**Social Media Database**

This project implements Social Media System Design, using MySQL for database connectivity. Data input and data update are included.

GitHub repository containing the MySQL script of the database & The GUI:

<https://github.com/RanwaKhaled/social-media-database>

The system includes the following entities:

* User
* Posts
* Messages
* Comments
* Reactions

***Business Rules***

- A user can have many posts, but a post must have one user.

- A post can have many comments, but a comment must be posted on one post.

- A post can have many reactions, but a reaction must be made on one post.

- A user can post many comments, but a comment must be posted by one user.

- A user can send many messages, and messages can be sent by many users.

***ERD***

**A diagram of a flowchart

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***Schema:***

A diagram of a computer program

Description automatically generated with medium confidence

***Normalization:***

The tables were in the 1st norm form no attribute splitting was necessary nor were there dependencies that needed to be eliminated

***Sample data:***

* **Users:**

*Primary key:* user\_id

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* **Posts:**

*Primary key:* post\_id

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* **Messages:**

*Primary key:* message\_id

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* **Reactions:**

*Composite Primary key:* post\_id & user\_id

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* **Comments:**

*Composite Primary key:* post\_id & user\_id

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**GUI:**

Libraries used : customtkinter, tkinter mysql.connector

Log in page

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Sign up page: were one can create a new account (this creates a new record in the users table with the new user’s info)

A screenshot of a login form

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User account page (where the user can edit – edits show after re-login - his information and write posts)

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Feed page (contains some posts from the database – randomly chosen)

A screenshot of a social media post

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Incoming messages page

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**Member Roles:**

**Nour Mohmed Adel – 2203169**

*MySQL script:*

Creation of the users & posts tables

Data insertion into the tables

*GUI:*

Creation of the **Incoming messages** window

**Ranwa Khaled Fathy – 2203153**

*MySQL script:*

Data insertion into the tables

*GUI:*

Creation of the GUI except for **Incoming messages** window

Linking it with the MySQL database

Performing queries like inserting, updating & accessing the data through the GUI

**Nour Nader Nabil – 22030156**

*Schema:*

Modeling the schema using draw.io

*MySQL script:*

Creation of the messages table

Data insertion into the tables

**Jana Ahmed Sayed – 22011536**

*MySQL script:*

Creation of the comments & reactions tables