

Task 2

Small Social media platform (System Design)

Introduction

A social media mobile application that allows users to share various types of Media content across the globe. Full of features like, Comment, Report, media sharing etc.

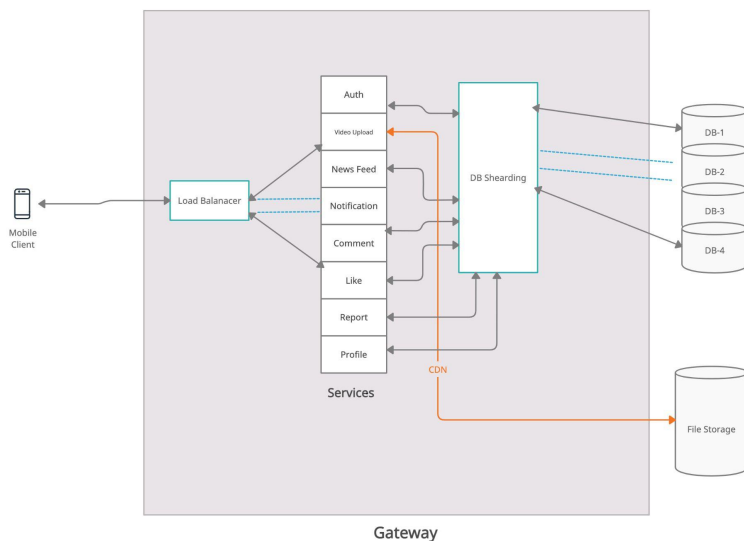
Functional / Features

- Auth
- Profile
- Upload Media
- News Feed
- Like Post
- Comment Post
- Share Post
- Report Post

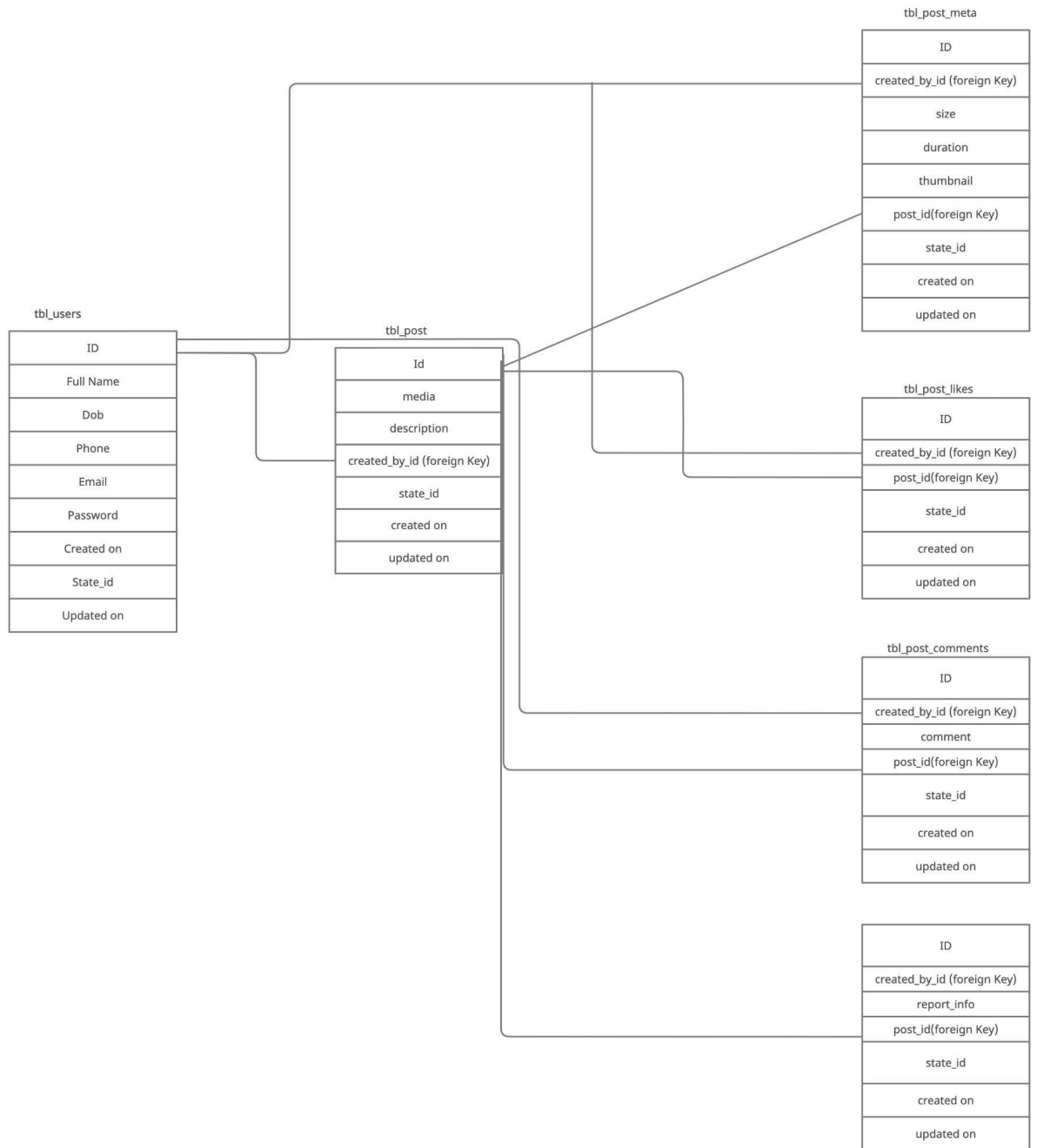
Essential Requirements

- 10M User
- 2M DAU
- Low latency between upload and new feed

Design Architecture



Database Design



Database and storage Capacity estimation

Out of 2M Active users, consider we have 1M of creators there. On an average each user **uploads 2 Video Posts a Day**.

$$2 \text{ Post/user} * 1M = 2M/\text{Day}$$

An average size of each video: **5MB**
5MB*2M = 10TB/Day Storage

For video meta:

Description : 510 bytes

id,timestamp, created_by_id,state_id *takes around 400 bytes*

*Around: 900 bytes * 2M = 1.8 GB Database/Day*

Comments:

On average, each user made 2 comments per post.

So this would be : 4M Comments/Day

It would take :

id,timestamp, created_by_id,state_id *takes around 400 bytes*

Around : 1.6GB/Day

Likes:

On average, each user made 1 comment per post.

So this would be : 2M Comments/Day

It would take :

id,timestamp, created_by_id,state_id *takes around 400 bytes*

Around : 700-900MB/Day

Estimated **4GB** Database storage and **10TB** Of Storage is needed per day