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Facebook API Documentation

Server Statistics

Number of Active users tested for = **15k**.

Number of Requests Per second tested for Succesfully = **6k**

Operations performed

1. sendFriendRequestSchedule
2. createPost
3. createPicture
4. createAlbum
5. createPage
6. createPagePost
7. likePost
8. viewFriendList
9. AcceptFriendList
10. SendFriendList
11. ViewProfile
12. AddPhotoAlbums
13. GetSpecificAlbum
14. GetSpecificPicture
15. GetAllAlbums
16. GetAllPictures

User Object

We first create all users. The User contains the following parameters.

user_id: Int
emailID: String,
name: String,
age: Int,
sex: String,
city: String,
friendList: Map[String, String]

Supported Operations

User Creation Request (creates a user in the system)

- *Path : /addUser*
- Request parameter format : *Json representation of User Object defined above*

List User Request

- *Path : /list/allUsers*

FRIENDLIST API

Friend lists are stored in the FriendListMapping

from: Int,

to: Int

FriendList is a list of class Friend defined below. Friend list is used to display the users of friends whose ID is user_id_of

user_id_of: String,

user_id_of_friend: String,

name_of_friend: String

Supported Operations

- Send Friend Request
 1. Path: /SendFriendRequest
 2. Parameters : Object of Friend List Mapping
- Accept Friend Request
 1. Path: /AcceptFriendRequest
 2. Parameters : from, to, permission
 3. Permission is basically one of the two- *SHOW_FRIENDLIST* and *DO_NOT_SHOW_FRIENDLIST*
- Delete Friend Request
 1. Path: /DeleteFriendRequest
 2. Parameters : from, to, permission
- Show Friend List
 1. Path: /ShowFriendList
 2. Parameters : from, to

POST API

UserPosts is the list of class Poststructure which includes:

post_id: Int

owner_id: Int

post_content: String

date_of_creation: String

like_for_posts: List[Int]

comments_for_posts: List[Int]

post_visibility: String

is_page_post: Boolean

page_id: Int

UserPosts is used to display the posts of users with ID defined as “*owner_id*”

Supported Operations

- Add Post
 1. Path: / createPost / IntNumber
 2. Parameter: Object of PostStructure
- GetAllPostsPerUser
 1. Path: / allposts / IntNumber where IntNumber= User_id
 2. Parameter: user_id
- GetAllPostsForRequestedUser
 1. Path: / allposts / IntNumber / IntNumber
 2. Parameter: requestedByUserID, requestedForUserId
- GetTopPostsForRequestedUser
 1. Path: / topPosts / IntNumber / IntNumber / IntNumber
 2. Parameter: / requestedByUserID, requestedForUserId, limit
- LikePost
 1. Path: / likePost / IntNumber / IntNumber
 2. Parameter: / userId, postId

The Permissions are basically of three types-

- 1) *Friends*: If the id requesting to view the post is in the FriendList of the Post Owner
- 2) *Public*: If the Post is Public
- 3) *Only Me*: If the post is visible only to the Owner and no one else

PROFILE API

UserList is a list of class User defined below. UserList is used to display the profile of users whose ID is denoted by user_id. The class User includes:

```
user_id: Int
emailID: String
name: String
age: Int
sex: String
city: String
posts: List[Int]
pages: List[Int]
PageName: String
PageTitle: String
PostContent: String
friendList: Map[String, String]
```

Supported Operations

- AddThis User
 1. Path: / adduser
 2. Parameter: Object of User
- GetSpecificUser
 1. Path: / get / IntNumber / Details
 2. Parameter: index
- GetAll User
 1. Path: list / allUsers
 2. Parameter:

PAGE API

The Page API implementation allows us to view page by the page_id or particular pages belonging to owners denoted by user_id. The parameters for the page class are:

Page id : Int
Owner_id: Int
Title: String
Description: String
Post: String

The Page API basically supports the following operations:

- Create Page
 1. Path: / createpage
 2. Parameter: user_id, page class
- Get All Pages
 1. Path:/ getallpagesfor user/ int number
 2. Parameter: user_id
- Get Specific Page for User
 1. Path: / get specificpageforuser/ int number/ int number
 2. Parameter: user_id, page_id

IMAGE API

PictureList is a list of class Picture and is defined by the following parameters:

pic_ID: Int
user_id: Int
name: String
url: String

The operations supported by Image API includes:

- PutPicture

1. Path: / putPicture / IntNumber
2. Parameter:
- AddPhotoToAlbum
 1. Path: /putPictureToAlbum
 2. Parameters: UserId, AlbumId, PicId
- GetAllPicturesByUserId
 1. Path: /allPictures
 2. Parameters: requestedBy, userId
- GetPictureForRequestedUser
 1. Path: /specificPicture
 2. Parameters: requestedByUserId, requestedForUserId, picId

ALBUM API

The implementation includes a structure AlbumList which is a list of class Album. The parameters for this class are:

```
album_ID: Int
user_id: Int
name: String
pictureList: List[Int]
```

Supported Operations

- CreateAlbum
 1. Path: createNewAlbum / IntNumber
 2. Parameter: user_id
- GetAlbumsById
 1. Path:/ albumsbyID / IntNumber
 2. Parameter: user_id
- GetAllAlbumsForRequestedUser
 1. Path:/ allalbums/ IntNumber / IntNumber
 2. Parameter: requestedByUserID, requestedForUserId
- GeSpecificAlbumForRequestedUser
 1. Path:/ specificalbum / IntNumber / IntNumber / IntNumber
 2. Parameter: requestedByUserID, requestedForUserId, album_ID

User Behaviour:

We have found out the most commonly performed operations on facebook on the given APIs and implemented them in the simulator. The Most commonly performed operations are listed above in the server statistics mentioned. We first add All users and then each user gets one friend. After this operation general user specific operations are started in a schedule. The Operation of sending friend requests gets slowed down after a while. This is what we have simulated in the client side. After Initial friend requests sent we only send more friend requests per 10 seconds for each user. All other operations are performed on a much higher frequency of approximately 500 requests/sec for each of the remaining 12 operations of the 16 mentioned above.

Interesting Stats Found on Facebook

⑩ 44% of Facebook users “like” content posted by their friends at least once a day, with 29% doing so several times per day.

⑩ 31% comment on other people’s photos on a daily basis, with 15% doing so several times per day.

⑩ 19% send private Facebook messages to their friends on a daily basis, with 10% sending these messages multiple times per day.

⑩ 10% change or update their own status on Facebook on a daily basis, with 4% updating their status several times per day. Some 25% of Facebook users say that they never change or update their own Facebook status.

(<http://www.pewresearch.org/fact-tank/2014/02/03/6-new-facts-about-facebook/>)

The most common operation on facebook is “Like”. Hence Like is given a lesser time schedule in our simulator.

Steps to run

Change number of users in statistics to run for different user values.

Server runs on localhost 8181.

Some More interesting stats found are as follows

PROFILES

Average Daily Active Users-----1.01 billion
Average monthly Active Users-----1.55 billion
Daily Active users in US & Canada-----167 million
Average time spent on facebook per user daily-----20+ minutes
Average number of pages, groups,
and events a user is connected to-----
80(<https://blog.kissmetrics.com/facebook-statistics/>)
Profiles created every second -----5

PAGE

Total number of Facebook pages-----74,200,000
(<http://www.statisticbrain.com/facebook-statistics/>)
Average number of pages, groups,
and events a user is connected to-----
80(<https://blog.kissmetrics.com/facebook-statistics/>)
Average number of page Likes per user-----40

[\(http://expandedramblings.com/index.php/by-the-numbers-17-amazing-facebook-stats/15/\)](http://expandedramblings.com/index.php/by-the-numbers-17-amazing-facebook-stats/15/)

Total fans pages have created-----5.3 billion

[\(https://blog.kissmetrics.com/facebook-statistics/\)](https://blog.kissmetrics.com/facebook-statistics/)

Number of Pages average Facebook user like-----40

Number of Pages average Facebook user in US like-----70

[\(http://www.adweek.com/socialtimes/how-many-pages-does-the-average-facebook-user-like/418322\)](http://www.adweek.com/socialtimes/how-many-pages-does-the-average-facebook-user-like/418322)

Average updates from each page per month-----36(total of approx 1440)

[\(http://www.adweek.com/socialtimes/how-many-pages-does-the-average-facebook-user-like/418322\)](http://www.adweek.com/socialtimes/how-many-pages-does-the-average-facebook-user-like/418322)

POST

Average amount of posts that are eligible to appear in

a Facebook user's feed each day-----1500

[\(http://expandedramblings.com/index.php/by-the-numbers-17-amazing-facebook-stats/10/\)](http://expandedramblings.com/index.php/by-the-numbers-17-amazing-facebook-stats/10/)

Total Facebook Posts all time-----2 trillion

[\(http://expandedramblings.com/index.php/by-the-numbers-17-amazing-facebook-stats/9/\)](http://expandedramblings.com/index.php/by-the-numbers-17-amazing-facebook-stats/9/)

Status updated every 60 seconds-----293000

[\(https://zephoria.com/top-15-valuable-facebook-statistics/\)](https://zephoria.com/top-15-valuable-facebook-statistics/)

Average comments posted per 20 min-----10.2 million

[\(http://www.jeffbullas.com/2011/04/28/50-fascinating-facebook-facts-and-figures/\)](http://www.jeffbullas.com/2011/04/28/50-fascinating-facebook-facts-and-figures/)

Average Wall Posts written per 20 min-----1,587,000

[\(http://www.jeffbullas.com/2011/04/28/50-fascinating-facebook-facts-and-figures/\)](http://www.jeffbullas.com/2011/04/28/50-fascinating-facebook-facts-and-figures/)

Average Status updates each day -----55 million

[\(https://blog.kissmetrics.com/facebook-statistics/\)](https://blog.kissmetrics.com/facebook-statistics/)

Average number of people updating status each day-----35 million

[\(https://blog.kissmetrics.com/facebook-statistics/\)](https://blog.kissmetrics.com/facebook-statistics/)

Average number of hashtags used in post that contain them—1.9

[\(http://expandedramblings.com/index.php/by-the-numbers-17-amazing-facebook-stats/19/\)](http://expandedramblings.com/index.php/by-the-numbers-17-amazing-facebook-stats/19/)

FRIENDLIST

Friends requested(Every 20 Minutes on Facebook)-----2 million

[\(https://zephoria.com/top-15-valuable-facebook-statistics/\)](https://zephoria.com/top-15-valuable-facebook-statistics/)

Friends requested(Every minute on Facebook)-----100000

(blog.wishpond.com/post/115675435109/40-up-to-date-facebook-facts-and-stats)

Average number of friends per facebook user-----130

[\(http://www.statisticbrain.com/facebook-statistics/\)](http://www.statisticbrain.com/facebook-statistics/)

[https://blog.kissmetrics.com/facebook-statistics/\)](https://blog.kissmetrics.com/facebook-statistics/)

Average no of facebook friends for US females-----250

The Median number of Facebook friends for GenX -----200

(blog.wishpond.com/post/115675435109/40-up-to-date-facebook-facts-and-stats)

The Median number of Facebook friends for Millennials-----250

(blog.wishpond.com/post/115675435109/40-up-to-date-facebook-facts-and-stats)

PHOTOS & ALBUMS

Average number of photos uploaded per user -----127/217

(blog.wishpond.com/post/115675435109/40-up-to-date-facebook-facts-and-stats

<http://expandedramblings.com/index.php/by-the-numbers-17-amazing-facebook-stats/15/>)

Total photo uploads per day-----300 /400million

(<https://zephoria.com/top-15-valuable-facebook-statistics/>

<http://expandedramblings.com/index.php/by-the-numbers-17-amazing-facebook-stats/15/>)

The total number of uploaded Facebook photos-----250 billion

(<http://blog.wishpond.com/post/115675435109/40-up-to-date-facebook-facts-and-stats>)

Photos uploaded to Facebook every minute-----243,055

(blog.wishpond.com/post/115675435109/40-up-to-date-facebook-facts-and-stats)

Photos uploaded every 60 seconds-----136000

(<https://zephoria.com/top-15-valuable-facebook-statistics/>)