EECS 3421 Winter 2019

PROJECT:

ERD & DB Design

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TEAM:

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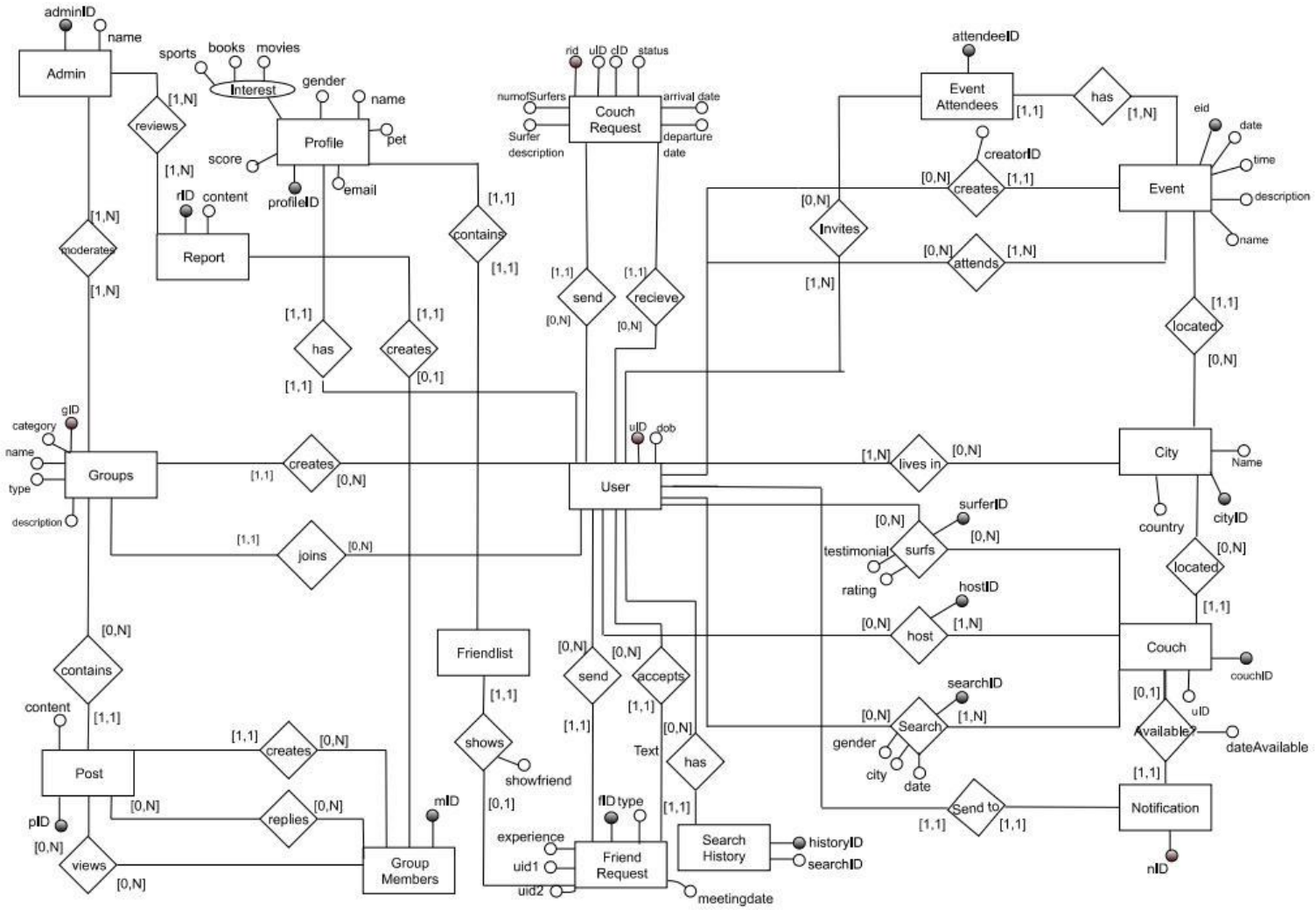
PART A

Assumptions

- Only users that have joined the group can view, write, reply to posts. That is why we have a entity called GroupMembers.
- We have assumed that users have already signed up into the system and hence they can send and receive numerous couch requests/friend requests which we have shown in the entities Couch Request and FriendRequest
- User can surf and host couch. In our E/R diagram, a user has both functionalities.
- A user may be able to host more than one couch.
- We have an Event Attendees entity, that keeps track of the users attending the event.
- A user can choose to create no or many events
- An Event can be uniquely determined by eventID
- One attendee can invite many users and a user can receive many invites from different attendees.
- We assume an event has at least one attendee (the user who created the event)
- A member of the group can choose to create no or many posts, reply to no or many posts and also report a post to the admin
- Administrators cannot be friends with users and cannot participate in groups or any event activities. We are treating administrators as moderators, who examines groups and reports.
- Each admin can review many reports and similarly each report can be reviewed by many administrators.
- Each user has a search history, each search can be uniquely identified by its historyID and searchID
- We assume once a couch is available, a notification will be sent to the user who has searched for the couch previously.
- Each notification is uniquely identified by its nID in the relation Notification and it also keeps track of users each notification is being sent to.
- Each user has their own profile on while they choose to share further information, each Profile is uniquely identified by its profileID
- Each user profile contains friendlist which may contain no or many friends.
- ProfileID, SurferID,AttendeeID, creatorID, hostID all acts as UserID.
- Friendrequests are uniquely identified by fid and friendships are identified by the two userId's.
- Not all foreign keys are included in our E/R diagram, but our DataBase Schema contains all the primary, foreign and super keys.
- Adresses of user, events and couch can be accessed by City (where city contains the country name too)


adminID
name
Admin
reviews
[1,N]
[1,N]
moderates
[1,N]
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books
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Interest
gender
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Profile
pet
score
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profileID
rID
content
Report
[1,1]
contains
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has
[1,1]
creates
[0,1]
rid
uID
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status
numofSurfers
Surfer description
Couch Request
arrival date
departure date
[1,1]
send
[0,N]
[1,1]
recieve
[0,N]
attendeeID
Event Attendees
[1,1]
has
[1,N]
creatorID
[0,N]
creates
[1,1]
Invites
[0,N]
[1,N]
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attends
[1,N]
Event
eid
date
time
description
name
[1,1]
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category
name
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description
Groups
[1,1]
creates
[0,N]
[1,1]
joins
[0,N]
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dob
User
[1,N]
lives in
[0,N]
City
Name
country
cityID
[0,N]
located
[1,1]
[0,N]
surfs
surferID
[0,N]
testimonial
rating
[0,N]
host
hostID
[1,N]
Couch
couchID
[0,1]
uID
Available?
dateAvailable
[1,1]
[0,N]
contains
content
[1,1]
Post
[1,1]
creates
[0,N]
pID
[0,N]
views
[0,N]
[0,N]
replies
[0,N]
mID
Group Members
Friendlist
[1,1]
shows
showfriend
[0,1]
[0,N]
send
[1,1]
[0,N]
accepts
[1,1]
Text
[0,N]
has
[1,1]
fID type
Friend Request
experience
uid1
uid2
meetingdate
Search History
historyID
searchID
[0,N]
Search
searchID
[1,N]
gender
city
date
Send to
[1,1]
[1,1]
Notification
nID

PART B

Part C

User (**uID**, dob, e-mail)
Profile(**profileID**, name, gender, score, pet, sports,books,movies)
City(**cityID**, country, name, **uID**)
Event(**eID**,date,time,description,name,creatorID)
Locations(**eID**,cityID,**couchID**)
EventAttendees(**atteneeID**,eID,**cityID**)
Invites(**attendeeID**,**uID**,**eID**)
Surfer(**surferID**,testimonial,rating,**couchID**)
Host(**hostID**,**couchID**)
Couch(**couchID**,**uid**,dateAvailable)
Search(**searchID**,gender,city,date)
Notification(**nID**,**uID**,**couchID**)
CouchRequest(**rID**,**uID**,**couchID**,status,numOfSurfers,surferDescription,arrivalDat
e,DepartureDate)
FriendRequest(**fID**,friendType,**uID1**,**uID2**,meetingDate,experience)
FriendList(**uID**,**fID**,showfriend)
SearchHistory(**historyID**,**sID**,**uID**)
GroupMembers(**mID**,**gID**)
Post(**pID**,**gID**,**mID**,content)
Groups(**gID**,category,name,type,description)
Report(**rID**,content,**pID**)
Admin(**adminID**,name,**rID**)

Part D

```
DROP SCHEMA IF EXISTS A3 CASCADE;
CREATE SCHEMA A3;
SET search_path TO A3;

DROP TABLE IF EXISTS User CASCADE;
DROP TABLE IF EXISTS Profile CASCADE;
DROP TABLE IF EXISTS City CASCADE;
DROP TABLE IF EXISTS Event CASCADE;
DROP TABLE IF EXISTS Location CASCADE;
DROP TABLE IF EXISTS EventAtendees CASCADE;
DROP TABLE IF EXISTS Invites CASCADE;
DROP TABLE IF EXISTS Surfer CASCADE;
DROP TABLE IF EXISTS Host CASCADE;
DROP TABLE IF EXISTS Couch CASCADE;
DROP TABLE IF EXISTS Search CASCADE;
DROP TABLE IF EXISTS Notification CASCADE;
DROP TABLE IF EXISTS CouchRequest CASCADE;
DROP TABLE IF EXISTS FriendRequest CASCADE;
DROP TABLE IF EXISTS FriendList CASCADE;
DROP TABLE IF EXISTS SearchHistory CASCADE;
DROP TABLE IF EXISTS GroupMembers CASCADE;
DROP TABLE IF EXISTS Post CASCADE;
DROP TABLE IF EXISTS Groups CASCADE;
DROP TABLE IF EXISTS Report CASCADE;
DROP TABLE IF EXISTS Admin CASCADE;


CREATE TABLE User (
    uID                INTEGER        PRIMARY KEY,
    dob                VARCHAR(15)    NOT NULL,
    email              VARCHAR(15)    NOT NULL);

CREATE TABLE Profile (
    profileID  INTEGER        REFERENCES User(uID) ON DELETE RESTRICT,
    name       VARCHAR(15)    NOT NULL,
    gender     VARCHAR(15)    NOT NULL
    score      INTEGER        NOT NULL,
    pet         BOOLEAN       NOT NULL,
    sports     VARCHAR(50)    NOT NULL,
    books      VARCHAR(50)    NOT NULL,
    movies     VARCHAR(50)    NOT NULL);

CREATE TABLE City (
    cityID     INTEGER        PRIMARY KEY,
    country    VARCHAR(15)    NOT NULL,
    name       VARCHAR(15)    NOT NULL
    uid        INTEGER        REFERENCES User(uID) ON DELETE RESTRICT);
```

```
CREATE TABLE Event (
    eID          INTEGER      PRIMARY KEY,
    creatorID   INTEGER       REFERENCES User(uID) ON DELETE RESTRICT,
    date        VARCHAR(15)   NOT NULL,
    time        INTEGER       NOT NULL
    name        VARCHAR(15)   NOT NULL,
    description  INTEGER      NOT NULL);

CREATE TABLE Location (
    eID          INTEGER      REFERENCES Event(eID) ON DELETE RESTRICT,
    cityID      INTEGER       REFERENCES City(cityID) ON DELETE RESTRICT,
    couchID     INTEGER       REFERENCES Couch(couchID) ON DELETE RESTRICT,
    PRIMARY KEY(eID,cityID)
);

CREATE TABLE EventAttendees (
    attendeeID INTEGER        REFERENCES User(uID) ON DELETERESTRICT,
    eID         INTEGER       REFERENCES Event(eID)ON DELETE RESTRICT,
    cityID     INTEGER        REFERENCES City(cityID) ON DELETE RESTRICT);
    PRIMARY KEY(attendeeID,eID)

CREATE TABLE Invites (
    attendeeID INTEGER        REFERENCES User(uID) ON DELETERESTRICT,
    uID         INTEGER       REFERENCES User(uID)ON DELETE RESTRICT,
    eID         INTEGER       REFERENCES Event(eID) ON DELETE RESTRICT);

CREATE TABLE Surfer (
    surferID   INTEGER        REFERENCES User(uID) ON DELETERESTRICT,
    testimonial VARCHAR(50)    NOT NULL,
    rating     INTEGER         NOT NULL,
    couchID    INTEGER         REFERENCES Couch(couchID) ON DELETE RESTRICT);
    PRIMARY KEY(surferID,couchID)

CREATE TABLE Host (
    hostID     INTEGER        REFERENCES User(uID) ON DELETERESTRICT,
    couchID    INTEGER         REFERENCES Couch(couchID)ON DELETE RESTRICT);
    PRIMARY KEY(hostID,couchID)


CREATE TABLE Couch (
    couchID        INTEGER    PRIMARY KEY,
    uID             INTEGER    REFERENCES User(uID)ON DELETE RESTRICT,
    dateAvailable  VARCHAR(15) NOT NULL);


CREATE TABLE Search (
    searchID   INTEGER        PRIMARY KEY,
    gender     VARCHAR(6)     NOT NULL,
    city       VARCHAR(15)    NOT NULL,
    date       VARCHAR(15)    NOT NULL);

CREATE TABLE Notification (
    nID         INTEGER        PRIMARY KEY,
    uID         INTEGER        REFERENCES User(uID)ON DELETE RESTRICT,
    couchID    INTEGER         REFERENCES Couch(couchID) ON DELETE RESTRICT);
```

```
CREATE TABLE CouchRequest (
  rID                INTEGER    PRIMARY KEY,
  uID                INTEGER    REFERENCES User(uID)ON DELETE RESTRICT,
  couchID           INTEGER     REFERENCES Couch(couchID) ON DELETE RESTRICT,
  status            VARCHAR(10) NOT NULL,
  numOfSurfers       INTEGER    NOT NULL,
  surferDescription VARCHAR(50) NOT NULL,
  arrivalDate       VARCHAR(15) NOT NULL,
  departureDate.    VARCHAR(15) NOT NULL);


CREATE TABLE FriendRequest (
    fID          INTEGER       PRIMARY KEY,
    friendType   VARCHAR(20)   NOT NULL,
    uID1        INTEGER       REFERENCES User(uID)ON DELETE RESTRICT,
    uID2        INTEGER       REFERENCES User(uID)ON DELETE RESTRICT,
    meetingDate  VARCHAR(15)   NOT NULL,
    experience  INTEGER       NOT NULL);

CREATE TABLE FriendList (
    fID         INTEGER      REFERENCES FriendRequest(fID)ON DELETE RESTRICT,
    uID         INTEGER      REFERENCES User(uID)ON DELETE RESTRICT,
    showFriend BOOLEAN       NOT NULL);
    PRIMARY KEY(fID,uID)

CREATE TABLE SearchHistory(
    historyID  INTEGER        PRIMARY KEY,
    sID         INTEGER       REFERENCES Search(searchID)ON DELETE RESTRICT,
    uID         INTEGER       REFERENCES User(uID)ON DELETE RESTRICT);

CREATE TABLE GroupMembers (
    mID         INTEGER        PRIMARY KEY,
    gID         INTEGER         REFERENCES Group(gID)ON DELETE RESTRICT);

CREATE TABLE Post (
    pID         INTEGER        PRIMARY KEY,
    gID         INTEGER        REFERENCES Group(gID)ON DELETE RESTRICT,
    mID         INTEGER        REFERENCES Member(mID) ON DELETE RESTRICT,
    content    VARCHAR(200)    NOT NULL);

CREATE TABLE Groups (
    gID          INTEGER       PRIMARY KEY,
    category    VARCHAR(10)    NOT NULL,
    name        VARCHAR(20)    NOT NULL,
    type        VARCHAR(5)     NOT NULL,
    description VARCHAR(50)    NOT NULL);

CREATE TABLE Report(
    rID         INTEGER        PRIMARY KEY,
    content    VARCHAR(200)    NOT NULL
    pID         INTEGER        REFERENCES Post(pID) ON DELETE RESTRICT);
```

```
CREATE TABLE Admin(
    adminID    INTEGER        PRIMARY KEY,
    name       VARCHAR(20)    NOT NULL,
    rID         INTEGER       REFERENCES Report(rID) ON DELETE RESTRICT);
```