

7/30/24

## Class Identification

### 1. Hotel Management System:

- Hotel: Represent a hotel entity, including details like name, location, rating.
- Room: Represents rooms in the hotel, with attributes like room type, availability, and price.
- Booking: Handles room reservation, booking status and related data.
- Guest: Containing guest details such as name, contact info, and booking history.
- Staff: Represents hotel staff members, including roles like housekeeping, receptionist, etc.
- Invoice: Manages billing and payment details for a stay.
- Service: Includes services offered by the hotel (eg. laundry, room service).

### 2. Credit Card Processing System:

- Cardholder: Stores details of the credit card owner. (eg name, address).
- Credit Card: Represents the actual credit card, including number, expiration date and limits.
- Transaction: Handles individual card transactions, such as purchase or refunds.
- Payment Gateway: Facilitates Bank-merchant transactions.
- Merchant: Represents merchants accepting payments.
- Authorizations: Manages authorization checks for card transactions.
- Fraud Detection: Detects potential fraud.
- Account statements: Generates monthly usage statements.

### 3. Library Management System:

- Book: Represents books in library, including title, author, availability.
- Member: Stores detail about library members (eg. name, membership ID).
- Librarian: Manages library operations (adding/removing books, managing members).
- Borrow Transaction: Tracks borrowing, due dates, returns.
- Fine: Calculates and stores overdue fines for late book returns.
- Category: Organizes books by genre or category.
- Reservation: Handles the reservation of books by members.
- Author: Manages info of book's authors.

### 4. Stock Maintenance System:

- Product: Represents each product in the stock, including name, description and price.
- Stock: Tracks stock level and details like quantity available, reorder levels.
- Supplier: Contains details of supplier who provides the products.
- Order: ~~Manages~~ orders and inventory updates.
- Customer: Stores customer's information and purchase history.
- Invoice: Handles billing and payment for stock purchase.
- Warehouse: Manages details related to storage locations and inventory tracking.
- Report: Generates report on stock level, sales and reordering needs.



## 5. Passport Automation System

**Applicant:** Stores details about the passport applicant (e.g. name, address, ID proof).

**Passport:** Represents the passport issued to applicants with the validity and passport number.

**Application:** Manages the application process, including submission, processing and status.

**Verification Officer:** Handles the verification of applicant documents.

**Appointment:** Manages appointment scheduling for interviews or verification.

**Payment:** Handles payment details for the passport application.

**Notification:** Sends notifications to applicants regarding application status.

**Renewal:** Handles passport renewals and associated procedures.

