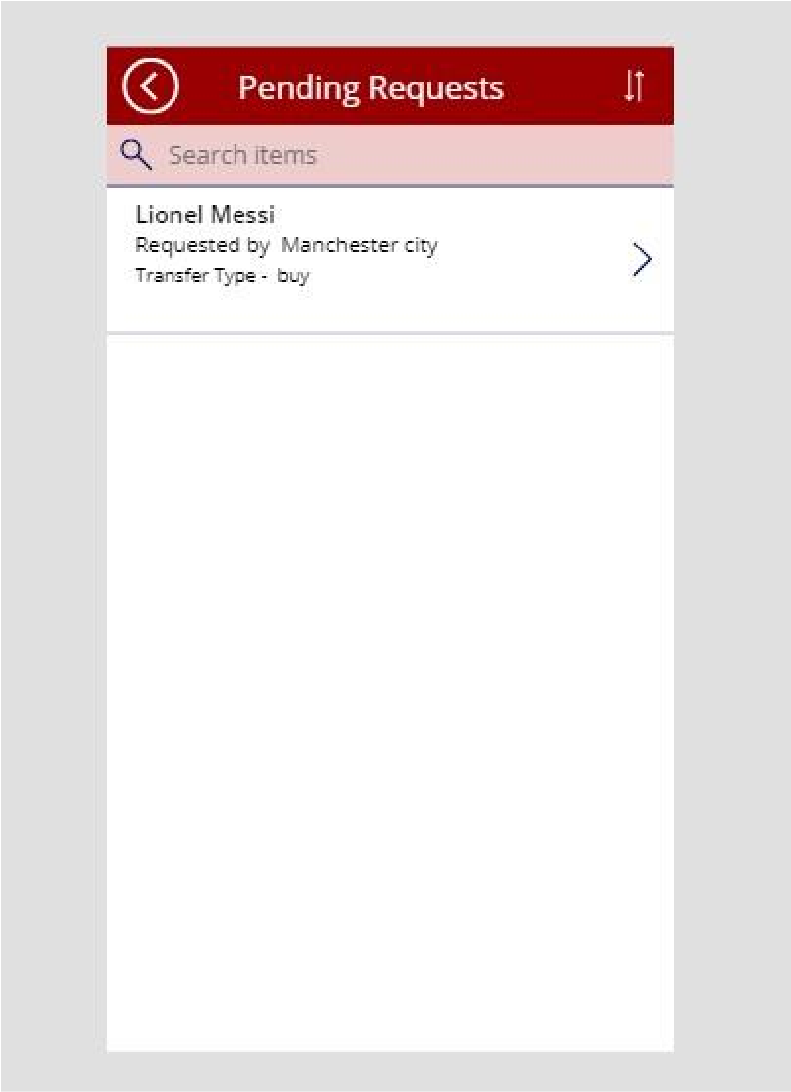
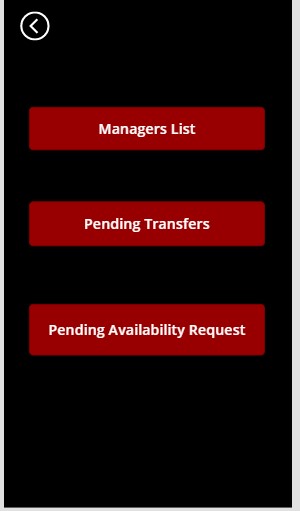
**Design of screens planned:**



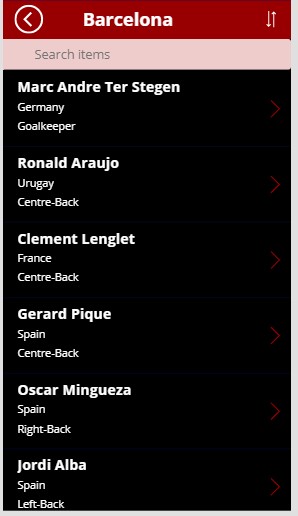
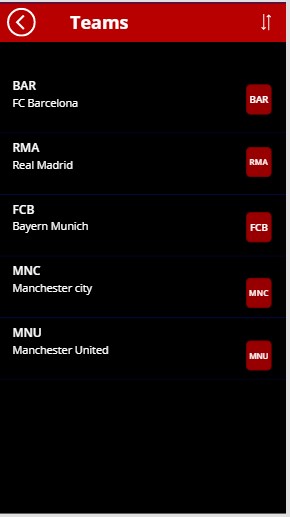
**All Screens:**



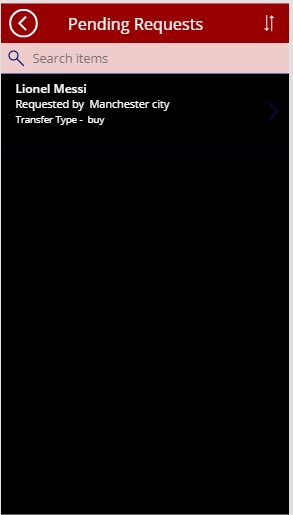
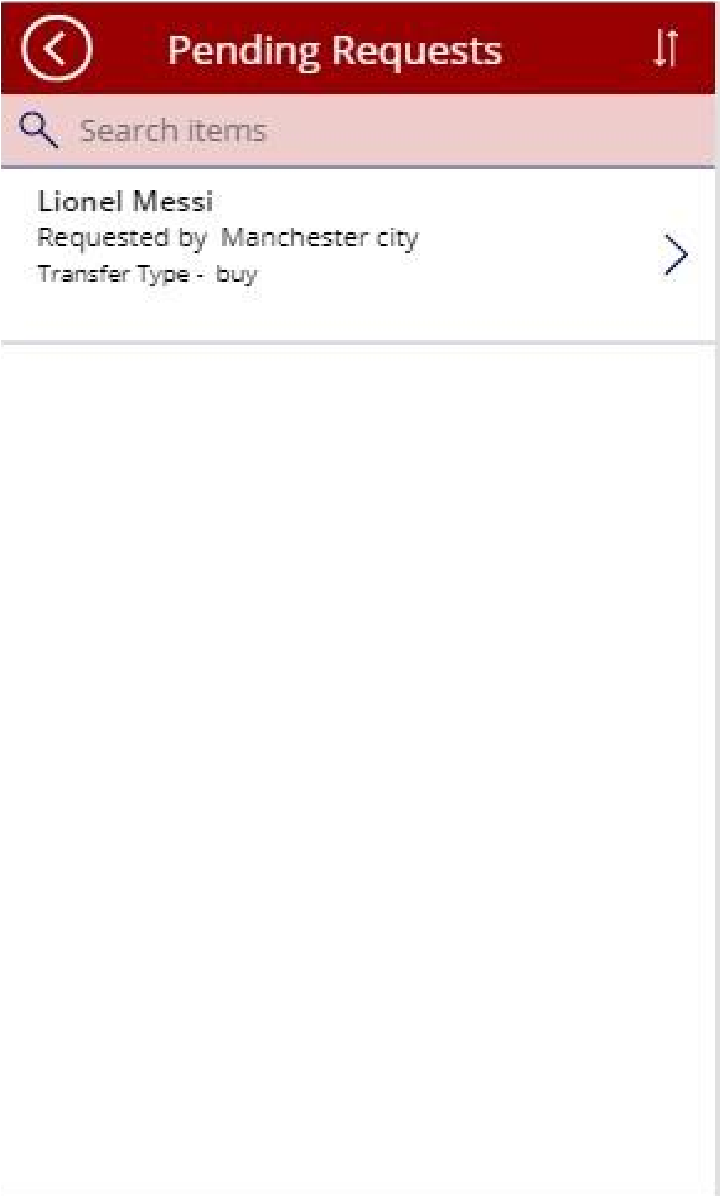
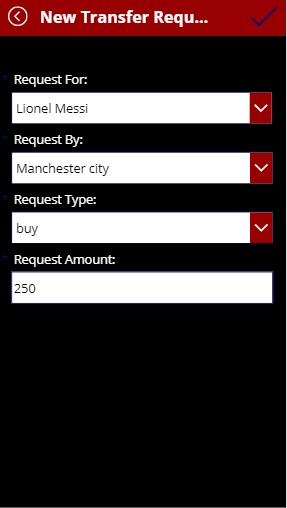
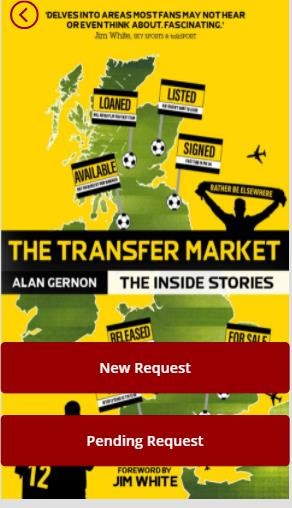
**Managers :**



**Teams :**



**Transfers :**



**Link to Video:**

<https://youtu.be/X3sivqBneZw>

If we had more time we would have implemented more features for live bidding and transfer requests. We would have made the availability requests possible too. We could have used procedures and indexes too.

**LOG :**

All throughout the weeks that we worked, both of us combined our efforts to do the project. The initially the idea was brought up by Bhargav. Creating Tables, Views initially was done by Dixitha. Tiggers and

Transactions were done by Bhargav after team discussion. Power apps were done collaboratively by both.

**sql code:**

--tables --down script if exists (select \* from INFORMATION\_SCHEMA.CONSTRAINT\_TABLE\_USAGE where CONSTRAINT\_NAME = 'fk\_team\_honors\_team\_id') alter table team\_honors drop fk\_team\_honors\_team\_id GO if exists (select \* from INFORMATION\_SCHEMA.CONSTRAINT\_TABLE\_USAGE where CONSTRAINT\_NAME = 'fk\_transfer\_requests\_request\_type\_id') alter table transfer\_requests drop fk\_transfer\_requests\_request\_type\_id GO if exists (select \* from INFORMATION\_SCHEMA.CONSTRAINT\_TABLE\_USAGE where CONSTRAINT\_NAME = 'fk\_transfer\_requests\_request\_for\_player\_id') alter table transfer\_requests drop fk\_transfer\_requests\_request\_for\_player\_id GO if exists (select \* from INFORMATION\_SCHEMA.CONSTRAINT\_TABLE\_USAGE where CONSTRAINT\_NAME = 'fk\_transfer\_requests\_request\_by\_team\_id') alter table transfer\_requests drop fk\_transfer\_requests\_request\_by\_team\_id GO if exists (select \* from INFORMATION\_SCHEMA.CONSTRAINT\_TABLE\_USAGE where CONSTRAINT\_NAME = 'fk\_managers\_manager\_team\_id') alter table managers drop fk\_managers\_manager\_team\_id GO if exists (select \* from INFORMATION\_SCHEMA.CONSTRAINT\_TABLE\_USAGE where CONSTRAINT\_NAME = 'fk\_players\_player\_position\_id') alter table players drop fk\_players\_player\_position\_id GO if exists (select \* from INFORMATION\_SCHEMA.CONSTRAINT\_TABLE\_USAGE where CONSTRAINT\_NAME = 'fk\_players\_player\_team\_id') alter table players drop fk\_players\_player\_team\_id GO

drop table if exists team\_honors GO

drop table if exists player\_positions GO

drop table if exists bid\_types GO

drop table if exists teams GO

drop table if exists transfer\_requests GO

drop table if exists managers GO

drop table if exists players

GO

--up script create table players ( player\_id int IDENTITY not NULL, player\_firstname varchar(50) not NULL, player\_lastname varchar(50) not NULL, player\_age int not NULL, player\_team\_id int not NULL, player\_position\_id int not null, player\_value money not NULL, player\_nationality varchar(15) not NULL,

constraint pk\_players\_player\_id primary key(player\_id) )

GO

create table managers ( manager\_id int IDENTITY not NULL, manager\_firstname varchar(50) not NULL, manager\_lastname varchar(50) not NULL, manager\_age int not NULL, manager\_team\_id int not NULL, manager\_nationality varchar(15) not NULL

constraint pk\_managers\_manager\_id primary key(manager\_id)

)

GO

create table transfer\_requests ( request\_id int IDENTITY not null, request\_by\_team\_id int not NULL, request\_for\_player\_id int not null, request\_amount money not null, request\_type\_id int not null, request\_status varchar(10) null, request\_approved\_date date null, request\_approved\_by\_manager\_id int null, constraint pk\_transfer\_requests\_request\_id primary key (request\_id)

)

GO

create table teams ( team\_id int IDENTITY not null, team\_name varchar(20) not null, team\_abbr char(3) not NULL, team\_transfer\_budget\_in\_millions money not null, constraint pk\_teams\_team\_id primary key (team\_id)

) create table bid\_types ( bid\_type\_id int IDENTITY not null, bid\_type varchar(20) not null, bid\_type\_duration varchar(20) not null, constraint lookup\_bid\_types\_bid\_type\_id primary key (bid\_type\_id)

) create table player\_positions ( position\_id int IDENTITY not null, position\_name varchar(20) not null, position\_abbr varchar(3) not null, constraint lookup\_player\_positions\_position\_id primary key (position\_id)

) create table team\_honors( team\_id int not null, team\_name varchar(20) not null,

La\_liga int null,

Copa\_del\_Rey int null,

Supercopa\_de\_Espana int null,

Premier\_League int null,

FA\_Cup int null,

Bundesliga int null,

DFB\_Pokal int NULL,

UEFA\_Champions\_League int not null,

UEFA\_super\_Cup int not null,

FIFA\_club\_world\_cup int NOT NULL

)

GO

--foreign keys

GO alter table players add constraint fk\_players\_player\_team\_id foreign key (player\_team\_id) references teams(team\_id) GO alter table players add constraint fk\_players\_player\_position\_id foreign key (player\_position\_id) references player\_positions (position\_id) GO alter table managers add constraint fk\_managers\_manager\_team\_id foreign key (manager\_team\_id) references teams(team\_id) GO alter table transfer\_requests add constraint fk\_transfer\_requests\_request\_by\_team\_id foreign key (request\_by\_team\_id) references teams(team\_id), constraint fk\_transfer\_requests\_request\_for\_player\_id foreign key (request\_for\_player\_id) references players(player\_id), constraint fk\_transfer\_requests\_request\_type\_id foreign key (request\_type\_id) references bid\_types(bid\_type\_id) GO alter table team\_honors add constraint fk\_team\_honors\_team\_id foreign key (team\_id) references teams(team\_id)

GO

-- inserting data

begin transaction insert into teams (team\_name, team\_abbr, team\_transfer\_budget\_in\_millions) values ('FC Barcelona', 'BAR', 500),

('Real Madrid', 'RMA', 500),

('Bayern Munich', 'FCB', 500),

('Manchester city', 'MNC', 500), ('Manchester United', 'MNU', 500) commit

GO begin TRANSACTION insert into bid\_types (bid\_type, bid\_type\_duration) values ('buy', 'permanent'), ('short-loan','1 season' ), ('long-loan', '2 seasons') commit GO begin transaction insert into player\_positions (position\_name, position\_abbr) values('Goalkeeper', 'GK'),

('Centre-Back', 'CB'),

('Left-Back', 'LB'),

('Right-Back', 'RB'),

('Denfensive Midfield', 'DM'),

('Central Midfield', 'CM'),

('Right Midfield', 'RM'),

('Left Midfield', 'LM'),

('Atacking Midfield', 'AM'),

('Left Winger', 'LW'),

('Right Winger', 'RW'),

('Second Striker', 'SS'), ('Centre-Forward', 'CF') commit GO begin transaction insert into players (player\_lastname, player\_firstname, player\_age, player\_value, player\_team\_id, player\_ nationality, player\_position\_id) values ('Ter Stegen', 'Marc Andre', 29, 82.5, 1, 'Germany', 1),

('Araujo', 'Ronald', 22, 27.5, 1, 'Urugay', 2),

('Lenglet', 'Clement', 25, 27.5, 1, 'France', 2),

('Pique', 'Gerard', 34, 13.2, 1, 'Spain', 2),

('Mingueza', 'Oscar', 21, 11, 1, 'Spain', 4),

('Alba', 'Jordi', 32, 27.5, 1, 'Spain', 3),

('Roberto', 'Sergi', 29, 27.5, 1, 'Spain', 3),

('Busquets', 'Sergio', 32, 11, 1, 'Spain', 5),

('De Jong', 'Frenkie', 23, 88, 1, 'Netherlands', 6),

('Philippe', 'Coutinho', 28, 44, 1, 'Brazil', 9), ('Fati', 'Ansu', 18, 88, 1, 'Spain', 10),

('Messi', 'Lionel', 33, 150, 1, 'Argentina', 11),

('Griezmann', 'Antoine', 30, 66, 1, 'France', 12),

('Gonzalez Lopez', 'Pedri', 18, 77, 1, 'Spain', 9),

('Dembele', 'Ousmane', 24, 55, 1, 'France', 11),

('Ramos', 'Sergio', 35, 15.4, 2, 'Spain', 2),

('Courtois', 'Thibaut', 28, 82.5, 2,'Belgium', 1),

('Varane', 'Raphael', 28, 77, 2, 'France', 2),

('Vieira da Silva Junior', 'Marcelo', 32, 11, 2, 'Brazil', 3),

('Carvajal', 'Daniel', 29, 44, 2, 'Spain', 4),

('Casemiro', 'Carlos Henrique',29 ,77 ,2 , 'Brazil', 5),

('Kroos', 'Toni ',31 ,55 ,2 , 'Germany', 6),

('Valverde', 'Federico ',22 ,77 , 2, 'Uruguay ', 6),

('Modric', 'Luka ',35 ,11 , 2, 'Croatia ', 6),

('Hazard', ' Eden', 30, 44, 2, ' Belgium', 10),

('Asensio', ' Marco', 25,38.5 , 2, 'Spain', 11),

('Benzema', 'Karim ',33 ,27.5 , 2, 'France ', 13),

('Junior', ' Vinicius', 20, 44, 2, 'Brazil ', 10),

('Vazquez', ' Lucas', 29, 16.5, 2, 'Spain', 11),

('Santana de Moraes', 'Ederson ',27 , 61.6, 4, 'Brazil', 1),

('Dias ', 'Ruben ', 23, 77, 4, ' Portugal', 2),

('Laporte', 'Aymeric ', 26, 55, 4, 'France ', 2),

('Stones ', 'John ', 26, 33, 4, 'England ', 2),

('Zinchenko', 'Oleksandr ', 24, 22, 4, ' Ukraine', 3),

('Kyle', 'Walker', 30, 38.5, 4, 'England', 4),

('Luiz Roza', 'Fernandinho ', 36, 2.75, 4, 'Brazil', 5),

('Foden', 'Phil', 36, 77, 4, 'England', 10),

('Gundogan', 'Ilkay', 30, 44, 4, ' Germany', 6),

('De Bruyne', 'Kevin ', 29, 110, 4, 'Belgium', 9),

('Silva ', 'Bernardo ', 26, 77, 4, 'Portugal', 9),

('Sterling', 'Raheem', 26, 110, 4, 'England', 10),

('Torres', 'Ferran', 21, 55, 4, 'Spain', 11),

('Mahrez', 'Riyad', 30, 46.2, 4, 'Algeria', 11),

('Jesus', 'Gabriel', 24, 66, 4, 'Brazil', 13),

('Aguero', 'Sergio', 32, 27.5, 4, 'Argentina', 13),

('de Gea', 'David', 30, 24.2, 5, 'Spain', 1),

('Maguire', 'Harry', 28, 44, 5, 'England', 2),

('Lindelof', 'Victor', 28, 26.4, 5, 'Sweden', 2),

('Telles', 'Alex', 28, 30.8, 5, 'Brazil', 3),

('Shaw', 'Luke', 25, 27.5, 5, 'England', 3),

('Matic', 'Nemanja', 32, 11, 5, 'Serbia', 5),

('Pogba', 'Paul', 28, 66, 5, 'France', 6),

('Van de Beek', 'Donny', 24, 38.5, 5, 'Netherlands', 6),

('Fernandes', 'Bruno', 26, 99, 5, 'Portugal', 9),

('Rashford', 'Marcus', 23, 93.5, 5, 'England', 10),

('Martial', 'Anthony', 25, 55, 5, ' France', 13),

('Greenwood', 'Mason', 19, 55, 5, 'England', 11),

('Neuer', 'Manuel', 35, 19.8, 3, 'Germany', 1),

('Alaba', 'David', 28, 60.5, 3, 'Austria', 2),

('Sule', 'Niklas', 25, 40.7, 3, 'Germany', 2),

('Boateng', 'Jerome', 32, 11, 3, 'Germany', 2),

('Davies', 'Alphonso', 20, 82.5, 3, 'Canada', 3),

('Hernandez', 'Lucas', 25, 49.5, 3, 'France', 3),

('Pavard', 'Benjamin', 25, 38.5, 3, 'France', 4), ('Kimmich', 'Joshua', 26, 99, 3, 'Germany', 5),

('Coman', 'Kingsley', 24, 71.5, 3, 'France', 10),

('Gnabry', 'Serge', 25, 77, 3, 'Germany', 11),

('Sane', 'Leroy', 25, 77, 3, 'Germany', 11),

('Muller', 'Thomas', 31, 38.5, 3, 'Germany', 12),

('Lewandowski', 'Robert', 32, 66, 3, 'Poland', 13), ('Goretzka', 'Leon', 26, 77, 3, 'Germany', 6) commit

GO begin transaction insert into managers(manager\_firstname, manager\_lastname, manager\_team\_id, manager\_age, manager\_nationali ty) values ('Ronald', 'Koeman', 1, 58, 'Netherlands'),

('Zinedine', 'Zidan', 2, 48, 'France'),

('Julian', 'Nagelsmann', 3, 33, 'Germany'),

('Pep', 'Guardiola', 4, 50, 'Spain'), ('Ole', 'Gunnar', 5, 48, 'Norway') commit GO begin transaction

insert into team\_honors(team\_id, team\_name, La\_liga, Copa\_del\_Rey, Supercopa\_de\_Espana, Premier\_League, F A\_Cup, Bundesliga, DFB\_Pokal, UEFA\_Champions\_League, UEFA\_super\_Cup, FIFA\_club\_world\_cup) values(1, 'Barcelona', 26, 31, 13, null, null, null, null, 5, 5, 3 ), (2, 'Real Madrid', 34, 19, 11, null, null, null, null, 13, 5, 4),

(3, 'Bayern Munich', null, null, null, null, null, 31, 20, 6, 2, 2),

(4, 'Manchester City', null, null, null, 7, 6, null, null, 0, 0, 0), (5, 'Manchester United', null, null, null, 20, 12, null, null, 3, 1, 1) commit

GO

/\* La liga copa del rey supercopa champions league super cup club world cup

Barcelona 26 31 13 5 5 3 Real Madrid 34 19 11 13 4 4 Premier FA cup

Man city 7 6 0 0

0

Man u 20 12 3 1

1

Bundesliga DFB Pokal 6 2

2

Bayern Muhich 31 20 6 2

2

\*/

--Views

--down script drop view if exists latest\_transfers drop view if exists Bayern\_Munich drop view if exists Manchester\_United drop view if exists Real\_Madrid drop view if exists Manchester\_City drop view if exists FC\_Barcelona

--up script GO create VIEW FC\_Barcelona as select p.player\_id, p.player\_firstname + ' ' + p.player\_lastname as player\_name, p.player\_age, pp.pos ition\_name as player\_position, p.player\_value, p.player\_nationality from players p join teams t on t.team\_id = p.player\_team\_id join player\_positions pp on pp.position\_id = p.player\_position\_id where t.team\_name = 'FC Barcelona'

GO create VIEW Manchester\_City as select p.player\_id, p.player\_firstname + ' ' + p.player\_lastname as player\_name, p.player\_age, pp.pos ition\_name as player\_position, p.player\_value, p.player\_nationality from players p join teams t on t.team\_id = p.player\_team\_id join player\_positions pp on pp.position\_id = p.player\_position\_id where t.team\_name = 'Manchester City'

GO create VIEW Real\_Madrid as select p.player\_id, p.player\_firstname + ' ' + p.player\_lastname as player\_name, p.player\_age, pp.pos ition\_name as player\_position, p.player\_value, p.player\_nationality from players p join teams t on t.team\_id = p.player\_team\_id join player\_positions pp on pp.position\_id = p.player\_position\_id

where t.team\_name = 'Real Madrid'

GO create VIEW Manchester\_United as select p.player\_id, p.player\_firstname + ' ' + p.player\_lastname as player\_name, p.player\_age, pp.pos ition\_name as player\_position, p.player\_value, p.player\_nationality from players p join teams t on t.team\_id = p.player\_team\_id join player\_positions pp on pp.position\_id = p.player\_position\_id where t.team\_name = 'Manchester United'

GO create view Bayern\_Munich as select p.player\_id, p.player\_firstname + ' ' + p.player\_lastname as player\_name, p.player\_age, pp.pos ition\_name as player\_position, p.player\_value, p.player\_nationality from players p join teams t on t.team\_id = p.player\_team\_id join player\_positions pp on pp.position\_id = p.player\_position\_id where t.team\_name = 'Bayern Munich'

GO

create view latest\_transfers as select p.player\_id, p.player\_firstname + ' ' + p.player\_lastname as player\_name, bf.team\_name as from

\_team, bb.team\_name, tb.request\_amount, bt.bid\_type from transfer\_requests tb join players p on p.player\_id = tb.request\_for\_player\_id join teams bb on bb.team\_id = tb.request\_by\_team\_id join teams bf on bf.team\_id = p.player\_team\_id

join bid\_types bt on bt.bid\_type\_id = tb.request\_type\_id

GO select\* from teams select \* from players select\* from FC\_Barcelona select m.manager\_firstname + ' ' + m.manager\_lastname as manager\_name, t.team\_name from managers m join teams t on t.team\_id = m.manager\_team\_id select \* from player\_positions

select \* from team\_honors

/\* Transfer News -> Latest transfers,

Transfer Request -> New Request

Pending Requests

\*/

GO

DROP TRIGGER if exists t\_transfer\_requests\_bid\_status

GO --up create trigger t\_transfer\_requests\_bid\_status on transfer\_requests after insert, update as BEGIN declare @playerid int; declare @teamid int; declare @reqid int; select @playerid = i.request\_for\_player\_id from inserted i select @teamid = i.request\_by\_team\_id from inserted i begin transaction if update(request\_approved\_date) BEGIN

update transfer\_requests SET request\_status = CASE when request\_approved\_date is not null then 'Approved' when request\_approved\_date is null then 'Pending'

END

End commit

END

GO

drop trigger if exists t\_transfer\_requests\_request\_status

GO create trigger t\_transfer\_requests\_request\_status on transfer\_requests after UPDATE as BEGIN

declare @playerid int; declare @teamid int;

select @playerid = i.request\_for\_player\_id from inserted i select @teamid = i.request\_by\_team\_id from inserted i Begin transaction if update(request\_status) begin

## update players

# set player\_team\_id = @teamid

where player\_id = @playerid

END

COMMIT

End

DROP TRIGGER if exists t\_team\_transfer\_requests\_request\_status

GO --up create trigger t\_team\_transfer\_requests\_request\_status on transfer\_requests after update as BEGIN declare @playerid int; declare @teamid int; declare @reqid int; select @playerid = i.request\_for\_player\_id from inserted i select @teamid = i.request\_by\_team\_id from inserted i

-- if update(request\_status) begin

# -- update players

-- set player\_team\_id = @teamid -- where player\_id = @playerid if update(request\_status) BEGIN

update players

SET player\_team\_id = case when i.request\_approved\_date is not null then @teamid end from players p join transfer\_requests tr on p.player\_id = tr.request\_for\_player\_id join inserted i on i.request\_for\_player\_id = p.player\_id

end

End

drop trigger if exists t\_t GO create trigger t\_t on transfer\_requests after update as BEGIN declare @playerid int; declare @teamid int; declare @reqid int; select @playerid = i.request\_for\_player\_id from inserted i select @teamid = i.request\_by\_team\_id from inserted i

-- if update(request\_status) begin

-- update players

-- set player\_team\_id = @teamid -- where player\_id = @playerid if (select count(\*) from inserted where request\_status = 'Approved' ) BEGIN update players

SET player\_team\_id = case when i.request\_approved\_date is not null then @teamid end from players p join transfer\_requests tr on p.player\_id = tr.request\_for\_player\_id join inserted i on i.request\_for\_player\_id = p.player\_id

end

End update p set player\_team\_id = @teamid from players p

join inserted i on p.player\_id = i.request\_for\_player\_id where i.request\_approved\_date is not null

select \* from transfer\_requests