CS 306 Project Description

Project Title: Social Media Application's Database

Project Team:

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Database Application: MySQL

Project Description:

In this project, we will be storing users' functionalities such as creating posts, stories, and profiles. In addition, we will be storing users' attributes such as names, surnames, usernames, passwords, and userIDs.

All of the users are connected to an ISA hierarchy called users. In this hierarchy, there are child entities called free-users, premium users, and administrators. It can be seen that the "App" entity is connected to the "Users" entity with the "Login" relationship.

The "App" entity has a relation called "Show Ads to" for which we created which type of user should see advertisements in the app. For example, premium users and administrators will not see any advertisements in the app.

Furthermore, the "App" entity has a relation called "Takes Ads from" which is connected to an ISA hierarchy. In this ISA hierarchy, the parent entity is "Organizations" whereas children entities are "Non-profit Organizations" and "Profit Organizations". These two entities have suitable attributes according to their type.

Finally, we have the entity called "Owner" which is connected to the entity "App".

Number of Entities: 13

Number of Relationships: 8

CREATE TABLE STATEMENTS

```
CREATE TABLE Ad_Account
(
        username CHAR(50),
        nickname CHAR(50),
        password CHAR(30),
        PRIMARY KEY (username)

)


CREATE TABLE Premium_Account
(
        username CHAR(50),
        nickname CHAR(50),
        password CHAR(30),
        PRIMARY KEY (username)
)

CREATE TABLE Free_Account
(
        username CHAR(50),
        nickname CHAR(50),
        password CHAR(30),
        PRIMARY KEY (username)
)

CREATE TABLE Post
(
        postid INTEGER,
        text CHAR(1000),
        image VARBINARY(MAX),
        time DATETIME,
        PRIMARY KEY (postid)

)
```

```
CREATE TABLE Story
(
	postid INTEGER,
	text CHAR(1000),
	image VARBINARY(MAX),
	time DATETIME,
	PRIMARY KEY (postid)
)


CREATE TABLE Profile
(
	profileid INTEGER,
	aboutme CHAR(1000),
	profilepicture VARBINARY(MAX),
	PRIMARY KEY (profileid)

)

CREATE TABLE Delete
(
	username CHAR(50),
	postid INTEGER,
	PRIMARY KEY (postid),
	FOREIGN KEY (username)
		REFERENCES (Premium_Account, Ad_Account, Free_Account)
			ON DELETE CASCADE
	FOREIGN KEY (postid)
		REFERENCES (Post, Story)
			ON DELETE CASCADE
)

CREATE TABLE Create
(
	profileid INTEGER,
	postid INTEGER,
	username CHAR(50),
	PRIMARY KEY (postid),
	FOREIGN KEY (username)
		REFERENCES (Premium_Account, Ad_Account, Free_Account)
			ON DELETE CASCADE
	FOREIGN KEY (postid)
		REFERENCES (Post, Story)
			ON DELETE CASCADE
```

```
        FOREIGN KEY (profileid)
                REFERENCES (Profile)
                        ON DELETE CASCADE
)


CREATE TABLE Block
(
        username1 CHAR(50),
        username2 CHAR(50),
        PRIMARY KEY (username1, username2),
        FOREIGN KEY (username1)
                REFERENCES (Premium_Account, Free_Account, Ad_Account)
                        ON DELETE CASCADE
)
CREATE TABLE Follow
(
        username1 CHAR(50),
        username2 CHAR(50),
        PRIMARY KEY (username1, username2),
        FOREIGN KEY (username1)
                REFERENCES (Premium_Account, Free_Account, Ad_Account)
                        ON DELETE CASCADE
)
CREATE TABLE Advertise
(
        username CHAR(50),
        appid INTEGER,
        PRIMARY KEY (username),
        FOREIGN KEY (username)
                REFERENCES (Free_Account)
                        ON DELETE CASCADE
        FOREIGN KEY (appid)
                REFERENCES App
                        ON DELETE CASCADE
)
CREATE TABLE Login
(
        username CHAR(50),
        appid INTEGER,
        PRIMARY KEY (username),
        FOREIGN KEY (username)
                REFERENCES (Premium_Account, Free_Account, Ad_Account)
                        ON DELETE CASCADE
```

```
        FOREIGN KEY (appid)
                REFERENCES App
                        ON DELETE CASCADE

)
CREATE TABLE App
(
        appname CHAR(50),
        appid INTEGER,
        PRIMARY KEY(appid)

)

CREATE TABLE Owner
(
        name CHAR(50),
        surname CHAR(50),
        owner_id INTEGER,
        PRIMARY KEY(owner_id)
)
CREATE TABLE Is_Owned_By
(
        appid INTEGER,
        owner_id INTEGER,
        PRIMARY KEY(appid),
        FOREIGN KEY(appid)
                REFERENCES App
                        ON DELETE CASCADE
        FOREIGN KEY(owner_id)
                REFERENCES Owner
                        ON DELETE CASCADE
)
CREATE TABLE Take_Ads_From
(
        appid INTEGER,
        company_name CHAR(50),
        PRIMARY KEY(company_name, appid),
        FOREIGN KEY(appid)
                REFERENCES App,
                        ON DELETE CASCADE
        FOREIGN KEY(company_name)
                REFERENCES (Non-Profit Organization, Profit Organization)
                        ON DELETE CASCADE
```

```
)
CREATE TABLE Non-Profit_Organization
(
        company_name CHAR(50),
        supporters CHAR(50),
        address CHAR(50),
        PRIMARY KEY(company_name),

)



CREATE TABLE Profit_Organization
(
        company_name CHAR(50),
        stake_holders CHAR(50),
        profit FLOAT,
        address CHAR(50),
        PRIMARY KEY(company_name)

)
```