Project Step 2 Draft Version: ERD & Schema

Texstagram

By Michael Morriss and Alec Moldovan

Feedback from Matthew Joyce

Nice job! I'm impressed with the level of detail you guys went into in the tables. The visuals are also quite clear.

- Does the overview describe what problem is to be solved by a website with DB back end?
    - Yes. The group makes the purpose of the app clear and how the DB will facilitate this.
- Does the overview list specific facts?
    - Yes, lots, however many of the facts are fictitious! I get that we are allowed to make up anything we like for the project, but I'd say it'd be more meaningful to say what your DB will actually do, rather than enumerate 3 million members, 20 million likes, etc.
- Are at least four entities described and does each one represent a single idea to be stored as a list?
    - Yes, the group is going above and beyond the minimum and the entities are all very appropriate to solve their chosen problem.
- Does the outline of entity details describe the purpose of each, list attribute data types and constraints and describe relationships between entities?
    - Yes, the group clearly put a lot of energy in planning and shaping the relationships and actually is putting in the work to flesh them out.
- Are 1:M relationships correctly formulated? Is there at least one M:M relationship?
    - Yes, the group is using two M:M relationships and seems to have correctly formulated the corresponding 1:M relationships that comprise them.
- Is there consistency in a) naming between overview and entity/attributes b) entities plural, attributes singular c) use of capitalization for naming?
    - Almost: Recommend that the group stick to either all plural or all singular for entity names. (All are singular except for "Posts")

Feedback from Lindsey Imran

- **Your review should answer the following questions**:
    - Does the overview describe what problem is to be solved by a website with DB back end?

Yes, the overview is clear.

    - Does the overview list specific facts?

Yes the overview goes into details using numbers and examples.

    - Are at least four entities described and does each one represent a single idea to be stored as a list?

Yes there are at least four entities.

    - Does the outline of entity details describe the purpose of each, list attribute data types and constraints and describe relationships between entities?

The outline is very descriptive.

    - Are 1:M relationships correctly formulated? Is there at least one M:M relationship?

Yes, they are including the relationship a Like can only belong to one post.

    - Is there consistency in a) naming between overview and entity/attributes b) entities plural, attributes singular c) use of capitalization for naming?

Yes, there is a lot of information here, as with real-life social media platforms. I think they did a good job at keeping everything pretty clear

Actions based on the feedback

1. Fixed the inconsistency in keeping with plural or singular. The intent was to have all entity names be plural.
2. Changed relation with Posts and Locations to 1:M because a post can only have one location but a location can have many posts associated with it.
3. The relationship between Posts and Locations was changed to M:1 based on the fact that “one location can be associated with many posts”.
4. We added two more tables Profiles_followers and Profiles_followings to keep track of the M:M relationships.

Overview

Texstagram has 100,000 active daily users. Texstagram is a social media application that will allow for users to register and create an account so that they can customize their own social media profile page that will display their own personalized information including a unique username, biography, profile picture, and numbers relating to the posts, followers, and followings that each user will have, if any. This social media page will also allow for users to upload their own images with personalized captions from their device, and allow for users to follow one another's unique pages to keep up to date with other profiles and additional features such as to be able to "like" each other's image posts. Our database-driven backend website will be able to record daily entities such as 100,000 profiles, 500,000 posts, 1,000,000 followings, 3,000,000 followers, 5,000,000 comments, 20,000,000 likes.

Database Outline

Profiles: records basic info of user

- profile_id: int, auto_increment, unique, not null, pk
- profile_pic_url: varchar, not null
- profile_pic: blob, null
- profile_pic_id: int, not null
- username: char, not null
- full_name: varchar, not null
- bio: varchar, null
- num_followers: int, not null
- num_following: int, not null
- media_count: int, not null
- is_business: bool, not null
- website_url: varchar, not null
- followed_by_user: bool, not null
- is_following: bool, not null
- is_blocked: bool, not null
- is_verified: bool, not null
- is_private: bool, not null
- relationship: 1:M between Profiles and Posts with profile_id as a FK inside Posts.

Followings: records who is user following

- following_id: int, auto_increment, not null, pk

- user: varchar, not null
- relationship: M:M relationship between Following and Profiles, because many Profiles can have many users Following multiple profiles.

Followers: records who is following the profile

- follower_id: int, auto_increment, not null, pk
- user: varchar, not null
- relationship: M:M relationship between Followers and Profiles, because many followers can be followed by many Profiles, and implemented with follower_id as a FK inside of Profiles.

Posts: records media content and metadata

- post_id: int, unique, PK
- owner: varchar, not null
- type_name: varchar, not null
- number_comments: int, not null
- number_likes: int, not null
- location: varchar, not null
- post_date: datetime, not null
- caption: varchar, not null
- comments_count: int, not null
- likes_count: int, not null
- display_url: varchar, not null, unique
- is_video: bool, not null
- video_view_count: int, not null
- video_url: varchar, not null
- has_audio: bool, not null
- video_play_count: int, not null
- video_duration: int, not null
- status: bool, not null
- location_id: int, not null, fk
- comment_id: int, not null, fk
- like_id: int, not null, fk
- profile_id: int, not null, fk
- relationship: 1:M relationship between Posts and Profiles, one profile can have many posts, and implemented with post_id as a FK in Profiles. 1:M relationship between a Posts and Likes, one Post can have many Likes, and implemented with post_id as a FK in Likes. 1:M relationship between a Post and Comments, one post can have many comments attributed to it ,and implemented with post_id as a FK in Comments.

Likes: records how many likes and who liked the post

- like_id: int, not null, pk
- liked_by: varchar, not null
- count: int, not null
- post_id: int, unique, FK
- relationship: 1:1 relationship between a Like and a Post, one Like is associated with one Post, and implemented with like_id as a FK in Post.

Comments: records comments made by other users

- comment_id: int, not null, pk
- owner_id: int, not null
- created_at: DATETIME, not null
- text: varchar, not null
- post_id: int, unique, fk
- relationship: 1:1 relationship between a Comment and a Post, a single Comment is only related to a single Post, and implemented with comment_id as a FK in Post.

Locations: records location of post

- location_id: int, not null, pk
- city_name: varchar, not null
- state_name: varchar, null
- relationship: 1:M relationship between a Post and Location, one Post can be associated with one Location but a location can be associated with many posts. Implemented with location_id as a FK in Post.

Profiles_Followers: Many to Many relationship facilitator

- profile_id: PK, FK, not null
- follower_id: PK, FK, not null

Profiles_Followings: Many to Many relationship facilitator

- profile_id: PK, FK, not null
- following_id: PK, FK, not null

Schema Outline

Profiles
(
profile_id
profile_pic_url
profile_pic
profile_pic_id
username
full_name
bio
num_followers
num_following
media_count
is_business
website_url
followed_by_user
is_following
Is_blocked
is_verified
is_private
)

Profiles_Followings
(
profile_id
following_id
)

Profiles_Followers
(
profile_id
follower_id
)

Followings
(
Following_id
user
)

Followers
(
follower_id
user
)

Posts
(
post_id
owner
type_name
number_comments
number_likes
location
post_date
caption
comments_count
likes_count
display_ur
is_video
video_view_coun
video_url
has_audio

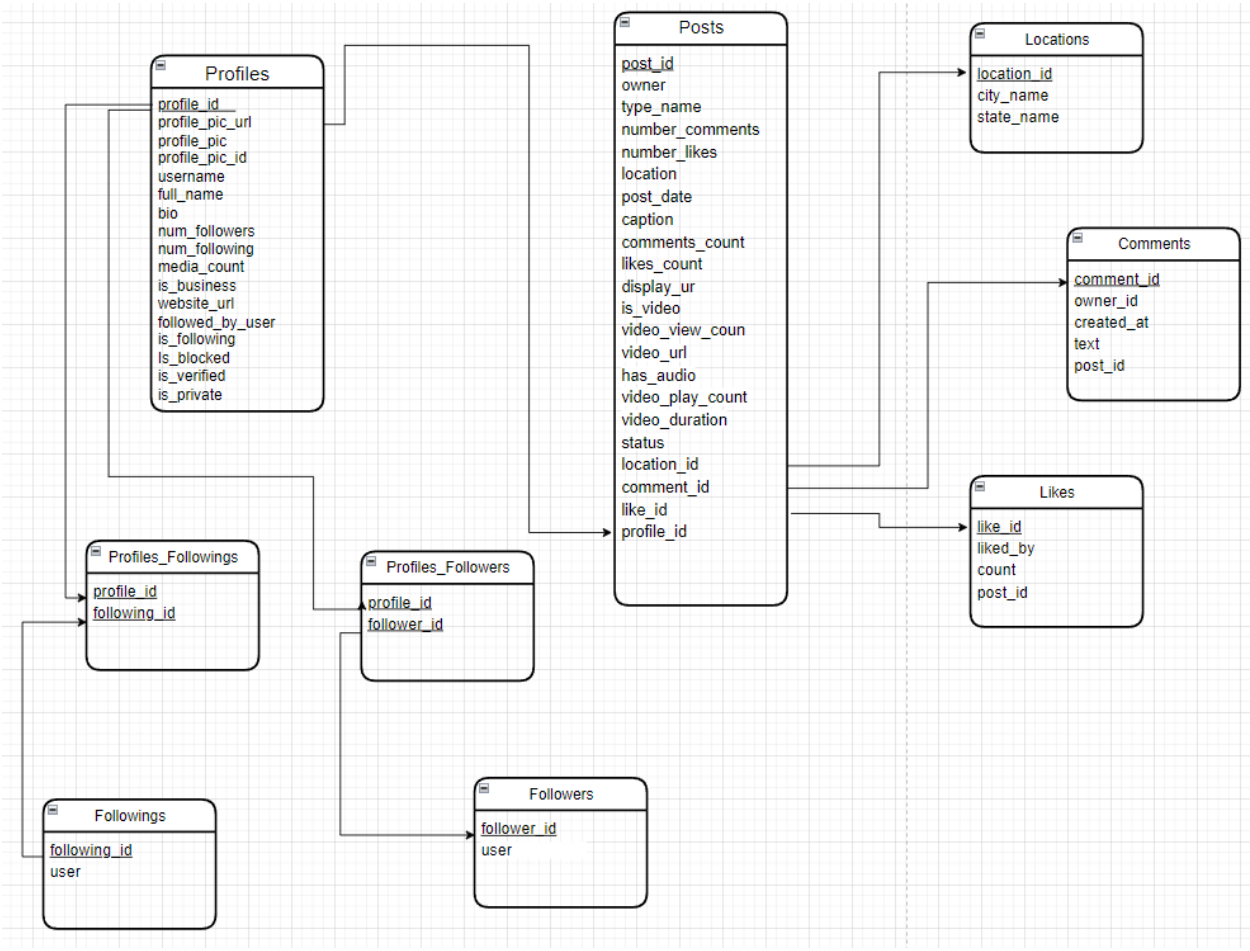
video_play_count
video_duration
status
location_id
comment_id
like_id
profile_id
)

Likes
(
like_id
liked_by
post_id
)

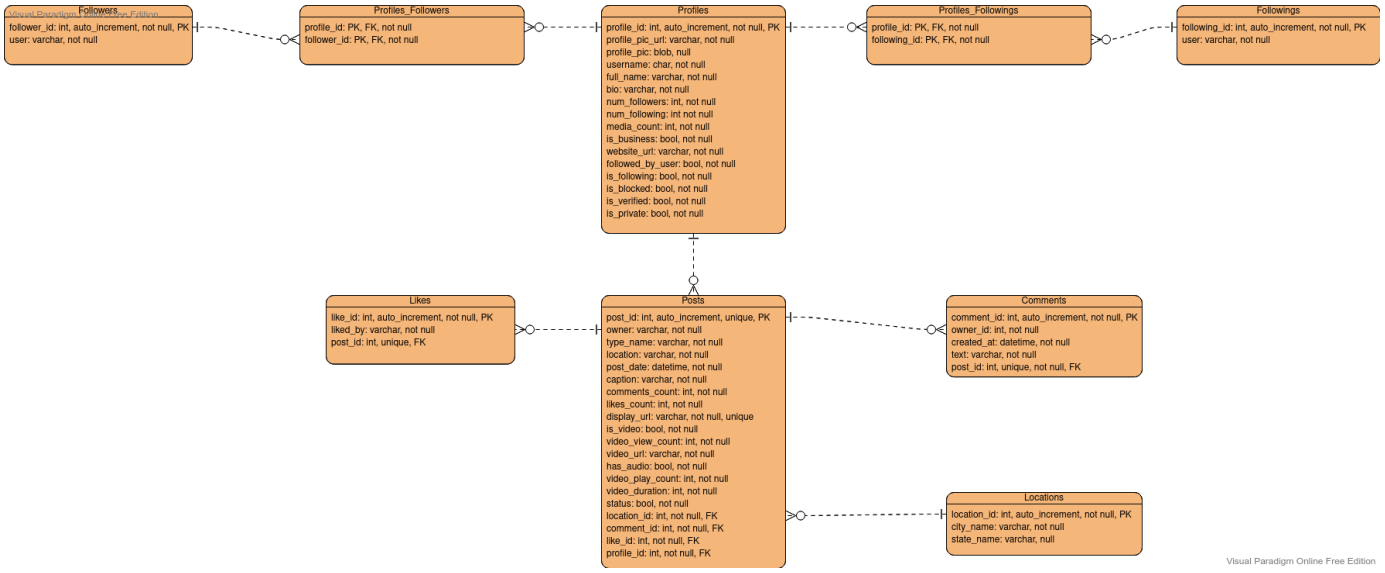
Comments
(
comment_id
owner_id
created_at
text
post_id
)

Locations
(
location_id
city_name
state_name
)

Schema Diagram


Profiles
profile_id
profile_pic_url
profile_pic
profile_pic_id
username
full_name
bio
num_followers
num_following
media_count
is_business
website_url
followed_by_user
is_following
Is_blocked
is_verified
is_private
Posts
post_id
owner
type_name
number_comments
number_likes
location
post_date
caption
comments_count
likes_count
display_ur
is_video
video_view_coun
video_url
has_audio
video_play_count
video_duration
status
location_id
comment_id
like_id
profile_id
Locations
location_id
city_name
state_name
Comments
comment_id
owner_id
created_at
text
post_id
Likes
like_id
liked_by
count
post_id
Profiles_Followings
profile_id
following_id
Profiles_Followers
profile_id
follower_id
Followings
following_id
user
Followers
follower_id
user

ERD Diagram


Followers
follower_id: int, auto_increment, not null, PK
user: varchar, not null
Profiles_Followers
profile_id: PK, FK, not null
follower_id: PK, FK, not null
Profiles
profile_id: int, auto_increment, not null, PK
profile_pic_url: varchar, not null
profile_pic: blob, null
username: char, not null
full_name: varchar, not null
bio: varchar, not null
num_followers: int, not null
num_following: int not null
media_count: int, not null
is_business: bool, not null
website_url: varchar, not null
followed_by_user: bool, not null
is_following: bool, not null
is_blocked: bool, not null
is_verified: bool, not null
is_private: bool, not null
Profiles_Followings
profile_id: PK, FK, not null
following_id: PK, FK, not null
Followings
following_id: int, auto_increment, not null, PK
user: varchar, not null
Likes
like_id: int, auto_increment, not null, PK
liked_by: varchar, not null
post_id: int, unique, FK
Posts
post_id: int, auto_increment, unique, PK
owner: varchar, not null
type_name: varchar, not null
location: varchar, not null
post_date: datetime, not null
caption: varchar, not null
comments_count: int, not null
likes_count: int, not null
display_url: varchar, not null, unique
is_video: bool, not null
video_view_count: int, not null
video_url: varchar, not null
has_audio: bool, not null
video_play_count: int, not null
video_duration: int, not null
status: bool, not null
location_id: int, not null, FK
comment_id: int, not null, FK
like_id: int, not null, FK
profile_id: int, not null, FK
Comments
comment_id: int, auto_increment, not null, PK
owner_id: int, not null
created_at: datetime, not null
text: varchar, not null
post_id: int, unique, not null, FK
Locations
location_id: int, auto_increment, not null, PK
city_name: varchar, not null
state_name: varchar, null
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