**Database Systems**



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| **Group Partners** | **SAP ID** | **Section** |
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**Project Title:**

* Doc-Spot

**Project Overview**

DOC-SPOT is an innovative platform designed to facilitate document sharing and collaboration among university students. The platform enables students to upload documents, share them with peers, and engage in discussions about course materials. It includes a marketplace allowing users to offer their documents either for free or at a set fee. The proposed database project for DOC-SPOT aims to support its core functions, ensuring secure document storage, user profile management, transaction handling, and forum discussions.

### Database Design & Structure

The DOC-SPOT database will comprise several interconnected tables. Each table will represent key entities, facilitating efficient data retrieval and management across different functionalities. Below is a proposed structure with example tables:

#### 1. User Management

* **Users Table**: Stores basic user details and login credentials (e.g., user\_id, name, university, email, password).
* **Profiles Table**: Contains additional profile information (e.g., age, address, department, program, semester, university campus, role).

#### 2. Document Repository

* **Documents Table**: Manages all documents uploaded by users, including metadata (e.g., document\_id, uploader\_id, title, description, upload\_date, department, tags, price, visibility).
* **Encryption Keys Table**: Stores one-time-use encryption keys for paid documents, tracking usage status (e.g., document\_id, key, is\_used).
* **Document Access Log**: Logs each document access or purchase, including timestamps and user data for statistics (e.g., log\_id, document\_id, user\_id, access\_type, timestamp).

#### 3. Financial Transactions

* **Wallets Table**: Maintains each user’s current balance and wallet transactions (e.g., wallet\_id, user\_id, current\_balance).
* **Transactions Table**: Logs financial activities such as deposits, withdrawals, document purchases, and loans (e.g., transaction\_id, wallet\_id, type, amount, date).

#### 4. Forum and Notifications

* **Discussions Table**: Stores discussion posts and topics initiated by users, with tags for topic relevance (e.g., discussion\_id, initiator\_id, title, content, tags, created\_at).
* **Notifications Table**: Manages notifications to keep users informed about new uploads and relevant discussions (e.g., notification\_id, user\_id, content, status, date).

**Objectives**

The main objectives of the DOC-SPOT database project are:

1. **User Management**: Manage all users on the platform, including students and course instructors, by securely storing profile details and authentication credentials.
2. **Document Repository**: Store, manage, and track documents uploaded by users. This includes supporting document privacy settings, access control, and statistics tracking.
3. **Financial Transactions**: Maintain a digital wallet for users, recording deposits, withdrawals, purchases, and loans.
4. **Forum and Notifications**: Provide discussion forums and notification systems for new uploads or relevant updates based on user preferences and document tags.

**Timeline**

Requirement Gathering

Defining Dependencies

Designing Database &

ERD

Database Insertion

NO

Testing Phase

Test Passed

YES

Documentation

Finalize/Present