

Final Project: Phase 1 & 2

PROG2111

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1. Phase 1: Project Idea & Use Case

Use Case: Library Management System

Use Case Description: Our local library needs a database to efficiently manage its daily operations. The purpose of the system is to track books, members and borrowing activities. This database will track Members, Books, Authors, Borrowing, Fines and Librarians. The goal of this system is that it will help our library organize and manage its daily operations in a structured way.

GitHub Link: https://github.com/jjisan4480/PROG2111--Final_Project

2. Phase 2: Data Modeling & ER Diagram

Entities:

- Member(member_ID(FK) , first_name, last_name, email, phone_number , address, membership_date)
- Author(author_ID(PK), first_name, last_name)
- Book(book_ID(PK), title, ISBN , price, author_ID(FK), publishing_date, status, genre)
- Borrowing(borrowing_ID(PK), book_ID(FK), member_ID(FK), borrow_date, return_date, issueByLibrarian(FK))
- Fines(fine_ID(PK), borrowing_ID(FK), fine_amount, due_date, paid_date)
- Librarian(librarian_ID(PK), first_name, last_name, phone_number)

Relationships:

- Member-Borrow (1 to many)
- Book-Borrow (1 to many)
- Author-Book (1 to many)
- Librarian-Borrow (1 to many)
- Borrow-Fine (1 to many)