**Experiment-No.3**

**Objective: List out the entities and identify the relationship between them. Also, identify related attributes supposed to be recorded while considering the normalization rule.**

**1. User:**

Attributes: UserID (Primary Key), Username, Email, Password, Profile Picture, Registration Date, Last Active Timestamp.

**2.Chat:**

Attributes: ChatID (Primary Key), Participants (Foreign Key referencing User.UserID), GroupChat (Boolean indicating if it's a group chat), Creation Timestamp.

**3. Message:**

Attributes: MessageID (Primary Key), ChatID (Foreign Key referencing Chat.ChatID), SenderID (Foreign Key referencing User.UserID), Content, Timestamp.

**4. Video Call:**

Attributes: CallID (Primary Key), Participants (Foreign Key referencing User.UserID), Start Timestamp, End Timestamp.

Now, let's discuss the relationships:

**1.User-User:**

Relationship: Friendship

Description: Many-to-Many relationship indicating which users are friends with each other.

**2.User-Chat:**

Relationship: Participant

Description: Many-to-Many relationship indicating which users are part of a chat.

**3.User-Message:**

Relationship: Sender

Description: One-to-Many relationship indicating which user sent which messages.

**4.User-Video Call:**

Relationship: Participant

Description: Many-to-Many relationship indicating which users participated in a video call.