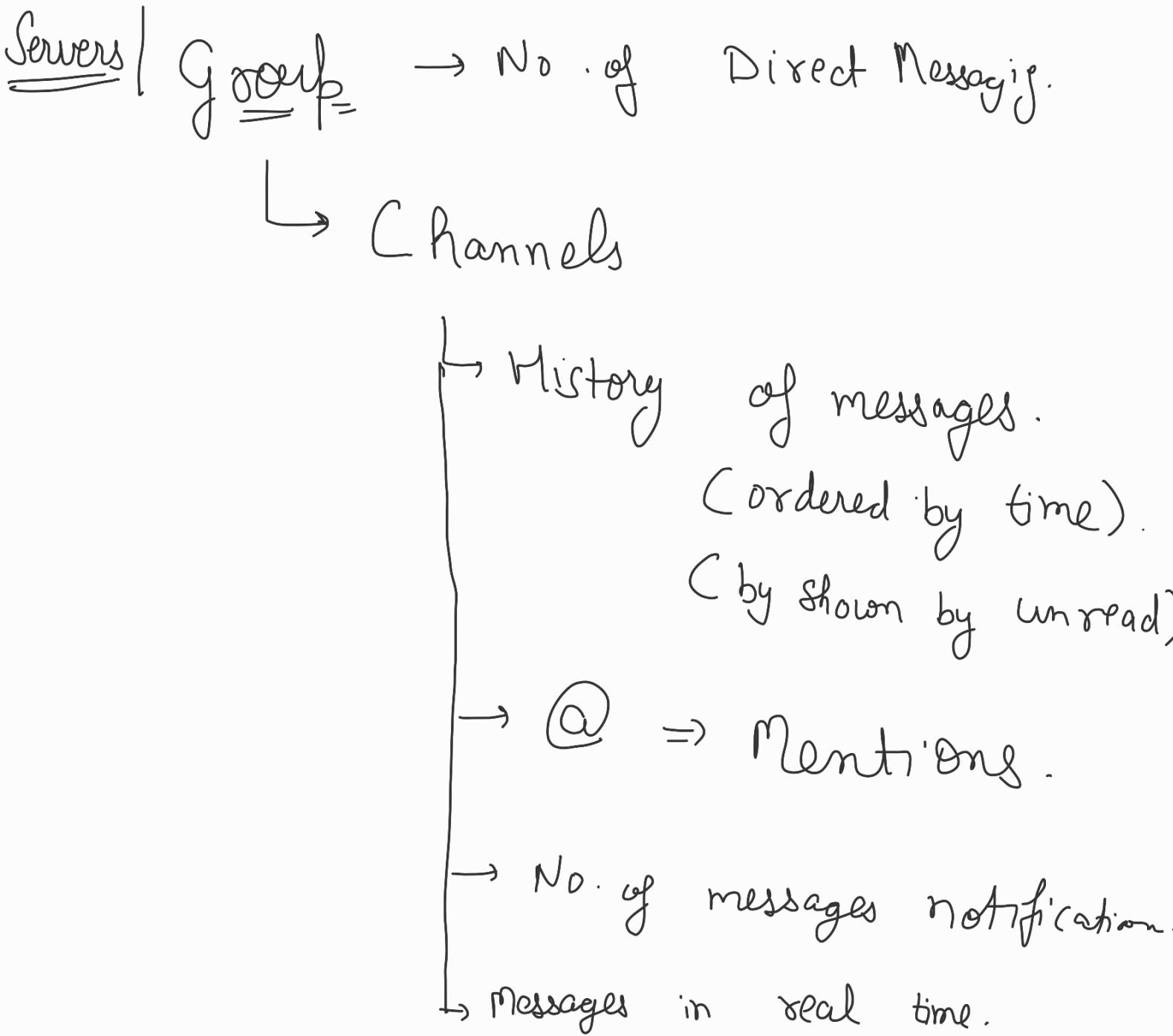


Design

DISCORD

CSLack , Teams , Group -chat -app



Not going to focus on
 ↳ Video-calls
 ↳ Dms
 ↳ Channel Join requests.

Latency or Availability ?

Latency → over Availability ↑
as we went to chat in Real time.

Numbers:-

5M daily active users.

20k max. users in a server.

10k { Avg messages in a channel }

10 kB { Message size, text only }

Interpretations :-

- ↳ Majority of the message will be written. Only the recent most are going to be read.
- ~ 1000 read messages in a day.

Action

send Message (body)

view Channel ()

Server side

server, channel,
message ID, created at.,
sent by,

Pagination, limit = 10,
offset = 10k + 1.

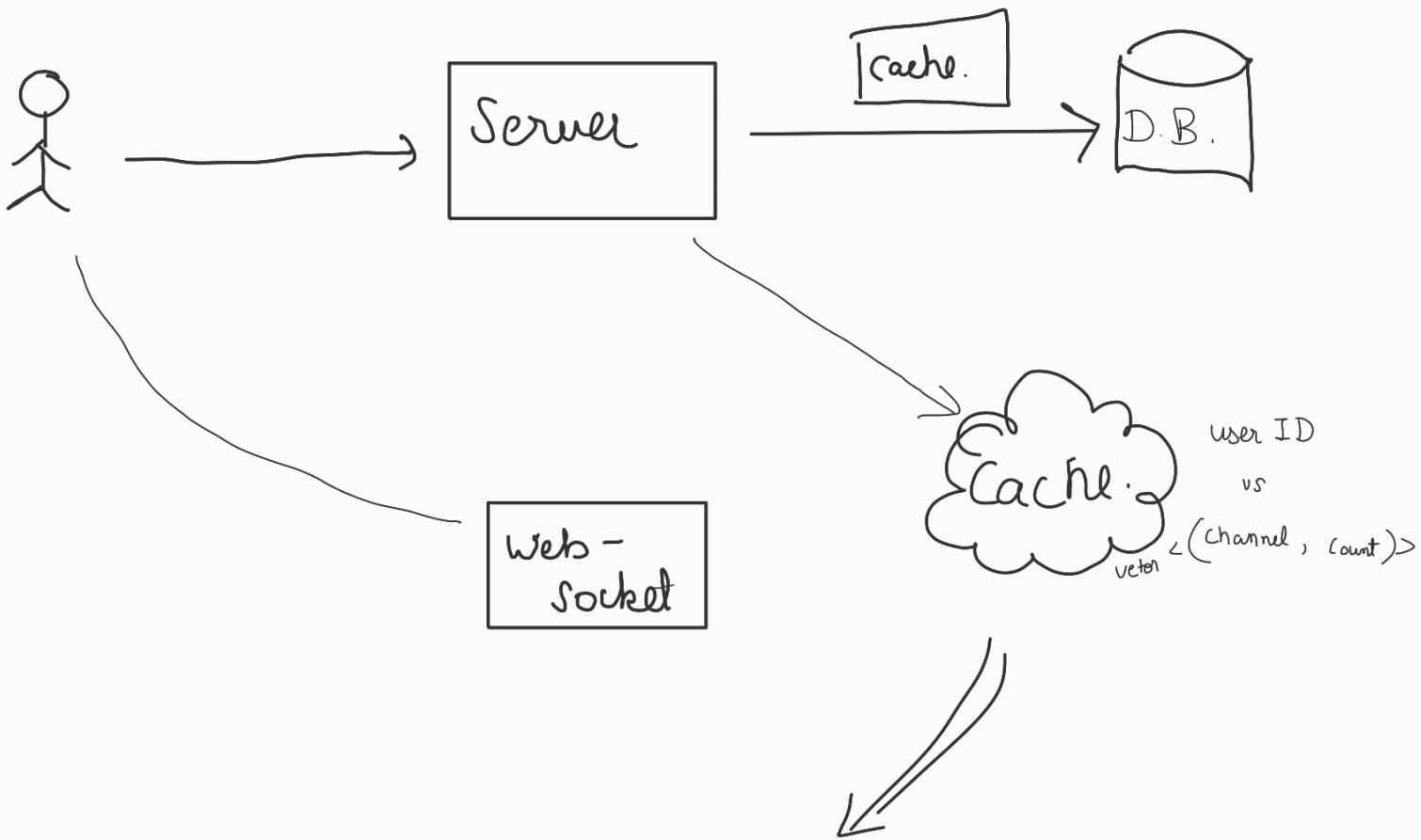
To fetch message either we can use
periodic polling (like per 5 sec till done
starts , after which every 1 sec .

or

streaming (HTTP 2.0)

or

web-sockets . } will automatically push messages
to the users who are in the
channel.

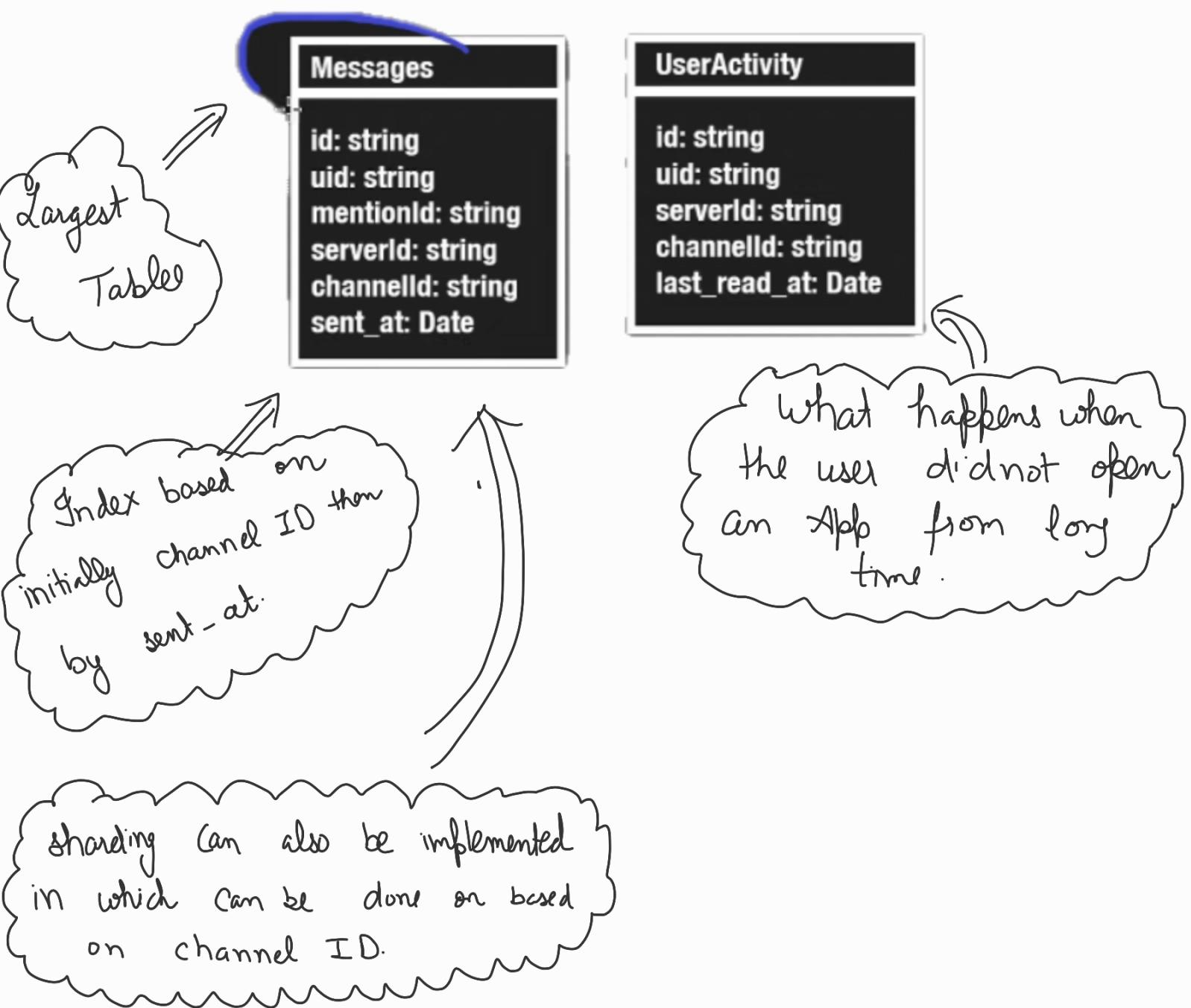


message's mention ID will tell me the
which user is mention & similarly channel
ID will tell about channel.

* Data will be sharded using channel id.

(Well, in reality discord started with MongoDB and later moved to (Cassandra)).

We will still be going with SQL.



```
SELECT *  
FROM Messages  
WHERE channelId='example'  
AND sent_at >  
(SELECT last_read_at  
FROM UserActivity  
WHERE uid = 'neetcode')
```

Query to take recent messages.

order by sent_at.

Limit = 10.

→ after it, update the last read time of the user.

