

# **SOCIAL NETWORK DATABASE**

**LET'S PROCEED IN**



# THE TEAM

**Yousef Mahmoud**

Data Collection & Insertion

**Yousef Mahmoud**

Docs Writing & Presentation Design

**Yousef Mahmoud**

Database Design & SQL Queries

supervisors

**MOHAMED HASHIM**

**WAEL ZAKARIA**

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01> PROBLEM



01

# Social media platforms are built around various aspects.

- **Facebook:** engagement.
- **Twitter:** news & discussions.
- **TikTok:** video entertainment.
- **Reddit:** sub-communities.
- **Instagram:** visuals and reels.
- **LinkedIn:** networking & connections.

**02**

## **But what about a new platform?**

a platform centered on insightful and valuable content.

# 03

## User Management

a platform centered on insightful  
and valuable content.

## Post Features

# 03

## User Management

### User can:

- Create accounts with personal information.
- Follow other users and interact (like, comment, repost).
- Write personal posts and send private messages.
- Join communities and participate in events.

## Post Features

- Posts include captions, photos/videos, and tags.
- Analyze posts: likes, dislikes, comments, and reposts.
- Interact with posts via likes, dislikes, and comments.
- Posts can be reposted by the author or others.

# 03

## Insights & Analytics

- Track user activity (e.g., posting streaks).
- Analyze trending topics and posts.
- Identify active and inactive users.
- Recommend users to follow and predict event attendance.

## Events & Communities

- Create and join events.
- Join communities with shared interests.
- Events include title, description, date, and max attendees.
- Communities have cover photos and detailed descriptions.

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# 05

1- list users who joined in the last 3 months.

```
select
    user.user_id,
    concat(user.first_name, ' ', user.last_name) as "Full Name",
    user.created_at as "Joined Date"
from user
where created_at >= now() - interval 3 month;
```

- Join communities with shared interests.

# 05

	user_id	Full Name	Joined Date
1	27	Anastassia Fussell	2024-11-10 00:25:07
2	46	Blisse Bernakiewicz	2024-11-10 07:19:23
3	52	Giffer Sollon	2024-11-29 05:50:17
4	68	Willis Loveitt	2024-10-16 14:18:01
5	76	Silvia Skade	2024-11-12 07:08:20
6	94	Beryle Hankey	2024-11-10 15:17:07
7	100	Silvain Domm	2024-12-03 17:53:53
8	118	Brandais Caveill	2024-10-10 10:00:41
9	146	Cosette Behne	2024-11-05 18:53:50
10	150	Clemmie Birtles	2024-09-06 05:29:44

```

select
    user.user_id,
    concat(user.first_name, ' ', user.last_name) as "Full Name",
    user.created_at as "Joined Date"
from user
where created_at > now() - interval 3 month;

-- user who didn't post in the last 2 years
select
    user.user_id,
    user.first_name
from user
where user.user_id not in (
    select
        post.user_id
    from post
    where post.posted_at > now() - interval 2 year
);

-- most liked posts
select
    post_id,
    caption,
    (select
        count(*)
    from post_likes
    where post_id = post.post_id) as like_count
from post
order by like_count desc
limit 5;

-- list countries with their total interactions number
select
    user.country,
    (select count(*) from post_likes where user_id = user.user_id) +
    (select count(*) from post_comments where user_id = user.user_id) +
    (select count(*) from post_reposts where user_id = user.user_id) as total_interactions
from user
group by user.country
order by total_interactions desc;

-- top 10 trending topics
select
    tags.tag,
    interest.interest,
    count(post_tags.post_id) as "Number of Posts"
from tags
left join interest on interest.interest_id = tags.interest_id
left join post_tags on post_tags.tag_id = tags.tag_id
group by tags.tag_id, tags.tag, interest.interest
order by count(post_tags.post_id) desc
limit 10;

-- events created by "Ronny Bew"
select
    event_id,
    title,
    event_date
from event
where creator_id = (
    select
        user_id
    from user
    where user.first_name = 'Ronny' and user.last_name = 'Bew'
);
-- average age of users
select
    round(avg(datediff(now(), birth_date) / 365)) as age,
    count(user_id) as "Number of Users"
from user
group by age
order by count(user_id);

-- events which have no attendees
select
    event.title
from event
left join event_attends on event.event_id = event_attends.event_id
    and event_attends.status = 'attend'
group by event.event_id
having count(event_attends.event_id) = 0;

-- how many users born in each 5 years
select
    case
        when year(birth_date) between 1990 and 1995 then '1990 - 1995'
        when year(birth_date) between 1996 and 2000 then '1996 - 2000'
        when year(birth_date) between 2001 and 2005 then '2001 - 2005'
        when year(birth_date) between 2006 and 2010 then '2006 - 2010'
    end as birth_date_range,
    count(*) as "Count of Users"
from user
group by birth_date_range;
-- get all people who "Bobbie Perrigo" talked with
select
    concat(other.first_name, ' ', other.last_name) as "Full Name"
from user person
left join chat on (chat.user_1 = person.user_id or chat.user_2 = person.user_id)
left join user as other on (other.user_id = chat.user_1 or other.user_id = chat.user_2)
    and other.user_id <> person.user_id
where person.first_name = 'Bobbie' and person.last_name = 'Perrigo';

-- most active users in texting
select
    concat(user.first_name, ' ', user.last_name) as full_name,
    count(user_messages.from_id) as "from",
    count(user_messages.to_id) as "to"
from user
left join user_messages on user.user_id = user_messages.from_id
    or user.user_id = user_messages.to_id
group by user.user_id
order by count(user_messages.from_id) desc, count(user_messages.to_id) desc;

-- events that hit maximum attendees
select
    event.event_id,
    event.title,
    event.max_attendees,
    count(event_attends.user_id) as "actual attendees"
from event
left join event_attends on event.event_id = event_attends.event_id
    and event_attends.status = 'attend'
group by event.event_id, event.max_attendees
having count(event_attends.user_id) > event.max_attendees;

-- each community, its interest, and number of admins and members
select
    community.title,
    interest.interest,
    sum(case when community_membership.type = 'admin' then 1 else 0 end) as admins,
    sum(case when community_membership.type = 'member' then 1 else 0 end) as members
from community
left join interest on interest.interest_id = community.interest_id
left join community_membership on community.community_id = community_membership.community_id
group by community.community_id
order by members desc, admins desc;
-- reposts number of the posts that have word "environmental"
select
    count(post_reposts.user_id) as "Number of Reposts"
from post
left join post_reposts on post_reposts.post_id = post.post_id
where post.caption like '%environmental%';

-- number of posts per user
select
    user.user_id,
    concat(user.first_name, ' ', user.last_name) as 'Full Name',
    count(post.post_id)
from user
left join post on post.user_id = user.user_id
group by user.user_id
order by count(post.post_id);

```