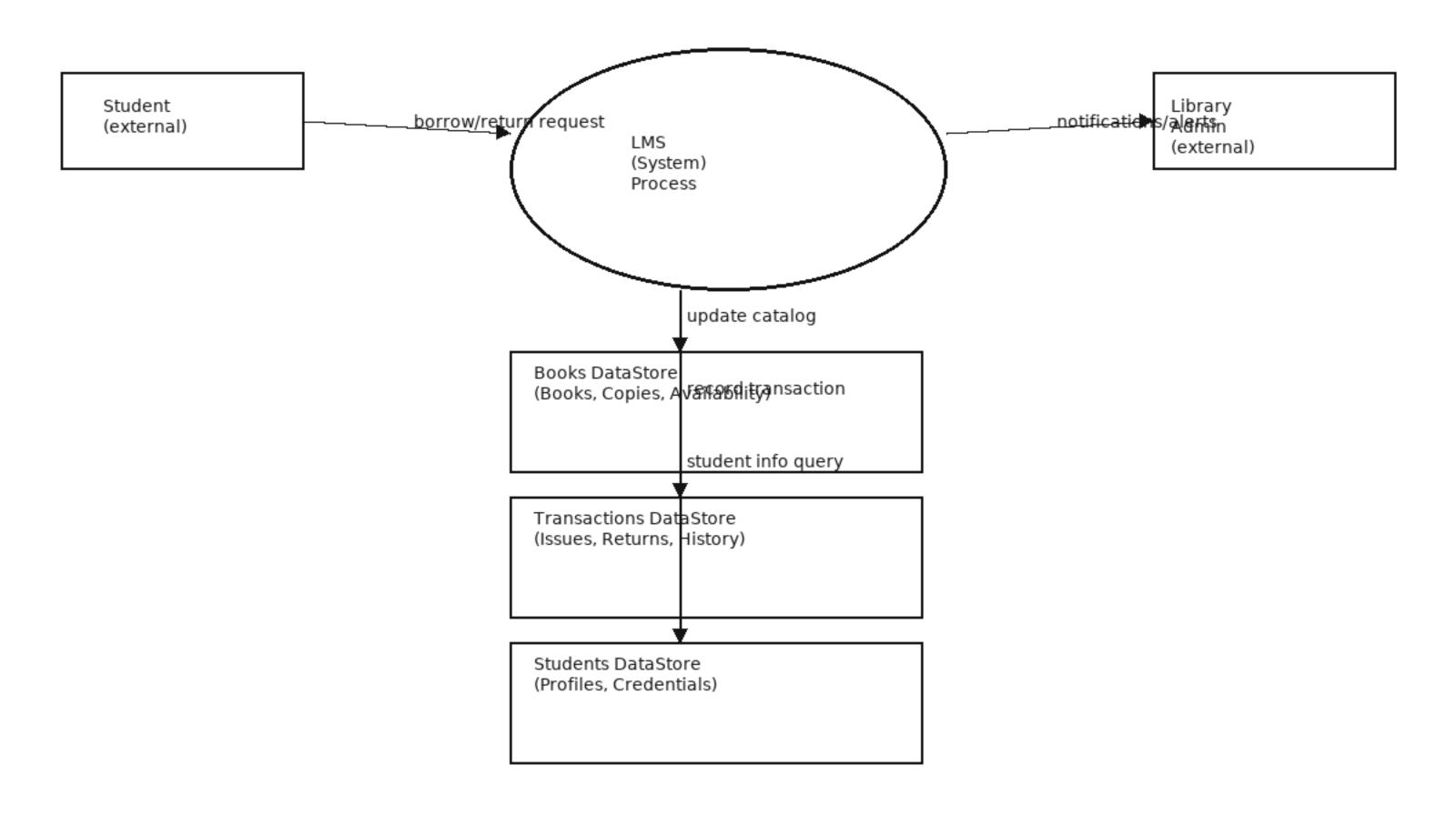
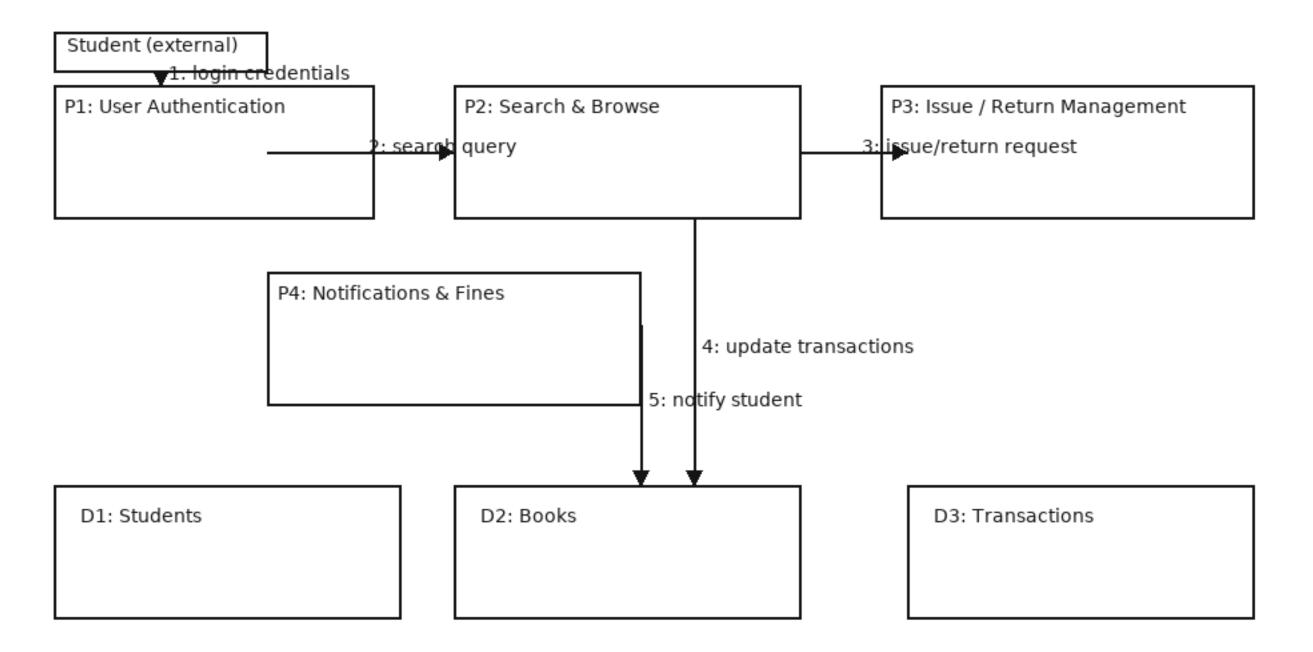
## Library Management System (LMS) | Enrollment No: 2402030430061

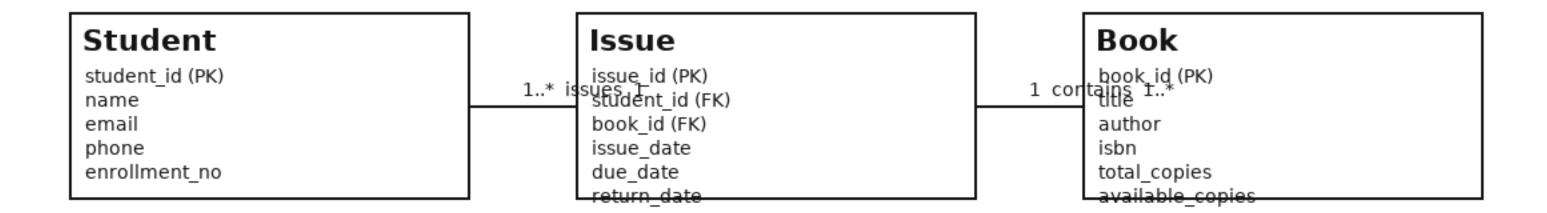
DFD - Level 0 (Context Diagram): External entities and main process



## DFD - Level 1: Decomposed Processes and Data Stores

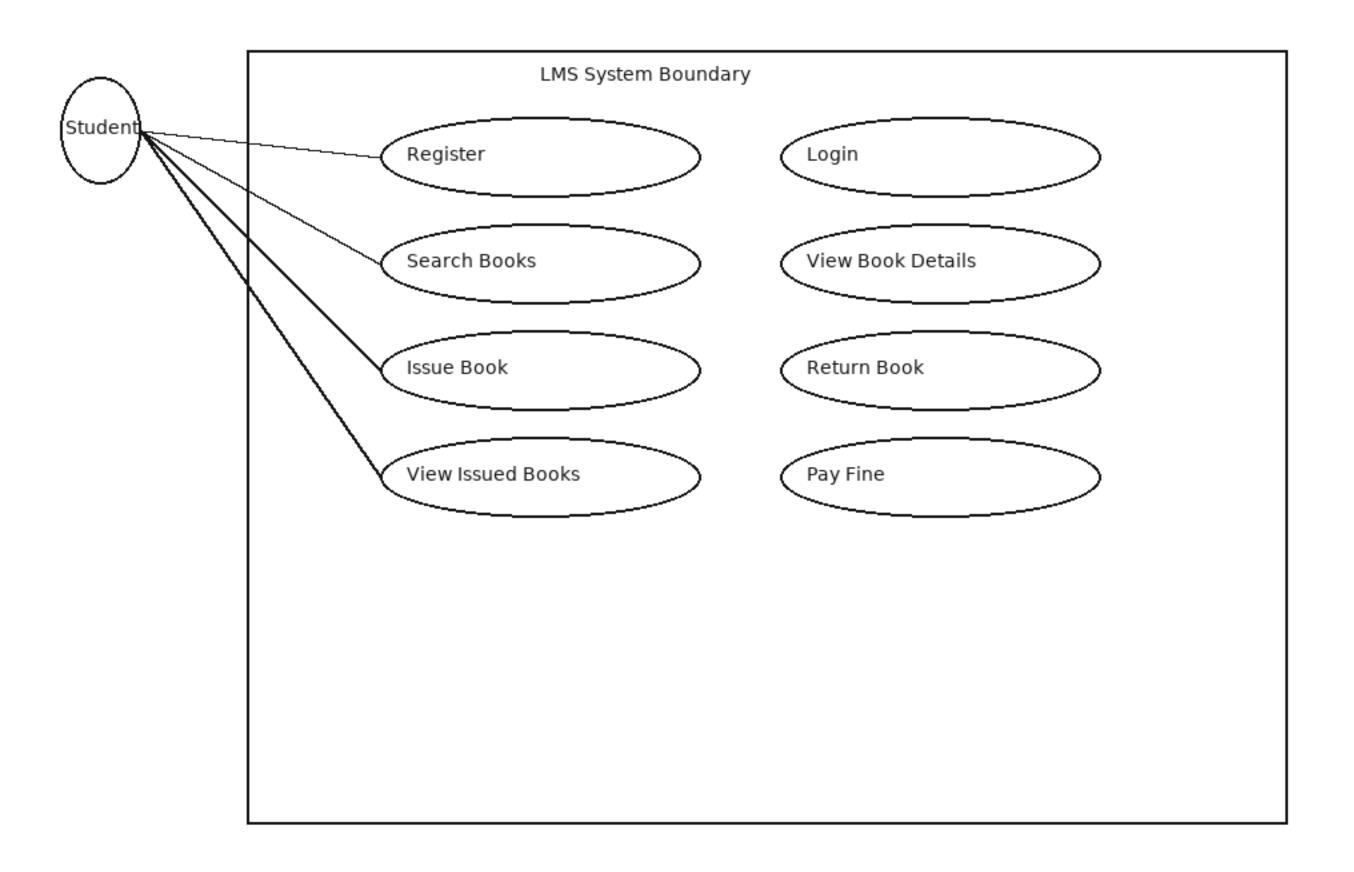


#### ER Diagram: Student - Issue - Book (with cardinalities)

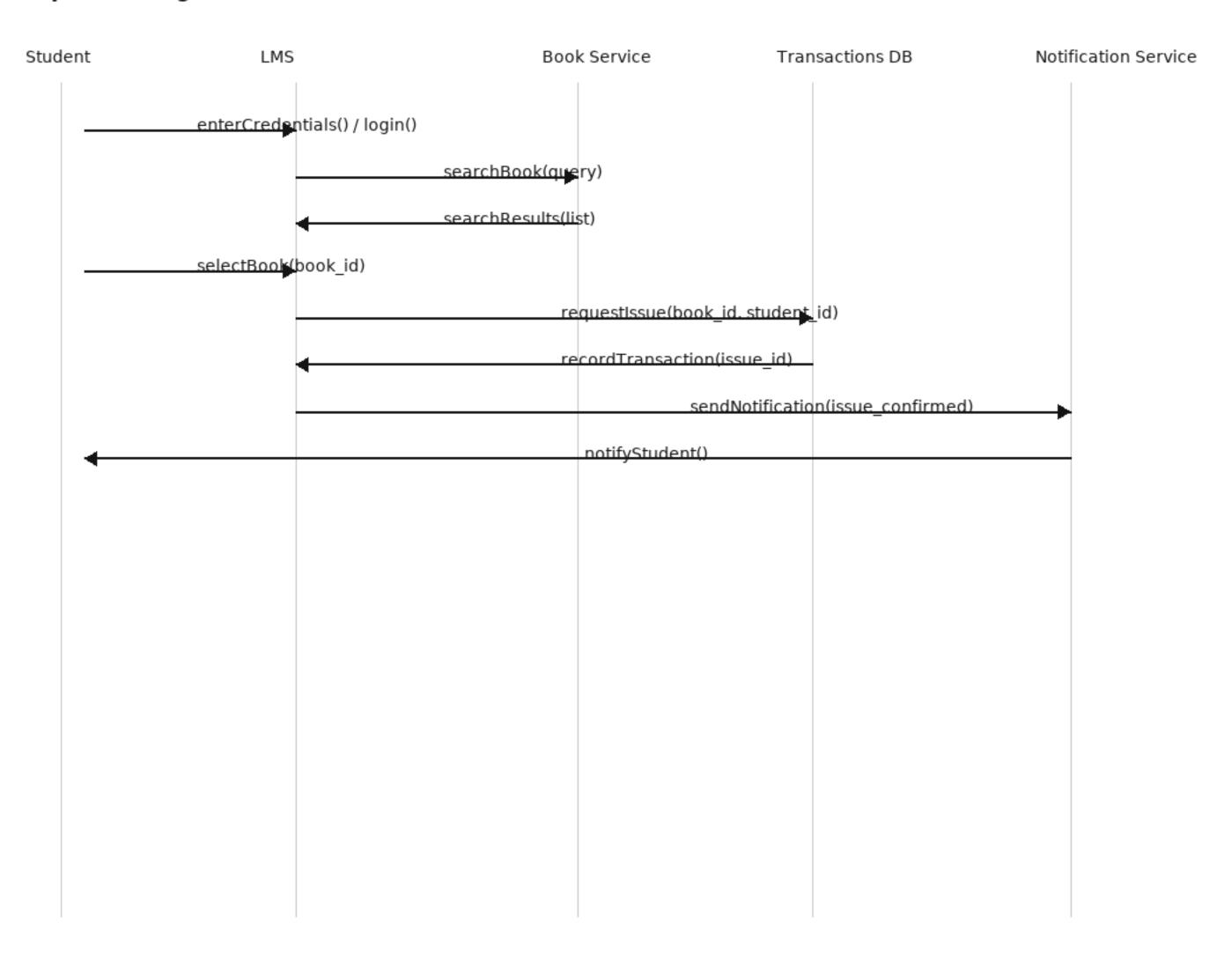


Notes: PK = Primary Key, FK = Foreign Key. Cardinalities shown near relationships.

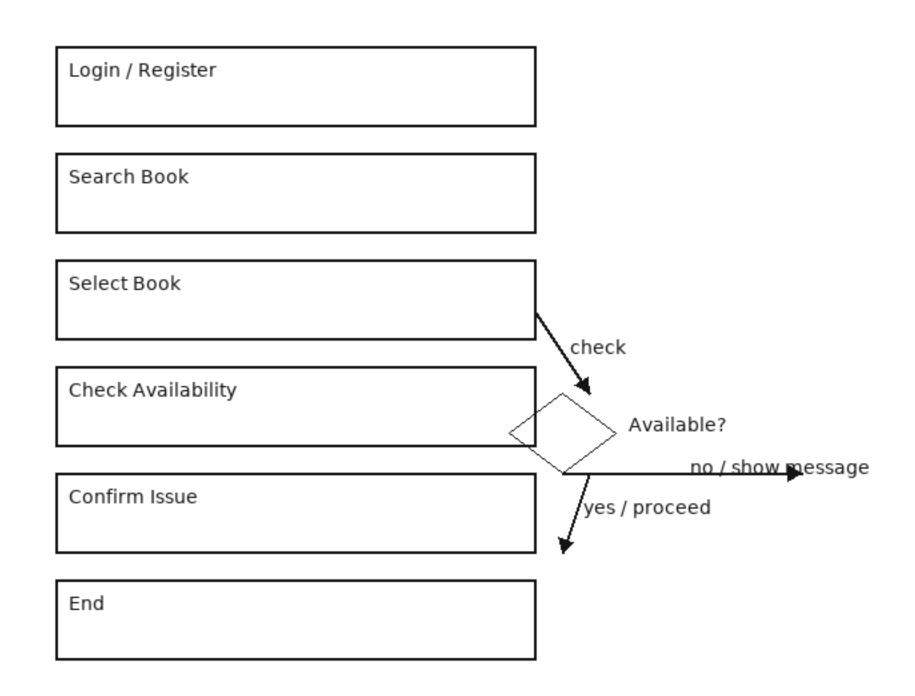
## UML Use Case Diagram - Library Management System (LMS)



#### **UML Sequence Diagram - Issue Book Flow**



## UML Activity Diagram - Issue Book (Student Flow)



#### **UML Class Diagram - Core Classes and Associations**

## Student

student\_id: int name: string email: string

enrollment\_no: string

login()

viewIssuedBooks()

### Book

book\_id: int title: string author: string isbn: string

ayajlable opies: int

1

reserve()

#### Issue

issue\_id: int issue\_date: date due\_date: date return\_date: date calculateFine() markReturned()

# Notification

notif\_id: int student\_id: int message: string sent\_at: datetime

send()