Database Table Explanations

1. User Table
    1.1 **id**: A unique number that identifies each user.
    1.2 **userName**: A unique name that identifies each user.
    1.3 **password**: A secure code for authenticate user.
    1.4 **email**: The email address a user uses to sign in.

Why We Have It: This table keeps track of all registered users. It's like the user directory of our app. We store their sign-in details and other info that's personal to them.

2. Profile Table
    2.1 **id**: A unique number for each profile.
    2.2 **user_id:** Links profiles to the users they belong to.
    2.3 **profile_picture_url:** A web link to a user's profile picture.
    2.4 **about**: A short description a user writes about themselves.

Why We Have It: Every user can have their own profile. This table stores their picture and a bit about them. It's like their profile page where they can express themselves.

3. Post Table
    3.1 **id**: A unique number for each post.
    3.2 **user_id:** Connects posts to the users who made them.
    3.3 **content_text:** The written part of a post.
    3.4 **content_picture_url**: A web link to an image attached to the post.
    3.5 **creation_date**: The date when post is created.

Why We Have It: Whenever someone makes a post, we save it in this table. It's like a collection of all the posts. We keep track of who made the post, the post's textual content, and any linked images.

4. Comment Table
    4.1 **id**: A unique number for each comment.
    4.2 **user_id:** Links comments to the users who wrote them.
    4.3 **post_id**: Connects comments to the posts they belong to.
    4.4 **content_text:** The written part of a comment.
    4.5 **creation_date**: The date when comment is created.

Why We Have It: When users leave comments on posts, we store those comments here. This helps organize discussions. Each comment is associated with the post it pertains to.

5. DirectMessage Table
    5.1 **id**: A unique number for each message.
    5.2 **sender_id:** Connects messages to the users who sent them.
    5.3 **receiver_id**: Connects messages to the users who received them.
    5.4 **content_text:** The textual content of the message.
    5.5 **sent_date**: The date when message is sent.

Why We Have It: This table enables us to store private messages. It's like a mailbox where messages between users are stored. The sender and receiver are connected to each message.

6. SearchHistory Table:
    6.1 **id**: A unique number for each search history entry.
    6.2 **user_id:** Connects search history to the users who performed searches.
    6.3 **search_term:** The search term entered by the user.
    6.4 **search_date:** The timestamp of when a search was conducted.

Why We Have It: We keep track of what users search for. It's similar to maintaining a record of past searches. This helps us display relevant content when users search again.

7. InteractionEnvironment Table:
    7.1 **id**: A unique number for each interaction environment.
    7.2 **name**: A descriptive name for each environment.

Why We Have It: Users can select their preferred interaction settings. It's like choosing a privacy option. This table stores the available choices such as "public" or "private to university."

8. UserInteraction Table
    8.1 **id**: A unique number for each interaction.
    8.2 **user_id:** Connects interactions to the users involved.
    8.3 **interaction_type:** Indicates the type of interaction (comment, upvote, etc.).
    8.4 **reference_type:** Specifies the interaction's target (user, post, etc.).
    8.5 **reference_id:** Links to the user or post.
    8.6 **interaction_date**: The timestamp of when the interaction occurred.

Why We Have It: This table keeps a record of how users interact with each other and with content. It forms the basis for notifications, helps us analyze user engagement, and maintains a history of user actions.