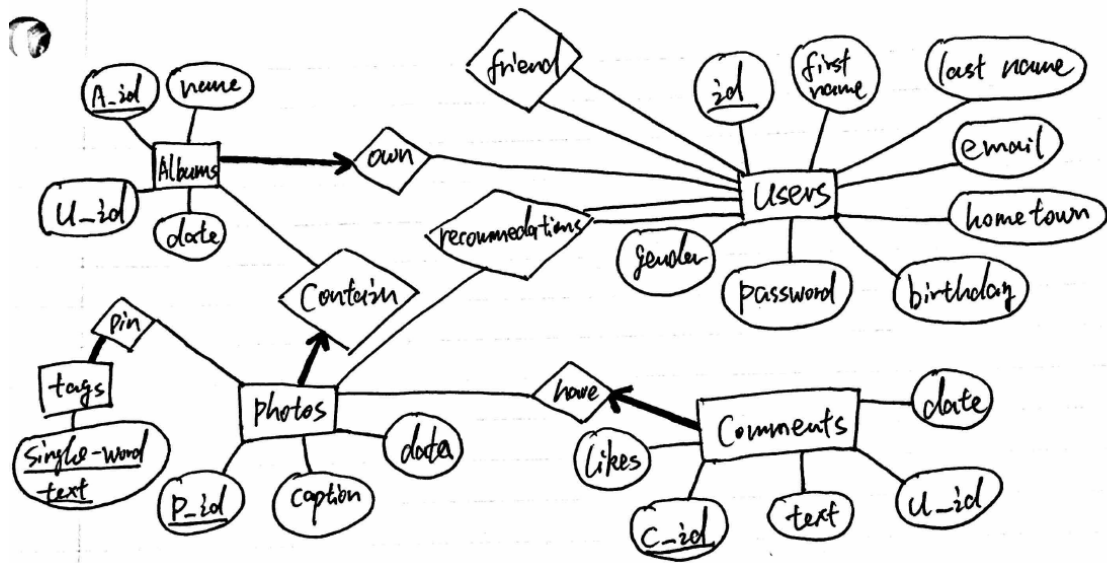


CS 460

Phase 1

Group members: Yuchen Zhang & Lin Li

1. E-R Diagram



2. Relational Schema

**Users** (ID, first name, last name, e-mail, hometown, birthday, password, gender)

**Albums** (Album ID, name, User ID, date)

**Comments** (Comment ID, text, User ID, date, likes)

**Photos** (Photo ID, caption, data)

**Tags** (single-word text)

• Tables and Constraints

```
CREATE TABLE comments(  
    PRIMARY KEY(C_id),  
    C_id INTEGER,  
    U_id INTEGER,  
    Text CHAR(50),  
    FOREIGN KEY(U_id) REFERENCES Users  
    ON DELETE NO ACTION)
```

```
CREATE TABLE tags(  
    PRIMARY KEY(Single-word text),  
    Single-word text CHAR(20))
```

```

CREATE TABLE Users (
    PRIMARY KEY(id),
    id INTEGER,
    Birthday Date,
    First name CHAR(20),
    Last name CHAR(20),
    Email CHAR(30),
    Hometown CHAR(50),
    Password CHAR(20),
    Gender CHAR(10))

CREATE TABLE photos(
    PRIMARY KEY(P_id),
    P_id INTEGER,
    Data BLOB,
    Caption CHAR(50))

CREATE TABLE own(
    PRIMARY KEY(id, A_id),
    Id INTEGER,
    A_id INTEGER,
    FOREIGN KEY(id) REFERENCES Users,
    FOREIGN KEY(A_id) REFERENCES Albums
    ON DELETE NO ACTION)

CREATE TABLE Albums(
    PRIMARY KEY(A_id),
    Date Date,
    A_id INTEGER,
    Name CHAR(20),
    U_id INTEGER,
    FOREIGN KEY(U_id) REFERENCES Users
    ON DELETE NO ACTION)

CREATE TABLE contain(
    PRIMARY KEY(A_id, P_id),
    A_id INTEGER,

```

```
P_id INTEGER,  
FOREIGN KEY(A_id) REFERENCES Albums,  
FOREIGN KEY(P_id) REFERENCES photos  
ON DELETE NO ACTION)
```

```
CREATE TABLE friend(  
    PRIMARY KEY(id, id),  
    Id INTEGER,  
    Id INTEGER,  
    FOREIGN KEY(id) REFERENCES Users  
    ON DELETE NO ACTION)
```

```
CREATE TABLE pin(  
    PRIMARY KEY(P_id, Single_word text),  
    P_id INTEGER,  
    Single_word text CHAR(20),  
    FOREIGN KEY(p_id) REFERENCES photos,  
    FOREIGN KEY(single_word text) REFERENCES tags  
    ON DELETE NO ACTION)
```

```
CREATE TABLE have(  
    PRIMARY KEY(p_id, c_id),  
    P_id INTEGER,  
    C_id INTEGER,  
    FOREIGN KEY(p_id) REFERENCES photos,  
    FOREIGN KEY(c_id) REFERENCES comments  
    ON DELETE NO ACTION)
```

```
CREATE TABLE recommendations(  
    PRIMARY KEY(id, p_id),  
    Id INTEGER,  
    P_id INTEGER,
```

FOREIGN KEY(id) REFERENCES Users  
FOREIGN KEY(p\_id) REFERENCES Photos  
ON DELETE NO ACTION)

3. Assumptions and Rules

- Each album only has one unique album ID
- Each user only has one unique ID
- Each photo has a photo ID
- Each comment has a comment ID
- Each album can only be owned at most one user
- Each photo can only be stored in one album
- Each comment can only be given to one photo
- Each photo can be pinned by many tags
- One user will have many albums and friends
- One album will contain many photos
- One photo will have many comments

4. We use integrity constraints such as foreign key in each of the table created such as user id, album id, photo id, comment id and single word text in individual tables. We are also planning on use unique for some primary key. Please refer to the table above.