**CPSC 2221-01 - 3nd MILESTONE**

**INSTRUCTOR HAZRA IMRAN**

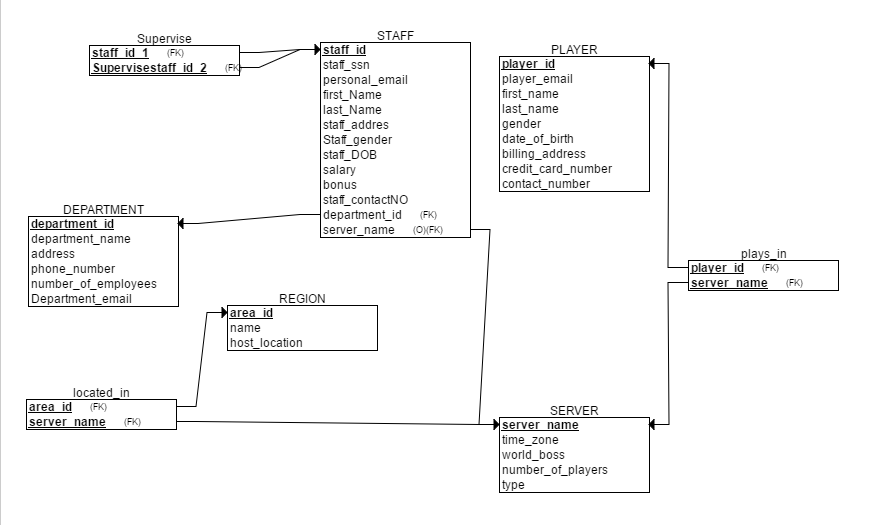
**GROUP 3:**

**ARUNDEEP CHOHAN 100201711**

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**RENE MUELLER ROGER 100257606**



**SUPERVIESE** (Staff\_Id\_1, SupervisesStaff\_Id\_2)

Staff\_Id\_1 - Sid1

SupervisesStaff\_Id\_2 - Ssid2

**STAFF** (Staff\_ssn, Staff\_Personal\_email , First\_name, Last\_name, Staff\_address, staff\_gender, Staff\_DOB, Salary, bonus, Staff\_ContactNo, Department\_id, Position)

Staff\_ssn - Sssn

Staff\_Personal\_email - Pmail

First\_name - Fname

Last\_name - Lname

Staff\_address - Sadr

Staff\_gender - Sgen

Staff\_DOB - Sbday

Salary - Slr

Bonus - Bns

Staff\_ContactNo - ScNo

Department\_id - Did

Position - Pstn

**STAFF FDs**

Sssn → Pmail, Fname, Lname, Sdress, Sgen, Sbday, Slr, ScNo, Did

Pmail → Fname, Lname, Sdress, ScNo

Pstn → Bns, Slr

**PLAYER** (Player\_Id, Player\_email, First\_name, Last\_name, Gender, Date\_of\_Birth, Player\_address, Contact\_number)

Player\_Id - Pid

Player\_email - Pmail

First\_name - Fname

Last\_name - Lname

Gender - Gnd

Date\_of\_Birth - DoB

Player\_address - Padr

Contact\_number - Cnum

**PLAYER FDs**

Pid → Pmail, Fname, Lname, Gnd, DoB, Padr, Cnum

Pmail → Fname, Lname, Gnd, DoB, Padr

**DEPARTMENT**(Department\_ID, Department\_name, Department\_Address, Department\_phone\_Number, Number\_of\_Employees, Department\_email)

Department\_ID - Did

Department\_name - Dname

Department\_Address - Dadr

Department\_phone\_number - Dpnum

Number\_of\_Employees - NumEmp

Department\_email - Dmail

**DEPARTMENT FDs**

Did → Dname, Dadr, Dpnum, NumEmp, Dmail

**REGION**(Area\_id, Region\_Name, Host\_Location)

Area\_id - Aid

Region\_Name - Rname

Host\_Location - Hloc

**PLAYS\_IN**(Player\_ID, *Server\_name*)

Player\_ID - Pid

Server\_name - Sname

**LOCATED\_IN**(Area\_id, Server\_name)

Area\_id - Aid

Server\_name - Sname

**SERVER**(Server\_name, Time\_Zone, World\_boss, Number\_of\_Players, Type)

Server\_name - Sname

Time\_Zone - Tzon

World\_boss - Wboss

Number\_of\_Players - Nplay

Type - Tp

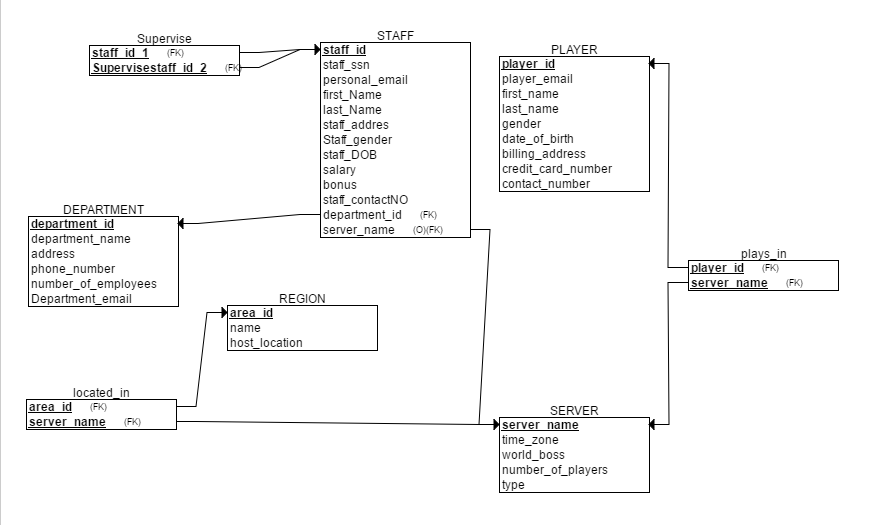
**Normalization process**

The 1NF was make sure we didn’t have any multivalue in the tables.

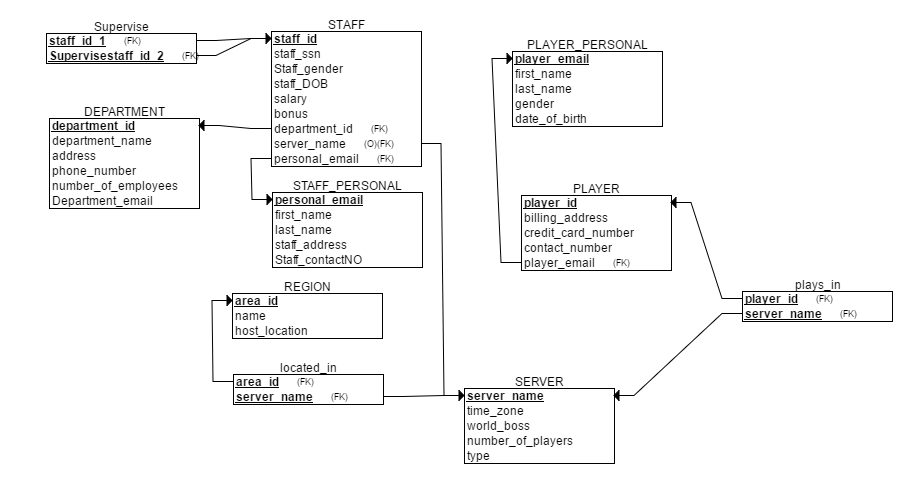
Out 2NF was eliminate any Composite attributes (instead of have FullName we have FirstName and LastName for Players and Staff), as well as removing partial FD’s by using only one primary key for each table.

For Normalization process to 3NF, we broke down our tables into smaller tables by taking transitive FD’s and created a new table based on the attributes in the transitive FD. We did this for the Player and Staff table, but not for the Department table since there were too many redundant FD’s.

ERD IN 1NF and 2NF



ERD IN 3NF



Tables

1. Supervise
   1. FK - Staff\_Id\_1
   2. FK - Supervisestaff\_id\_2
2. Department
   1. PK - department\_id
3. Staff
   1. PK - staff\_id
   2. FK - department\_id
   3. FK - server\_name
   4. FK - personal\_email
4. Region
   1. PK - area\_id
5. Located\_in
   1. FK - area\_id
   2. FK - server\_name
6. Server
   1. PK - server\_name
7. Player\_Personal
   1. PK - Player\_email
8. Player
   1. PK - Player\_ID
   2. FK - player\_email
9. Staff\_Personal
   1. PK - personal\_email
10. Plays\_In
    1. FK - player\_id
    2. FK - server\_name