Class Diagram for Library Management System

Users

+ user_id: int
+ name: string
+ email: string
+ password: string
+ role: enum{0,1}
+ status_delete: enum{0,1}

+ getBorrowedBooks(): array
+ getCollection(): array

Books

+ book_id: int
+ title: string
+ author: string
+ publisher: string
+ isbn: string
+ publication_year: year
+ stock: int
+ status_delete: enum{0,1}

+ checkAvailability()
+ updateBook()
+ addBook()

Rental

+ rental_id: int
+ user_id: int
+ borrowed_at: datetime
+ due_date: datetime
+ returned_at: datetime
+ rental_status: enum{0,1}
+ status_delete: enum{0,1}

+ getRentalDetails(): array
+ setBorrowedDate()
+ updateRentalStatus()
+ addRental()

RentalDetail

+ id: int
+ rental_id: int
+ book_id: int

+ getBookInfo()
+ getRentalInfo()

Users 1 — n Rental

Rental 1 — n RentalDetail

RentalDetail n — 1 Books