Paperless University Task0:

* Database Design:

FileID

* Entity-Relationship (ER) Diagram:

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File

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MeetingID

Interact

Belong

UserID

Upload

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… M 1 …

Organize

Meeting

User

1 M

For simplicity and clarity, we do not write all the attributes on the entities, and we will show them in the schemas below:









Database Tables:

* We need 4 tables to store different types of information and define relationships between these tables.
* The tables are:

1. Users Table:
   * UserID (Primary Key)
   * UserName
   * Email
   * Password
   * UserType (Admin or Regular User)
2. Meetings Table:
   * MeetingID (Primary Key)
   * Title
   * Description
   * Date
   * Time
   * Location
   * OrganizerID (Foreign Key referencing UserID from Users Table)
   * Status (Scheduled, In Progress, Completed, Canceled, etc.)
3. Files Table:
   * FileID (Primary Key)
   * FileName
   * FilePath
   * MeetingID (Foreign Key referencing MeetingID from Meetings Table)
   * UploadedByUserID (Foreign Key referencing UserID from Users Table)
   * UploadDateTime
4. Interactions Table:
   * InteractionID (Primary Key)
   * FileID (Foreign Key referencing FileID from Files Table)
   * UserID (Foreign Key referencing UserID from Users Table)
   * InteractionType (Comment, Like, etc.)
   * InteractionContent
   * InteractionDateTime

* Relationships:

1. Each meeting is associated with one organizer (admin user) (UserID in Meetings Table is a Foreign Key referencing UserID in Users Table).
2. Each file is associated with one meeting (MeetingID in Files Table is a Foreign Key referencing MeetingID in Meetings Table).
3. Each interaction is associated with one File and one user (FileID and UserID in Interactions Table are Foreign Keys referencing FileID and UserID in Files and Users Tables, respectively).

* Build the database in MySQL:

We wrote the SQL commands to build the tables and insert some data samples into each table and we checked relations and database integration, and everything is working just fine. (Code is attached in the files: “Creat\_database\_v2.sql” and “insert\_data\_samples\_v2.sql”.

A screenshot of a computer

Description automatically generated

* Users Table:

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* A screen shot of a date

  Description automatically generatedMeetings Table:
* A screenshot of a computer

  Description automatically generatedFiles Table:
* Interaction Table:

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* SQL code for Creating tables:

CREATE DATABASE paperless\_university\_v2;

USE paperless\_university\_v2;

CREATE TABLE Users  (

    UserID INT PRIMARY KEY,

    UserName VARCHAR(50),

    Email VARCHAR(100),

    Password VARCHAR(255), -- Use appropriate length for password hashes

    UserType ENUM('Admin', 'Regular User')

);

CREATE TABLE Meetings (

    MeetingID INT PRIMARY KEY,

    Title VARCHAR(100),

    Description TEXT,

    Date DATE,

    Time TIME,

    Location VARCHAR(255),

    OrganizerID INT,

    Status ENUM('Scheduled', 'In Progress', 'Completed', 'Canceled'),

    FOREIGN KEY (OrganizerID) REFERENCES Users(UserID)

);

CREATE TABLE Files (

    FileID INT PRIMARY KEY,

    FileName VARCHAR(255),

    FilePath VARCHAR(255),

    MeetingID INT,

    UploadedByUserID INT,

    UploadDateTime TIMESTAMP,

    FOREIGN KEY (MeetingID) REFERENCES Meetings(MeetingID),

    FOREIGN KEY (UploadedByUserID) REFERENCES Users(UserID)

);

CREATE TABLE Interactions (

    InteractionID INT PRIMARY KEY,

    -- MeetingID INT,  -- when the interaction with meeting

    UserID INT,

    FileID INt,

    InteractionType VARCHAR(50),

    InteractionContent TEXT,

    InteractionDateTime TIMESTAMP,

    -- FOREIGN KEY (MeetingID) REFERENCES Meetings(MeetingID),  -- cancelled

    FOREIGN KEY (UserID) REFERENCES Users(UserID),

     FOREIGN KEY (FileID) REFERENCES Files(FileID)

);

* SQL code for Inserting data samples into tables:
* USE paperless\_university\_v2;
* INSERT INTO Users (UserID, UserName, Email, Password, UserType)
* VALUES (1, 'Mohammed Al-Zoraiki', 'mama@gamil.com', 'hashed\_password', 'Admin'),
* (2, 'Hamza', 'Hamza@gamil.com', 'hashed\_password', 'Admin'),
* (3, 'Eliza', 'Eliza@gamil.com', 'hashed\_password', 'Admin'),
* (4, 'Labar', 'Labar@gamil.com', 'hashed\_password', 'Admin'),
* (5, 'Ali', 'Ali@gamil.com', 'hashed\_password', 'Regular User'),
* (6, 'Ahmed', 'Ahmed@gamil.com', 'hashed\_password', 'Regular User');

* INSERT INTO Meetings (MeetingID, Title, Description, Date, Time, Location, OrganizerID, Status)
* VALUES (1, 'Project Kickoff', 'Meeting to discuss project goals', '2023-11-7', '20:00:00', 'Conference Room A', 1, 'Scheduled');



* INSERT INTO Files (FileID, FileName, FilePath, MeetingID, UploadedByUserID, UploadDateTime)
* VALUES (1, 'example\_file.txt', 'somewhere/uploads/example\_file.txt', 1, 1, '2023-11-10 15:00:00');
* INSERT INTO Interactions (InteractionID, FileID, UserID, InteractionType, InteractionContent, InteractionDateTime)
* VALUES (1, 1, 3, 'Comment', 'Great discussion!', '2023-11-10 14:30:00'),
* (2, 1, 4, 'Vote', 'Agree', '2023-11-10 14:30:00');
* -- Mohammed Al-zoraiki 2023