

SocialiteDB

DB of a messaging system to friends and groups



Team Members

Aditya Peer(2020355)
Ayush Raje Chak(2020502)
Shreya Bhatia(2020542)
Shrugal Tayal(2020408)

Mentor:

Dr.C. Anantaram
Kinshuk Chopra

Project Scope

- 01** Users can send messages/media to other users
 - Either through dM
 - Or on a group
- 02** Users can create a group
- 03** Admin view, normal member view
- 04** Users can make changes in their profile
- 05** Block/unblock contacts
- 06** Save contacts
- 07** Search through contacts

Project Scope

- 08** Delete chat messages
 - For everyone
 - For me
- 09** Share messages with $n \geq 1$ contacts
- 10** Show unread messages in a chat

- 11** Notifications (future scope)
- 12** And other settings

Stakeholders



Internal Stakeholders

Comprises of the owners, managers, employees, and investors of a company.

External Stakeholders

Individual or group of users acting in the capacity of the customers, competitors, suppliers, creditors, public, and the government.



Entities

- **User**(uid, bio, phone number, name)
- **Grp**(group_id, group_name, date, creator_id)
- **User_group_info**(user_id, group_id, is_admin)
- **Contacts**(id, user_id, contact_person_id,saved_by_name, is_blocked, is_saved)
- **Message**(mssg_id, sender_id , message_body, time, date, visible_to_me)
- **message_recipient**(mssg_id,reciever_id, receiver_group_id, is_read, status)

Relationship with attributes

- `user_group_info(user_id, group_id, is_admin)`

E-R diagram into relational schemas

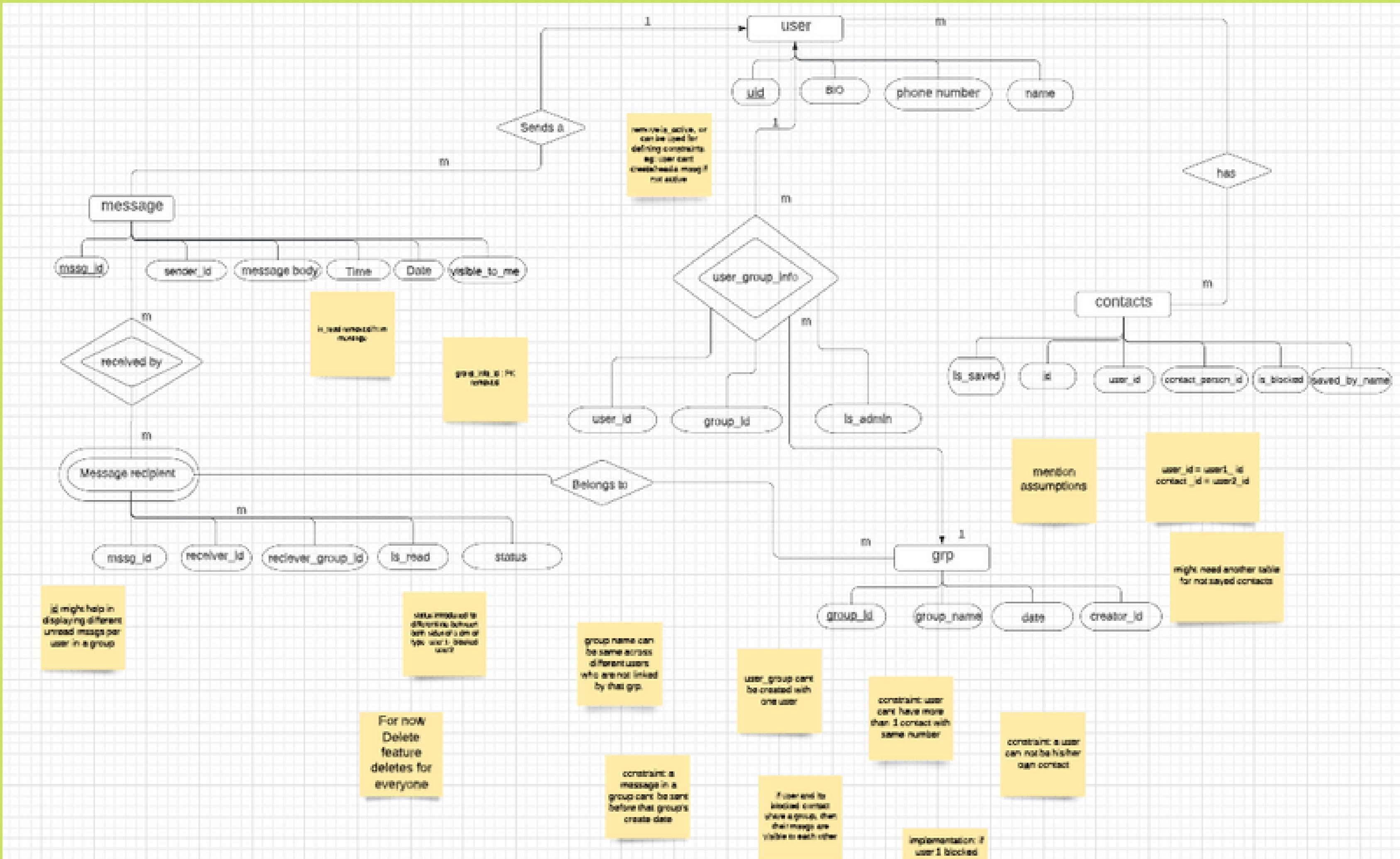
- **User**(uid, bio, phone number, name)
- **Grp**(group_id, group_name, date, creator_id)
- **user_group_info**(user_id, group_id, is_admin)
- **Contacts**(id, user_id, contact_person_id, saved_by_name, is_blocked, is_saved)
- **Message**(mssg_id , sender_id, message_body, time, date,visible_to_me)
- **message_recipient**(id, mssg_id,reciever_id, receiver_group_id, is_read, status)

Socialite DB

ER Diagram link

https://lucid.app/lucidchart/7720f324-090c-4a7c-8033-f7695ceea1a/edit?invitationId=inv_b8242534-599d-4a82-9a34-e26302a98fe6

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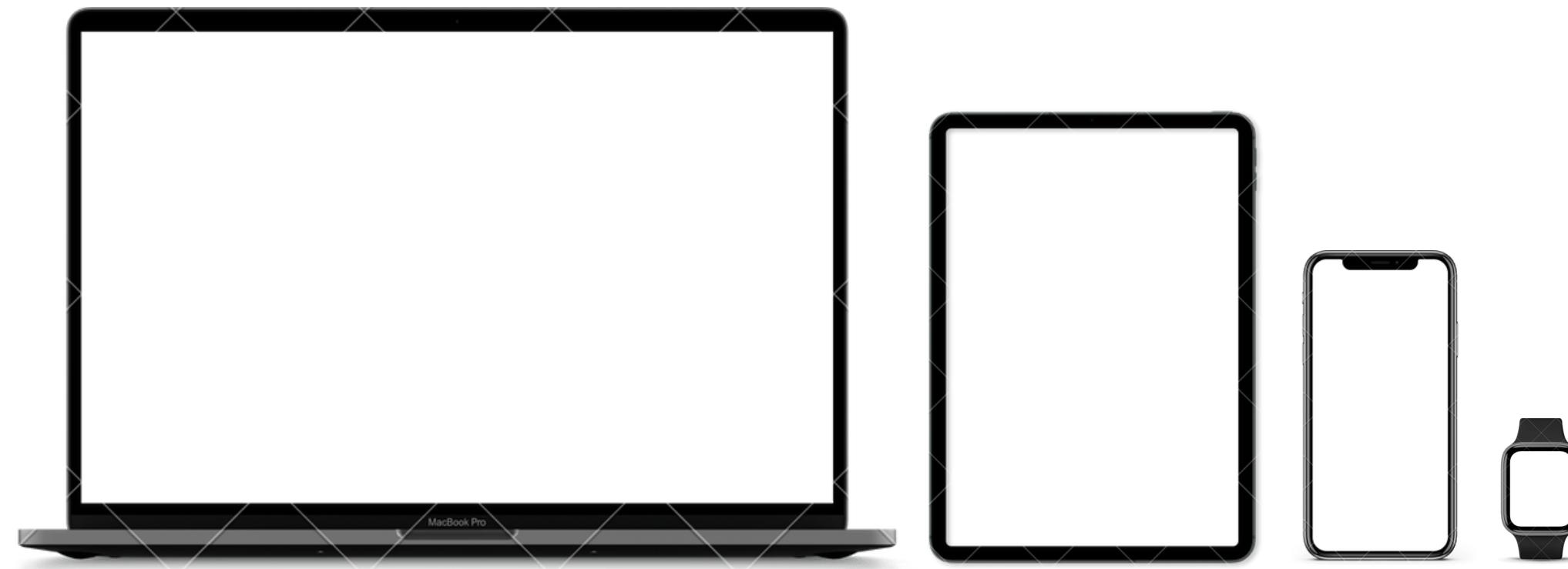
Ternary Relation

In the Ternary relationship, there are three types of entity associates. In our updated model there is not any Ternary relationship that exists where there are three types of entity and we call them a degree of relationship is 3.

Since in our updated model the number of entities increases due to this, it becomes very complex to turn E-R into a relational table.

Data Population & DDL

https://docs.google.com/spreadsheets/d/1aP_f6qDDIW3c-YuUw3795B1b0kwdkvXwiixICnVjQ-I/edit?usp=sharing



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User Table

```
CREATE TABLE User (
  uid INT NOT NULL UNIQUE PRIMARY KEY AUTO_INCREMENT,
  name VARCHAR(16) NOT NULL,
  phone_number FLOAT NOT NULL,
  bio VARCHAR(11) NOT NULL
);
```

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uid	name	phone_number	bio
1001	Akshit Kumar	1000000000	i am akshit
1002	Abhay Jindal	2000000000	im abhay
1003	Charu Kaur	3000000000	im charu
1004	Divya Sharma	4000000000	im divya
1005	Esha Kapoor	5000000000	im esha
1006	Ayush Raje Chak	6000000000	im ayush
1007	Aryan Verma	7000000000	im aryan
1008	Muskan Gupta	8000000000	im muskan
1009	Himansh Yadav	9000000000	im himansh
1010	Sanya Samrath	1010000000	im sanya
1011	Aditya Peer	1100000000	im aditya
1012	Shrugal Tayal	1200000000	im shrugal
1013	Gauri Srinivasan	1300000000	im gauri
1014	Shreya Bhatia	1400000000	im shreya
1015	Jay Malhotra	1500000000	im jay

User Table

- `INSERT INTO user(uid,name,phone_number,bio) VALUES (1001,'Akshit Kumar',1000000000,'i am akshit');`
- `INSERT INTO user(uid,name,phone_number,bio) VALUES (1002,'Abhay Jindal',2000000000,'im abhay');`
- `INSERT INTO user(uid,name,phone_number,bio) VALUES (1003,'Charu Kaur',3000000000,'im charu');`
- `INSERT INTO user(uid,name,phone_number,bio) VALUES (1004,'Divya Sharma',4000000000,'im divya');`
- `INSERT INTO user(uid,name,phone_number,bio) VALUES (1005,'Esha Kapoor',5000000000,'im esha');`
- `INSERT INTO user(uid,name,phone_number,bio) VALUES (1006,'Ayush Raje Chak',6000000000,'im ayush');`
- `INSERT INTO user(uid,name,phone_number,bio) VALUES (1007,'Aryan Verma',7000000000,'im aryan');`
- `INSERT INTO user(uid,name,phone_number,bio) VALUES (1008,'Muskan Gupta',8000000000,'im muskan');`
- `INSERT INTO user(uid,name,phone_number,bio) VALUES (1009,'Himansh Yadav',9000000000,'im himansh');`
- `INSERT INTO user(uid,name,phone_number,bio) VALUES (1010,'Sanya Samrath',1010000000,'im sanya');`
- `INSERT INTO user(uid,name,phone_number,bio) VALUES (1011,'Aditya Peer',1100000000,'im aditya');`
- `INSERT INTO user(uid,name,phone_number,bio) VALUES (1012,'Shrugal Tayal',1200000000,'im shrugal');`
- `INSERT INTO user(uid,name,phone_number,bio) VALUES (1013,'Gauri Srinivasan',1300000000,'im gauri');`
- `INSERT INTO user(uid,name,phone_number,bio) VALUES (1014,'Shreya Bhatia',1400000000,'im shreya');`
- `INSERT INTO user(uid,name,phone_number,bio) VALUES (1015,'Jay Malhotra',1500000000,'im jay');`

Group Table

```
CREATE TABLE GRP (
group_id INT NOT NULL UNIQUE PRIMARY KEY AUTO_INCREMENT,
group_name VARCHAR(16) NOT NULL,
date DATE NOT NULL,
creator_id INT NOT NULL UNIQUE
);
```

group_id	group_name	date	creator_id
10	Ada	2020-10-01	1001
11	dbms	2020-10-02	1002
12	bio	2020-10-03	1003
13	football	2020-10-04	1004
14	iiitd peeps	2020-10-05	1005
15	hostellers	2020-10-06	1007
16	badminton	2020-10-07	1006
17	clubs	2020-10-08	1011
18	study grp	2021-09-29	1013
19	cse	2021-09-30	1014

Group Table

```
INSERT INTO grp(group_id,group_name,date,creator_id) VALUES (10,'Ada','2020-10-01',1001);
INSERT INTO grp(group_id,group_name,date,creator_id) VALUES (11,'dbms','2020-10-02',1002);
INSERT INTO grp(group_id,group_name,date,creator_id) VALUES (12,'bio','2020-10-03',1003);
INSERT INTO grp(group_id,group_name,date,creator_id) VALUES (13,'football','2020-10-04',1004);
INSERT INTO grp(group_id,group_name,date,creator_id) VALUES (14,'iiitd peeps','2020-10-05',1005);
INSERT INTO grp(group_id,group_name,date,creator_id) VALUES (15,'hostellers','2020-10-06',1007);
INSERT INTO grp(group_id,group_name,date,creator_id) VALUES (16,'badminton','2020-10-07',1006);
INSERT INTO grp(group_id,group_name,date,creator_id) VALUES (17,'clubs','2020-10-08',1011);
INSERT INTO grp(group_id,group_name,date,creator_id) VALUES (18,'study grp','2021-09-29',1013);
INSERT INTO grp(group_id,group_name,date,creator_id) VALUES (19,'cse','2021-09-30',1014);
```

User Group Info Table

```
CREATE TABLE User_group_info (
  user_id INT NOT NULL,
  group_id INT NOT NULL,
  is_admin BOOLEAN NOT NULL
);
```

user_id	group_id	is_admin	user_id	group_id	is_admin
1001	10	TRUE	1002	15	FALSE
1004	10	FALSE	1007	15	TRUE
1010	10	FALSE	1009	15	FALSE
1013	10	FALSE	1011	15	FALSE
1015	10	FALSE	1014	15	FALSE
1002	11	TRUE	1001	16	FALSE
1006	11	FALSE	1004	16	FALSE
1010	11	FALSE	1006	16	TRUE
1012	11	FALSE	1010	16	FALSE
1014	11	FALSE	1012	16	FALSE
1002	12	FALSE	1001	17	FALSE
1003	12	TRUE	1003	17	FALSE
1006	12	FALSE	1007	17	FALSE
1008	12	FALSE	1011	17	TRUE
1011	12	FALSE	1012	17	FALSE
1001	13	FALSE	1004	18	FALSE
1004	13	TRUE	1006	18	FALSE
1008	13	FALSE	1009	18	FALSE
1009	13	FALSE	1013	18	TRUE
1013	13	FALSE	1015	18	FALSE
1003	14	FALSE	1001	19	FALSE
1005	14	TRUE	1003	19	FALSE
1007	14	FALSE	1005	19	FALSE
1011	14	FALSE	1008	19	FALSE
1015	14	FALSE	1014	19	TRUE

User Group Info Table

- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1001,10,TRUE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1004,10,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1010,10,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1013,10,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1015,10,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1002,11,TRUE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1006,11,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1010,11,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1012,11,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1014,11,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1002,12,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1003,12,TRUE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1006,12,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1008,12,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1011,12,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1001,13,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1004,13,TRUE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1008,13,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1009,13,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1013,13,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1003,14,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1005,14,TRUE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1007,14,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1011,14,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1015,14,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1002,15,FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1007,15,TRUE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1009,15,FALSE);`

User Group Info Table

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- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1011,15, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1014,15, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1001,16, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1004,16, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1006,16, TRUE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1010,16, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1012,16, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1001,17, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1003,17, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1007,17, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1011,17, TRUE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1012,17, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1004,18, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1006,18, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1009,18, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1013,18, TRUE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1015,18, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1001,19, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1003,19, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1005,19, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1008,19, FALSE);`
- `INSERT INTO user_group_info(user_id,group_id,is_admin) VALUES (1014,19, TRUE);`

Socialite DB

Contacts Table

```
CREATE TABLE Contacts (
  id INT NOT NULL UNIQUE PRIMARY KEY AUTO_INCREMENT,
  user_id INT NOT NULL,
  contact_person_id INT NOT NULL,
  saved_by_name VARCHAR(20),
  is_blocked BOOLEAN DEFAULT FALSE,
  is_saved BOOLEAN DEFAULT FALSE,
  CHECK (user_id <> contact_person_id)
);
```

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id	user_id	contact_person_id	saved_by_name	is_blocked	is_saved
301	1001	1009	Potts	FALSE	TRUE
302	1001	1005	Ratliff	FALSE	TRUE
303	1001	1011	Clayton	FALSE	TRUE
304	1001	1012	Gould	FALSE	TRUE
305	1014	1003	Morse	TRUE	TRUE
306	1014	1002	Ferguson	FALSE	TRUE
307	1014	1008	Schwartz	TRUE	TRUE
308	1002	1014	Cameron	TRUE	TRUE
309	1002	1013	Fitzgerald	TRUE	TRUE
310	1002	1001	Kane	FALSE	TRUE
311	1002	1012	Hampton	FALSE	TRUE
312	1003	1010	Hyde	FALSE	TRUE
313	1003	1001	Brown	FALSE	TRUE
314	1003	1004	Bender	FALSE	TRUE
315	1003	1015	Olan	FALSE	TRUE
316	1003	1005	Brewer	FALSE	TRUE
317	1005	1004	Ortega	FALSE	TRUE
318	1005	1014	Gallagher	FALSE	TRUE
319	1005	1001	Franco	FALSE	TRUE
320	1006	1003	Flowers	FALSE	TRUE
321	1006	1014	Richard	FALSE	TRUE
322	1006	1015	Walter	FALSE	TRUE
323	1006	1005	Tate	TRUE	TRUE
324	1006	1002	Jarvis	FALSE	TRUE
325	1006	1007	Good	FALSE	TRUE
326	1007	1015	Santiago	FALSE	TRUE
327	1007	1011	Cash	TRUE	TRUE
328	1007	1008	Foreman	TRUE	TRUE
329	1007	1010	Mars	FALSE	TRUE
330	1008	1004	Stevens	FALSE	TRUE
331	1008	1013	Edwards	FALSE	TRUE
332	1009	1012	Home	FALSE	TRUE
333	1009	1008	Cline	FALSE	TRUE
334	1009	1011	Talley	FALSE	TRUE
335	1009	1005	Owens	TRUE	TRUE
336	1009	1001	Murray	TRUE	TRUE
337	1010	1002	Taylor	FALSE	TRUE
338	1010	1005	Cox	FALSE	TRUE
339	1011	1006	Gill	FALSE	TRUE
340	1011	1004	Barlow	FALSE	TRUE
341	1011	1007	Olson	FALSE	TRUE
342	1012	1003	Lynn	FALSE	TRUE
343	1012	1002	Sharp	FALSE	TRUE
344	1012	1010	Shields	TRUE	TRUE
345	1013	1006	Hickman	FALSE	TRUE
346	1013	1001	Barnett	FALSE	TRUE
347	1014	1006	Conrad	FALSE	TRUE
348	1015	1003	Hampton	FALSE	TRUE
349	1015	1014	Tran	FALSE	TRUE
350	1015	1008	Warner	FALSE	FALSE
351	1010	1001	null	FALSE	FALSE
352	1010	1007	null	FALSE	FALSE
353	1008	1006	null	FALSE	FALSE

Contacts Table

```
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (301,1001,1009,'Potts',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (302,1001,1005,'Ratliff',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (303,1001,1011,'Clayton',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (304,1001,1012,'Gould',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (305,1014,1003,'Morse',TRUE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (306,1014,1002,'Ferguson',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (307,1014,1008,'Schwartz',TRUE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (308,1002,1014,'Cameron',TRUE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (309,1002,1013,'Fitzgerald',TRUE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (310,1002,1001,'Kane',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (311,1002,1012,'Hamptn',FALSE,TRUE);

INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (312,1003,1010,'Hyde',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (313,1003,1001,'Brown',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (314,1003,1004,'Bender',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (315,1003,1015,'Olsn',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (316,1003,1005,'Brewer',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (317,1005,1004,'Ortega',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (318,1005,1014,'Gallagher',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (319,1005,1001,'Franco',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (320,1006,1003,'Flowers',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (321,1006,1014,'Richard',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (322,1006,1015,'Walter',FALSE,TRUE);
```

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Contacts Table

```
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (313,1003,1001,'Brown',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (314,1003,1004,'Bender',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (315,1003,1015,'Olsn',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (316,1003,1005,'Brewer',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (317,1005,1004,'Ortega',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (318,1005,1014,'Gallagher',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (319,1005,1001,'Franco',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (320,1006,1003,'Flowers',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (321,1006,1014,'Richard',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (322,1006,1015,'Walter',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (323,1006,1005,'Tate',TRUE,TRUE);

INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (324,1006,1002,'Jarvis',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (325,1006,1007,'Good',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (326,1007,1015,'Santiago',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (327,1007,1011,'Cash',TRUE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (328,1007,1008,'Foreman',TRUE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (329,1007,1010,'Mors',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (330,1008,1004,'Stevens',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (331,1008,1013,'Edwards',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (332,1009,1012,'Horne',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (333,1009,1008,'Cline',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (334,1009,1011,'Talley',FALSE,TRUE);
```

Contacts Table

```
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (335,1009,1005,'Owens',TRUE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (336,1009,1001,'Murray',TRUE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (337,1010,1002,'Taylor',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (338,1010,1005,'Cox',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (339,1011,1006,'Gill',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (340,1011,1004,'Barlow',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (341,1011,1007,'Olson',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (342,1012,1003,'Lynn',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (343,1012,1002,'Sharp',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (344,1012,1010,'Shields',TRUE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (345,1013,1006,'Hickman',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (346,1013,1001,'Barrett',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (347,1014,1006,'Conrad',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (348,1015,1003,'Hampton',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (349,1015,1014,'Tran',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (350,1015,1008,'Warner',FALSE,TRUE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (351,1010,1001,NULL,FALSE,FALSE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (352,1010,1007,NULL,FALSE,FALSE);
INSERT INTO Contacts(id,user_id,contact_person_id,saved_by_name,is_blocked,is_saved) VALUES (353,1008,1006,NULL,FALSE,FALSE);
```

Message Table

```
CREATE TABLE Message (
  mssg_id INT NOT NULL UNIQUE PRIMARY KEY AUTO_INCREMENT,
  sender_id INT NOT NULL,
  message_body VARCHAR(100) NOT NULL,
  time VARCHAR(11) NOT NULL,
  date DATE NOT NULL,
  visible_to_me BOOLEAN DEFAULT TRUE
);
```

mssg_id	sender_id	message_body	time	date	visible_to_me
101	1004	hi	10:11:12	2021-09-29	TRUE
102	1002	hello	5:46:40	2021-09-30	TRUE
103	1001	hey	11:19:05	2021-10-01	TRUE
104	1011	hi there	7:16:47	2021-10-02	TRUE
105	1001	hiya	6:54:07	2021-10-03	TRUE
106	1005	hellooo	4:05:55	2021-10-04	TRUE
107	1006	heyyy	16:14:30	2021-10-05	TRUE

Message Table

- `INSERT INTO message(mssg_id, sender_id, message_body, time, date, visible_to_me) VALUES (101, 1004, 'hi', '10:11:12', '2021-09-29', TRUE);`
- `INSERT INTO message(mssg_id, sender_id, message_body, time, date, visible_to_me) VALUES (102, 1002, 'hello', '5:46:40', '2021-09-30', TRUE);`
- `INSERT INTO message(mssg_id, sender_id, message_body, time, date, visible_to_me) VALUES (103, 1001, 'hey', '11:19:05', '2021-10-01', TRUE);`
- `INSERT INTO message(mssg_id, sender_id, message_body, time, date, visible_to_me) VALUES (104, 1011, 'hi there', '7:16:47', '2021-10-02', TRUE);`
- `INSERT INTO message(mssg_id, sender_id, message_body, time, date, visible_to_me) VALUES (105, 1001, 'hiya', '6:54:07', '2021-10-03', TRUE);`
- `INSERT INTO message(mssg_id, sender_id, message_body, time, date, visible_to_me) VALUES (106, 1005, 'helloooo', '4:05:55', '2021-10-04', TRUE);`
- `INSERT INTO message(mssg_id, sender_id, message_body, time, date, visible_to_me) VALUES (107, 1006, 'heyyyy', '16:14:30', '2021-10-05', TRUE);`

Message Recipient Table(Weak Entity)

```
CREATE TABLE Message_recipient (
messg_id INT,
receiver_id INT NOT NULL,
receiver_group_id INT,
is_read BOOLEAN DEFAULT FALSE,
status VARCHAR(10),
CHECK( (is_read, status) <> (true, 'not sent') )
);
```

This entity cannot be uniquely identified by its attributes alone.

It uses a foreign key in conjunction with its attributes to create a primary key. It is dependent on messg_id and receiver_id.

»

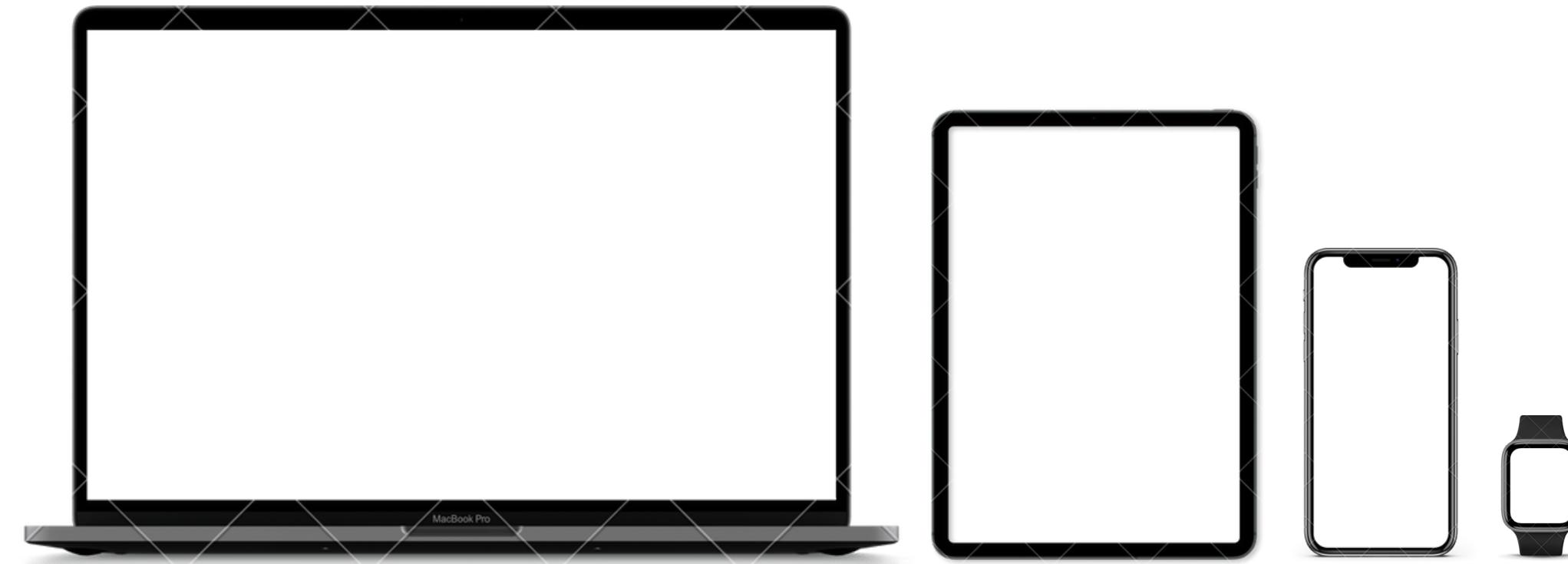
mssg_id	receiver_id	receiver_group_id	is_read	status
101	1001	10	TRUE	sent
101	1010	10	TRUE	sent
101	1013	10	FALSE	sent
101	1015	10	FALSE	sent
102	1007	15	TRUE	sent
102	1009	15	TRUE	sent
102	1011	15	FALSE	sent
102	1014	15	TRUE	sent
103	1003	17	TRUE	sent
103	1007	17	FALSE	sent
103	1011	17	TRUE	sent
103	1012	17	TRUE	sent
104	1001	17	FALSE	sent
104	1003	17	TRUE	sent
104	1007	17	FALSE	sent
104	1012	17	TRUE	sent
105	1005	null	TRUE	sent
106	1009	null	FALSE	not sent
107	1003	null	FALSE	sent

Message Recipient Table(Weak Entity)

```
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (101,1001,10,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (101,1010,10,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (101,1013,10,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (101,1015,10,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (102,1007,15,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (102,1009,15,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (102,1011,15,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (102,1014,15,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (103,1003,17,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (103,1007,17,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (103,1011,17,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (103,1012,17,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (104,1001,17,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (104,1003,17,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (104,1007,17,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (104,1012,17,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (105,1005,NULL,TRUE,'sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (106,1009,NULL,TRUE,'not sent');
INSERT INTO message_recipient(mssg_id,receiver_id,receiver_group_id,is_read,status) VALUES (107,1003,NULL,TRUE,'sent');
```

SQL Queries

https://docs.google.com/document/d/1Xz9JvDSpNLDJl2uTN9QBiRH5F49SpG_L-NWRNrCYbVc/edit?usp=sharing



Socialite DB

user view: make changes in their own bio

User 'x' can see his/her account info (like bio, phone_No, user name)

```
CREATE VIEW user_profile AS
SELECT name, phone_number, bio
FROM user
WHERE user_id=x;
```

»

Socialite DB

User x can view user y's bio, phone number, actual name -> (parts of the user profile)

```
SELECT phone_number, bio, name
FROM user
WHERE user_id = 1005 and ( SELECT count(contact_person_id)
    FROM contacts
    WHERE user_id = 1001 and contact_person_id = 1005);
```

»

Socialite DB

For a user 1014 get all of their saved contacts(o/p: 1002, 1003, 1008, 1006)

```
Select contact_person_id, saved_by_name  
From contacts  
Where user_id=1014 and is_saved = TRUE;
```

»

Socialite DB

For a user X = 1014 get the actual names of all of their blocked contacts(O/P 1003, 1008)

Select U.name ,U.uid

From user as U, contacts as C

Where C.user_id = 1014 and U.uid = C.contact_person_id and is_blocked = TRUE;

»

Get all the messages from a Direct chat between user xxxx and user yyyy

```
SELECT M.mssg_id, M.message_body, M.sender_id, M.time, M.date
FROM message as M, message_recipient as R
WHERE (M.sender_id = 1001 or M.sender_id = 1005)
AND (R.receiver_id = 1005 or R.receiver_id = 1001)
AND (receiver_group_id is null)
AND (M.mssg_id=R.mssg_id);
```

Retrieve information of all the groups that a user belongs to :

```
SELECT group_name, date, creator_id
FROM grp as G, user_group_info as I
Where I.user_id = 1001 and I.group_id = G.group_id;
```

Socialite DB

Group by group ID and count the number of members in each group, order by high to low

```
SELECT COUNT(user_id), group_id
FROM user_group_info
GROUP BY group_id
ORDER BY COUNT(user_id) DESC;
```

»

Socialite DB

Can make other users admin:

```
SET SQL_SAFE_UPDATES = 0;  
UPDATE user_group_info  
SET is_admin = TRUE  
WHERE user_id=1004;
```

»

Socialite DB

Change group's name

```
SET SQL_SAFE_UPDATES = 0;  
select*from grp;  
UPDATE grp  
SET group_name = 'csd'  
WHERE group_id=19;
```

»

Socialite DB

User x sends a message on group XABCD (message is created, sent on a group)
(constraints: create date of message cant be before that of the group, x should be a member of the group)

```
INSERT INTO message(sender_id, message_body, time, date, visible_to_me)
VALUES( 1001, '20th is my bday', '09:09:09', '2022-03-01', TRUE);
```

```
INSERT INTO message_recipient(receiver_id, receiver_group_id)
SELECT distinct user_id, group_id FROM user_group_info
WHERE group_id = 20 and user_id <> 1001;
```

```
UPDATE message_recipient
SET mssg_id =108
WHERE receiver_group_id = 20 and mssg_id is null and status is null;
```

»

Socialite DB

A delete message query

display sender's name on a message in a group

display the names and bio's of a memberin each group

»»

Embedded SQL queries

```
DELIMITER //
CREATE procedure showView ()
BEGIN
    SELECT * FROM user_profile;
END //
```

```
DELIMITER ;
CALL showView();
```

Embedded SQL queries

get the number of unread messages in a group for a particular member

```
DELIMITER //
CREATE procedure unreadMssgsInaGrp (IN rid INT, IN gid INT, OUT unreadMssgs INT)
BEGIN
    SELECT count(mssg_id) INTO unreadMssgs FROM message_recipient WHERE
    receiver_group_id = gid AND receiver_id = rid AND is_read = FALSE;
END //
DELIMITER ;
```

```
CALL unreadMssgsInaGrp(1013, 10, @unreadMssgs);
SELECT @unreadMe
```

»

Embedded SQL queries

```
DELIMITER //
CREATE procedure getUser(IN phone FLOAT, OUT userid INT)
BEGIN
SELECT uid INTO userid FROM User WHERE phone_number = phone;
END //
DELIMITER ;

CALL getUser(1000000000, @userid);
SELECT @userid;
```

Embedded SQL queries

for a particular user, order all their groups by their created dates

```
DELIMITER //
CREATE procedure inCreationOrder()
BEGIN
SELECT * FROM grp$lnOrder
END //
DELIMITER ;
```

```
CALL inCreationOrder();
SELECT @group_id;
```

»

Embedded SQL queries

VIEW : for a particular user, order all their groups by their created dates

```
CREATE view grpInOrder AS
SELECT group_id FROM user_group_info as U NATURAL JOIN grp as G WHERE user_id = u
AND G.group_id = U.group_id ORDER BY(date) DESC;
```

Roles and Users

```
create role grp_admin;
```

```
create role chatter;
```

//user: root (administrator)

```
create user peter@localhost identified by 'jpt12345';
```

Views and Grants

```
GRANT CREATE, CREATE VIEW, DROP, SELECT, TRIGGER, DELETE ON *.* TO
chatter;
GRANT INSERT ON message TO chatter;
GRANT INSERT ON message_recipient TO chatter;
GRANT CREATE ROLE ON *.* TO chatter;
GRANT UPDATE on message_recipient TO chatter;
GRANT INDEX, GRANT OPTION on *.* to chatter;
GRANT grp_admin TO peter@localhost;
GRANT chatter TO peter@localhost;
```

Views and Grants

```
CREATE VIEW user_profile AS
SELECT name, phone_number, bio
FROM user
WHERE user_id=x;
```

```
create view group10 as
select group_name, date, creator_id
from grp
where group_id=10;
```

```
grant update(group_name) on grp to grp_admin;
```

```
create view group_info as
select U.name, U.bio
from user_group_info as G NATURAL JOIN user as U
where G.group_id= <g> AND G.user_id = U.uid;
```

```
create view numOf_grp_members as
SELECT COUNT(user_id), group_name, group_id
FROM user_group_info
GROUP BY group_id
ORDER BY COUNT(user_id) DESC;
```

Indexing

```
query: """CREATE INDEX message_sender ON message (sender_id);"""
```

Indexing is used in the message table by creating an index table of message_sender to quickly search the sender_id in the message table.

```
query: """CREATE INDEX message_reciever ON message_recipient (receiver_id);"""
```

Indexing is used in the message_recipient table by creating an index table of message_reciever to quickly search the receiver_id in the message table.

```
query: """CREATE INDEX user_grp ON user_group_info (user_id, group_id);"""
```

Indexing is used in the user_group_info table by creating an index table of user_grp to quickly search among the user_id and group_id in the user_group_info table.

```
query: """CREATE INDEX login ON user (name,phone_number);"""
```

Indexing is used in the `user` table by creating an index table of `login` to quickly search among the `phone_number` and `name` in the `user` table.

```
query: """CREATE INDEX known_ppl ON contacts (user_id,contact_person_id);"""
```

Indexing is used in the `contacts` table by creating an index table of `known_ppl` to quickly search among the `user_id` and `contact_person_id` in the `contacts` table.

Triggers

```
# after insert trigger
```

```
Delimiter //
```

```
CREATE TRIGGER check_sender AFTER INSERT ON message
```

```
FOR EACH ROW
```

```
WHEN (new.sender_id not in( SELECT uid FROM user))
```

```
BEGIN
```

```
    ROLLBACK
```

```
END //
```

```
Delimiter;
```

```
CREATE TRIGGER check_recipient AFTER INSERT ON message_recipient
FOR EACH ROW
WHEN (new.receiver_id not in( SELECT uid FROM user))
BEGIN
    ROLLBACK
END //
Delimiter;
```

```
Delimiter //
CREATE TRIGGER check_grp_member AFTER INSERT ON message_recipient
FOR EACH ROW
WHEN (new.receiver_group_id IS NOT NULL AND new.receiver_id, new.receiver_group_id not in (SELECT
user_id,group_id FROM user_group_info))
BEGIN
    ROLLBACK
END //
Delimiter;
```

before delete trigger (query for deleting a message)

Delimiter //

create trigger mssg_deletion

before delete

on message

for each row

begin

delete from message_recipient where mssg_id = old.mssg_id

end //

Delimiter;

delete from message where mssg_id = <m>

