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

<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>

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

* Làm sao để lấy ra 1 vùng để so sánh: knn

Group: Dựa trên jaccard index với bạn bè, tính knn với bạn bè, lấy top giống mình nhất. Viết relationship similar to. Sau đó lấy các group của bạn bè mà mình chưa join, trả về những group này.

New user: Dựa trên jaccard index với người lạ, tính knn lấy top giống mình nhất, trả về những người này.

Post:

1st priority: Text embed user activity property, then compare with post use knn, recommend those first.

Use knn to filter out, then use edge rank

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