

Experiment - 4

Aim: To design an **ER Diagram** for the **Event Management System** to represent the data structure and relationships within the system.

Requirements:

Hardware Requirements:

- Computer/Laptop
- Keyboard
- Mouse
- CPU with at least i3 processor

Software Requirements:

- Microsoft Word / Google Docs
- Draw.io / Lucidchart / MySQL Workbench
- Web Browser (for online diagram tools)

Theory:

An **Entity-Relationship (ER) Diagram** is a data modeling technique that visually represents the system's data, relationships, and constraints. It helps in designing the database structure before implementation.

Key Components of an ER Diagram:

1) **Entities:**

- a) Objects or concepts that store data in the system.
- b) In this case:
- c) **User:** Represents a registered user in the system.
- d) **Event:** Represents an expense entry made by a user.
- e) **Category:** Represents the category to which an expense belongs.
- f) **Report:** Represents financial summaries generated.
- g) **Admin:** Represents a user with higher privileges.

2) **Attributes:**

- a) Characteristics or properties of an entity.
- b) Example:
- c) **User:** User_ID, Name, Email, Password
- d) **Events :** Event_ID, Amount, Date, Description
- e) **Category:** Category_ID, Name

3) **Relationships:**

- a) Defines how entities are related to each other.
- b) Example:
- c) **User makes an Event**
- d) **Events belongs to a Category**

e) Admin manages Users and Reports

Description of Entities and Relationships:

Entity	Attributes	Relationships
User	User_ID (PK), Name, Email, Password	Can create multiple expenses
Event	Event_ID (PK), User_ID (FK), Amount, Date, Description, Category_ID (FK)	Belongs to one user and one category
Category	Category_ID (PK), Name	Can have multiple expenses
Report	Report_ID (PK), User_ID (FK), Date, Total_Expenses	Generated by a user or admin
Admin	Admin_ID (PK), Name, Email, Password	Manages users and reports

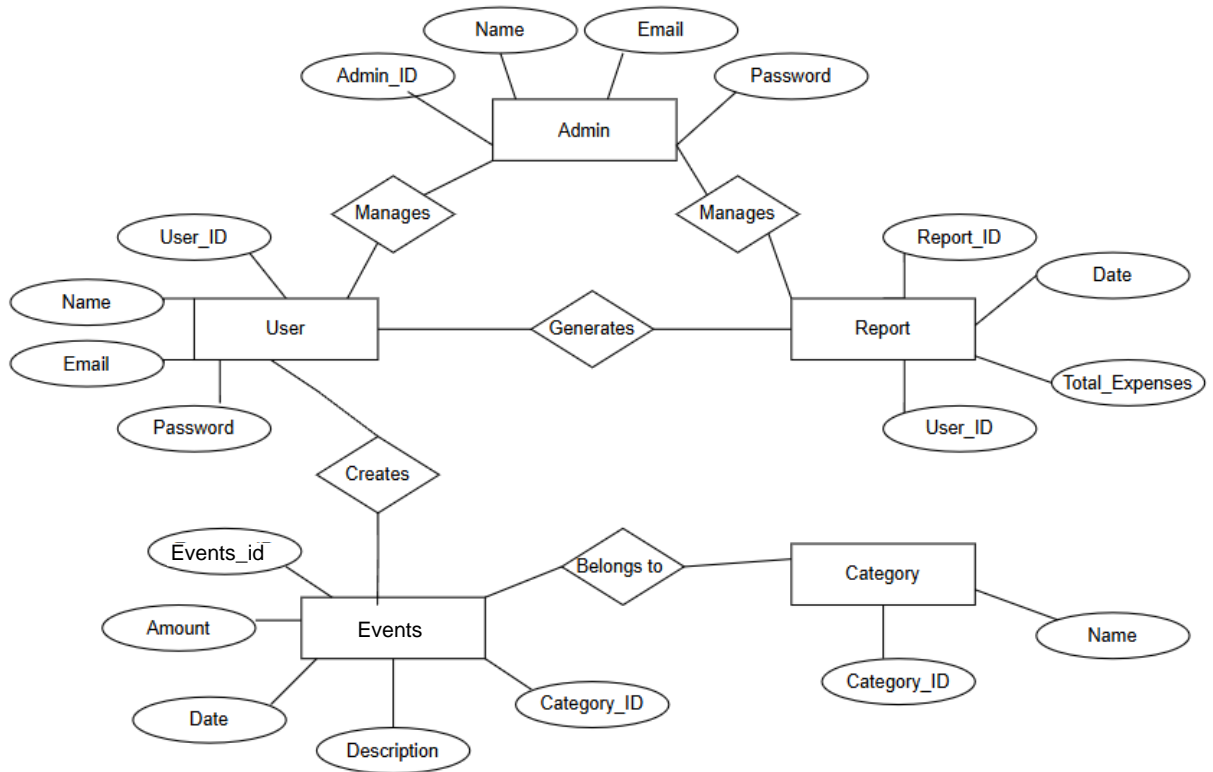


Fig 4.1: ER Diagram for Expense Management System

Conclusion:

The **ER Diagram** for the **Event Management System** has been successfully designed, representing how data is structured and related within the system. This diagram helps in database design and ensures efficient data management.