

## **CSC-584 Group Project Phase-1**

### **MindConnect+ : AI-Driven Mental Health & Peer Support Management System**

#### **Purpose of the Application**

**MindConnect+** is a next-generation mental health support platform designed to bridge professional counseling, peer connection, and self-reflection in one unified system.

The app's primary purpose is to empower users to monitor their emotional well-being, engage in guided therapy sessions, and connect safely with peers who share similar experiences all backed by data-driven insights.

Unlike traditional wellness apps, MindConnect+ integrates AI-based peer matching, mood analytics, and session tracking in a privacy-first environment. It supports both individual and group counseling, encourages community participation, and assists counselors in understanding client progress through real-time mood and feedback data.

#### **App Story - "Sofia's Journey"**

**Sofia**, a 28-year-old user, joins MindConnect+ to manage stress and track her emotional well-being. She wants a private, supportive way to log moods, connect with peers, and occasionally join counseling sessions.

#### **Day 0 - Getting Started**

Sofia registers, creates her profile, and enables anonymous peer matching. Her data is securely stored, forming her initial user record in the system.

#### **Day 1-3 - Mood Tracking**

Sofia logs daily moods, noting entries like "anxious" or "calm." The system tracks these over time, visualizes her trends, and recommends relevant Support Groups based on her patterns.

#### **Day 3 - Joining a Group**

She joins the *Anxiety Support Group* and accesses related Resources, such as articles and coping exercises. This builds her connection to the group's shared data and community.

## Day 5 - Peer Matching

Using AI-driven compatibility metrics from her MoodLog and group activity, the system matches Sofia with **Alex**, another user with similar emotional trends. Their PeerMatch connection becomes active once both accept.

## Week 2 - Counseling Session

Sofia attends a group Session led by **Dr. Patel**, the group's counselor. Attendance and discussion data are recorded, linking her session participation to both the counselor and the support group.

## After the Session

Sofia provides a Feedback rating, while Dr. Patel documents a Progress Note summarizing the session's key points.

## Ongoing

Sofia continues logging moods and attending sessions. Her Mood Dashboard displays steady emotional improvement, while Dr. Patel reviews aggregated MoodLog and Feedback data to tailor care and improve session quality.

## Summary

Sofia's experience illustrates how **MindConnect+** integrates user data, peer connections, and counseling insights into a unified database system demonstrating real-world relationships among entities like *User*, *MoodLog*, *PeerMatch*, *SupportGroup*, *Session*, *Feedback*, and *ProgressNote*.

## Entities and Attributes

Entity Name	Attributes	Primary Key (PK)
User	UserID, Name, Email, Password, PrivacySetting	UserID
Counselor	Counselor ID, Name, Specialization, YearsOfExperience	CounselorID
SupportGroup	GroupID, GroupName, FocusArea	GroupID
Session	SessionID, Date, Time, Mode (Online/In-person), Topic	SessionID
ProgressNote	NoteNumber, SessionID, Content	(SessionID, NoteNumber)
MoodLog	UserID, LogDate, MoodLevel	(UserID, LogDate)
Resource	ResourceID, Title, Type	ResourceID
PeerMatch	User1ID, User2ID, CompatibilityScore	(User1ID, User2ID)

## Relationships

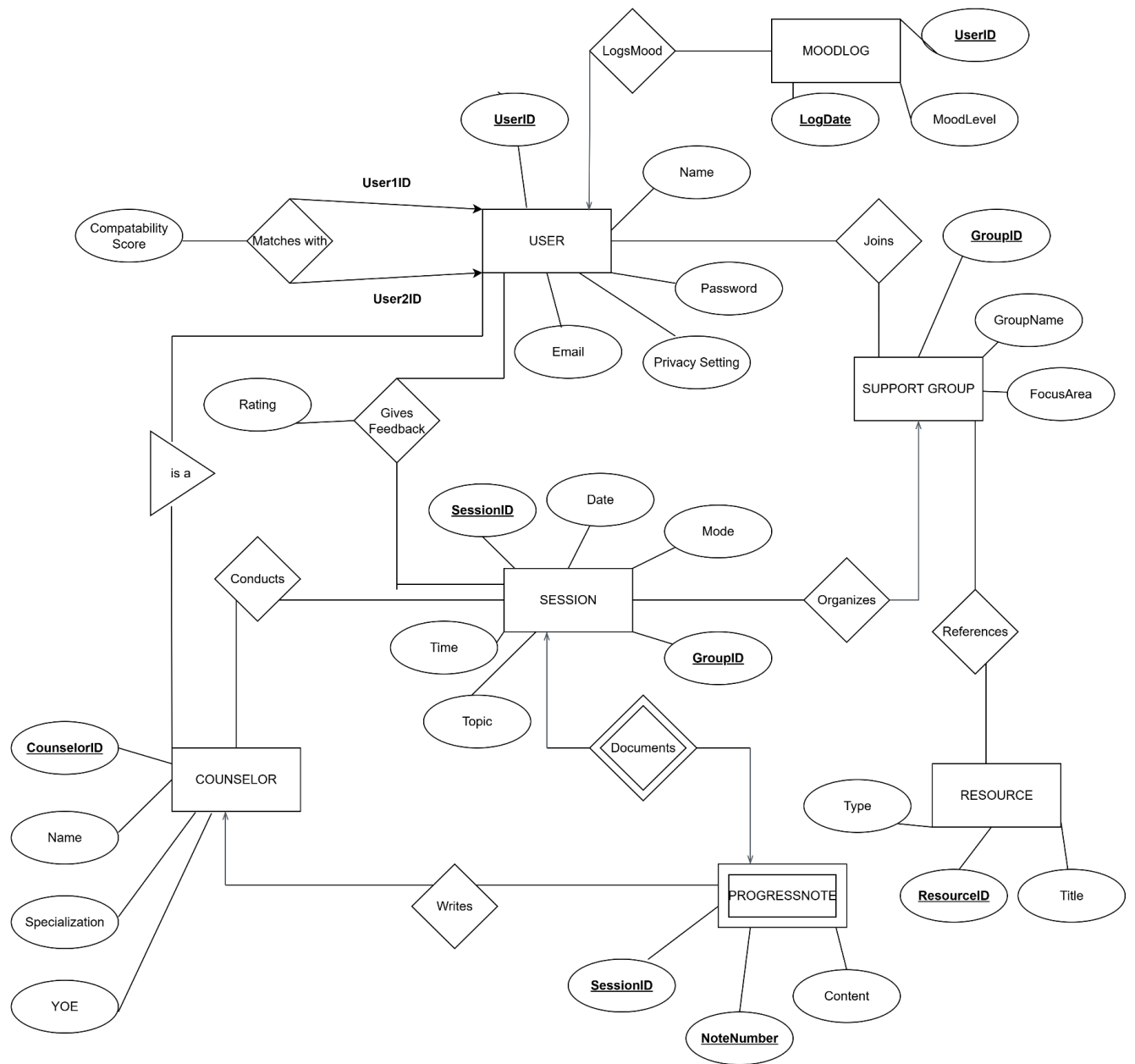
Relationship	Entities	Cardinality	Participation	Notes
Gives Feedback	User ↔ Session	Many-to-Many	Optional (No arrow)	Users can give feedback for multiple sessions
Conducts	Counselor ↔ Session	One-to-Many	Optional (No arrow)	Counselor may conduct 0+ sessions
Organizes	Support Group ↔ Session	One-to-Many	Mandatory on Group (Rounded arrow from Session)	Each session belongs to a group
Joins	User ↔ Support Group	Many-to-Many	Optional (No arrow)	Users may join multiple groups
LogsMood	User ↔ MoodLog	One-to-Many	Mandatory on User (Rounded arrow from MoodLog)	Each User must log at least 1 mood

MatchesWith	User ↔ User (PeerMatch)	Many-to-Many (self)	At most one (Shaded arrow)	Each User can be matched with at most 1 peer
Documents	Session ↔ Progress Note	One-to-One	Total (Rounded arrow both sides)	Weak entity; every Session must have a note
Writes	Counselor ↔ Progress Note	One-to-Many	Mandatory on Counselor (Rounded arrow from Note)	Each counselor writes ≥1 note
References	Support Group ↔ Resource	Many-to-Many	Optional (No arrow)	Groups can reference multiple resources

### Other ER Design Features

- **Role:**  
In the **MatchesWith** relationship, the same entity (*User*) takes two roles (*User1* and *User2*), forming a **recursive relationship**.
- **Subclass:**  
**Counselor** is a type of **User** with extra professional details like *ID*, *Name* and *Specialization*.
- **Weak Entity:**  
**ProgressNote** depends on a **Session** to exist and uses a composite key (*SessionID*, *NoteNumber*).
- **Relationship Attributes:**  
The **GivesFeedback** relationship has a **Rating** attribute to record session feedback.
- **Foreign Keys:**  
Foreign keys link related entities (like *UserID* in MoodLog or *GroupID* in Session) to keep the data consistent.

## ER Model - MindConnect+ App.



For a better view please click on the link here [Draw.io Link](#)

### Group Member Contributions

Member Name	Contributions
Venkata Sai Sravya Sambaturu	Phase-1(ER Model)
AKM Ehsanul Haque	TBD
Rajeshwari Dornala	TBD

### Demo meet timings with Professor

Scheduled Thursday, Oct 9th 16:15 - 16:35