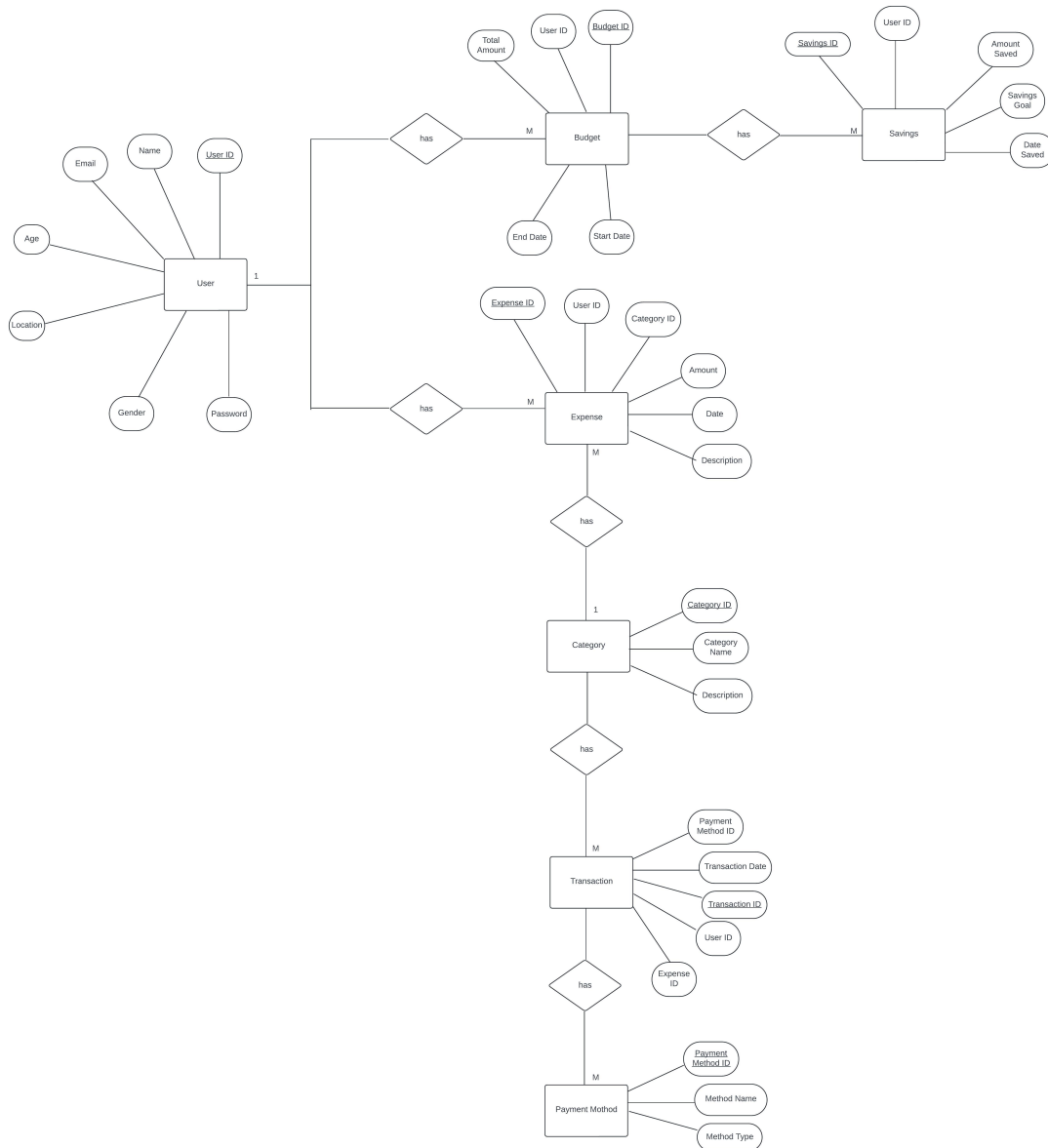


Homework 1.1

Individual Contribution			
CWID	Name	Contribution (description)	Percent Contribution
A20580060	Anshul Dani	Identify data, relationships, and create the ERD.	33.3%
A20576599	Sanjana Waghray	Reduce the ERD to relational schemas and list business rules.	33.3%
A20545641	Snehal Phadatare	Identify use cases and align the design with user needs.	33.3%

Entity Relationship Diagram:



Entities:

1. User (UserID, Name, Email, Password, Age, Gender, Location)
2. Expense (ExpenseID, UserID (FK), CategoryID (FK), Amount, Date, Description)
3. Category (CategoryID, CategoryName, Description)
4. Budget (BudgetID, UserID (FK), TotalAmount, StartDate, EndDate)
5. Transaction (TransactionID, UserID (FK), ExpenseID (FK), PaymentMethod, TransactionDate)
6. PaymentMethod (PaymentMethodID, MethodName, MethodType)
7. Savings (SavingsID, UserID (FK), AmountSaved, SavingsGoal, DateSaved)

Relationships:

- A User can make multiple Expenses (1:M)
- A User can set multiple Budgets (1:M)
- Each Expense is categorized under a specific Category (M:1)
- Transactions are linked to a User and can belong to multiple Expenses (M:N)
- Each Transaction involves a specific Payment Method (M:1)
- A User can make multiple entries of Savings (1:M)

Relational Schemas:

- User (UserID (PK), Name, Email, Password, Age, Gender, Location)
- Expense (ExpenseID (PK), UserID (FK), CategoryID (FK), Amount, Date, Description)
- Category (CategoryID (PK), CategoryName, Description)
- Budget (BudgetID (PK), UserID (FK), TotalAmount, StartDate, EndDate)
- Transaction (TransactionID (PK), UserID (FK), ExpenseID (FK), PaymentMethodID (FK), TransactionDate)
- PaymentMethod (PaymentMethodID (PK), MethodName, MethodType)
- Savings (SavingsID (PK), UserID (FK), AmountSaved, SavingsGoal, DateSaved)

Business Rules:

- A User can make multiple Expenses
- A User can create multiple Budgets to track spending over a specific period
- Each Expense must belong to one Category
- Each Transaction involves a User and can be related to multiple Expenses
- A User can have multiple methods of payment (PaymentMethod)
- A User can have multiple Savings entries