Index

What is Insta_Lite

?

1. Insta Lite is a simple Java Interface that works on Common Functions we Use On Instagram App.

2. Users can Create Account , Sign up, Log in, Post Photos, Upload reels, Scroll Reels , Save , Like , Send messages, and add friends, View Profiles.

3. All data is stored and managed using MySQL.

Type something...

JAVA

- **OOPS**: Abstraction , Encapsulation , Polymorphism , Inheritance.
- **JDBC**: Java–MySQL CRUD integration.
- **Exception Handling**: try-catch for SQL/input errors.
- **File Handling**: Upload images/reels via FileInputStream.
- **User Interaction**: Console-based menu system.

DATABASE MANAGEMENT

- **Schema**: Tables for Users, FriendRequests, Messages, Image, Vedio, Likes, Saves.
- **Keys**: Primary/Foreign Keys for relationships.
- **Normalization**: Reduced redundancy.
- **CRUD**: Insert, Update, Delete, Select.
- **Joins**: For liked/saved reels & friend requests.
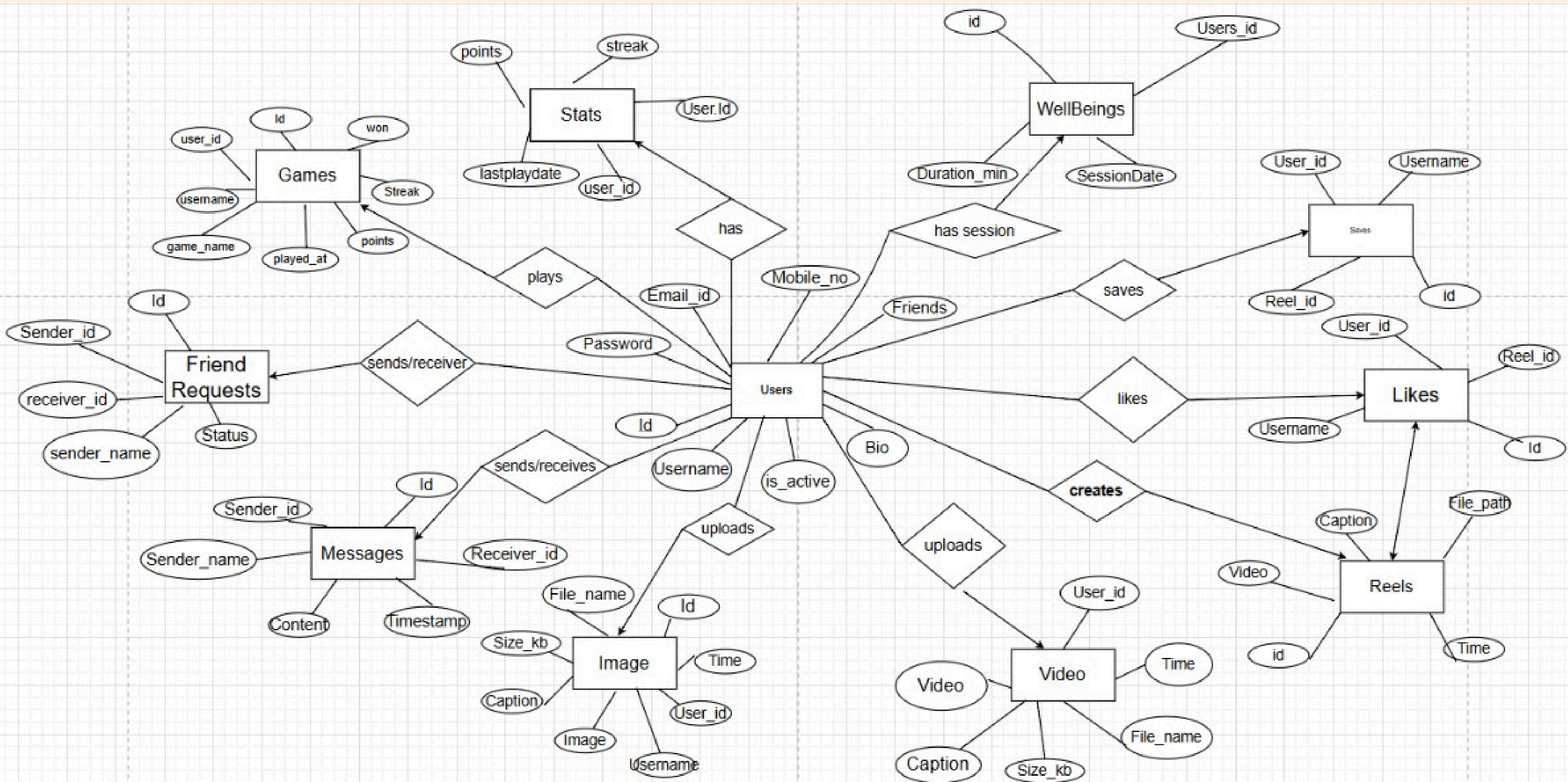
DATA STRUCTURE

- **Linked List**: Stores inbox messages in order.
- **Queue**: Processes tasks/messages in FIFO.
- **Custom Classes**: Own Linked List & Queue (no built-ins).
- **Dynamic**: Grow/shrink as needed.
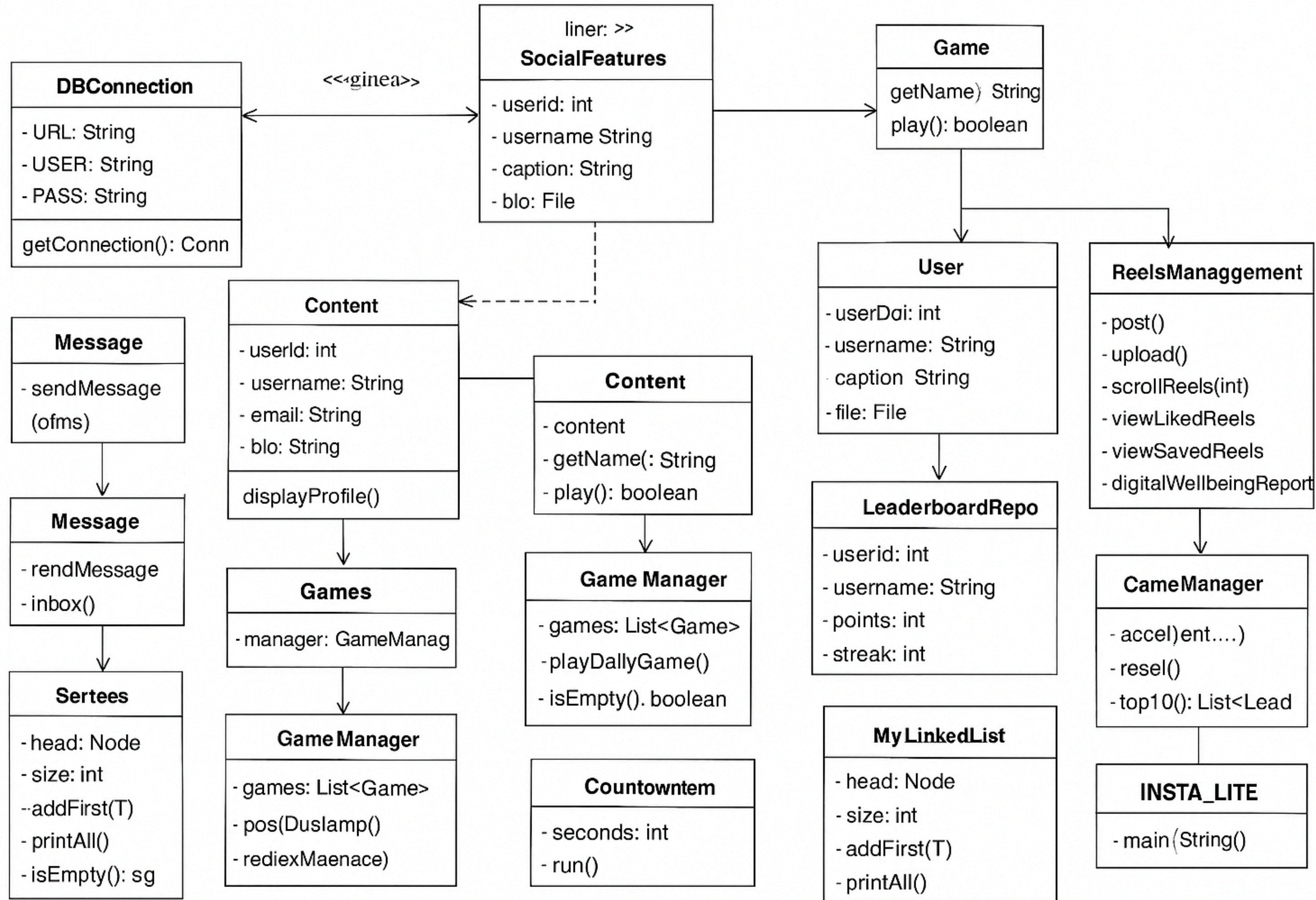- **Efficient**: Fast insert/remove vs arrays.

phpMyAdmin

ALL DATA WERE SEPARATELY STORED IN MYPHP ADMIN WITH INSTA_LITE DATABASE AND RESPECTIVE TABLES .

ER – Diagram

State Diagram

DBConnection

- URL: String
- USER: String
- PASS: String

getConnection(): Conn

<<‹ginea>>

SocialFeatures

liner: >>

- userid: int
- username String
- caption: String
- blo: File

Game

getName) String
play(): boolean

Content

- userId: int
- username: String
- email: String
- blo: String

displayProfile()

Message

- sendMessage
  (ofms)

Message

- rendMessage
- inbox()

Sertees

- head: Node
- size: int
- addFirst(T)
- printAll()
- isEmpty(): sg

Games

- manager: GameManag

Game Manager

- games: List<Game>
- pos(Duslamp()
- rediexMaenace)

Content

- content
- getName(: String
- play(): boolean

Game Manager

- games: List<Game>
- playDallyGame()
- isEmpty(). boolean

Countowntem

- seconds: int
- run()

User

- userDai: int
- username: String
- caption String
- file: File

LeaderboardRepo

- userid: int
- username: String
- points: int
- streak: int

My LinkedList

- head: Node
- size: int
- addFirst(T)
- printAll()

ReelsManaggement

- post()
- upload()
- scrollReels(int)
- viewLikedReels
- viewSavedReels
- digitalWellbeingReport

CameManager

- accel)ent….)
- resel()
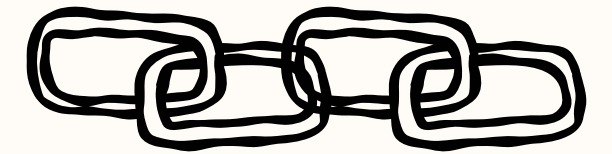- top10(): List<Lead

INSTA_LITE

- main(String()

Data Structure

1 Linked List

Used for inbox messages to store and display them in sequence , allowing easy insertion , updation without shifting elements

- **Messages arrive sequentially** → must preserve order.
- Linked List enables fast insertions.
- **Dynamic size** → grows as more messages arrive.
- Sequential access is enough (no random indexing needed).
- Ideal for inbox management.

Queue

Ensures Friend Request are processed in the same order they were sent (FIFO).

- Friend Request must be delivered and read in sent order.
- Queue follows FIFO (First-In-First-Out).
- Simpler than Stacks (reverse order) or Hash tables (no order).
- Fast and efficient for adding new and removing old messages.

Used

Data Structure

What's New In Insta_Lite

1 **Digital Wellbeing** : Track The Time Spend By the User Just On Scrolling Section On Daily Basis

2 **InstaLite Games** : Provide User Random Games On Daily Basis with One Attempt and Maintain Streaks On Win and Compit With Others.
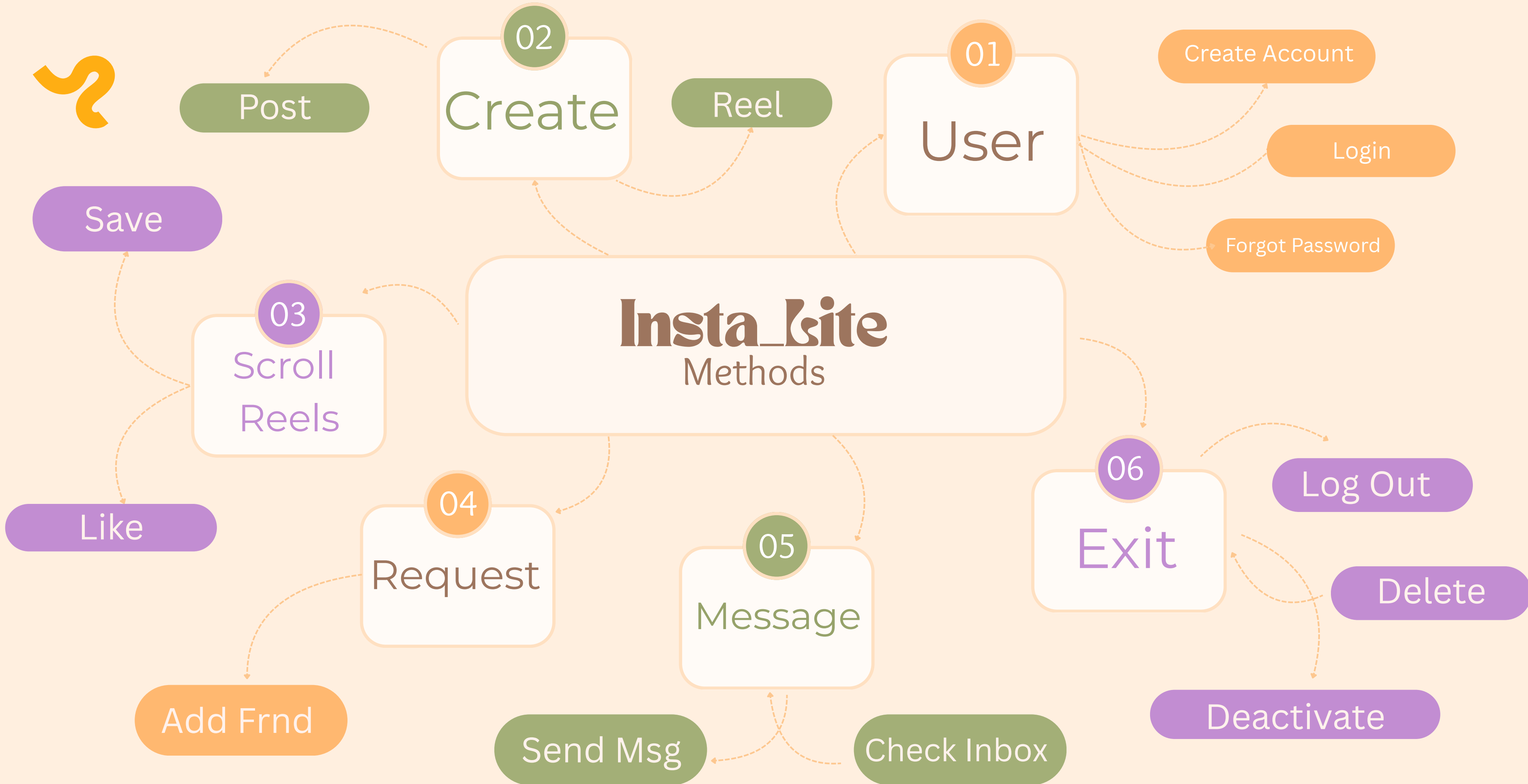
- Word Scramble
- Maths Blitz
- Memory Flip .
- Odd One Out .
- Pattern Memory
- Word Chain
- Hangman
- Logic Puzzle

Type something...

Post

Reel

02 Create

01 User

Create Account

Login

Forgot Password

Save

Insta_Lite
Methods

03 Scroll Reels

06 Exit

Log Out

Like

04 Request

05 Message

Delete

Add Frnd

Send Msg

Check Inbox

Deactivate

ADVANTAGES

- Global platform for media sharing.
- Marketing tool for brands & influencers.
- User-friendly with Reels, Stories, Live.
- Supports creators with Shorts-style content.

DIS-ADVANTAGES

- Can cause addiction and reduce productivity.
- Raises privacy concerns from data sharing and tracking.
- Often spreads misinformation or harmful content.
- May lead to major time waste if used only for endless scrolling.

FUTURE SCOPE

- Smarter AI for personalization & moderation.
- Make A complete App which user can be dependent on and he no need to change platforms for his functions
- Better privacy & data protection.
- Cross-platform sharing (Instagram, Facebook, WhatsApp).

⚠ MORE USAGE CAN MAKE YOU ADDICT TOWARDS ANYTHING . SO IT IS SAFE TO BE IN LIMITS

CHALLENGES
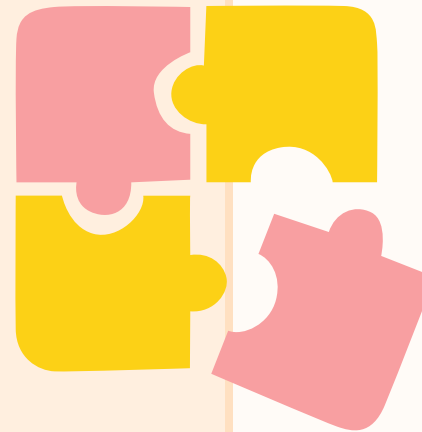
- Prevent duplicate likes/saves.
- Keep friend counts accurate.
- Handle SQL errors & invalid actions.
- Manage incorrect file paths on upload.
- Console Based don't Provide View Experience.
- Account Privacy for the User who dont want to Socailize them

CONCLUSION

Insta Lite successfully demonstrates how core social media features can be implemented using Java, JDBC, and MySQL in a console-based environment. It provides essential functionalities such as account management, posting media, messaging, friend requests, and reel interactions, all backed by efficient data structures and database operations.

The project highlights how simple, well-chosen data structures like Linked Lists and Queues can make data handling efficient and intuitive. Overall, Insta Lite serves as a compact, functional model of a social networking platform while reinforcing key concepts of database connectivity, CRUD operations, and user interaction.