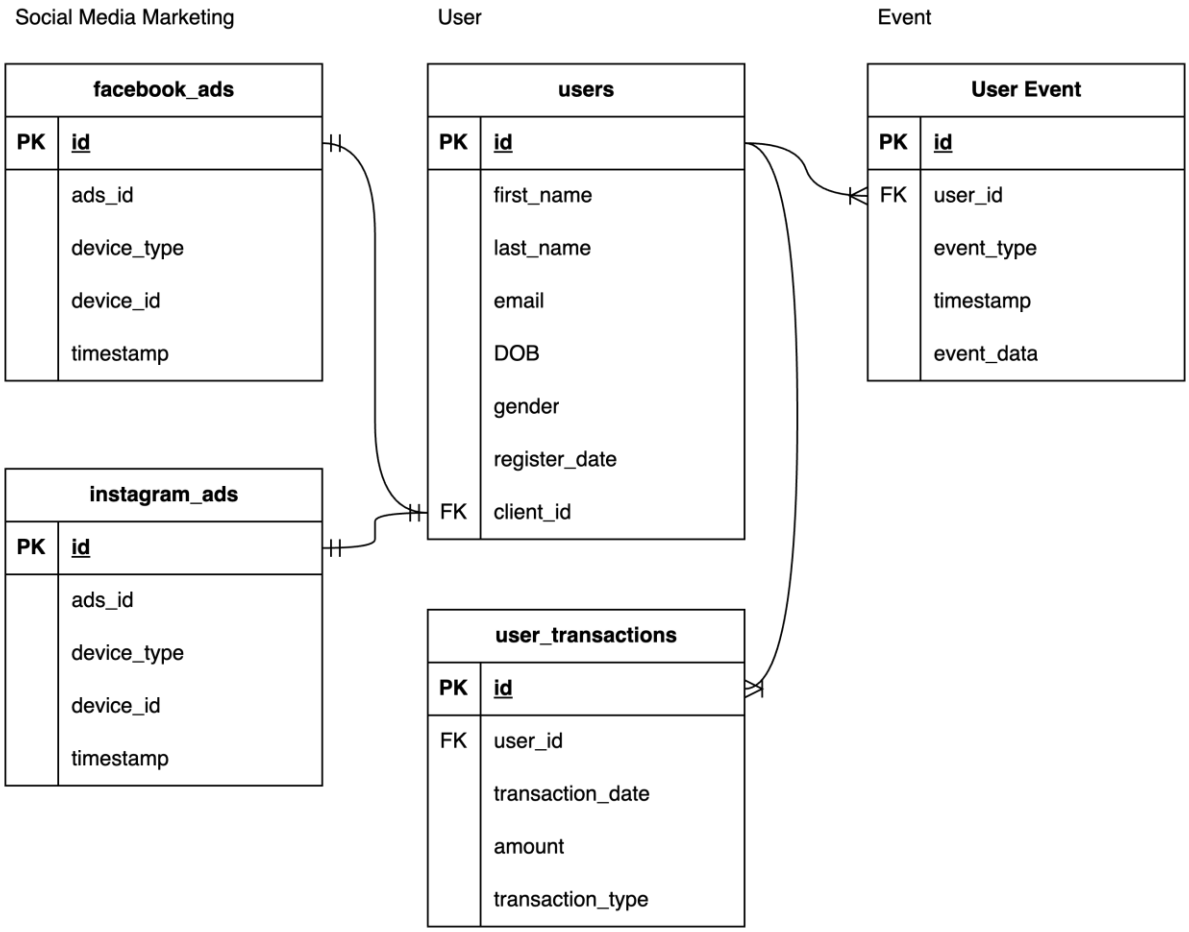
SOCIAL MEDIA WAREHOUSE SYSTEM PROJECT GUIDELINES

In this project, we will be working with three databases, these databases include Social Media Marketing DB, User DB, and Event DB. Each database contains multiple tables with specific information related to social media marketing, user data, and event tracking. Our objective is to design and implement the data warehouse by creating dimension and fact tables based on the given schema.



Social Media Marketing DB:

The **Social Media Marketing DB** focuses on storing data related to advertisements on popular social media platforms. It consists of two tables: "**facebook_ads**" and "**instagram_ads**".

- Table: **facebook_ads**
  - Columns:
    - client_id (Primary Key): A unique identifier linking to the user table.
    - ads_id: Unique identifier for each advertisement.
    - device_type: The type of device used to view the advertisement.
    - device_id: A unique identifier for the device.
    - timestamp: The timestamp when the advertisement was clicked.
- Table: **instagram_ads**
  - Columns:
    - client_id (Primary Key): A unique identifier linking to the user table.
    - ads_id: Unique identifier for each advertisement.
    - device_type: The type of device used to view the advertisement.
    - device_id: A unique identifier for the device.
    - timestamp: The timestamp when the advertisement was clicked.

User DB:

The **User DB** contains information about registered users. It consists of a single table named "**user**".

- Table: **user**
  - Columns:
    - id (Primary Key): Unique identifier for each user.
    - first_name: The user's first name.
    - last_name: The user's last name.

        - email: The user's email address.
        - DOB: The user's date of birth.
        - gender: The user's gender.
        - register_date: The date when the user registered.
        - client_id (Foreign Key for ads tables): A reference linking to the client_id in the ad's tables.
- Table: **user_transactions**
    - Columns:
        - transaction_id (Primary Key): Unique identifier for each transaction.
        - user_id (Foreign Key for user table): A reference linking to the user_id in the user table.
        - transaction_date: The date when the transaction occurred.
        - amount: The amount of the transaction.
        - transaction_type: The type of transaction (e.g., purchase, refund, etc.).

Event DB:

The **Event DB** captures various events related to user interactions. It contains a table named "**event**".

- Table: **event**
    - Columns:
        - id (Primary Key): Unique identifier for each event.
        - user_id (Foreign Key for user table): A reference linking to the user_id in the user table.
        - event_type: The type of event that occurred. timestamp:
        - The timestamp when the event took place.
        - event_data (JSON): Additional data related to the event stored in JSON format.

Project Guidelines:

1. **Dimension Table Creation**:
    a. Create a dimension table named "**dim_user**" that enriches the user data with additional available information. Include columns such as ads_source, age, and any other relevant data that can provide insights into user characteristics and behavior.
    b. Create a dimension table named "**dim_ads**" by combining all the available ads data from the **Social Media Marketing DB**. Include columns that capture essential information about the ads, such as ads_id, device_type, device_id, and timestamp.
2. **Fact Table Creation**:
    a. Create a fact table named "**fact_user_performance**" to measure user performance. Include columns such as last_login, last_activity, and any otherrelevant metrics that can help assess user engagement and behavior.
    b. Create a fact table named "**fact_ads_performance**" to track the performance of advertisements. Include columns such as total_clicks, total_converted, and any other relevant metrics that can provide insights into ad effectiveness and user responses.
3. **Datamart Table Creation**:
    a. Create a datamart table named "**fact_daily_event_performance**" to analyze daily events. Include columns that capture event-related information from the **Event DB**, enabling analysis and monitoring of events daily.
    b. Create a datamart table named "**fact_weekly_ads_performance**" to analyze the weekly performance of ads. Include columns that can be used to evaluate the effectiveness of ads on a weekly basis, considering relevant metrics and data from the **Social Media Marketing DB**.