Minor Project

 # Digital Library

Library Management System

There is no limit

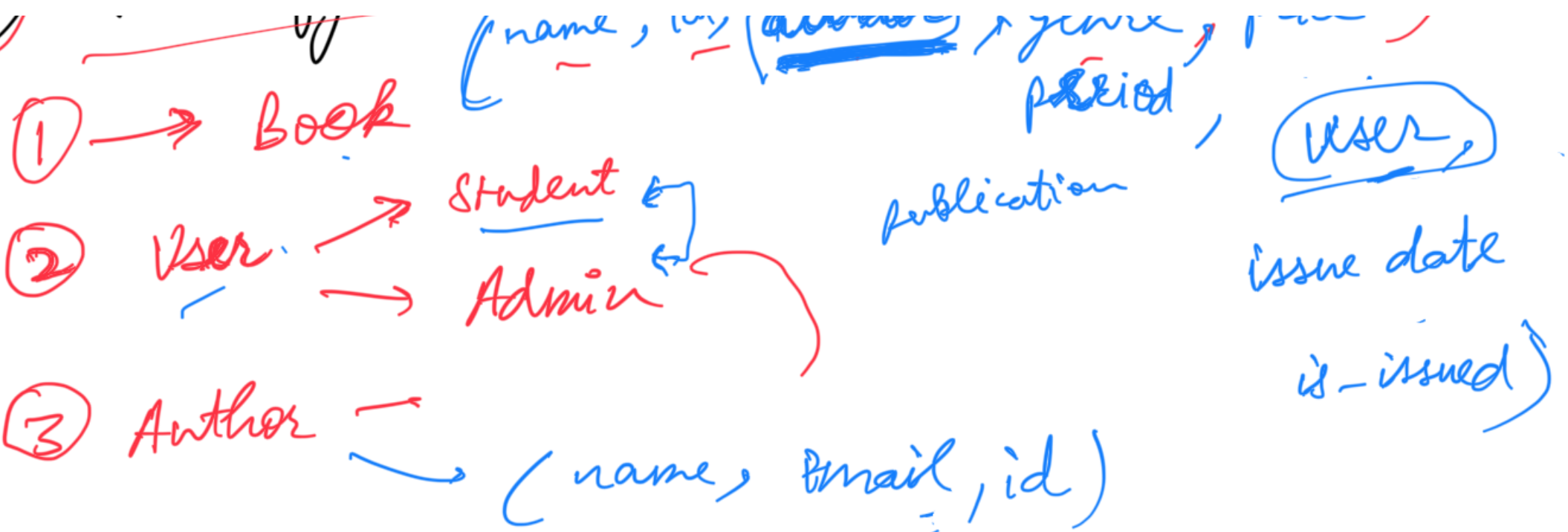In a SD interview need to design a system in 1 hr

Issue books   See what all Books are there in library

User

Admin

See the fine , add books , issue bo

(1) Identify the entities / actors / models

(name, id, address, genre, price,
period,

① → Book (User,

issue date
② User → Student
→ Admin
is-issued)

publication

③ Author → (name, Email, id)

④ Publication (name)

⑤ Transaction → Book, Student, admin,
id, dates → created-on
→ updated-on,
status, fine, txn-type

Requirements

Transactions in last
n days

1. Issue of a book
2. Return a book
3. Fine calculation
4. See what, all books are there (→ filter criteria
   + Availability of books
   using authors, genre, publication)

Add a new book / update / Remove a book
5. Add / update a user

6.

② Relationships b/w entities

Book [n : 1] Author

Book [n : 1] Student
Book [1 : n] Transaction
[1 : n] Transaction

Book will have multiple authors

Student [ ]

Admin [1:n]   Transaction

Functionalities

(3)

(1) Usr Management   User Service

(2) Issue / Return a book

     (Add a book / delete a book
                              Book Service

Super User
Admin → Create more admin
      → Create Usr
        (Update / Delete

③ Listing transaction   Transaction Service

④ service
Fine Calculation   Renewapi

Notification   Major Project

CRUD

Book →   C   Adding a book   [Admin]
         R   Getting books   [Admin, Student]
         V   Updating   [Admin]
         D   Deleting   [Admin]

S Student

L → Admin

R → Admin / Student

(his own profile)

R → Admin / Student

D → Admin

Not exposed

internally used

Transactions

C → Admin / Student

R →

V → Not allowed

D