Database design:

There should be a tab for each major component. The components are: Customer, Inventory, Employees, and Management

**Customer**

* Ability to search for books by title, author, isbn, or genre
* Able to select book and add to “cart”
* Able to purchase the book (this will be a pretend transaction)
  + At checkout, user can enter matching name and membership id for 10% discount
* The order is tracked through the store and then decreases the amount of inventory by the amount purchased

**Inventory**

* Section to add the book to the catalogue
  + Book has following information to add: author, isbn (must be unique), publication date, edition, price, page count, description
* Section search by title, author, or isbn, get confirmation before removing from inventory
  + Give 2 options for selected book:
    - Update book information
    - Remove book from inventory

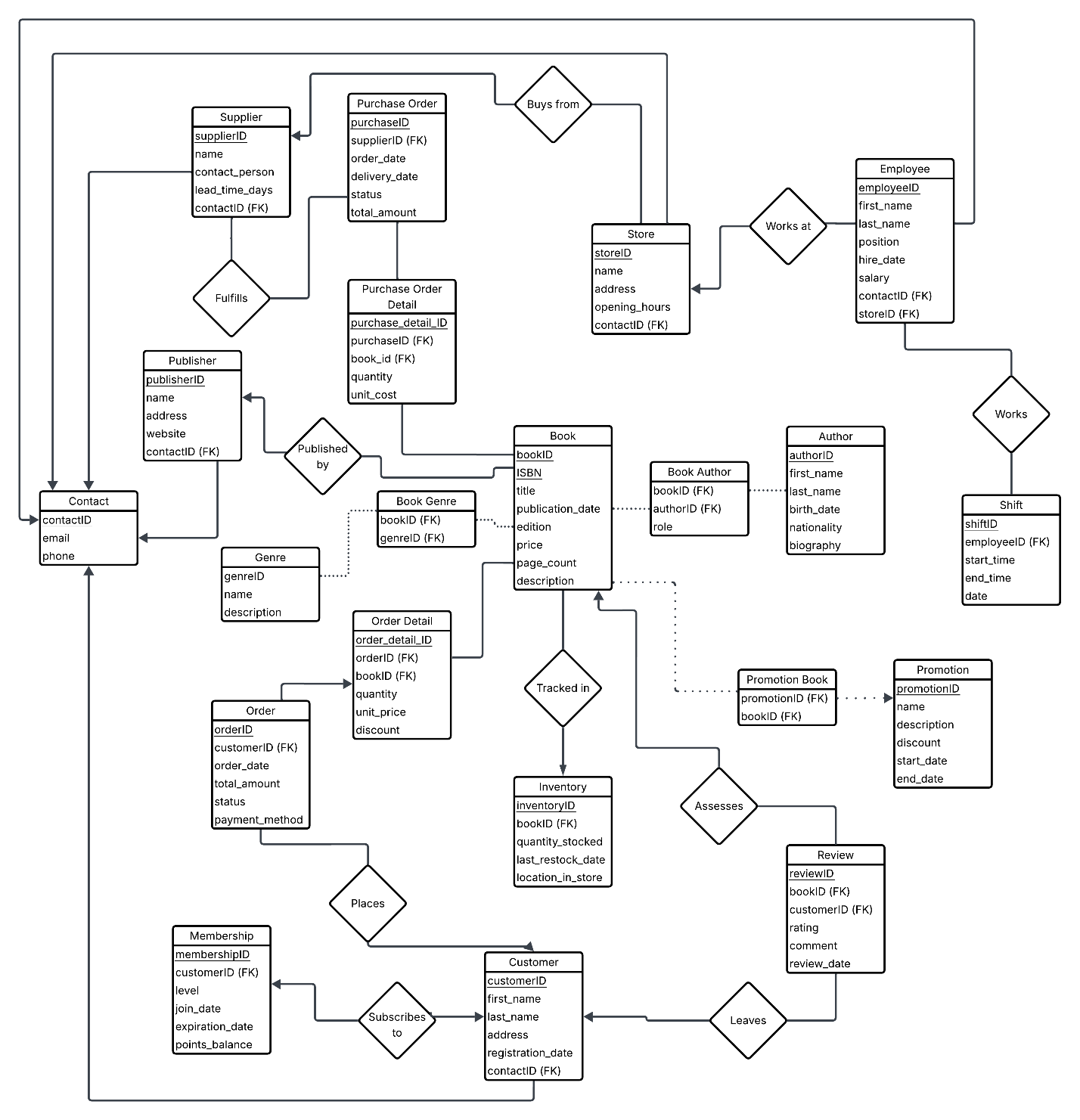
**Employees**

* See scheduled shifts (handled in the management tab)
* Check in/out of shift, exclusive to current status (on the clock, off the clock)
* Section to give customer membership status (associating the customerID with the membership table)

**Management**

* Before being able to manage elements like the employees employed, need to add store
  + Store has storeID, name, address, phone, email, and opening\_hours
* Adding employees to store
  + Employee has employeeID, first\_name, last\_name, position, hire\_date, salary, email, phone
* Ability to edit, remove, or schedule employees at store on a given date and time.
* Add, remove, edit supplier
  + supplierID, name, contact person, phone, email, lead time delays

## ER Diagram



## Relational Schema

----- Core Entities -----

Contact (

contact\_id PK,

email,

phone

)

Book (

book\_id PK,

ISBN,

title,

publication\_date,

edition,

price,

page\_count,

description,

publisher\_id FK → Publisher

)

Author (

author\_id PK,

first\_name,

last\_name,

birth\_date,

nationality,

biography

)

Publisher (

publisher\_id PK,

name,

address,

website,

contact\_id FK -> Contact

)

Genre (

genre\_id PK,

name,

description

)

Customer (

customer\_id PK,

first\_name,

last\_name,

email,

registration\_date,

contact\_id FK -> Contact

)

----- Inventory & Sales -----

Inventory (

inventory\_id PK,

book\_id FK → Book,

quantity\_in\_stock,

last\_restock\_date,

location\_in\_store

)

Order (

order\_id PK,

customer\_id FK → Customer,

order\_date,

total\_amount,

status,

payment\_method

)

Order\_Detail (

order\_detail\_id PK,

order\_id FK → Order,

book\_id FK → Book,

quantity,

unit\_price,

discount

)

----- Store Operations -----

Store (

store\_id PK,

name,

address,

opening\_hours,

contact\_id FK -> Contact

)

Employee (

employee\_id PK,

first\_name,

last\_name,

position,

hire\_date,

salary,

store\_id FK -> Store

contact\_id FK -> Contact

)

Shift (

shift\_id PK,

employee\_id FK → Employee,

start\_time,

end\_time,

date

)

Supplier (

supplier\_id PK,

name,

contact\_person,

lead\_time\_days,

contact\_id FK -> Contact

)

Purchase\_Order (

po\_id PK,

supplier\_id FK → Supplier,

order\_date,

expected\_delivery\_date,

status,

total\_amount

)

Purchase\_Order\_Detail (

po\_detail\_id PK,

po\_id FK → Purchase\_Order,

book\_id FK → Book,

quantity,

unit\_cost

)

----- Additional Features -----

Review (

review\_id PK,

book\_id FK → Book,

customer\_id FK → Customer,

rating,

comment,

review\_date

)

Book\_Author (

book\_id FK → Book,

author\_id FK → Author,

role

)

Book\_Genre (

book\_id FK → Book,

genre\_id FK → Genre

)

Promotion (

promotion\_id PK,

name,

description,

discount\_percentage,

start\_date,

end\_date

)

Promotion\_Book (

promotion\_id FK → Promotion,

book\_id FK → Book

)

Membership (

membership\_id PK,

customer\_id FK → Customer,

level,

join\_date,

expiration\_date,

points\_balance

)