

University of British Columbia
Department of Computer Science
CPSC 304 2021

Summer Term1

Group Project - Implementation of a Relational Database

Project Title:	Explore UBC
Project Milestone:	Milestone 4(a)

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above.

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia

Project Description:

Our project “Explore UBC” is a social networking application that allows users to share their best moments in UBC. We’ve accomplished user sign-up, user login, and log-out. After users have logged in, they can upload posts containing multiple photos taken around UBC. These locations are sorted into eateries, buildings, and attractions. Under each location, you can also see related information such as a restaurant’s menu, an attraction’s ticket price, and so on. Users can also comment and press like under a post, or put it in their favorite list. Each user also has a personal page, which shows their uploaded posts and favorite posts.

Schema difference:

1. Users(PID)

- Foreign keys: (PID) references People
- UserName is unique and not NULL

The table name “User” was changed to “Users” because MySQL denies “User” as a table name. Also, the attribute “username” was deleted in the Users table because its role is redundant given the attribute “name” in the People table.

2. People(PID, Password, Username)

The attribute “Name” was changed to “Username” because it matches with “Password”

3. Favorites(PID)

- ~~-Foreign keys: (PID) references User~~

This table is deleted because the role is redundant given that we have the Favorites_Contain_Post table.

Generate Tables

1.

```
CREATE TABLE Contact(
```

```
    Name      CHAR(40),  
    Address   CHAR(50),  
    Contact   CHAR(30),  
    PRIMARY KEY (Name, Address)
```

```
)
```

```
CREATE TABLE Location(
```

```
    LID      INT      PRIMARY KEY      AUTO_INCREMENT,
```

```
Name      CHAR(40),  
Address   CHAR(50),  
OpenTime  TIME,  
CloseTime TIME,  
FOREIGN KEY (Name, Address) REFERENCES Contact (Name, Address)  
ON DELETE CASCADE  
ON UPDATE CASCADE  
);
```

2.

```
CREATE TABLE Eatery_Menu (  
    MID      INT      PRIMARY KEY      AUTO_INCREMENT,  
    Type     CHAR(10),  
    LID      INT,  
    FOREIGN KEY (LID) REFERENCES location (LID)  
    ON DELETE CASCADE  
    ON UPDATE CASCADE  
);
```

3.

```
CREATE TABLE Dish (  
    Name      CHAR(20),  
    MID      INT,  
    Price     INT,  
    PRIMARY KEY (Name, MID),  
    FOREIGN KEY (MID)      REFERENCES Eatery_Menu (MID)  
    ON DELETE CASCADE  
    ON UPDATE NO ACTION  
);
```

5.

```
CREATE TABLE Faculty(  
    FID      INTEGER PRIMARY KEY,  
    FNameCHAR(40) UNIQUE NOT NULL  
)
```

6.

```
CREATE TABLE Building(  
    LID      INTEGER,  
    FID      INTEGER,  
    PRIMARY KEY (LID, FID),  
    FOREIGN KEY (LID) REFERENCES Location(LID),  
    FOREIGN KEY (FID) REFERENCES Faculty(FID)  
    ON DELETE CASCADE  
    ON UPDATE CASCADE )
```

7.

```
CREATE TABLE Attraction(  
    LID      INTEGER PRIMARY KEY,  
    FOREIGN KEY (LID) REFERENCES Location(LID)  
    ON DELETE CASCADE  
    ON UPDATE CASCADE  
)
```

8.

```
CREATE TABLE Sell_Ticket(
    TID      INTEGER PRIMARY KEY,
    LID      INTEGER,
    Price    INTEGER,
    Type     CHAR(20),
    FOREIGN KEY (LID) REFERENCES Attraction(LID)
    ON DELETE CASCADE
    ON UPDATE CASCADE
)
```

9.

```
CREATE TABLE People(
    PID      INTEGER PRIMARY KEY AUTO_INCREMENT,
    Password CHAR(20) NOT NULL,
    Username CHAR(20) UNIQUE NOT NULL
)
```

10.

```
CREATE TABLE Users(
    PID      INTEGER PRIMARY KEY AUTO_INCREMENT,
    FOREIGN KEY (PID) REFERENCES People(PID)
    ON DELETE CASCADE
    ON UPDATE CASCADE
)
AUTO_INCREMENT = 2;
```

11.

```
CREATE TABLE Admin(
    PID      INTEGER PRIMARY KEY AUTO_INCREMENT,
    FOREIGN KEY (PID) REFERENCES People(PID)
    ON DELETE CASCADE
    ON UPDATE CASCADE
)
```

13.

```
CREATE TABLE Favorite_Post(
    PID INTEGER,
    PSID INTEGER,
    FTime DATE,
    PRIMARY KEY (PID, PSID),
    FOREIGN KEY (PID) REFERENCES Users(PID),
    FOREIGN KEY (PSID) REFERENCES Pub_Post(PSID)
    ON DELETE CASCADE
    ON UPDATE CASCADE
)
```

14.

```
CREATE TABLE Pub_Post(
    PSID      INTEGER PRIMARY KEY AUTO_INCREMENT,
```

```
LID INTEGER,  
PID INTEGER,  
PTime DATE,  
Description CHAR(50),  
FOREIGN KEY (LID) REFERENCES Location(LID),  
FOREIGN KEY (PID) REFERENCES Users(PID)  
ON DELETE CASCADE  
ON UPDATE CASCADE  
)
```

15.

```
CREATE TABLE Del_Post(  
    PSID INTEGER PRIMARY KEY AUTO_INCREMENT,  
    PID INTEGER,  
    DTime DATE,  
    FOREIGN KEY (PID) REFERENCES People(PID),  
    FOREIGN KEY (PSID) REFERENCES Pub_Post(PSID)  
    ON DELETE CASCADE  
    ON UPDATE CASCADE  
)
```

16.

```
CREATE TABLE Contain_Photo(  
    PHID INTEGER PRIMARY KEY AUTO_INCREMENT,  
    url CHAR(30),  
    PSID INTEGER,  
    FOREIGN KEY (PSID) REFERENCES Pub_Post(PSID)  
    ON DELETE CASCADE  
    ON UPDATE CASCADE  
)
```

17.

```
CREATE TABLE Write_Comment(  
    CID INTEGER PRIMARY KEY AUTO_INCREMENT,  
    PID INTEGER,  
    PSID INTEGER,  
    CTime DATE,  
    Content CHAR(100),  
    FOREIGN KEY (PID) REFERENCES Users(PID),  
    FOREIGN KEY (PSID) REFERENCES Pub_Post(PSID)  
    ON DELETE CASCADE  
    ON UPDATE CASCADE  
)
```

18.

```
CREATE TABLE Press_Like(  
    PID INTEGER,  
    PSID INTEGER,  
    LTime DATE,  
    PRIMARY KEY (PID, PSID),
```

```
        FOREIGN KEY (PID) REFERENCES Users(PID),
        FOREIGN KEY (PSID) REFERENCES Pub_Post(PSID)
        ON DELETE CASCADE
        ON UPDATE CASCADE
)
```

Queries used:

1.

```
SELECT *
    FROM People
    WHERE username = '$username' AND password = '$password';
```
2.

```
SELECT pid
    FROM People
    WHERE username = $username;
```
3.

```
INSERT INTO People
    VALUES(DEFAULT, '$password', '$username');
```
4.

```
INSERT INTO Users
    VALUES(DEFAULT);
```
5.

```
SELECT ftime, lid, name, psid, url, min(phid) as minphid
    FROM
    (SELECT name, url, ftime, phid, Pub_Post.psid, Pub_Post.lid
    FROM Location, Pub_Post, Contain_Photo, Favorite_Post
    WHERE Favorite_Post.pid= $pid
    AND Contain_Photo.PSID=Pub_Post.PSID
    AND Pub_Post.LID=Location.LID
    AND Favorite_Post.PSID=Pub_Post.PSID) a
    GROUP BY psid ORDER BY ftime;
```
6.

```
SELECT ptime, lid, name, psid, url, min(phid) as minphid
    FROM
    (SELECT name, url, ptime, phid, Pub_Post.psid, Pub_Post.lid
    FROM Pub_Post, Contain_Photo, Location
    WHERE Pub_Post.pid = $pid
    AND location.LID=Pub_Post.LID
```

```
        AND Contain_Photo.PSID = Pub_Post.PSID) a  
    GROUP BY psid ORDER BY ptime;
```

7.

```
SELECT PSID  
      FROM pub_post  
     WHERE LID = {$LID}
```
8.

```
SELECT url  
      FROM contain_photo  
     WHERE PSID = {$psid}
```
9.

```
SELECT Name  
      FROM users  
     WHERE PID = {$pid}
```
10.

```
SELECT LID  
       FROM pub_post  
      WHERE PSID = {$psid}
```
- DELETE**
11. **DELETE FROM pub_post**
WHERE PSID = {\$psid}
12.

```
SELECT PID, PTime, Description  
      FROM pub_post  
     WHERE PSID = {$psid}
```
13.

```
INSERT INTO write_comment  
           VALUES (DEFAULT,".$cur_pid ."" . $psid ."" . $ctime ."" . $content .")
```
14.

```
SELECT PHID, url  
      FROM contain_photo  
     WHERE PSID = {$psid}
```

15.

```
INSERT INTO press_like
VALUES ('".$cur_pid."','".$psid."','".$date('Y-m-d H:i:s')."')
```

16.

```
DELETE FROM press_like
WHERE PID = {$cur_pid} AND PSID = {$psid}
```
17.

```
INSERT INTO favorite_post
VALUES ('".$cur_pid."','".$psid."','".$date('Y-m-d H:i:s')."')
```

18.

```
DELETE FROM favorite_post
WHERE PID = {$cur_pid} AND PSID = {$psid}
```
19.

```
SELECT PID
FROM press_like
WHERE PSID = {$psid}
```

20.

```
SELECT PID
FROM favorite_post
WHERE PSID = {$psid}
```

21.

```
SELECT PID, CTime, Content
FROM write_comment
WHERE PSID = {$psid}
```

22.

```
SELECT PSID
FROM Pub_Post
WHERE PSID=(SELECT max(PSID) FROM Pub_Post);
```

23.

```
SELECT Location.LID, Location.Name, Location.Address, Contact.Contact
FROM Location
join Attraction ON Location.LID = Attraction.LID
join Contact ON Location.Address = Contact.Address
```

24.

```
SELECT Location.LID, Location.Name, Location.Address, Faculty.FName
FROM Location
join Building ON Location.LID = Building.LID
join Faculty ON Building.FID = Faculty.FID
```

```
25. SELECT Location.LID, Name, Address, OpenTime, CloseTime  
      FROM Location  
      join Eatery_Menu ON Location.LID = Eatery_Menu.LID
```

PROJECTION

```
26. SELECT Name, LID from Location
```

INSERT

```
27. INSERT INTO pub_post  
      VALUES(DEFAULT,"$_POST["LID"].","$_SESSION["pid"] .".date("Y-m-d").","$_POST["des"]."")
```

AGGREGATION

```
28. SELECT PSID  
      FROM pub_post  
      WHERE PSID=(SELECT max(PSID) FROM pub_post)
```

```
29. INSERT INTO Contain_Photo  
      VALUES (DEFAULT, '$fileToUpload1', $PSID)
```

```
30. INSERT INTO Contain_Photo  
      VALUES (DEFAULT, '$fileToUpload2', $PSID)"
```

```
31. INSERT INTO Contain_Photo  
      VALUES (DEFAULT, '$fileToUpload3', $PSID)
```

```
32. INSERT INTO Contain_Photo  
      VALUES (DEFAULT, '$fileToUpload4', $PSID)
```

```
33. INSERT INTO Contain_Photo  
      VALUES (DEFAULT, '$fileToUpload5', $PSID)
```

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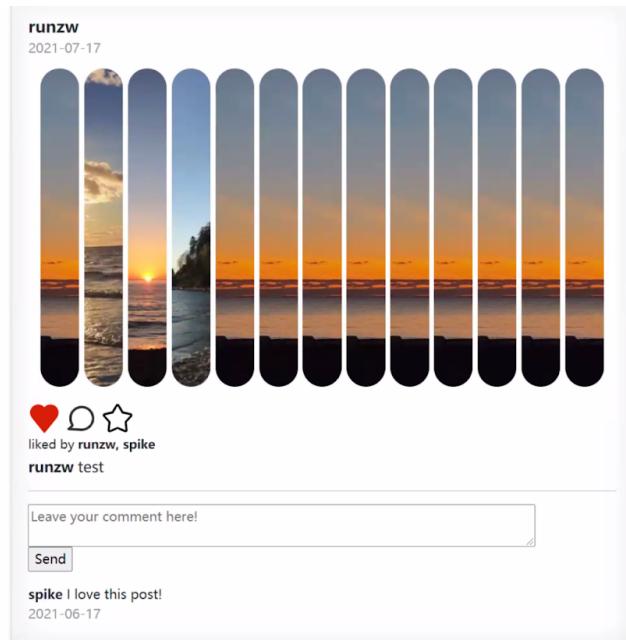
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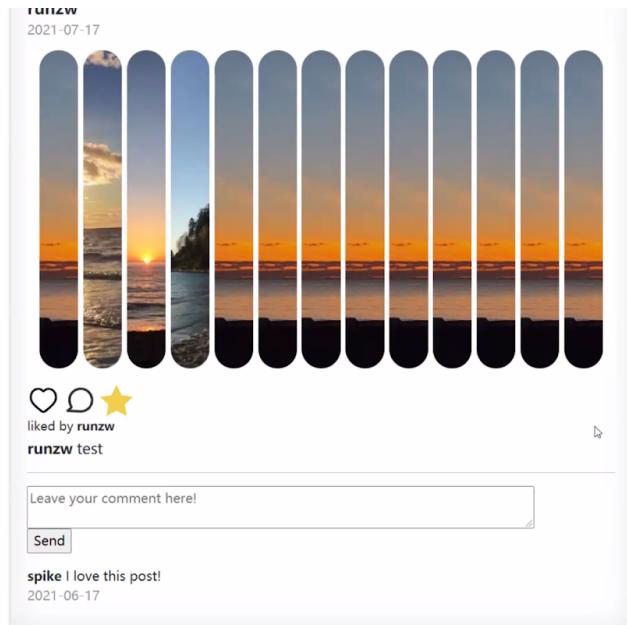
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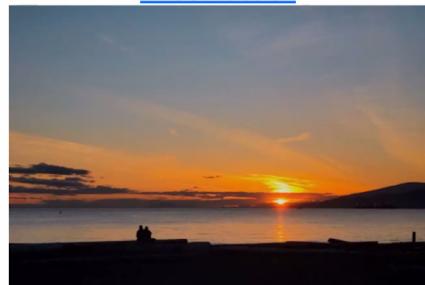
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