Books App — MySQL Mini Report

Course: Object-Oriented Analysis & Design + Advanced Web Programming
Team: Yoganathan Renaud, Dambron Max, Sghaier Souhaib
**Date:** 08/10/2025

1) Goal

Build a simple, normalized MySQL-backed website for discovering books, browsing by genre, and posting user reviews.
This version adds a more detailed database structure and an entity-relationship model to illustrate our design choices.

2) ER Diagram

The ER diagram shows how the main entities are connected:

- **Book is the central entity.**

- **Each Book is written by one Author, published by one Publisher, and written in one Language.**

- **A Book can belong to several Genres through the link table Book_Genre.**

- **Users can post Reviews about different books.**

- **Relationships are mainly one-to-many, except Book ↔ Genre, which is many-to-many.**
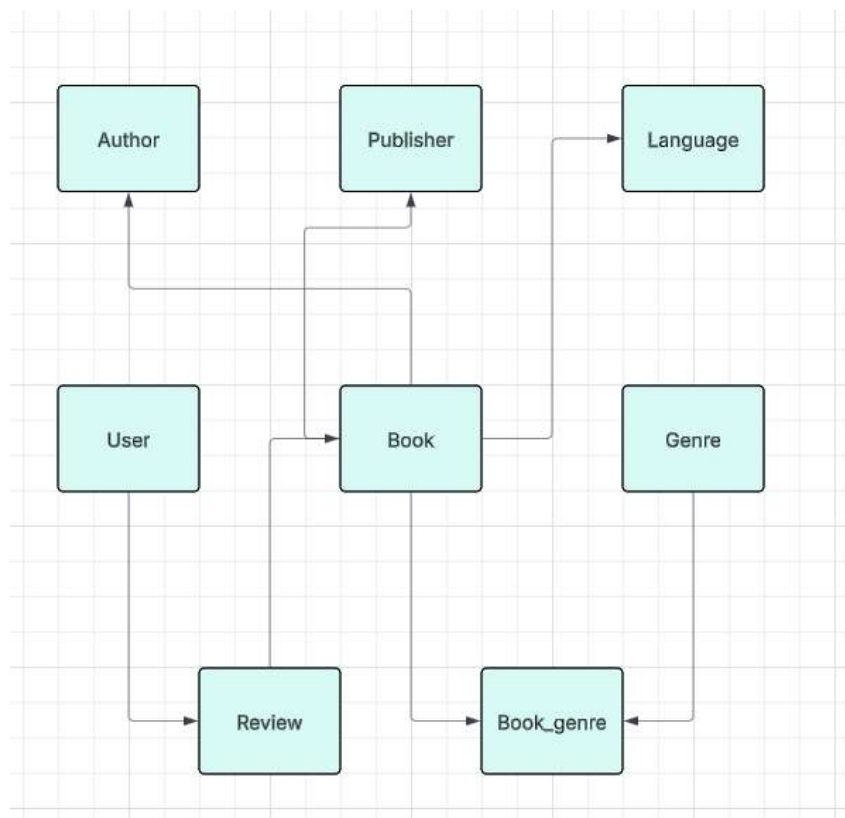
3) Table Structure Description

The database contains eight main tables: **Authors**, **Publishers**, **Books**, **Users**, **Reviews**, **Genres**, **Book_Genres**, and **Languages**.

- **Authors**
  Stores information about book authors, including their names, nationality, and biography.
  One author can write many books (1 → N relationship with *Books*).

- **Publishers**
  Contains details about publishing companies such as name, country, website, and contact information.
  Each publisher can publish several books (1 → N with *Books*).

- **Books**
  The central table of the database.
  Each book is linked to one author, one publisher, and one language.
  It can have multiple genres (M ↔ N through *Book_Genres*) and multiple reviews.

- **Languages**
  Lists the available languages for books.
  One language can correspond to many books (1 → N).

- **Users**
  Represents the registered users of the website.
  Users can write reviews for books (1 → N with *Reviews*).

- **Reviews**
  Stores the comments and ratings that users leave on books.
  Each review is linked to one book and one user.

- **Genres**
  Defines book categories like "Fantasy" or "Thriller".
  Used to classify books through a many-to-many relationship.

- **Book_Genres**
  A link table between *Books* and *Genres* that manages the many-to-many association.

AUTHORS

int	author_id	PK
varchar	first_name	
varchar	last_name	
text	bio	
date	birth_date	
date	death_date	
varchar	nationality	
varchar	website	
varchar	portrait_url	

PUBLISHERS

int	publisher_id	PK
varchar	name	
varchar	country	
year	founded_year	
varchar	headquarters_city	
varchar	website	
varchar	contact_email	
varchar	phone	

LANGUAGES

varchar	code	PK
varchar	name	

BOOKS

int	book_id	PK
varchar	title	
varchar	subtitle	
varchar	isbn13	
int	author_id	FK
int	publisher_id	FK
date	publication_date	
varchar	language_code	FK
int	page_count	
text	description	

USERS

int	user_id	PK
varchar	username	
varchar	email	
varchar	password_hash	
varchar	role	

GENRES

int	genre_id	PK
varchar	name	

REVIEWS

int	review_id	PK
int	user_id	FK
int	book_id	FK
int	rating	
varchar	title	
text	body	
timestamp	created_at	

BOOK_GENRES

int	book_id	PK,FK
int	genre_id	PK,FK

Relationships:
- AUTHORS writes BOOKS
- PUBLISHERS publishes BOOKS
- LANGUAGES is language of BOOKS
- BOOKS has REVIEWS
- USERS writes REVIEWS
- BOOKS tagged as BOOK_GENRES
- GENRES used in BOOK_GENRES