Phase-2 Report

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**Relational Model**

* **User** (UserID, Username, Email)
* **Channel** (ChannelID, ChannelName, Permission, Rank)
* **Channel\_Message** (ChannelID, UserID, Message, Time)
* **Server** (ServerID, ServerName, DateCreated)
* **User\_Server** (ServerID, UserID)
* **Messsage**(MessageID, Sent\_From, Sent\_To, message)
* **Common\_User** (UserID, Role)
* **Admin** (UserID, Responsibility)
* **Server\_Owner** (UserID, Owned\_Date)
* **Event** (EventID, Event\_time)
* **Event\_Participation** (UserID, EventID, Time\_Duration, Time\_participated)

**Fuctional Dependencies**

1. UserID → Username, Email
2. ChannelID → ChannelName, Permission, Rank
3. ChannelID, UserID, Time → Message
4. ServerID → ServerName, DateCreated
5. ServerID, UserID are already candidate keys
6. MessageID🡪 Sent\_From, Sent\_To, message
7. EventID🡪Event\_time
8. UserID, EventID🡪Time\_Duration, Time\_participated
9. UserID🡪Role
10. UserID🡪Responsibility
11. UserID🡪Owned\_Date

**Normalization**

1. User table: Already in BCNF (UserID is the primary key).
2. Channel table: Already in BCNF (ChannelID is the primary key).
3. Channel\_Message table: Already in BCNF (ChannelID, UserID, Time is the composite primary key).
4. Server table: Already in BCNF (ServerID is the primary key).
5. User\_Server table: Already in BCNF (ServerID, UserID is the composite primary key).
6. Message table: Already in BCNF (MessageID is the primary key)
7. Event table: Already in BCNF (EventID is the primary key)
8. Event\_Participation table: Already in BCNF (UserID, EventID are the composite keys)
9. Common\_User table: Already in BCNF (UserID is the primary key)
10. Admin table: Already in BCNF (UserID is the primary key)
11. Server table: Already in BCNF (UserID is the primary key)