Software Requirement Specification for Facebook

Prepared by: Mario Ashraf

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1.   Introduction

SRS stands for Software Requirement Specification.

This document provides an overview of the entire software requirements for Facebook Mobile application. The aim of this document is to gather and analyze and give an in-depth insight of the complete application by defining the problem statement in detail.

Facebook, American online social network service that is part of the company Meta Platforms. Facebook became the largest social network in the world, with nearly three billion users as of 2021, and about half that number were using Facebook every day.

Access to Facebook is free of charge, and the company earns most of its money from advertisements on the website. New users can create profiles, upload photos, join a preexisting group, and start new groups. The site has many components, including Timeline, a space on each user's profile page where users can post their content and friends can post messages; Status, which enables users to alert friends to their current location or situation; and News Feed, which informs users of changes to their friends' profiles and status.

Users can chat with each other and send each other private messages. Users can signal their approval of content on Facebook with the Like button, a feature that also appears on many other websites. Other services that are part of Meta Platforms are Instagram, a photo- and video-sharing social network; Messenger, an instant-messaging application; and WhatsApp, a text-message and VoIP service.

2.   Overall Description

2.1 Product Perspective

Facebook is an independent and world-wide network system. Every person can use it without any cost. People from different regions of the world can connect to each other via this system.

2.2 Product Functions

The mobile application will perform the following operations

- Display posts posted by the friends of the user in the news feed
- View notifications

- Post and share photos, create, view, and manage photo albums
- Send and receive messages from user's friends and other Facebook users, group admins and Facebook pages.
- View, create and manage Facebook pages and Facebook groups
- Share current location of the user

2.3 User Characteristics

The application is a generic application and thus anyone above the age of 13 can use the app. Facebook does not require any computer knowledge to use it. Anyone can use it very easily.

2.4 Design and Implementation

Being a social networking system it's design should be perfect and attractive. It should be secure enough so that the user's data and their personal information should not be leaked and those should be securely preserved in the system.

3. External Interface Requirements

3.1 Interface Requirements

Various interfaces for Facebook could be:

- Sign up Page
- Log in Page
- Home Page
- Profile Page
- Watch Page
- Marketplace Page
- Feeds Page
- Groups Page
- Memories Page
- Gaming Page
- Saved Pages
- Pages Page
- Reels Page
- Events Page
- Menu Page

3.2 Hardware Interface

The whole system runs over the internet. Without internet connection the system will not work. All the hardware should be connected to the internet such as Wi-Fi or cellular data.

3.3 Software Interface

In some ways Facebook is still a LAMP site (kind of) which refers to services using Linux, Apache, MySQL, and PHP, but it has had to change and extend its operation to incorporate a lot of other elements and services and modify the approach to existing ones.

Facebook still uses PHP, but it has built a compiler for it so it can be turned into native code on its web servers, thus boosting performance.

Facebook uses Linux but has optimized it for its own purposes (especially in terms of network throughput).

Facebook uses MySQL, but primarily as a key-value persistent storage, moving joins and logic onto the web servers since optimizations are easier to perform there (on the "other side" of the Memcached layer).

Then there are the custom-written systems, like Haystack, a highly scalable object store used to serve Facebook's immense number of photos, or Scribe, a logging system that can operate at Facebook's scale

4. Specific Requirements

In this section, all software requirements will explain some of the information to the user.

4.1 Functional Requirements

4.1.1 FR1: Adding Posts

You can use Facebook to share thoughts, photo, and video posts with your friends. You can do this from two different places: Home page, and Profile page.

- You can write a post with no photo or video
- You can write a post with attached single photo or video
- You can write a post with attached multiple photo or video

- You can write a post with attached multiple photo and video (mix)
- You can write a post with attached a captured camera photo
- You can tag people from your friends list
- You can Check in a location
  - You can see a list of nearby places to select from them, or search by your own location
- You can add Feelings/activity
- You can add a live video
- You can add a background color to the post
- You can share to Instagram
- You can save post as a Draft
- You can set your post Public
  - Anyone either has Facebook account or not can see this post
- You can set your post Friends
  - Your friends only can see this post
- You can let your friends see the post except some friends
- You can let specific friends see this post
- You can post a private (Only me) post
- Post to album
  - You can choose one of your albums or create a new album to post your Post in it
- You can add a GIF to your post

4.1.2 FR2: Adding Stories

With stories, you can share photos and videos that disappear from your profile, feed, and messages after 24 hours. You can only add stories from the Home Page.

- Post a single story
  - You can post a single story (photo/video) from your gallery
  - You can post a single story (photo/video) using mobile's camera
- Post a multiple story at once
  - You can post a multiple story at once (photo/video) from your gallery only _ve
- Tag people

- You can tag only public accounts using wither "@TAG" sticker, by adding "@" while adding a text, or by "Tag people" button
- Save story at your mobile
- Share story to Public
- Share story to Friends
- Share story to Custom
  - Choose people to share your story with from your friends
- Hide story from
  - Choose who to hide your story from
- Comments on story
  - You can enable/disable comments on your story
- Replies on story
  - You can receive replies from your friends or any Facebook user (according to the privacy which have been set) on your messenger
  - You can receive either text reply or reactions or both
- Muted stories
  - You can select a list of people who you do not want to see their stories
- Share story to Instagram
  - You can enable/disable the automatic share of your Facebook stories to Instagram
- Add Stickers to story
- Add Text to story
- Add Music to story
- Add Effects to story
- Add Drawing to story
- Add Animation to story
- Add a Green Screen
  - You can add a background image while you are capturing a story (photo/video) using mobile's camera
- Add a boomerang

4.1.3 FR3: Messaging

This function will also allow the user to compose a new message, delete current messages, and read existing messages in greater detail.

- Start a conversation with a friends
- Start a conversation with multiple friends
  - The app will automatically make a group conversation and will add the targeted friends in this group
- Show a list of all previous conversations
- Show a list of currently online friends
- Send a voice record to any Facebook user
- Send a voice note to any user _v_e_
- Send an image to any Facebook user
- Send a location to any Facebook user
- Send emojis to any Facebook user
  - You can send emojis only or combine it with the text message itself
- Make audio calls with any Facebook user
  - You can mute the mic
  - You can request a video call in an audio call
- Make video calls with any Facebook user
  - You can mute the mic
  - You can switch cameras
  - You can add effects, lightening or touch up
  - You can watch together a video on Facebook
  - You can share together an Instagram posts from which you liked, saved, or suggested posts
  - You can share your screen
  - You can play a game
  - You can raise hand
- Mute a conversation
  - You can have many options in muting a conversation: Mute messages notifications, mute call notifications or mute messages and call notifications
  - You can select the mute period: 15 mins., 1 hour, 8 hours, 24 hours or until the user change it

- View profile
  - When you select view profile on a specific conversation, it should direct you to the specific user's profile whom you selected
- Set a theme for a conversation
- Set a default emoji for a conversation
- Set a nickname to a Facebook user
- View media, files, and links
- Search in a conversation   –ve +c
- Notification and sounds
  - The user can enable/disable notification sounds of a conversation or customizing the notification sound (sound and appearance)
  - You have the option to enable/disable the notifications and sounds of any of these: Messages, reactions, calls
- Share a contact
- Strict a contact
  - You can see less of a contact without blocking them. This can be done by: Moving the chat out of sight of the user, hide user's activity
  - You can unrestrict any user anytime
- Block a contact
  - You can block messages and calls only; your Facebook account will not receive messages or calls but will not be blocked on Facebook.
  - Block contact on Facebook; messages and calls will be blocked as well.
- Report
  - Give a feedback and report a conversation
  - You can select a problem to report: Harassment, suicide or self-injury, pretending to be someone, sharing inappropriate things, hate speech, unauthorized sales, scams, or others

4.2 Non-functional Requirements

4.2.1 Security

The system uses SSL (secured socket layer) in all transactions that include any other confidential passenger information. The system should be so secure that it should not show any cookies regarding the password or the username of the user so that no one rather than the user can access the system

4.2.2 Reliability

The system provides a database for storage for all kinds of devices whether it is a computer or mobile or something else. The reliability of the whole system depends on the reliability of the separate components. The system should be so reliable that it should no crash or hang during the user's use.

4.2.3 Maintainability

There are many people who are there for the maintenance purpose of the system. They can be software engineers or a team of hackers. They are there to take care of that if there are some problems regarding the system or not.

4.2.4 Portability

The system consists of scripting languages such as PHP, HTML etc. It should run on any device and any platform or in any operating system whether it is Windows, MacOS, iOS or Android.