Posts collection:

* postId/
  + authorId: userId
  + authorName: userName
  + createdAt: timestamp
  + ***text: String***
  + ***image: url***
  + ***video: url***
  + location: String
  + stayingWith: [{
    - userId
    - username

}]

* + groupId: groupId
  + groupName: groupName
  + Subcollection comment

1 doc gồm có:

* + - comId: id
    - userId: userId
    - username: String
    - text: String
    - avatar: url
    - updatedAt: timestamp
    - replies: [{
      * userId: userId
      * comId: generate uuid
      * username: String
      * text: String
      * avatar: url

}]

* + tags: [String]
  + priority: Int

Counters collection:

Khi tạo post, tạo thêm 1 doc trong này luôn

* postId/
  + num\_shards: Int
  + Subcollection shards

shardNumber/ (1,2,3,4,5,6,7,8,9,10)

* + - count: int

Users collection:

* userId/
  + avatar: url
  + block: [userId]
  + email: email
  + id: userId
  + Map location: {
    - denyExposingLocation: bool
    - Geohash
    - Latitude
    - Longitude

}

* + Username
  + Bio {
    - Biography: String
    - showBio: bool
    - Work: String
    - showWork: bool
    - Education: String:
    - showEducation: bool
    - Current Location: String
    - showLocation: bool
    - Birth Place: String
    - showBirthplace: bool

}

* + Favorite activities: [{
    - Activity: String
    - Image: url

}]

* + JoinedGroup: Subcollection {
    - groupId
    - name
    - wallpaper

}

* + AdminOf: Subcollection {

}

* + Subcollection ownPosts (added by Cloud Functions watch\_post)

Friends collection:

* userId/
  + Subcollection ownRequest

-friendId/

* + - userId
    - username
    - avatar
  + Subcollection friendRequest

-friendId/

* + - userId
    - username
    - avatar
  + Subcollection allFriends – replaced by relationship in Neo4j

Saved collection:

* userId/
  + postId
  + postContent
  + postMedia

Notifications collection:

* userId/
  + sourceName: "Nik Nguyen",
  + content: "đã phản hồi bình luận của bạn",
  + sourceImage: "https://via.placeholder.com/40",
  + createdAt: "2 ngày",
  + isRead: false,
  + type: "comment",
  + url: "/post/2cqvyhc2En5b0nPoNaEE",

Hashtag collection:

* content/
  + content
  + postCount (updated by cloud function watch\_post)
  + Subcollection posts (added by Cloud Functions watch\_post)

***UserChats collection:***

* ***userId/***
  + ***chatId***

***Chats collection:***

* ***chatId/***
  + ***Subcollection chat …***
    - ***Messages***
    - ***Messages:***
      * ***Share ? => url => <a href=”/posts/postId”/> tag***

User Bio + Liked activities**: find act first, not found what u’re looking for? Add more**

-> + like counters -> [Distributed Counter | Firebase Extensions Hub](https://extensions.dev/extensions/firebase/firestore-counter)

Group collection:

* groupId/
  + id
  + wallpaper
  + name
  + description
  + createdAt
  + members: Subcollection {
    - avatar
    - username
    - userId

}

* + admins: [{userId, name, avatar}]
* pendingRequest: Subcollection

{

* + - username
    - avatar
    - userId

}

* + Subcollection posts: …

Image labeling

Text embedding

https://cloud.google.com/blog/topics/developers-practitioners/meet-ais-multitool-vector-embeddings

Algolia Full Text Search + debounce

[Đồng bộ data từ Cloud Firestore lên Algolia thông qua Firebase Functions (viblo.asia)](https://viblo.asia/p/dong-bo-data-tu-cloud-firestore-len-algolia-thong-qua-firebase-functions-3P0lP9Om5ox)

[Full-text search  |  Firestore  |  Firebase (google.com)](https://firebase.google.com/docs/firestore/solutions/search?provider=algolia)

Recommend systemRealtime

Distributed counter

[Distributed counters  |  Firestore  |  Firebase (google.com)](https://firebase.google.com/docs/firestore/solutions/counters)

Cloud scheduler -> Cloud Function -> update hashtag count:

* [Scheduling Google Cloud Functions to Run Periodically | by Gaurav Singh Tanwar | Medium](https://gauravtanwar1.medium.com/scheduling-google-cloud-functions-to-run-periodically-4fd3e763e78f)
* [Schedule functions  |  Cloud Functions for Firebase (google.com)](https://firebase.google.com/docs/functions/schedule-functions?gen=2nd)

Comment -> Transaction edit

Message pagination:

* Realtime structure

Online status

* [Build presence in Cloud Firestore  |  Firebase (google.com)](https://firebase.google.com/docs/firestore/solutions/presence)

Location hash -> distance?

Friend Request….

Group: Member, join, post, description, leave, admin

Hashtag page

Like

Activityt

Map

Noti

Fulltextsearch

Label img

Friend

Content based filtering: Hiểu thêm về cái này

* Khi tương tác vs bài viết, làm thế nào để biết nó thích hay nhiều. Gợi ý thêm bao nhiêu bài giống như này? Chẳng lẽ so sánh hết với tất cả bài khác. Có nên track danh sách những ng dùng muốn xem?

https://viblo.asia/p/distance-measure-trong-machine-learning-ByEZkopYZQ0#\_5-cosine-similarity-5

Natural Language API for text object detection

<https://colab.research.google.com/github/JohnSnowLabs/spark-nlp-workshop/blob/master/tutorials/streamlit_notebooks/SENTENCE_SIMILARITY.ipynb>

<https://microsoft.github.io/nlp-recipes/examples/sentence_similarity/#:~:text=Sentence%20similarity%20or%20semantic%20textual,%2C%20search%2C%20and%20matching%20applications>.

<https://viblo.asia/p/word-embedding-tim-hieu-khai-niem-co-ban-trong-nlp-1Je5E93G5nL>

Nếu có thể chuyển thành text vector -> dùng cosine similarity

Affinity – Weight – Decay? Nên track cái này như nào ? onTrigger hay https callable