**SOCIAL MEDIA APPLICATION**

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**1. Introduction:**

This project is a social media application designed to allow users to post content, react to posts, and comment on posts. The application is built using C# with a SQL Server database for storing user data, posts, reactions, and comments.

**2. Architecture:**

The application follows a layered architecture with the following layers:

**Presentation Layer:** Handles the user interface using Windows Forms.

**Business Layer:** Contains the business logic for managing posts, comments, and reactions.

**Data Access Layer:** Manages database operations and connections.

**3. Database Design:**

The database consists of the following tables:

**Users:** Stores user information (userID, username, password).

**Posts:** Stores posts made by users (postID, userID, postContent, username).

**Comments:** Stores comments on posts (commentID, postID, userID, commentContent, username).

**Reactions:** Stores reactions to posts (reactionID, postID, userID, reactionType, username).

**4. Class Descriptions:**

* **DatabaseConnection**

Manages database connections.

* **Posts**

Handles operations related to posts such as creating new posts, retrieving user posts, and getting post IDs.

* **Comments**

Handles operations related to comments such as adding comments and retrieving comments for a specific post.

* **Reactions**

Handles operations related to reactions such as adding reactions and retrieving reactions for a specific post.

* **PostUtils**

Contains utility methods for adding posts to the UI, including comments and reactions.

**5. Features:**

**User Login:** Allows users to log in to the application.

**Create Posts:** Allows users to create new posts.

**View Posts:** Allows users to view their own and others' posts.

**Add Comments:** Allows users to comment on posts.

**Add Reactions:** Allows users to react to posts with predefined reactions.

**6. User Interface:**

The user interface is built using Windows Forms and includes the following components:

**Login Form:** For user authentication.

**Main Form:** Displays user posts, allows posting new content, and includes sections for comments and reactions.