



CS353 - Database Management
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Project Design Report

Name of the Project :
Scouting Platform For Football Clubs
Group No : 10

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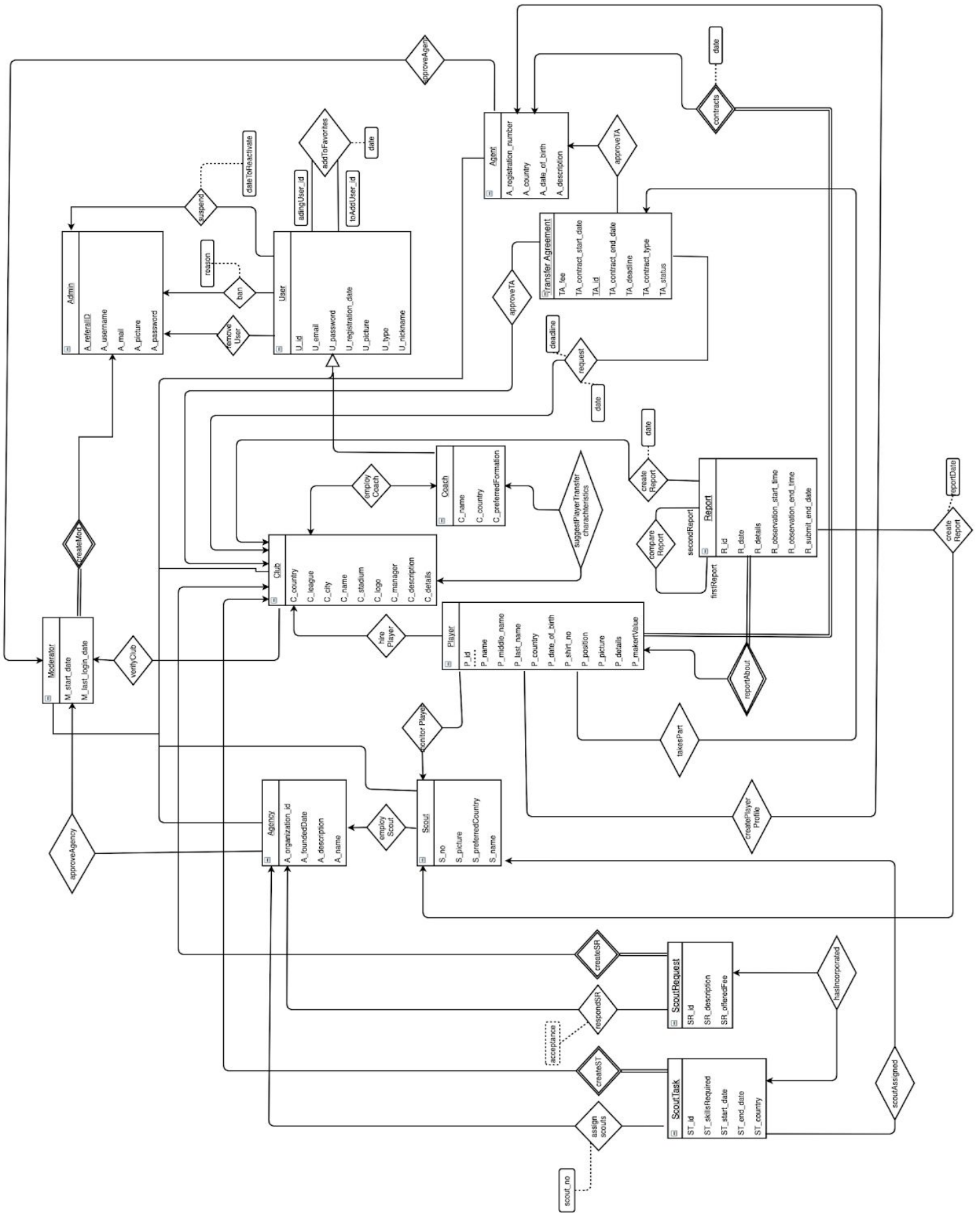
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1. Revised E/R

According to our TA's feedback, following changes are done in our ER diagram:

- Notations are changed.
- For different types of users, username and password attributes are added.
- We have had more than one entity in a single aggregation. We have changed that as one relation.
- In the Transfer Agreement and Report, we have had two weak relations. We have changed the relation between Report and createReport.
- Secondly transfer agreement had two weak relations with request and approveTa with Agent and Club. We have changed these relations. We have made all relations as a normal relation.
- Our Scout entity was a weak entity. We have changed that.
- We have had some foreign keys in our diagram. Later on, we did not emphasize them in the ER diagram.



2. Table Schemas

The following gives a view of all the table schemas for the entities used in our ER.

User

Relational Model

User(U_id, U_email, U_password, U_registration_date, U_picture, U_type, U_nickname)

Domains

U_id	varchar (255)
U_email	varchar (128)
U_password	varchar (64)
U_registration_date	timestamp
U_picture	text
U_type	varchar (16)
U_nickname	varchar (64)

Candidate Keys

{{(U_id),(U_email),(U_password),(U_nickname)}}

Primary Keys

{{(U_id)}}

Normal Form

BSNF

Table Definition

```
create table User(  
    U_id varchar(255),  
    U_email varchar(128),  
    U_password varchar(64),  
    U_registration_date timestamp,  
    U_picture text,  
    U_type varchar(16),  
    U_nickname varchar(64),  
    primary key (U_id)  
);
```

```
mysql> create table User(  
->     U_id varchar(255),  
->     U_email varchar(128),  
-> U_password varchar(64),  
-> U_registration_date timestamp,  
-> U_picture text,  
-> U_type varchar(16),  
-> U_nickname varchar(64),  
-> primary key (U_id )  
-> );  
Query OK, 0 rows affected (0.02 sec)
```

Moderator

Relational Model

Moderator(U_id, A_referralID, M_start_date, M_last_login_date)

Foreign Key U_id references User(U_id)

Foreign Key A_referralID references Admin(A_referralID)

Domains

<u>U_id</u>	varchar(255)
<u>A_referralID</u>	varchar(255)
M_start_date	timestamp
M_last_login_date	timestamp

Candidate Keys

{{U_id, A_referralID}}

Primary Keys

{{U_id, A_referralID}}

Normal Form

BSNF

Table Definition

```
create table Moderator(  
    U_id varchar(255),  
    M_start_date timestamp,  
    M_last_login_date timestamp,  
    foreign key (U_id) references User(U_id)  
);
```

```
mysql> create table Moderator(  
->     U_id varchar(255),  
-> M_start_date timestamp,  
-> M_last_login_date timestamp,  
-> foreign key (U_id) references User(U_id)  
-> );  
Query OK, 0 rows affected (0.04 sec)
```

Agency

Relational Model

Agency(U_id, A_organization_id, A_foundedDate, A_description, A_name)

Foreign Key U_id references User(U_id)

Domains

<u>U_id</u>	varchar(255)
A_organization_id	int

A_foundedDate	timestamp
A_description	text
A_name	varchar(255)

Candidate Keys

{{U_id}}

Primary Keys

{{U_id}}

Normal Form

BSNF

Table Definition

```
create table Agency(
    U_id varchar(255),
    A_organization_id int,
    A_foundedDate timestamp,
    A_description text,
    A_name varchar(255),
    foreign key (U_id) references User(U_id)
);
```

```
mysql> create table Agency(
->     U_id varchar(255),
->     A_organization_id int,
->     A_foundedDate timestamp,
->     A_description text,
->     A_name varchar(255),
->     foreign key (U_id) references User(U_id)
-> );
Query OK, 0 rows affected (0.04 sec)
```

Scout

Relational Model

Scout(U_id, S_no, S_picture, S_preferredCountry, S_name)

Foreign Key U_id references User(U_id)

Domains

<u>U_id</u>	varchar(255)
S_no	int
S_picture	text
S_preferredCountry	varchar(64)
S_name	varchar(64)

Candidate Keys

{{U_id}}

Primary Keys

{{(U_id)}}

Normal Form

BSNF

Table Definition

```
create table Scout(  
    U_id varchar(255),  
    S_no int,  
    S_picture text,  
    S_preferredCountry varchar(64),  
    S_name varchar(64),  
    foreign key (U_id) references User(U_id)  
);
```

```
mysql> create table Scout(  
->     U_id varchar(255),  
-> S_no int,  
-> S_picture text,  
-> S_preferredCountry varchar(64),  
-> S_name varchar(64),  
-> foreign key (U_id) references User(U_id)  
-> );  
Query OK, 0 rows affected (0.05 sec)
```

Agent

Relational Model

Agent(U_id, A_registration_number, A_country, A_date_of_birth, A_description)
Foreign Key U_id references User(U_id)

Domains

<u>U_id</u>	varchar (255)
A_registration_number	int
A_country	varchar (64)
A_date_of_birth	timestamp
A_description	text

Candidate Keys

{{(U_id)}}

Primary Keys

{{(U_id)}}

Normal Form

BSNF

Table Definition


```

create table Agent(
    U_id varchar(255),
    A_registration_number int,
    A_country varchar(64),
    A_date_of_birth timestamp,
    A_description text,
    foreign key (U_id) references User(U_id)
);

```

```

mysql> create table Agent(
->     U_id varchar(255),
->     A_registration_number int,
->     A_country varchar(64),
->     A_date_of_birth timestamp,
->     A_description text,
->     foreign key (U_id) references User(U_id)
-> );
Query OK, 0 rows affected (0.04 sec)

```

Player

Relational Model

Player(P_id, U_id, P_name, P_middle_name, P_last_name, P_country, P_shirtno,
 P_position, P_picture, P_marketValue, P_details)
 Foreign Key U_id references Agent(U_id)

Domains

<u>P_id</u>	varchar(255)
<u>U_id</u>	varchar(255)
P_name	varchar(32)
P_middle_name	varchar(32)
P_last_name	varchar(32)
P_country	varchar(64)
P_position	varchar(16)
P_shirtno	int
P_marketValue	int
P_picture	text
P_details	text

Candidate Keys

{{P_id, U_id}}

Primary Keys

{{U_id, P_id}}

Normal Form

BSNF

Table Definition

```

create table Player(
  P_id varchar(255),
  U_id varchar(255),
  P_name varchar(32),
  P_middle_name varchar(32),
  P_last_name varchar(32),
  P_country varchar(64),
  P_position varchar(16),
  P_shirtno int,
  P_marketValue int,
  P_picture text,
  P_details text,
  primary key (P_id ),
  foreign key (U_id) references
  Agent(U_id)
);

```

```

mysql> create table Player(
  -> P_id varchar(255),
  -> U_id varchar(255),
  -> P_name varchar(32),
  -> P_middle_name varchar(32),
  -> P_last_name varchar(32),
  -> P_country varchar(64),
  -> P_position varchar(16),
  -> P_shirtno int,
  -> P_marketValue int,
  -> P_picture text,
  -> P_details text,
  -> primary key (P_id ),
  -> foreign key (U_id) references
  -> Agent(U_id)
  -> );
Query OK, 0 rows affected (0.05 sec)

```

Coach

Relational Model

Coach(U_id, C_country, C_preferredFormation)
 Foreign Key U_id references User(U_id)

Domains

U_id	varchar (255)
C_country	varchar (64)
C_preferredFormation	varchar (8)

Candidate Keys

{(U_id)}

Normal Form

BSNF

Table Definition

```
create table Coach(  
    U_id varchar(255),  
    C_country varchar(64),  
    C_preferedFormation varchar(64),  
    foreign key (U_id) references User(U_id)  
);
```

```
mysql> create table Coach(  
->     U_id varchar(255),  
->     C_country varchar(64),  
->     C_preferedFormation varchar(64),  
->     foreign key (U_id) references User(U_id)  
-> );  
Query OK, 0 rows affected (0.04 sec)
```

Admin

Relational Model

Admin(A_referalID, A_username, A_password, A_accountNo, A_picture)

Domains

A_referalID	varchar (255)
A_username	varchar (64)
A_password	varchar (64)
A_accountNo	int
A_picture	text

Candidate Keys

{{(A_referalID),(A_username),(A_password),(A_accountNo)}}

Primary Keys

{{(A_referalID)}}

Normal Form

BSNF

Table Definition

```

create table Admin(
A_referalID varchar(255),
A_username varchar(64),
A_password varchar(20),
A_accountNo int,
A_picture text,
primary key (A_referalID )
);

```

```

mysql> create table Admin(
-> A_referalID varchar(255),
-> A_username varchar(64),
-> A_password varchar(20),
-> A_accountNo int,
-> A_picture text,
-> primary key (A_referalID )
-> );
Query OK, 0 rows affected (0.04 sec)

```

Transfer Agreement

Relational Model

TransferAgreement(TA_id, TA_fee, TA_contract_start_date, TA_contract_end_date, TA_contract_type, TA_status, TA_deadline)

Domains

<u>TA_id</u>	varchar (255)
TA_fee	float
TA_contract_start_date	timestamp
TA_contract_end_date	timestamp
TA_deadline	timestamp
TA_contract_type	varchar (8)
TA_status	varchar (8)

Candidate Keys

{{TA_id}}

Primary Keys

{{TA_id}}

Normal Form

BSNF

Table Definition

```

create table TransferAgreement(
  TA_id varchar(255),
  TA_fee float,
  TA_contract_start_date timestamp,
  TA_contract_end_date timestamp,
  TA_deadline timestamp,
  TA_contract_type varchar(8),
  TA_status varchar(8),
  primary key (TA_id )
);

```

```

mysql> create table TransferAgreement(
->   TA_id varchar(255),
->   TA_fee float,
->   TA_contract_start_date timestamp,
->   TA_contract_end_date timestamp,
->   TA_deadline timestamp,
->   TA_contract_type varchar(8),
->   TA_status varchar(8)
-> );
Query OK, 0 rows affected (0.04 sec)

```

Club

Relational Model

User(U_id, C_country, C_league, C_city, C_name, C_stadium, C_logo,
 C_manager, C_description, C_details)
 Foreign Key U_id references User(U_id)

Domains

<u>U_id</u>	varchar (255)
C_country	varchar (64)
C_league	varchar (64)
C_city	varchar (64)
C_stadium	varchar (64)
C_logo	varchar (64)
C_manager	varchar (64)

Candidate Keys

{{(U_id),(C_name),(C_logo)}}

Primary Keys

{{(U_id)}}

Normal Form

BSNF

Table Definition

```

create table Club(
    U_id varchar(255),
    C_country varchar(64),
    C_league varchar(64),
    C_city varchar(64),
    C_stadium varchar(64),
    C_logo varchar(64),
    C_manager varchar(64),
foreign key (U_id) references User(U_id)
);

```

```

mysql> create table Club(
->     U_id varchar(255),
->     C_country varchar(64),
-> C_league varchar(64),
-> C_city varchar(64),
-> C_stadium varchar(64),
-> C_logo varchar(64),
-> C_manager varchar(64),
-> foreign key (U_id) references User(U_id)
-> );
Query OK, 0 rows affected (0.04 sec)

```

ScoutRequest

Relational Model

ScoutRequest(SR_id, U_id, SR_description, SR_offeredFee)
 Foreign Key U_id references Club(U_id)

Domains

<u>SR_id</u>	varchar (255)
<u>U_id</u>	varchar (255)
SR_description	text
SR_offeredFee	float

Candidate Keys

{(SR_id, U_id)}

Primary Keys

{(SR_id, U_id)}

Normal Form

BSNF

Table Definition

```

create table ScoutRequest(
    SR_id varchar(255),
    U_id varchar(255),
    SR_description text,
    SR_offeredFee float,
    primary key (SR_id ),
    foreign key (U_id) references
    Club(U_id)
);

```

```

mysql> create table ScoutRequest(
->   SR_id varchar(255),
->   U_id varchar(255),
->   SR_description text,
->   SR_offeredFee float,
->   primary key (SR_id ),
->   foreign key (U_id) references Club(U_id)
-> );
Query OK, 0 rows affected (0.03 sec)

```

ScoutTask

Relational Model

ScoutTask(ST_id, U_id, ST_skillsRequired, ST_country, ST_start_date, ST_end_date)
 Foreign Key U_id references Club(U_id)

Domains

<u>ST_id</u>	varchar (255)
<u>U_id</u>	varchar (255)
ST_country	varchar (64)
ST_start_date	timestamp
ST_end_date	timestamp

Candidate Keys

{{ST_id, U_id}}

Primary Keys

{{ST_id, U_id}}

Normal Form

BSNF

Table Definition

```

create table ScoutTask(
  ST_id varchar(255),
  U_id varchar(255),
  ST_country varchar(64),
  ST_start_date timestamp,
  ST_end_date timestamp,
  primary key (ST_id ),
  foreign key (U_id) references
Club(U_id)
);

```

```

mysql> create table ScoutTask(
-> ST_id varchar(255),
-> U_id varchar(255),
-> ST_country varchar(64),
-> ST_start_date timestamp,
-> ST_end_date timestamp,
-> primary key (ST_id ),
-> foreign key (U_id) references Club(U_id)
-> );
Query OK, 0 rows affected (0.03 sec)

```

Report

Relational Model

Report(R_id, P_id, R_details, R_observation_start_time, R_observation_end_time, R_submit_end_date)
 Foreign Key P_id references Player(P_id)

Domains

R_id	varchar(255)
P_id	varchar(255)
R_details	text
R_observation_start_time	timestamp
R_observation_end_time	timestamp
R_submit_end_date	timestamp

Candidate Keys

{(R_id, P_id)}

Primary Keys

{(R_id, P_id)}

Normal Form

BSNF

Table Definition


```

create table Report(
  R_id varchar(255),
  P_id varchar(255),
  R_details text,
  R_observation_start_time timestamp,
  R_observation_end_time timestamp,
  R_submit_end_date timestamp,
  primary key (R_id ),
  foreign key (P_id) references
  Player(P_id)
);

```

```

mysql> create table Report(
->   R_id varchar(255),
->   P_id varchar(255),
->   R_details text,
->   R_observation_start_time timestamp,
->   R_observation_end_time timestamp,
->   R_submit_end_date timestamp,
->   primary key (R_id ),
->   foreign key (P_id) references Player(P_id)
-> );
Query OK, 0 rows affected (0.04 sec)

```

approveAgency

Relational Model

approveAgency(A_id, M_id, approval_date)
 Foreign Key A_id references Agency(U_id)
 Foreign Key M_id references Moderator(U_id)

Domains

A_id	varchar (255)
M_id	varchar (255)
approval_date	timestamp

Candidate Keys

{{A_id}}

Primary Keys

{{A_id}}

Normal Form

BSNF

Table Definition

```

create table approveAgency(
  A_id varchar(255),
  M_id varchar(255),
  approval_date timestamp,
  foreign key (M_id) references
  Moderator(U_id),
  foreign key (A_id) references
  Agency(U_id)
);

```

```

mysql> create table approveAgency(
->   A_id varchar(255),
->   M_id varchar(255),
-> approval_date timestamp,
->   foreign key (M_id) references Moderator(U_id),
->   foreign key (A_id) references Agency(U_id)
-> );
Query OK, 0 rows affected (0.04 sec)

```

createMod

Relational Model

```

createMod(U_id, A_referalID, M_start_date)
Foreign Key U_id references Moderator(U_id)
Foreign Key A_referalID references Admin(A_referalID)

```

Domains

A_referalID	varchar (255)
U_id	varchar (255)
M_start_date	timestamp

Candidate Keys

```

{{U_id, A_referalID}}

```

Primary Keys

```

{{U_id}}

```

Normal Form

BSNF

Table Definition

```

create table createMod(
  U_id varchar(255),
  A_referralID varchar(255),
  M_start_date timestamp,
  foreign key (A_referralID) references
    Admin(A_referralID),
  foreign key (U_id) references
    Moderator(U_id)
);

```

```

mysql> create table createMod(
->   U_id varchar(255),
->   A_referralID varchar(255),
->   M_start_date timestamp,
->   foreign key (A_referralID) references
->     Admin(A_referralID),
->   foreign key (U_id) references
->     Moderator(U_id)
-> );
Query OK, 0 rows affected (0.05 sec)

```

assignScouts

Relational Model

assignScouts(U_id, ST_id, M_start_date, scout_no)

Foreign Key U_id references Agency(U_id)

Foreign Key ST_id references ScoutTask(ST_id)

Domains

U_id	varchar (255)
ST_id	varchar (255)
M_start_date	timestamp
scout_no	int

Candidate Keys

{{U_id}}

Primary Keys

{{U_id}}

Normal Form

BSNF

Table Definition

```

create table assignScouts(
  U_id varchar(255),
  ST_id varchar(255),
  M_start_date timestamp,
  scout_no int,
  foreign key (U_id) references
  Agency(U_id),
  foreign key (ST_id) references
  ScoutTask(ST_id)
);

```

```

mysql> create table assignScouts(
->   U_id varchar(255),
->   ST_id varchar(255),
->   M_start_date timestamp,
->   scout_no int,
->   foreign key (U_id) references Agency(U_id),
->   foreign key (ST_id) references
->   ScoutTask(ST_id)
-> );
Query OK, 0 rows affected (0.04 sec)

```

createST

Relational Model

```

createTS(U_id, ST_id)
Foreign Key U_id references Club(U_id)
Foreign Key ST_id references ScoutTask(ST_id)

```

Domains

U_id	varchar (255)
ST_id	varchar (255)

Candidate Keys

{{U_id}}

Primary Keys

{{U_id}}

Normal Form

BSNF

Table Definition

```

create table createTS(
  U_id varchar(255),
  ST_id varchar(255),
  foreign key (U_id) references
  Club(U_id),
  foreign key (ST_id) references
  ScoutTask(ST_id)
);

```

```

mysql> create table createTS(
->   U_id varchar(255),
->   ST_id varchar(255),
->   foreign key (U_id) references Club(U
->   foreign key (ST_id) references
->   ScoutTask(ST_id)
-> );
Query OK, 0 rows affected (0.05 sec)

```

respondSR

Relational Model

respondSR(U_id, SR_id, acceptance)

Foreign Key U_id references Club(U_id)

Foreign Key SR_id references ScoutRequest(SR_id)

Domains

U_id	varchar (255)
SR_id	varchar (255)
acceptance	varchar (8)

Candidate Keys

{{U_id, SR_id}}

Primary Keys

{{SR_id, U_id}}

Normal Form

BSNF

Table Definition

```

create table respondSR(
    U_id varchar(255),
    SR_id varchar(255),
    acceptance varchar(8),
    foreign key (U_id) references
    Club(U_id),
    foreign key (SR_id) references
    Scout_Request(U_id)
);

```

```

mysql> create table respondSR(
->   U_id varchar(255),
->   SR_id varchar(255),
->   acceptance varchar(8),
->   foreign key (U_id) referenc
->       club(U_id),
->   foreign key (SR_id) referenc
->       Scout_Request(U_id)
-> );
Query OK, 0 rows affected (0.03 sec

```

createSR

Relational Model

createTS(U_id, SR_id)

Foreign Key U_id references Club(U_id)

Foreign Key SR_id references ScoutRequest(SR_id)

Domains

U_id	varchar (255)
SR_id	varchar (255)

Candidate Keys

{{U_id,SR_id}}

Primary Keys

{{U_id,SR_id}}

Normal Form

BSNF

Table Definition

```
mysql> create table createsSR(
->   U_id varchar(255),
->   SR_id varchar(255),
->   foreign key (U_id) references Club(U_id),
->   foreign key (SR_id) references ScoutRequest(U_id)
-> );
Query OK, 0 rows affected (0.04 sec)
```

Table Definition

```

create table hasIncorporated(
  U_id varchar(255),
  SR_id varchar(255),
  ST_id varchar(255),
  foreign key (U_id) references
  Club(U_id),
  foreign key (SR_id) references
  ScoutRequest(SR_id),
  foreign key (ST_id) references
  ScoutTask(ST_id)
);

```

```

mysql> create table hasIncorporated(
->   U_id varchar(255),
->   SR_id varchar(255),
->   ST_id varchar(255),
->   foreign key (U_id) references Club(U_id),
->   foreign key (SR_id) references
->   ScoutRequest(SR_id),
->   foreign key (ST_id) references
->   ScoutTask(ST_id)
-> );
Query OK, 0 rows affected (0.05 sec)

```

scoutAssigned

Relational Model

```

scoutAssigned(A_id,ST_id,S_id)
Foreign Key A_id references Agency(U_id)
Foreign Key S_id references Scout(U_id)
Foreign Key ST_id references ScoutTask(ST_id)

```

Domains

ST_id	varchar (255)
SR_id	varchar (255)
SR_id	varchar (255)

Candidate Keys

```

{(U_id)}

```

Primary Keys

```

{(U_id)}

```

Normal Form

BSNF

Table Definition


```

create table scoutAssigned(
  A_id varchar(255),
  ST_id varchar(255),
  S_id varchar(255),
  foreign key (A_id) references
  Agency(U_id),
  foreign key (ST_id) references
  ScoutTask(ST_id),
  foreign key (S_id) references
  Scout(U_id));

```

```

mysql> create table scoutAssigned(
->   A_id varchar(255),
->   ST_id varchar(255),
->   S_id varchar(255),
->   foreign key (A_id) references Agency(U_id)
->   foreign key (ST_id) references ScoutTask(ST_id)
->   foreign key (S_id) references Scout(U_id));
Query OK, 0 rows affected (0.04 sec)

```

createReport

Relational Model

```

createReport(U_id,R_id,P_id, reportDate)
Foreign Key U_id references Club(U_id)
Foreign Key P_id references Player(P_id)

```

Domains

P_id	varchar (255)
R_id	varchar (255)
U_id	varchar (255)
reportDate	timestamp

Candidate Keys

```

{{U_id,R_id,P_id}}

```

Primary Keys

```

{{R_id}}

```

Normal Form

BSNF

Table Definition

```

create table createReport(
  U_id varchar(255),
  P_id varchar(255),
  R_id varchar(255),
  reportDate timestamp,
  foreign key (U_id) references
Club(U_id),
  foreign key (P_id) references
Player(P_id),
  foreign key (R_id) references
Report(R_id),
);

```

```

mysql> create table createReport(
->   U_id varchar(255),
->   P_id varchar(255),
->   R_id varchar(255),
->   reportDate timestamp,
->   foreign key (U_id) references Club(U_id),
->   foreign key (P_id) references Player(P_id),
->   primary key (R_id )
-> );
Query OK, 0 rows affected (0.03 sec)

```

reportAbout

Relational Model

reportAbout(R_id,P_id)

Foreign Key R_id references Report(R_id)

Foreign Key P_id references Player(P_id)

Domains

R_id **varchar**(255)

P_id **varchar**(255)

Candidate Keys

{{R_id,P_id}}

Primary Keys

{{R_id,P_id}}

Normal Form

BSNF

Table Definition

```

create table reportAbout(
    R_id varchar(255),
    P_id varchar(255),
    foreign key (R_id) references
    Report(R_id),
    foreign key (P_id) references
    Player(P_id)
);

```

```

mysql> create table reportAbout(
->   R_id varchar(255),
->   P_id varchar(255),
->   foreign key (R_id) references Report(R_id),
->   foreign key (P_id) references Player(P_id)
-> );
Query OK, 0 rows affected (0.04 sec)

```

compareReport

Relational Model

compareReport(firstReport,secondReport,firstPlayer,secondPlayer)

Domains

firstReport	varchar (255)
secondReport	varchar (255)
firstPlayer	varchar (255)
secondPlayer	varchar (255)

Candidate Keys

{firstReport,secondReport,firstPlayer,secondPlayer}}

Normal Form

BSNF

Table Definition

```

create table compareReport(
    firstReport varchar(255),
    secondReport varchar(255),
    firstPlayer varchar(255),
    secondPlayer varchar(255),
    foreign key (firstPlayer) references
    Player(P_id),
    foreign key (secondPlayer) references
    Player(P_id),

```

```

mysql> create table compareReport(
->   firstReport varchar(255),
->   secondReport varchar(255),
->   firstPlayer varchar(255),
->   secondPlayer varchar(255),
->   foreign key (firstPlayer) references
->   Player(P_id),
->   foreign key (secondPlayer) references
->   Player(P_id),
->   foreign key (firstReport) references
->   Report(R_id),
->   foreign key (secondReport) references
->   Report(R_id)
-> );
Query OK, 0 rows affected (0.06 sec)

```

foreign key (firstReport) **references**
Report(R_id),
foreign key (secondReport)**references**
Report(R_id)
);

employScout

Relational Model

employScout(A_id,S_id,date)
Foreign Key A_id references Agency(U_id)
Foreign Key P_id references Scout(U_id)

Domains

A_id	varchar (255)
S_id	varchar (255)
date	timestamp

Candidate Keys

{(A_id,S_id)}

Primary Keys

{(S_id)}

Normal Form

BSNF

Table Definition

```
create table employScout(  
  A_id varchar(255),  
  S_id varchar(255),  
  date timestamp,  
  foreign key (A_id) references  
  Agency(U_id),  
  foreign key (S_id) references  
  Scout(U_id)  
);
```

```
mysql> create table employScout(  
->   A_id varchar(255),  
->   S_id varchar(255),  
->   date timestamp,  
->   foreign key (A_id) references Agency(U_i  
->   foreign key (S_id) references Scout(U_id  
-> );  
Query OK, 0 rows affected (0.04 sec)
```

hirePlayer

Relational Model

hirePlayer(U_id,P_id,date)

Foreign Key U_id references Club(U_id)

Foreign Key P_id references Player(P_id)

Domains

U_id **varchar(255)**

P_id **varchar(255)**

date **timestamp**

Candidate Keys

{{U_id,P_id}}

Normal Form

BSNF

Table Definition

```
create table hirePlayer(  
    U_id varchar(255),  
    P_id varchar(255),  
    date timestamp,  
    foreign key (U_id) references  
    Club(U_id),  
    foreign key (P_id) references  
    Player(P_id)  
);
```

```
mysql> create table hirePlayer(  
->   U_id varchar(255),  
->   P_id varchar(255),  
->   date timestamp,  
->   foreign key (U_id) references Club(U_id),  
->   foreign key (P_id) references Player(P_id)  
-> );  
Query OK, 0 rows affected (0.05 sec)
```

employCoach

Relational Model

employCoach(U_id,C_id,date)

Foreign Key U_id references Club(U_id)

Foreign Key C_id references Coach(U_id)

Domains

U_id **varchar(255)**

P_id	varchar(255)
date	timestamp

Candidate Keys

{{U_id,C_id}}

Normal Form

BSNF

Table Definition

```
create table employCoach(
  U_id varchar(255),
  P_id varchar(255),
  date timestamp,
  foreign key (U_id) references
  Club(U_id),
  foreign key (U_id) references
  Coach(U_id)
);
```

```
mysql> create table employCoach(
->   U_id varchar(255),
->   P_id varchar(255),
->   date timestamp,
->   foreign key (U_id) references Club(U_id),
->   foreign key (U_id) references Coach(U_id)
-> );
Query OK, 0 rows affected (0.03 sec)
```

monitorPlayer

Relational Model

```
monitorPlayer(U_id,P_id,date)
Foreign Key U_id references Scout(U_id)
Foreign Key P_id references Player(P_id)
```

Domains

<u>U_id</u>	varchar(255)
<u>P_id</u>	varchar(255)
date	timestamp

Candidate Keys

{{U_id, P_id}}

Normal Form

BSNF

Table Definition

```
create table monitorPlayer(  
  U_id varchar(255),  
  P_id varchar(255),  
  date timestamp,  
  foreign key (U_id) references  
  Scout(U_id),  
  foreign key (P_id) references  
  Player(P_id)  
);
```

```
mysql> create table monitorPlayer(  
->  U_id varchar(255),  
->  P_id varchar(255),  
->  date timestamp,  
->  foreign key (U_id) references Scout(U_id),  
->  foreign key (P_id) references Player(P_id)  
-> );  
Query OK, 0 rows affected (0.05 sec)
```

suggestPCharacteristics

Relational Model

suggestPCharacteristics(U_id,C_id,date)
Foreign Key U_id references Club(U_id)
Foreign Key C_id references Coach(U_id)

Domains

<u>U_id</u>	varchar (255)
C_id	varchar (255)
date	timestamp

Candidate Keys

{{U_id,C_id}}

Primary Keys

{{U_id,C_id}}

Normal Form

BSNF

Table Definition

```

create table suggestPCharacteristics(
    U_id varchar(255),
    C_id varchar(255),
    date timestamp,
    foreign key (U_id) references
    Club(U_id),
    foreign key (C_id) references
    Coach(U_id)
);

```

```

mysql> create table suggestPCharacteristics(
->   U_id varchar(255),
->   C_id varchar(255),
->   date timestamp,
->   foreign key (U_id) references Club(U_id),
->   foreign key (C_id) references Coach(U_id)
-> );
Query OK, 0 rows affected (0.04 sec)

```

createPlayerProfile

Relational Model

```

createPlayerProfile(A_id,P_id,date)
Foreign Key P_id references Player(P_id)
Foreign Key A_id references Agent(U_id)

```

Domains

<u>U_id</u>	varchar (255)
P_id	varchar (255)
date	timestamp

Candidate Keys

{{U_id, P_id}}

Primary Keys

{{P_id}}

Normal Form

BSNF

Table Definition


```

create table createPlayerProfile(
  A_id varchar(255),
  P_id varchar(255),
  date timestamp,
  foreign key (A_id) references
  Agent(U_id),
  foreign key (P_id) references
  Player(P_id)
);

```

```

mysql> create table createPlayerProfile(
->   A_id varchar(255),
->   P_id varchar(255),
->   date timestamp,
->   foreign key (A_id) references Agent(U_id),
->   foreign key (P_id) references Player(P_id)
-> );
Query OK, 0 rows affected (0.04 sec)

```

approveTA

Relational Model

```

approveTA(U_id,TA_id,date)
Foreign Key U_id references Club(U_id)

```

Domains

U_id	varchar (255)
TA_id	varchar (255)
date	timestamp

Candidate Keys

```
{{U_id,TA_id}}
```

Primary Keys

```
{{TA_id}}
```

Normal Form

BSNF

Table Definition

```

create table approveTA(
  U_id varchar(255),
  TA_id varchar(255),
  date timestamp,
  foreign key (U_id) references
  Club(U_id)
);

```

```

mysql> create table approveTA(
->   U_id varchar(255),
->   TA_id varchar(255),
->   date timestamp,
->   foreign key (U_id) references Club(U_id)
-> );
Query OK, 0 rows affected (0.04 sec)

```

approveAgent

Relational Model

```

approveAgent(M_id,A_referalID,A_id,date)
Foreign Key M_id references Moderator(U_id)
Foreign Key A_referalID references Moderator(A_referalID)
Foreign Key A_id references Agent(U_id)

```

Domains

M_id	varchar (255)
A_id	varchar (255)
A_referalID	varchar (255)
date	timestamp

Candidate Keys

```

{(M_id,A_id,A_referalID)}

```

Primary Keys

```

{(A_id)}

```

Normal Form

```

BSNF

```

Table Definition

```

create table approveAgent(
  M_id varchar(255),
  A_id varchar(255),
  A_referralID varchar(255),
  date timestamp,
  foreign key (M_id) references
  Moderator(U_id),
foreign key (A_referralID) references
  Moderator(A_referralID),
foreign key (A_id) references
  Agent(U_id)
);

```

```

mysql> create table approveAgent(
->   M_id varchar(255),
->   A_id varchar(255),
->   A_referralID varchar(255),
->   date timestamp,
->   foreign key (M_id) references
->       Moderator(U_id),
->   foreign key (A_referralID) references
->       Moderator(A_referralID),
->   foreign key (A_id) references
->       Agent(U_id)
-> );

```

ban

Relational Model

ban(A_id,U_id,date)

Domains

<u>M_id</u>	varchar (255)
A_id	varchar (255)
reason	varchar (512)

Candidate Keys

{{U_id}}

Primary Keys

{{U_id}}

Normal Form

BSNF

Table Definition

```
create table ban(  
  a_id varchar(255),  
  U_id varchar(255),  
  reason varchar(512),  
  foreign key (U_id) references  
  User(U_id)  
);
```

removeUser

Relational Model

removeUser(A_id,U_id,date)

Domains

<u>A_id</u>	varchar (255)
U_id	varchar (255)
date	timestamp

Candidate Keys

{{U_id}}

Primary Keys

{{U_id}}

Normal Form

BSNF

Table Definition

```
create table removeUser(  
  a_id varchar(255),  
  U_id varchar(255),  
  date timestamp,  
  foreign key (U_id) references  
  User(U_id)  
);
```

suspendUser

Relational Model

suspendUser(A_id,U_id,reactivation_date)

Domains

A_id	varchar(255)	
U_id	varchar(255)	
reactivation_date		timestamp

Candidate Keys

{{U_id}}

Primary Keys

{{U_id}}

Normal Form

BSNF

Table Definition

```
create table suspendUser(  
  a_id varchar(255),  
  U_id varchar(255),  
  reactivation_date timestamp,  
  foreign key (U_id) references  
  User(U_id)  
);
```

addToFavorites

Relational Model

addToFavorites(U_id,U_fav_id,_date)

Domains

U_id	varchar(255)	
U_fav_id	varchar(255)	
_date		timestamp

Candidate Keys

{{U_id}}

Primary Keys

{{U_id}}

Normal Form

BSNF

Table Definition

```
create table addToFavorites(  
    U_id varchar(255),  
    U_fav_id varchar(255),  
    reactivation_date timestamp,  
    foreign key (U_id) references  
    User(U_id)  
);
```

3. User Interface Design and Corresponding SQL statements

3.1 Sign In Page



Signing in

Select * from User

Where U_email='@email' AND password='@password'

3.2 Sign Up Page

3.2.1 Sign Up For Club



A Web Page

http://

Scouting Platfrom

Sign Up For Clubs

Name of Your Club

Email

Password

Done !

Signing up

Insert INTO User

Values('@U_email', '@U_password', '@U_Picture',
'@U_type', '@U_nickname')

Where '@U_password'='@confirm_password'

3.2.2 Sign Up For Agency



A Web Page

http://

Scouting Platform

Sign Up For Agency

Name of Your Agency

Email

Password

Done !

The screenshot shows a web browser window with a title bar that says 'A Web Page'. The address bar contains 'http://'. The main content area features a logo for 'Scouting Platform' which consists of a blue shield with a soccer ball inside. Below the logo, the text 'Sign Up For Agency' is centered. Underneath this text are three input fields: 'Name of Your Agency', 'Email', and 'Password'. At the bottom of the form is a button labeled 'Done !'. The browser window has a standard navigation bar with back, forward, and home icons.

3.2.3 Sign Up For Scout



A Web Page

http://

Scouting Platform

Sign Up For Scouts

Your Name

Email

Password

Done !

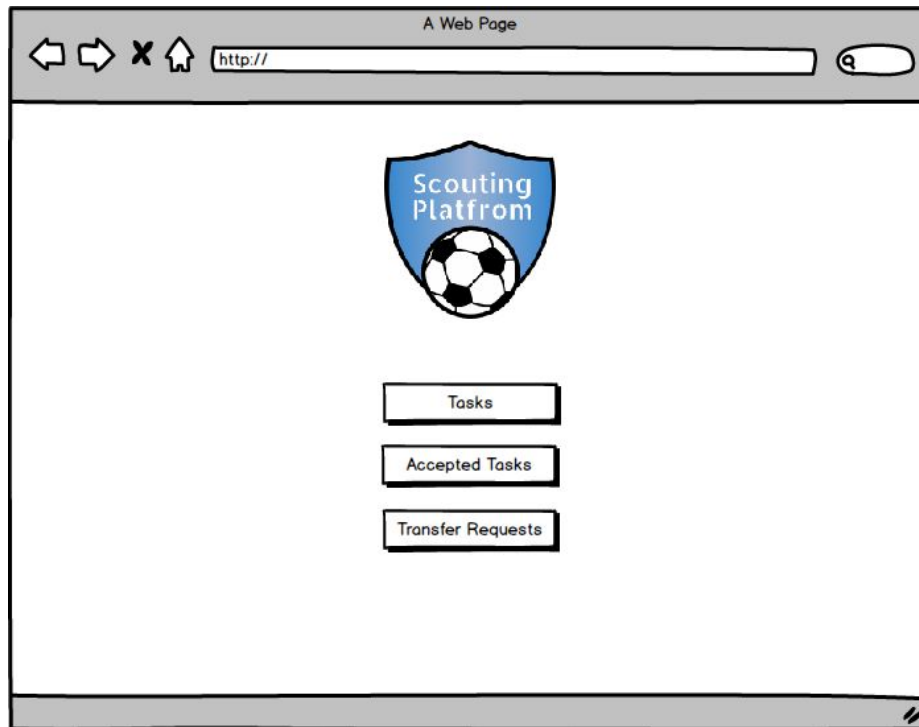
The screenshot shows a web browser window with a title bar that says 'A Web Page'. The address bar contains 'http://'. The main content area features the same 'Scouting Platform' logo as the previous page. Below the logo, the text 'Sign Up For Scouts' is centered. Underneath this text are three input fields: 'Your Name', 'Email', and 'Password'. At the bottom of the form is a button labeled 'Done !'. The browser window has a standard navigation bar with back, forward, and home icons.

3.3 Main Pages

3.3.1 Main Page For Club



3.3.2 Main Page For Agency

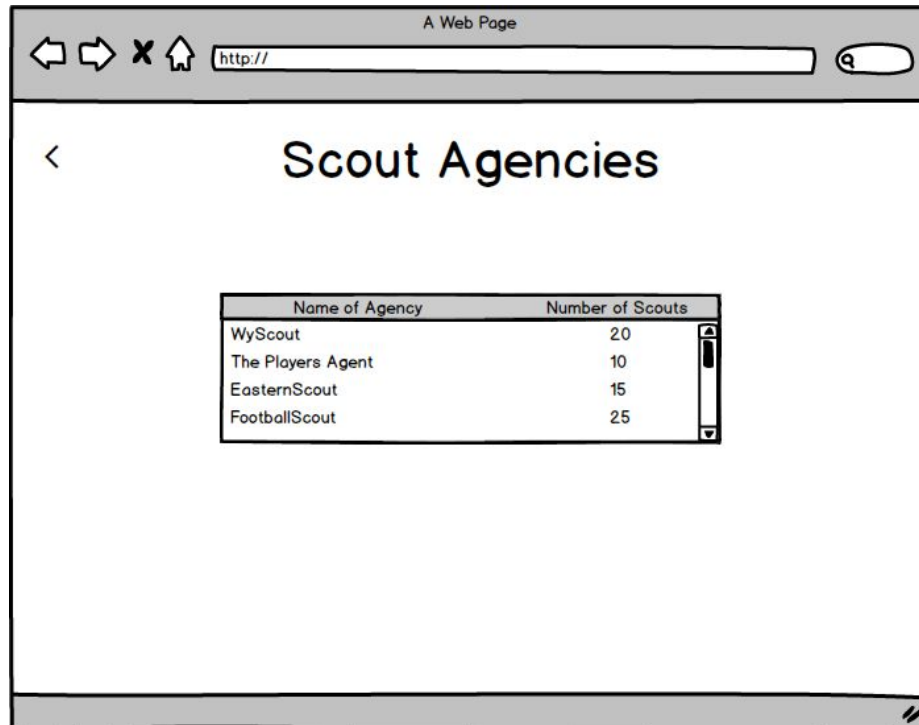


3.3.3 Main Page For Scout



3.4 Scout Request Page

3.4.1 Scout Agency List Page for Club



Name of Agency	Number of Scouts
WyScout	20
The Players Agent	10
EasternScout	15
FootballScout	25

top10AgenciesByNoOfScouts

With countAgencies(A_id, counter) as Select A_id, count(S_id) as counter
From employScout group by A_id

```
Select *  
From countAgencies A1  
Where ( Select count(A2.counter)  
        From countAgencies A2  
        Where A2.counter > A1.counter <= 9)
```

top10AgenciesByNoScoutTasksManaging

```
With countAgenciesStTasks(A_id, counter) as Select A_id,  
sum(count(ST_ID) )as counter  
From hasIncorporated as a natural join respondSR as b  
On(a.SR_id=b.SR_id)  
group by A_id,a.SR_id, b.acceptance  
Having b.acceptance='yes'
```

```
Select *  
From countAgenciesStTasks A1  
Where ( Select count(A2.counter)  
        From countAgenciesStTasks A2  
        Where A2.counter > A1.counter <= 9)
```

3.4.2 Task Page of Club

A Web Page

http://

<

Create a new task

Name Of Your Task

Scout Agencies

Number of Scouts

Position Of Player

Country

Send the Request to Your Agency >

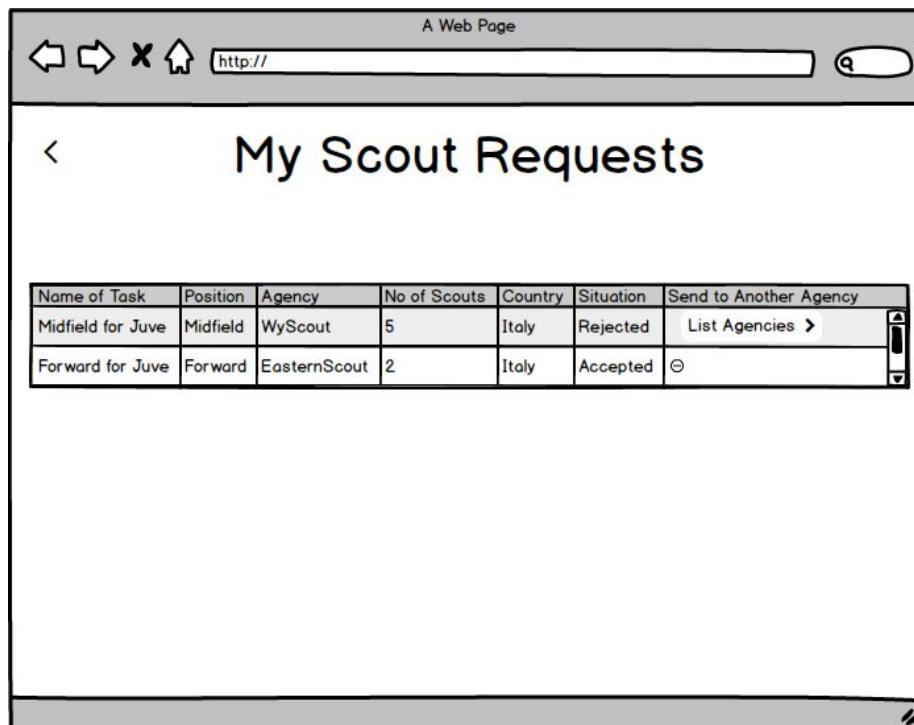
New Task

Insert INTO ScoutTask

Values('@ST_skills_required, '@ST_start_date, '@ST_end_date,
'@ST_country')

Where '@U_password'='@confirm_password'

3.4.3 Requests List Page For Club



Name of Task	Position	Agency	No of Scouts	Country	Situation	Send to Another Agency
Midfield for Juve	Midfield	WyScout	5	Italy	Rejected	List Agencies >
Forward for Juve	Forward	EasternScout	2	Italy	Accepted	⊖

allStillValidRequests (earliest 10)

With validRequests(SR_id) as Select b.SR_id,c.ST_end_date.acceptance
From hasIncorporated as a natural join ScoutRequest as b natural join
ScoutTask as c

On(a.SR_id=b.SR_id and a.ST_id=c.St_id)

group by a.SR_id, c.ST_end_date

Having c.ST_end_date.acceptance>='@todayDate'

Select *

From validRequests A1 join ScoutRequest A2

On(A1.SR_id=A2.SR_id)

Order Ascending

Limit 10

3.5 Scout Assignment Page

3.5.1 Requests List Page For Agency

Name of Club	Number of Scouts	Position	League	Accepted
Juventus	5	Midfield	Italy Serie A	<input type="checkbox"/>
Milan	10	Goalkeeper	Italy Serie A	<input checked="" type="checkbox"/>
Inter	7	Defender	Italy Serie A	<input type="checkbox"/>
Lazio	1	Forward	Italy Serie A	<input checked="" type="checkbox"/>

allStillValidRequests

Select *

From validRequests A1 join ScoutRequest A2

On(A1.SR_id=A2.SR_id)

3.5.2 Scout Assignment Page

A Web Page

http://

< Assign Scouts to Tasks

Choose Start Date Choose End Date

01.06.2020 01.09.2020

Scout	
Giacomo Guilizzoni	<input type="checkbox"/>
Marco Botton	<input checked="" type="checkbox"/>
Mariah MacLachlan	<input type="checkbox"/>
Valerie Liberty	<input checked="" type="checkbox"/>

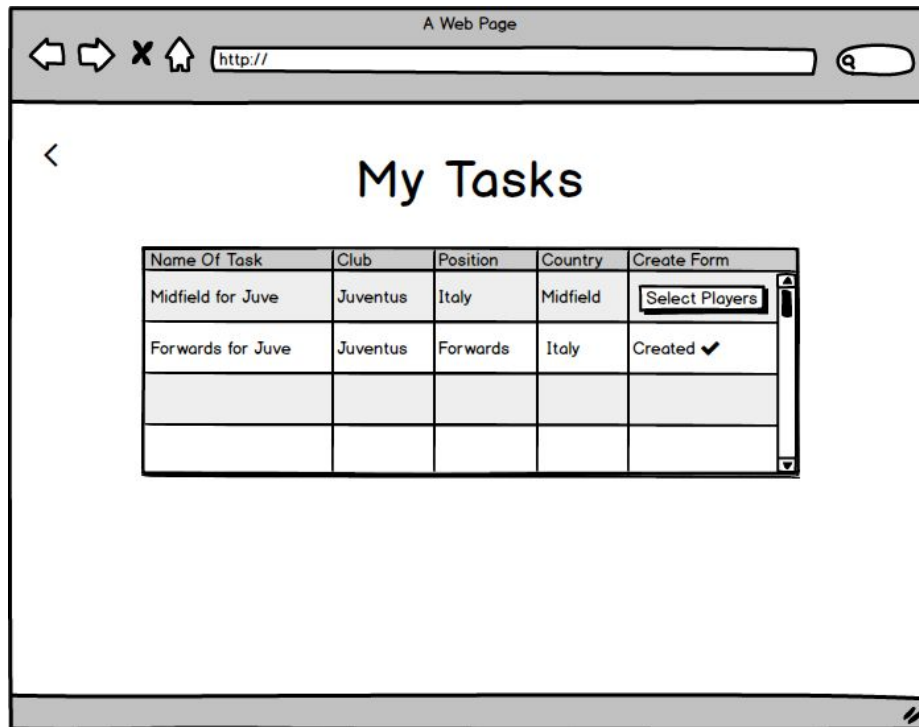
Save

Assign Scout

Insert INTO assignScout

Values('@A_id, '@ST_id, '@scout_no)

3.5.3 Scout's Previous Tasks



All the Previous Tasks

Select c.ST_id

From isAssignedST as a natural join Scout as b natural Join
ScoutTask as c

Where a.S_id=b.S_id and c.ST_end_date < @Today

3.5.4 Selection of Player

A Web Page

http://

Select Player

Name	Club	Age	Position	League	Choose Player
Paula Dybala	Juventus	26	Forward	Italy Serie A	<input type="checkbox"/> Select
Pjanic Miralem	Juventus	30	Midfielder	Italy Serie A	<input type="checkbox"/> Select
Romelu Lukaku	Inter	26	Forward	Italy Serie A	<input type="checkbox"/> Select
Hakan Calhanoglu	AC Milan	26	Midfielder	Italy Serie A	<input type="checkbox"/> Select

Create Form For Selected Player

3.5.5 Report Creation Page

A Web Page

http://

Create Report

Name	Club	Age	Position	League
Paula Dybala	Juventus	26	Forward	Italy Serie A

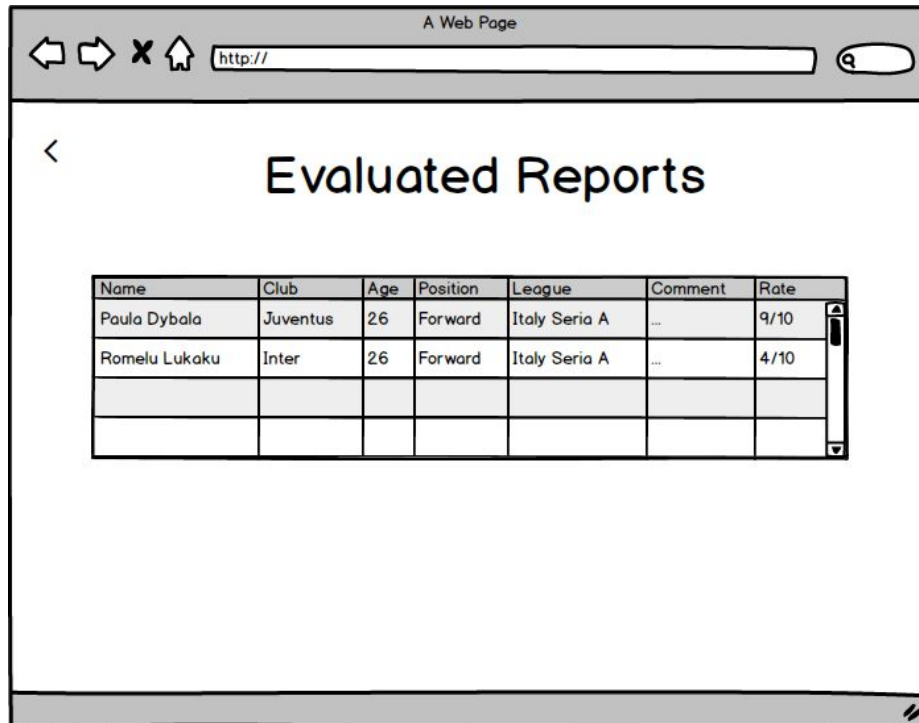
Your Comments

Your Rate

Enter Your Rate

Send to Club





3.6 Report Evaluation Page



3.7 Transfer Offer Page

3.7.1 Sending Transfer Offer

A Web Page



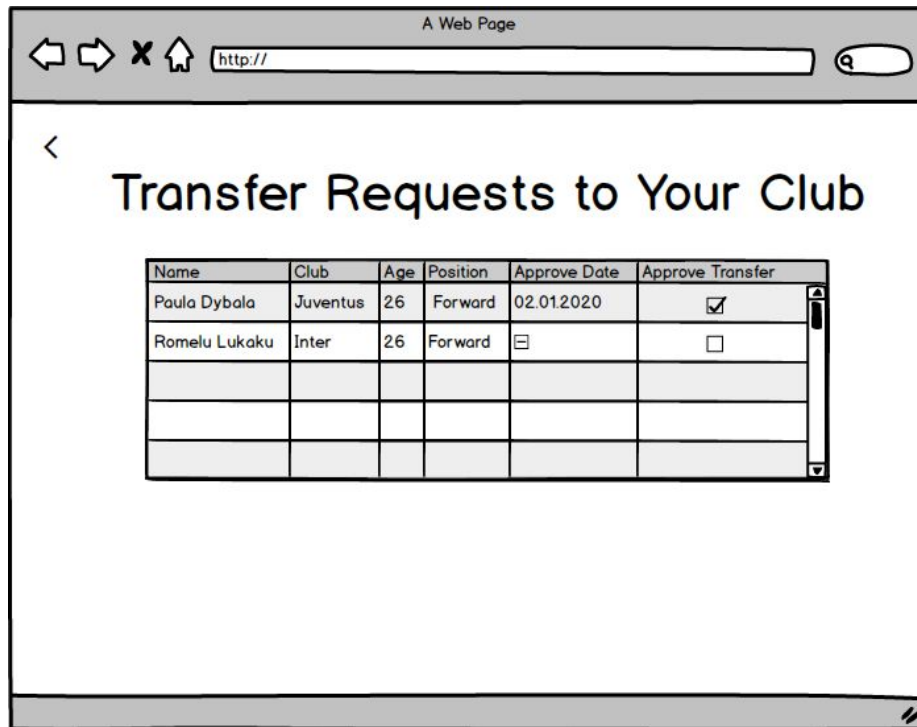
<

Make Transfer Request

Name	Club	Age	Position	League	Comment	Rate	Transfer Offer
Paula Dybala	Juventus	26	Forward	Italy Seria A	...	9/10	<input type="checkbox"/>
Romelu Lukaku	Inter	26	Forward	Italy Seria A	...	4/10	<input checked="" type="checkbox"/>

Send to Club and Agency

3.7.2 Transfer Requests to Club



A Web Page

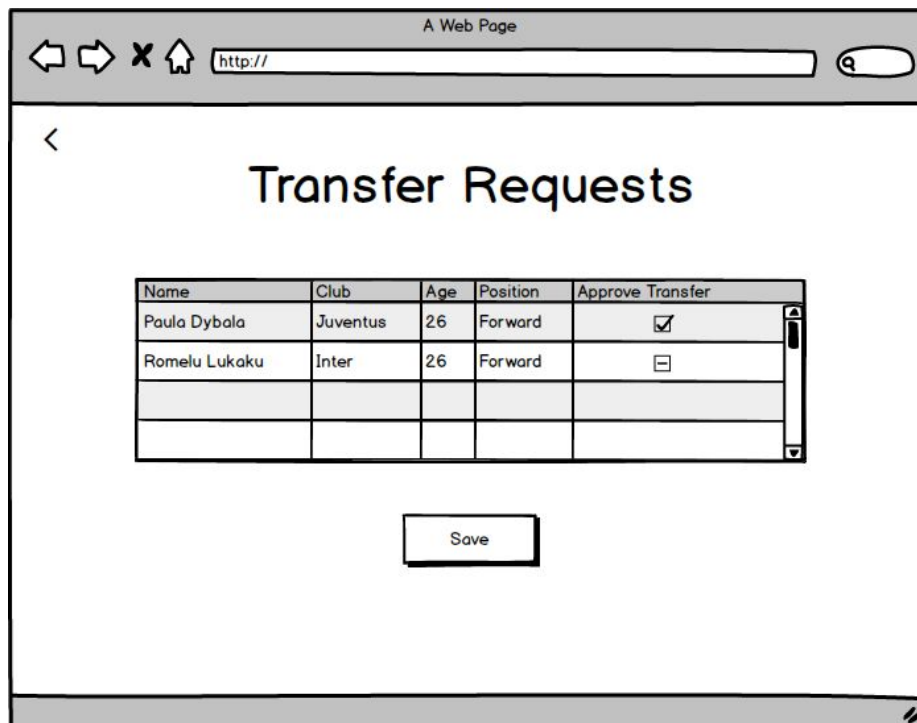
http://

<

Transfer Requests to Your Club

Name	Club	Age	Position	Approve Date	Approve Transfer
Paula Dybala	Juventus	26	Forward	02.01.2020	<input checked="" type="checkbox"/>
Romelu Lukaku	Inter	26	Forward		<input type="checkbox"/>

3.7.3 Transfer Requests to Agency



A Web Page

http://

<

Transfer Requests

Name	Club	Age	Position	Approve Transfer
Paula Dybala	Juventus	26	Forward	<input checked="" type="checkbox"/>
Romelu Lukaku	Inter	26	Forward	<input type="checkbox"/>

Save

3.7.4 Previous Transfers Page

