# 1-Feasibility study & project personal

## 1.1-Introduction:

In a world shaped by connectivity, communication stands as the linchpin of human interaction. However, distance barriers and constraints on expression often hinder seamless connection, highlighting the importance of innovative solutions for a truly connected experience.

## 1.2-problems:

The problem are the limitation posed by distance barriers in traditional communication and the need for personal expression and creativity, which often constrained in other communication form

## 1.3-Background about Meta Company:

Meta Company (previously Facebook) founded in 2004 by Mark Zuckerberg, connects people globally through social media like Facebook, Instagram, and WhatsApp, The Company's mission centers on fostering digital innovation and influencing digital communication.

## 1.4- Proposed solutions:

The solution is an application, provides a platform for instant content sharing. Through features like posts, stories, comments, likes, and direct messaging, it enables users to connect across distances, express creativity, and foster community building, which overcoming communication constrains

## 1.5-Work plan:

We chose the **incremental model** and **agile methodology** because it's a social media app and they provide flexibility, allow iterative improvements based on user feedback, and facilitate quick adaptations to the evolving needs of the app

Before we start we will define the goals, scope, features and stakeholders

| Phase1 | Specification | Write the requirements in detail and verify their implementation (sing up, log in, create a profile, editing the profile ) |
| | Implement | Create a user interface and develop the basic functionality (sing up, log in, create a profile, editing the profile) |
| | Validation | Verifying that the implementation meets requirements – searching for errors and correcting them – testing the system |
| | Evolution | Modifying the system based on the validation and user feedback |
| Phase2 | Specification | Collect user comments then write the requirements in detail, and verify their implementation  (share Photo, like photo, follow/unfollow user, explore page) |
| | Implement | Developing the new features and modifying the user interface to suit them |
| | Validation | Verifying that the implementation meets requirements – searching for errors and correcting them – testing the system in small group, Ensure the system works well with new features |
| | Evolution | Modifying the system based on user feedback |

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|---|---|---|---|
| **Phase3** | Specification | Collect user feedback, write the requirements in detail, and verify their implementation (share video, like/comment video, post stories) |
| | Implement | Developing the new features and modifying the user interface to suit them |
| | Validation | Verifying that the implementation meets requirements – searching for errors and correcting them – testing the system in small group, Ensure the system works well with new features |
| | Evolution | Modifying the system based on user feedback |
| **Phase 4** | Specification | Collect user comments write the requirements in detail, and verify their implementation (add editing tools, filters, direct messages, search button) |
| | Implement | Developing the new features and modifying the user interface to suit them |
| | Validation | Verifying that the implementation meets requirements – searching for errors and correcting them – testing the system–Ensure the system works well with new features |
| | Evolution | Modifying the system based on user feedback |
| **Phase 5** | Specification | Collect user comments write the requirements in detail, and verify their implementation (Improved user interface – added security and privacy measures) |
| | Implement | Developing the new features |
| | Validation | Conduct comprehensive tests–verifying that the implementation meets requirements – searching for errors and correcting them |
| | Evolution | Modifying the system based on user feedback |

– Before launching the application we will collect feedback from the internal team, beta testers (recruiting a group to test the app in identical conditions), family and friends.

– After launch: Monitor user feedback and address issues immediately, regularly updates and maintains based on user feedback and emerging trends.
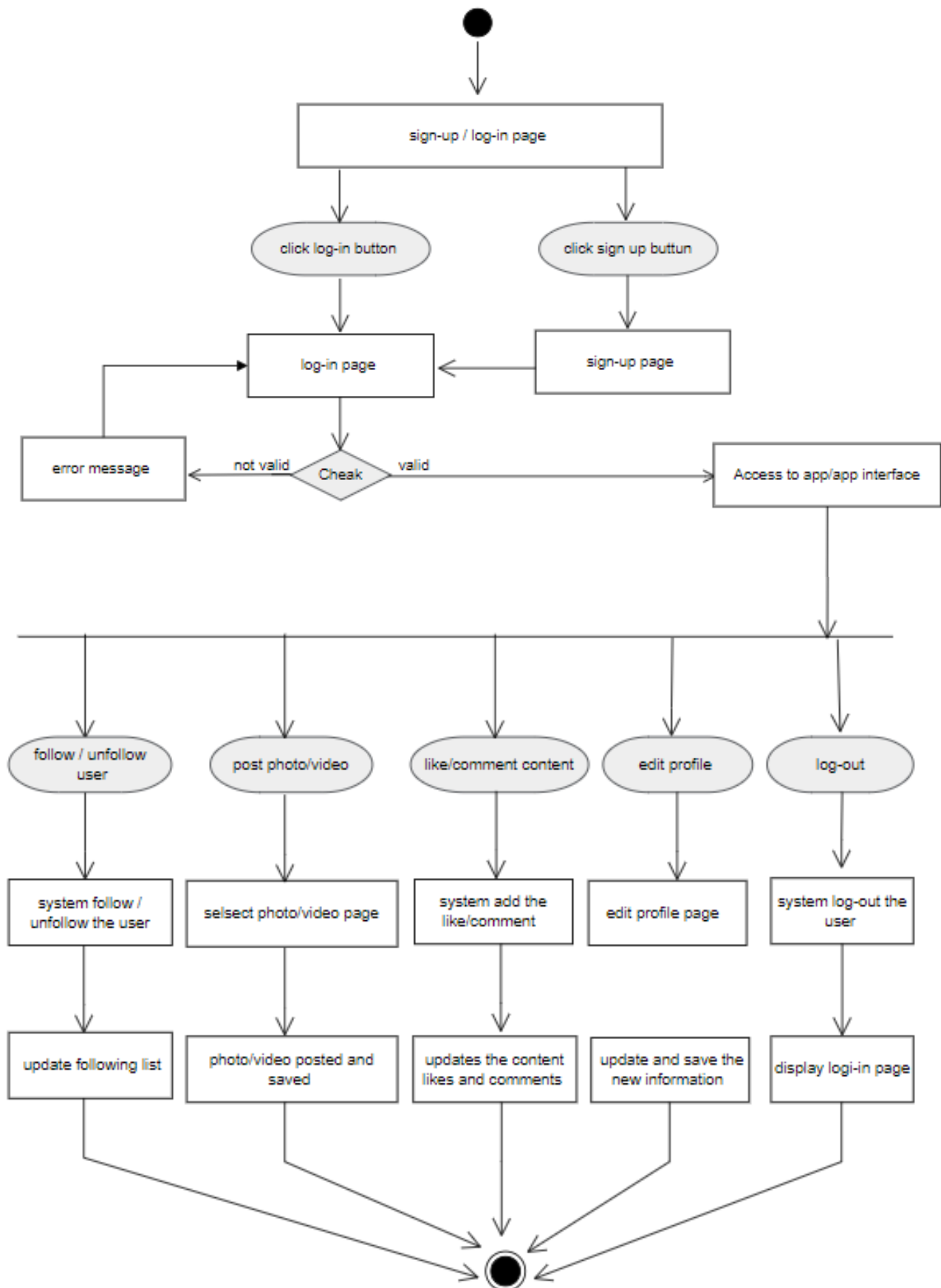
# 2– Project requirements

## 2.1– Functional requirements:

|   | System requirements | User requirements |
|---|---|---|
| 1 | Users can sing up and login to the app via email and password, or phone number and password, or Facebook account, or Google account, or the Apple ID. | Users can sing up and log in to the app. |
| 2 | Users should be able to create, edit, and delete their profiles, including adding personal information, profile pictures, and bio details. | Users can create, edit and delete profiles. |
| 3 | The ability to post various types of content such as photos, videos, stories with options for adding captions, tags, and location information. With ability to add filters, and editing content using editing tools | Users can post photos, videos and stories. |
| 4 | Users should be able to add like on the shared photos, videos, stories and remove it, add comment and remove it, and share it | Users can like, share and comment the content |
| 5 | users should be able to reply to another comment also can add like and remove it | Users can replay and like other comments |
| 6 | Users can follow and unfollow others users with notifications for new followers | Users can follow and unfollow others |
| 7 | Users can send and receive private messages, including text, photos, and videos, they can delete and copy the message | Users can send and receive private messages |
| 8 | Users should be able to search for other users, hashtags, or locations via search button | Users can search via search button |

## 2.2- Non-functional requirements:

| | System requirements | User requirements |
|---|---|---|
| 1 | Performance: The system should be able to deliver quick response times, ensuring that actions such as image loading, scrolling, and interactions occur swiftly, contributing to a seamless user experience | The system should load fast and respond quickly |
| 2 | Reliability: The system should be able to maintain high availability, minimizing downtime and ensuring that features like posting, messaging, and content discovery are consistently reliable for users | The system should always be available and reliable |
| 3 | Security: The system should be able to implement robust security measures, including encryption and secure authentication processes, to protect user data and ensure the confidentiality of personal information | The system should keep the data safe |
| 4 | Usability: The system should be able to provide a user-friendly interface, incorporating intuitive design elements, straightforward navigation, and clear instructions to enhance overall usability and encourage user engagement | The system should be easy to use. |

# 3- Activity diagram

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                              ●
                              │
                              ▼
                    ┌─────────────────────┐
                    │  sign-up / log-in page │
                    └─────────────────────┘
                       │                 │
                       ▼                 ▼
              ( click log-in button )  ( click sign up buttun )
                       │                 │
                       ▼                 ▼
              ┌──────────────┐   ┌──────────────┐
          ┌──▶│  log-in page  │◀──│ sign-up page │
          │   └──────────────┘   └──────────────┘
          │          │
┌──────────────┐    ◇ Cheak
│ error message │◀─ not valid    valid ──────────▶ ┌──────────────────────────┐
└──────────────┘                                    │ Access to app/app interface │
                                                    └──────────────────────────┘
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| follow / unfollow user | post photo/video | like/comment content | edit profile | log-out |
|---|---|---|---|---|
| system follow / unfollow the user | selsect photo/video page | system add the like/comment | edit profile page | system log-out the user |
| update following list | photo/video posted and saved | updates the content likes and comments | update and save the new information | display logi-in page |

# 4– Usecase diagram

| Actors | Roles |
|---|---|
| General users | Log in<br>Create/delete profiles<br>Update profile info.<br>Follow/unfollow users<br>post photo-video-story<br>like/comment content<br>explore content<br>using search button<br>send private message |
| Business owners | Create business profile<br>Can set up a shop<br>Can tag products in posts<br>Create and manage advertisement<br>Have a verification blue badge<br>Can access to insights |
| Influencers and celebrities | View insights and analytics<br>Create and manage advertisement<br>Have a verification blue badge<br>Interact with followers |
| Organizations | Create and promote events<br>Have a verification blue badge<br>Create and manage advertisement |
| Administrators | Handle users reports<br>Moderate content<br>Manage user accounts<br>Provide support |
| Guests | view publicly available content<br>view public profiles |
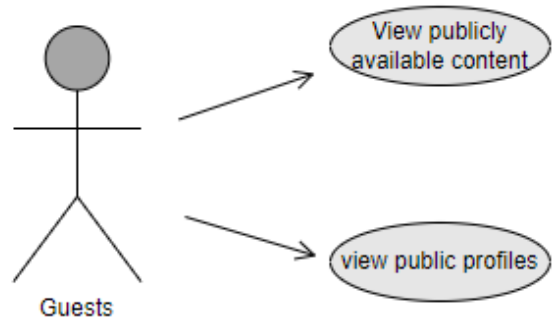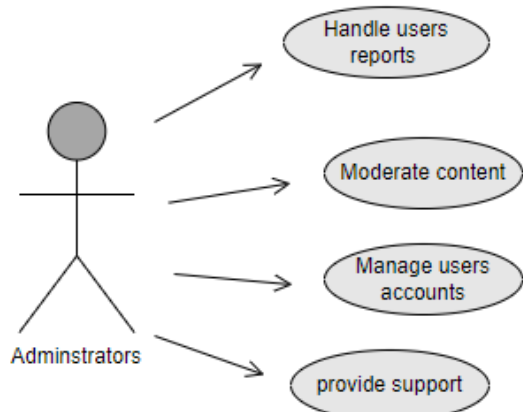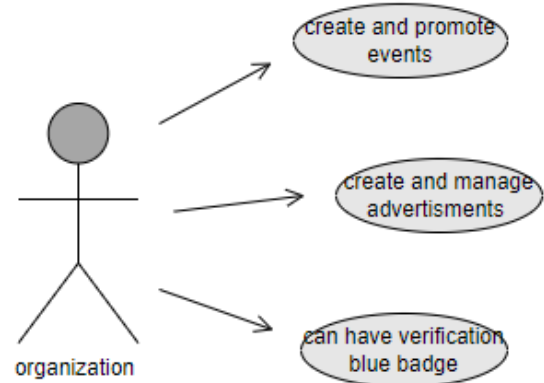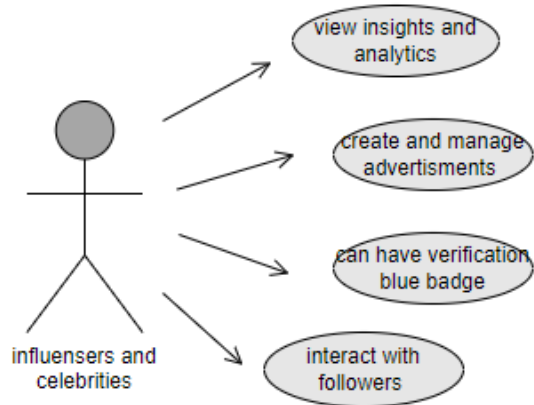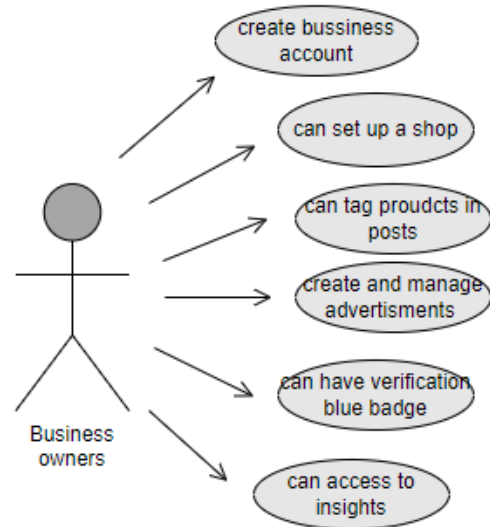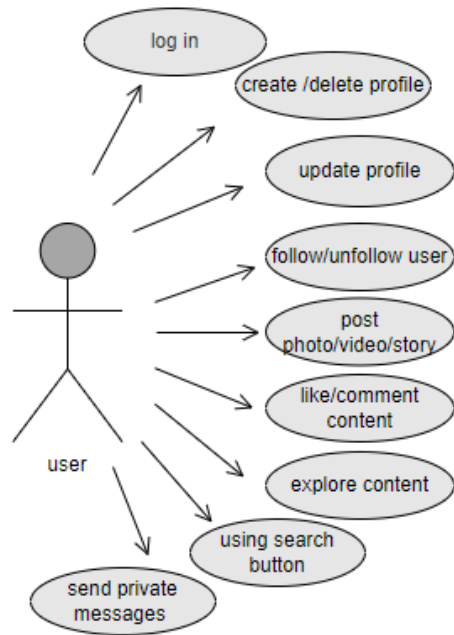
## Table 1:
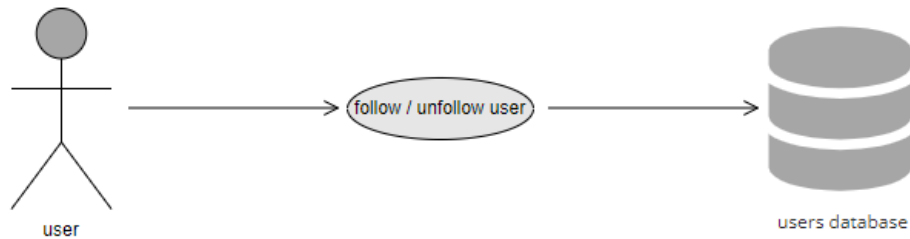


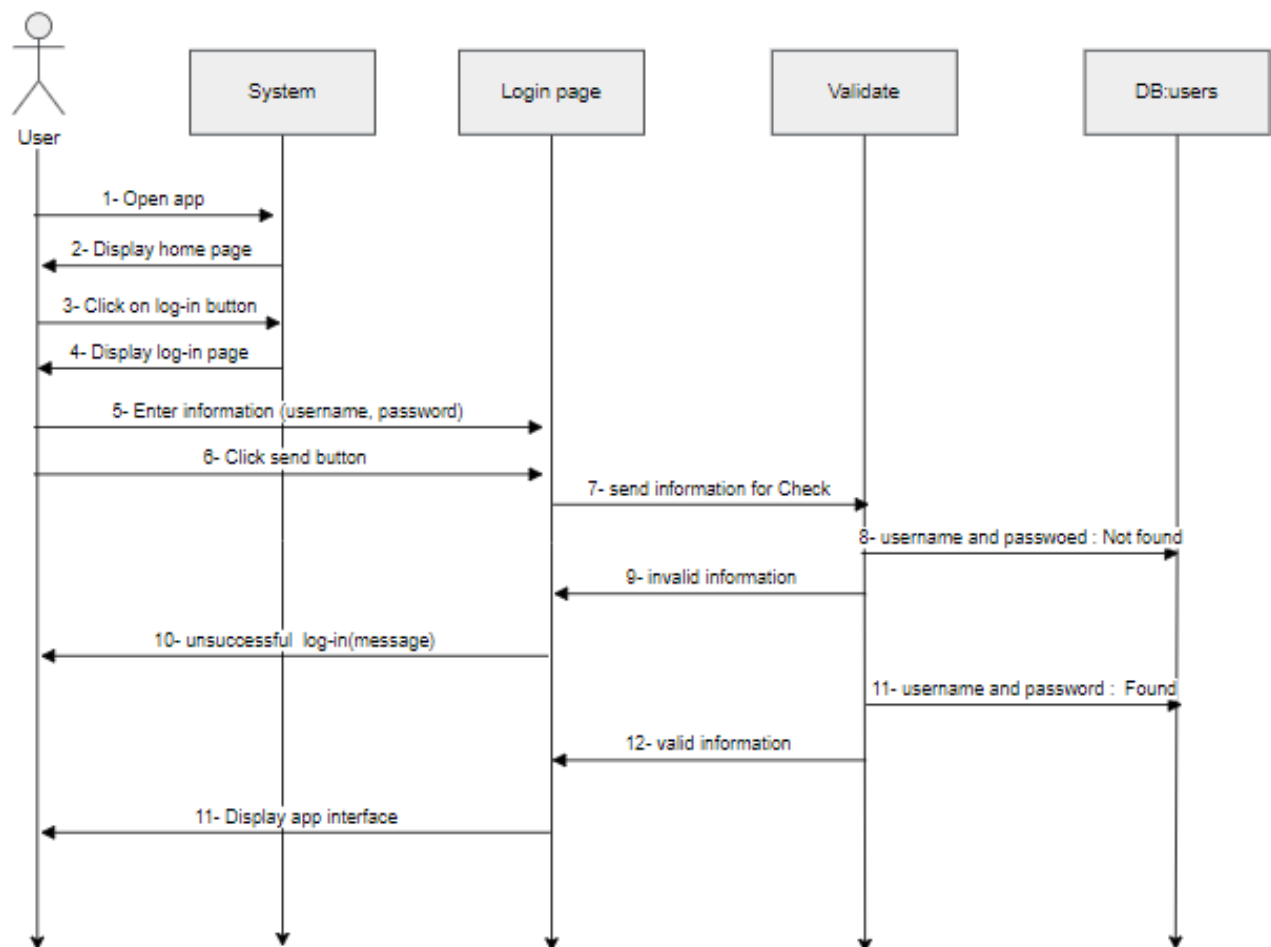| Users Follow/unfollow users | |
|---|---|
| Actor | User and users database |
| Description | This show the interaction between the user who wants to follow or unfollow another users and users database |
| Data | User id – followed user id/unfollowed user id |
| stimulus | The User wants to follow or unfollow another user |
| Response | The other user followed or unfollowed and the following list updated (increased or decreased ) |

## Table 2:
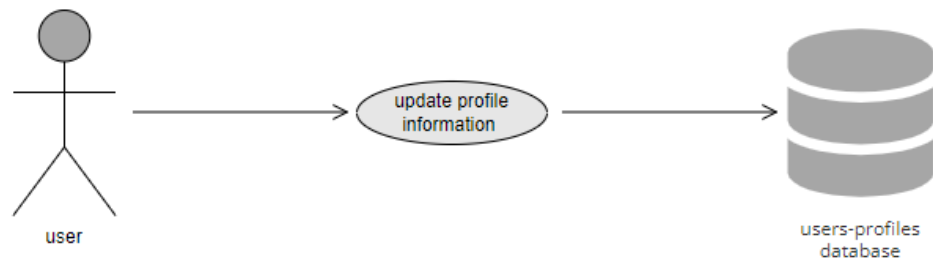


| User Update profile information. | |
|---|---|
| Actor | user and users-profiles database |
| Description | This show the interaction between the user who wants to update profile information ( Bio – picture – name – username) and users-profiles database |
| Data | User id-the information user want to update –the new information |
| stimulus | The user wants to update profile information |
| Response | The profile is updated and the new information added |

# 5– Sequence diagram

# 6- Class diagram

Classes:

### User class

User ID – int
Username – string
Email – string
Password – string
Followers – int list
Following – int list

Signup()
Login()
Follow-user()
Unfollow-user()
Post-photo()
Post-video()
Like()
Comment()
Send-message()

### Photo class

Photo ID – int
Photo – image
Caption – string
Posted Date -date
Likes – int
Comments – string list
Comments NO – int

Update-caption()
Delete-Photo()

### video class

video ID – int
video – video
Caption – string
Posted Date -date
Likes – int
Comments – string list
Comments NO – int

Update-caption()
Delete-video()

### message class

MessageID-int
MeassgeText –string
Message Sender ID-int
Message Receiver ID - int

Send-message()
Delete-message()

### like class

LikeID – int
User ID - int
Photo ID-int
Video ID-int

Add-like()
Remove-like()

### comment class

CommentID- int
Comment Text  - int
User ID – int
Photo ID-int
Video ID-int

Add-comment()
Delete-comment ()

Associations:
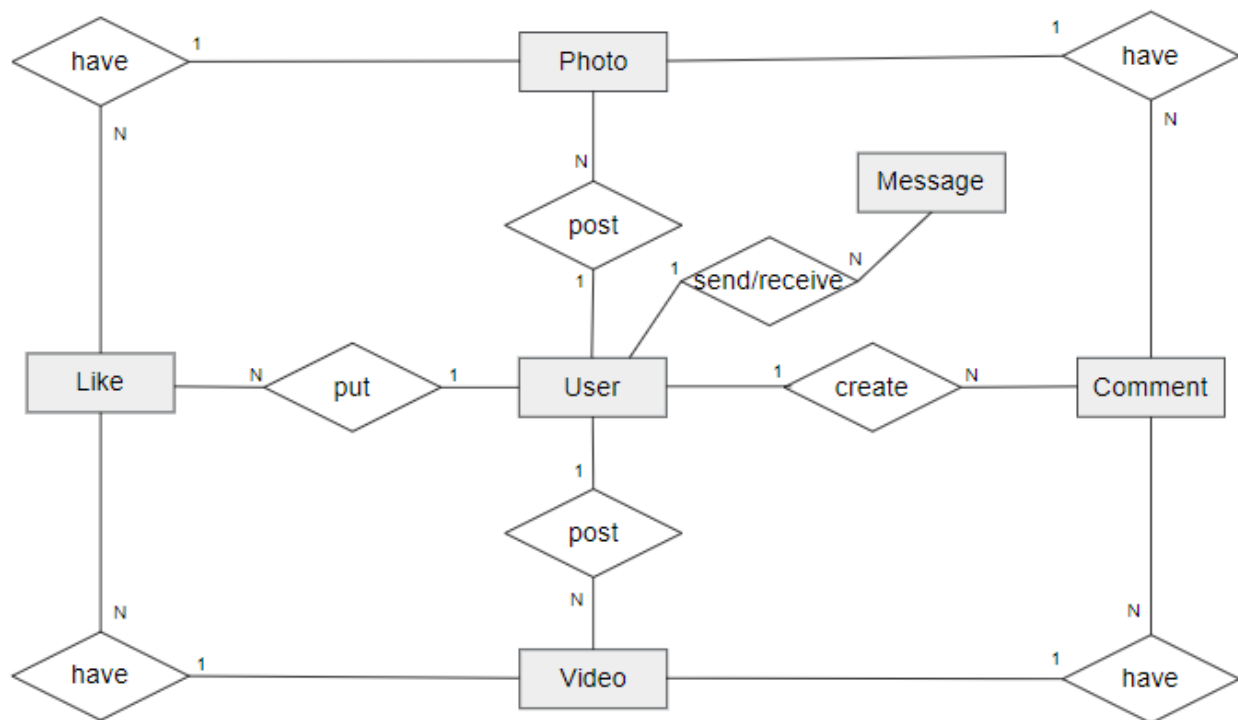


- One user can post many photos
- One user can post many videos
- One user can create many comments
- One user can put many likes
- One user can send and receive many massages
- One photo can have many comments
- One photo can have many likes
- One video can have many comments
- One video can have many likes

# References:

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