SRI AUROBINDO INSTITUTE OF TECHNOLOGY

SAIT

INOTEBOOK

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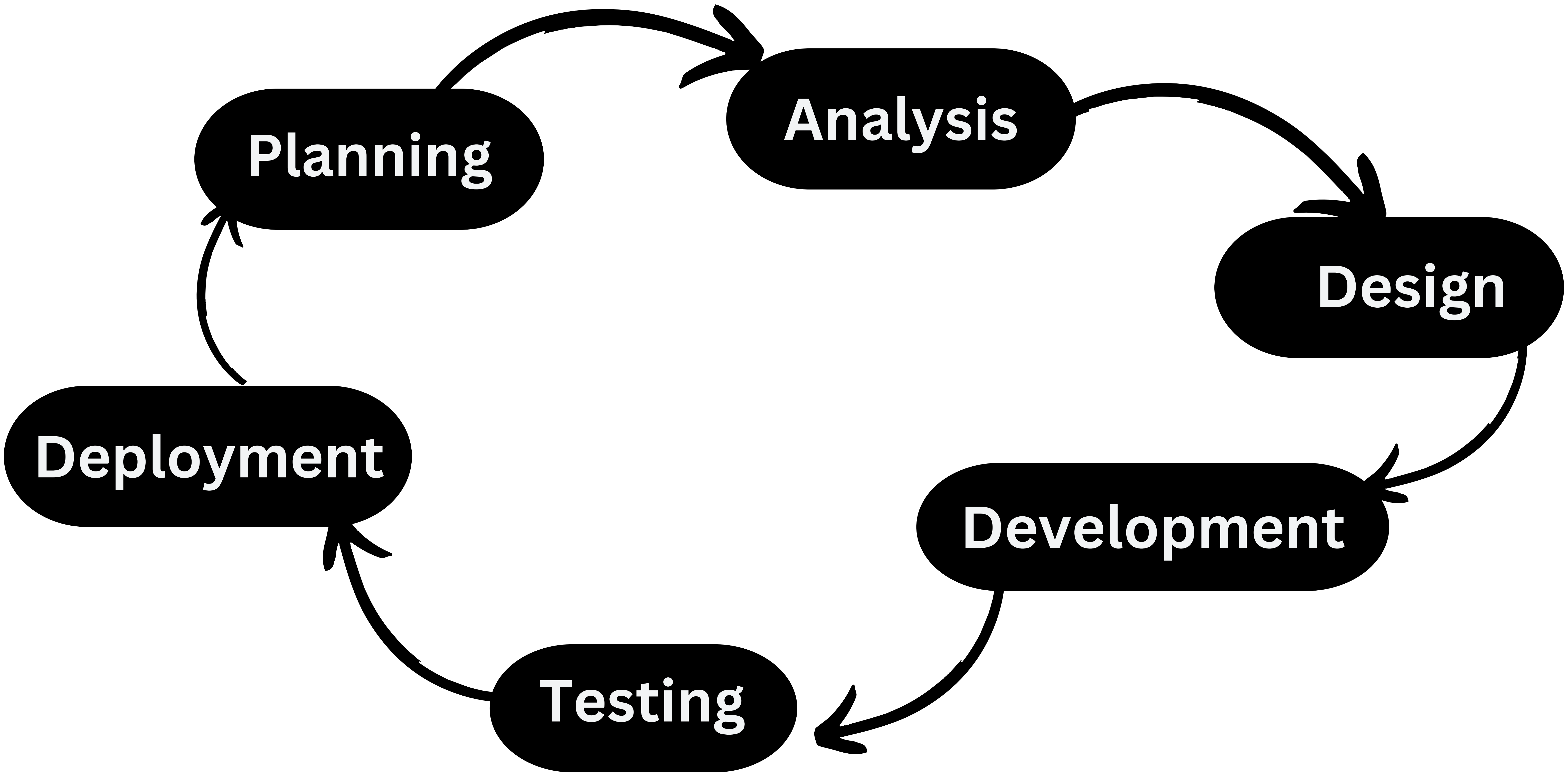
INTRODUCTION

Our project is a dynamic web application developed using the MERN stack (MongoDB, Express.js, React.js, Node.js) along with MongoDB Compass. It addresses various security challenges by offering a comprehensive solution.

Leveraging the flexibility and scalability of MongoDB for data storage and management, coupled with the streamlined development process facilitated by the MERN stack, our project aims to provide a robust platform for adding, updating, deleting and viewing the notes of the user. Through this presentation, we will explore the software and hardware implementation details.

SYSTEM DEVELOPMENT LIFE CYCLE AGILE MODEL



Planning

Analysis

Design

Development

Testing

Deployment

SYSTEM DEVELOPMENT LIFE CYCLE

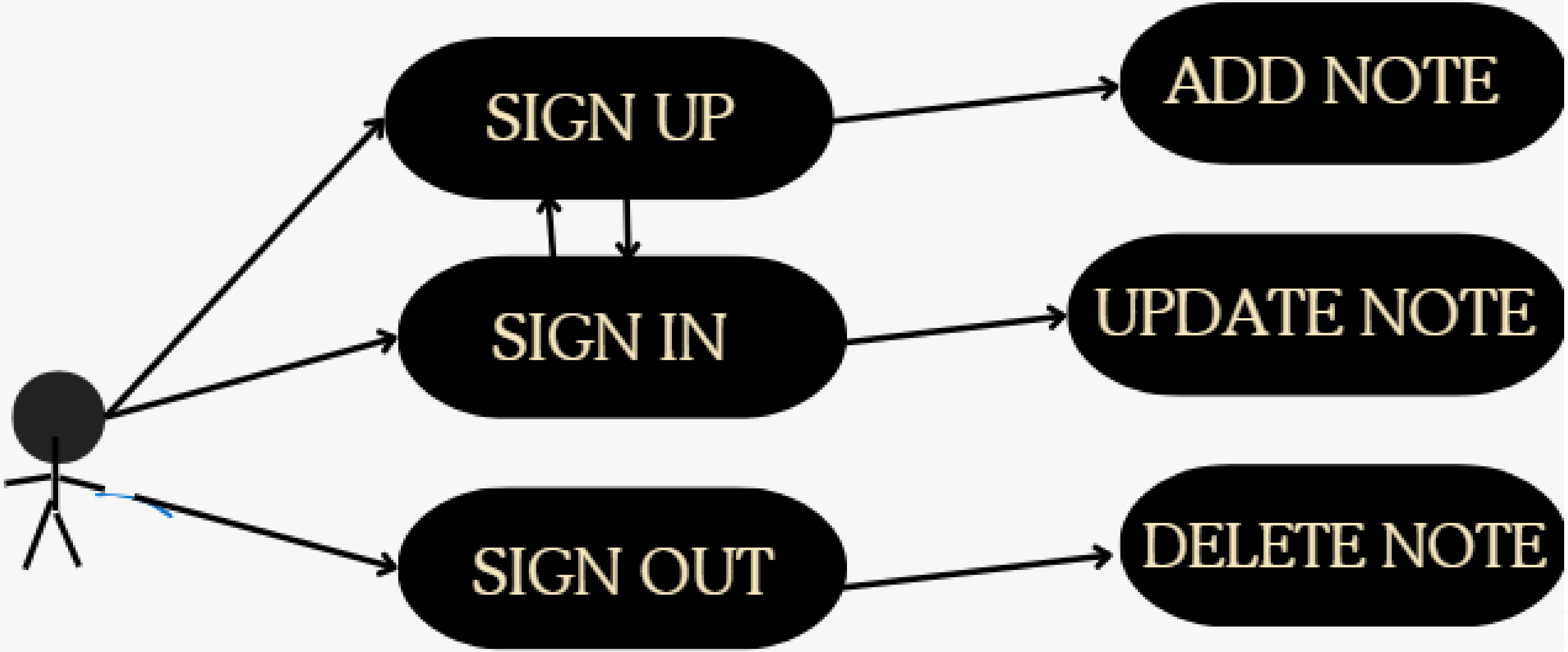
1. **Planning:**
   - Define project goals and scope.
   - Assess feasibility and risks.
   - Create a project plan.
2. **Analysis:**
   - Gather requirements from stakeholders.
   - Document functional and non-functional requirements.
3. **Design:**
   - Develop system architecture.
   - Design database schema.
   - Create wireframes/mockups for UI.

SYSTEM DEVELOPMENT LIFE CYCLE

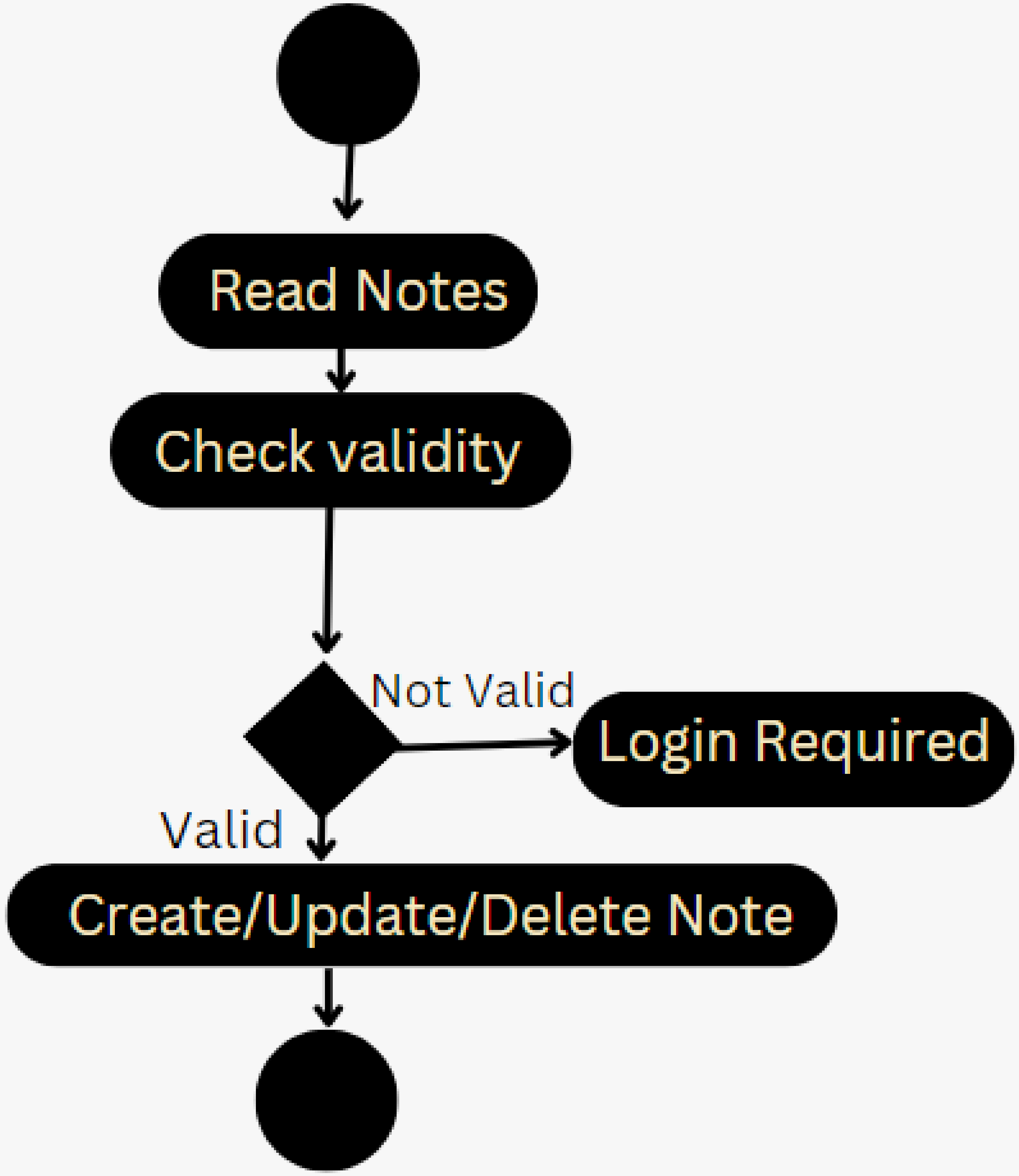
4. Development:
    - Coded backend using Node.js and Express.js.
    - Developed frontend using React.js.
    - Integrated MongoDB for data storage.
5. Testing:
    - Conduct unit, integration, and system testing.
    - Perform user acceptance testing (UAT).
6. Deployment:
    - Prepare for deployment to production.
    - Set up hosting and deploy backend/frontend.

1.

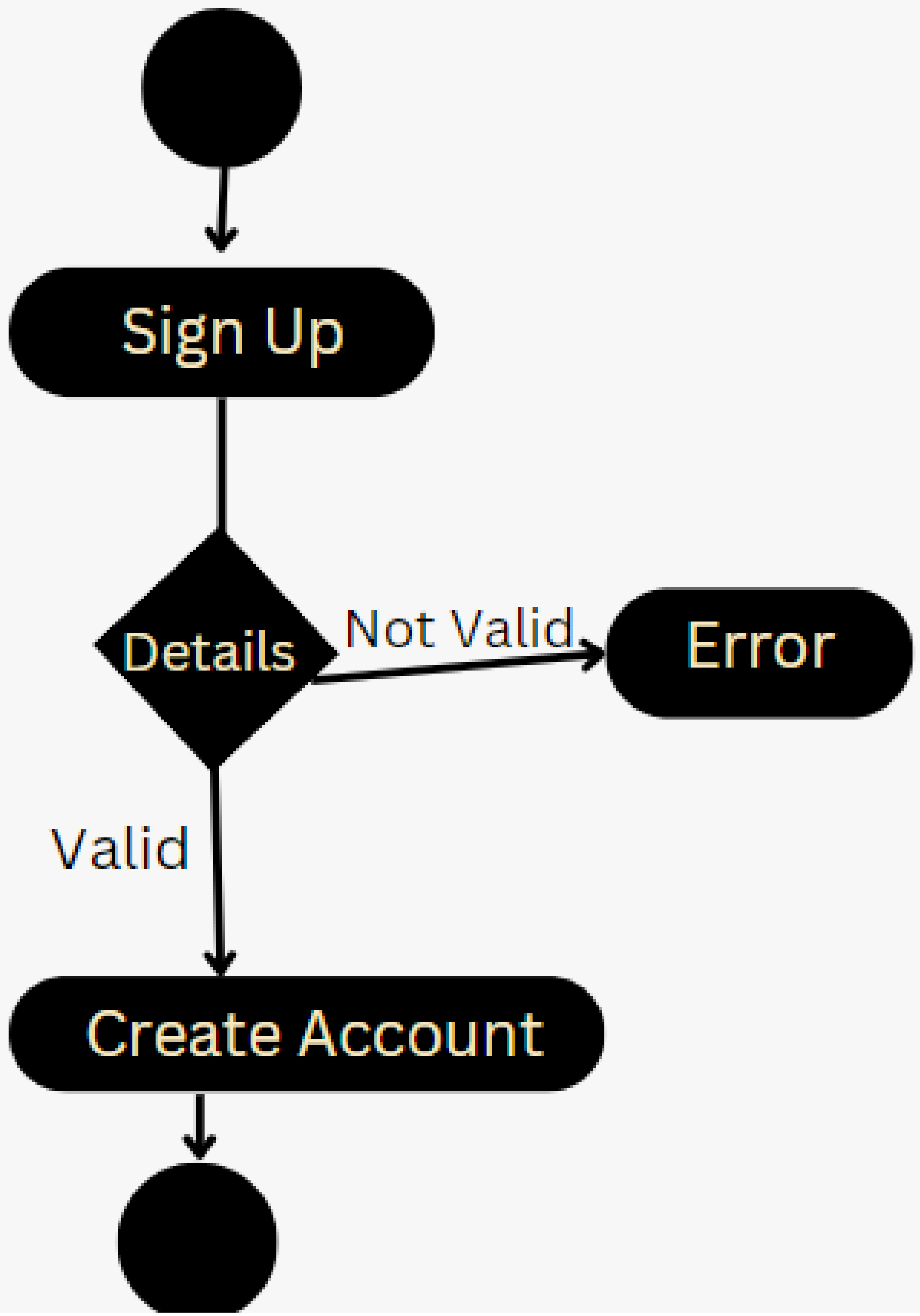
Use Case Diagram



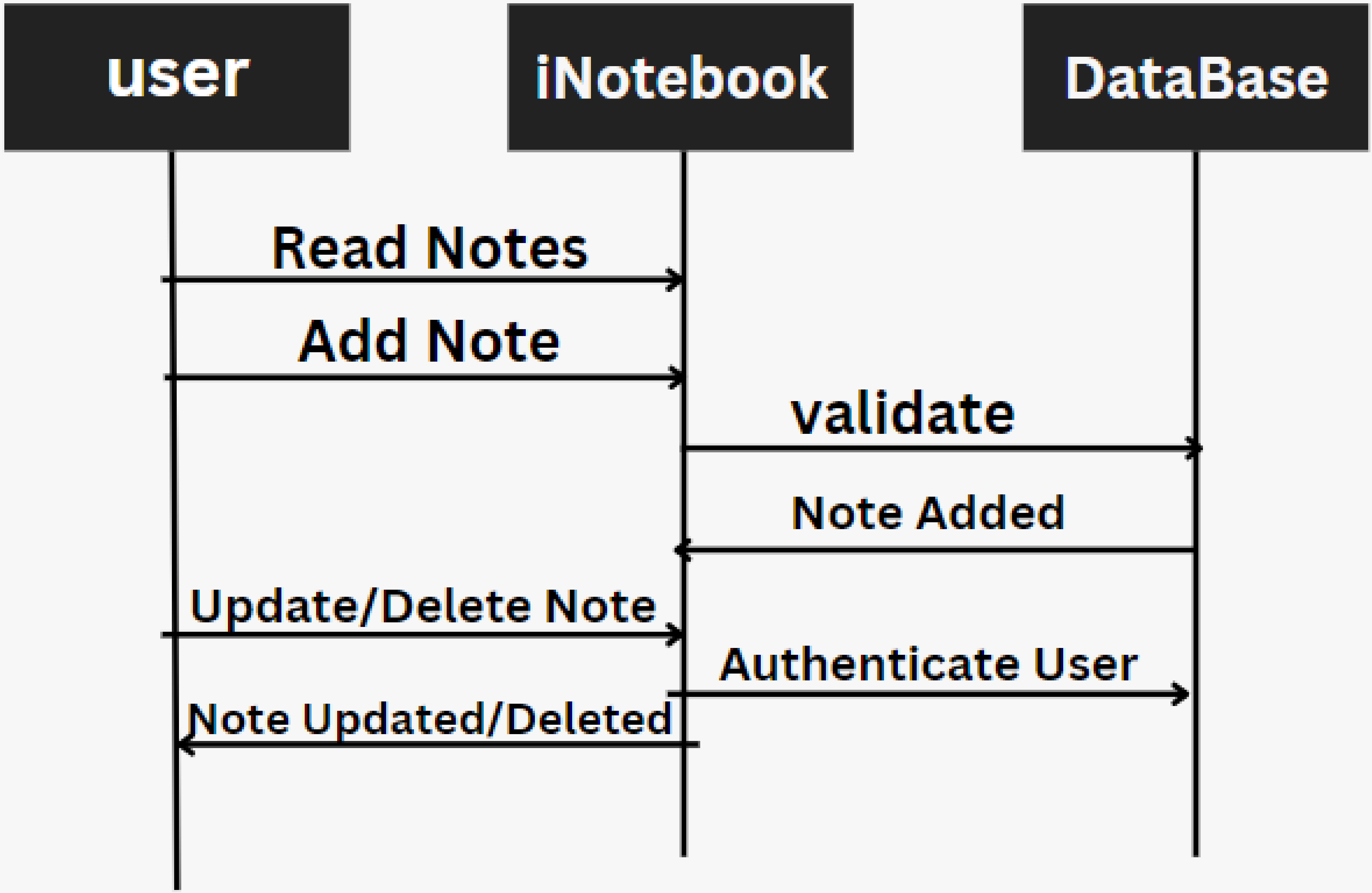
Activity Diagram For Creating/updating/deleting the notes



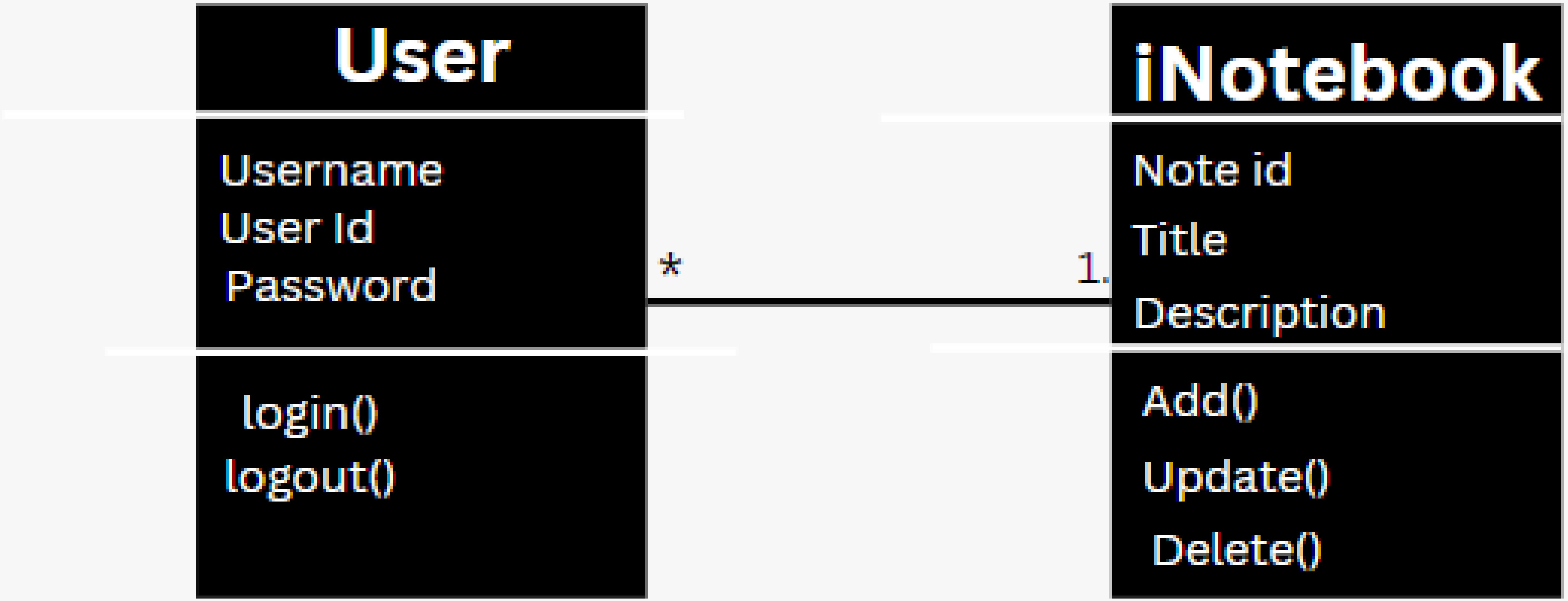
Activity Diagram For Creating User Account



Sequence Diagram



Class Diagram



User

Username
User Id
Password

login()
logout()

*

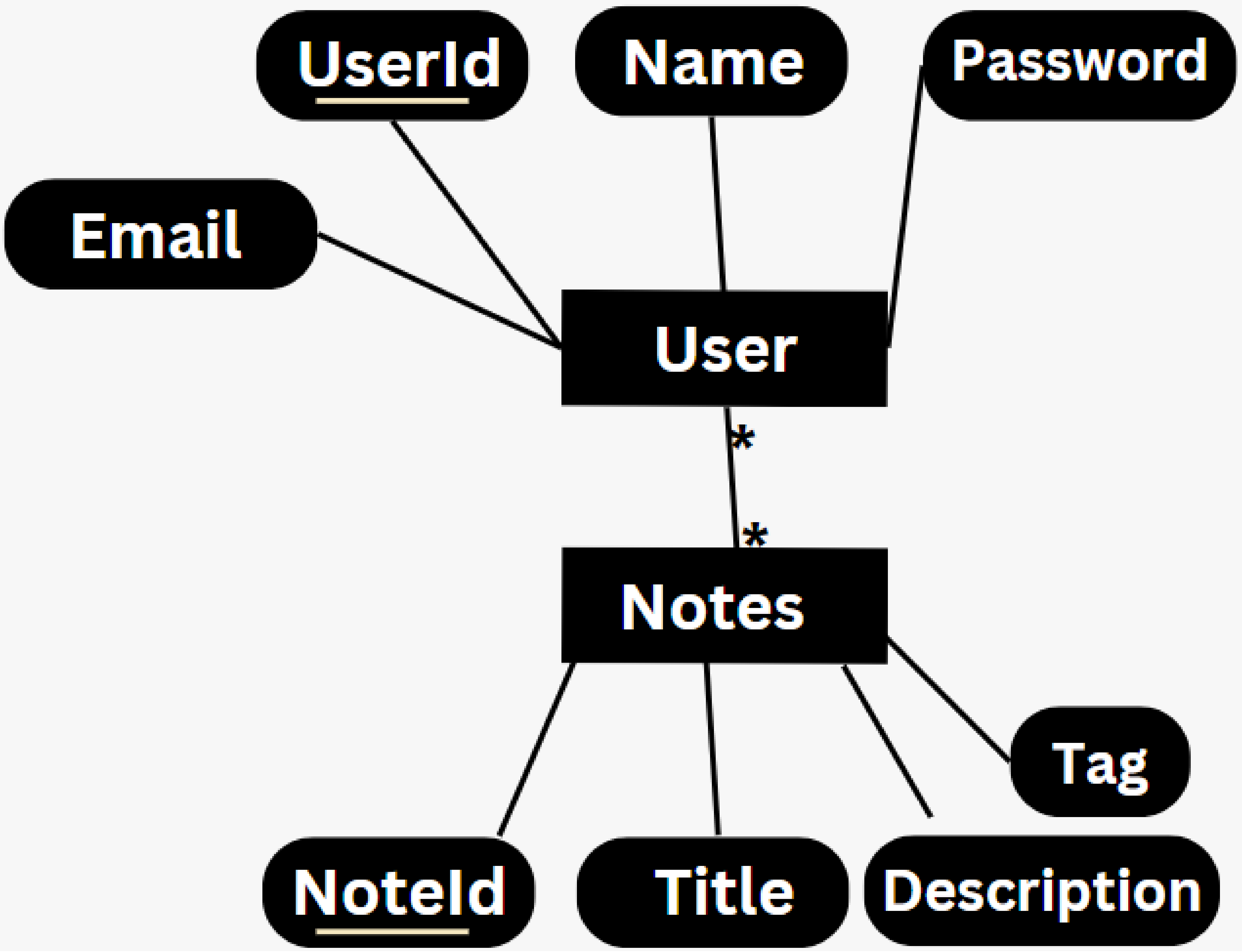
1.

iNotebook

Note id
Title
Description

Add()
Update()
Delete()

ER Diagram


UserId
Name
Password
Email
User
*
*
Notes
Tag
NoteId
Title
Description

Hardware Implementation

- **Server Infrastructure: Utilized for hosting the MERN application with adequate processing power and storage.**
- **Networking Components: Ensure reliable internet connectivity and proper network configurations.**
- **Client Devices: Any device with a modern web browser for accessing the React.js frontend.**

Software Implementation

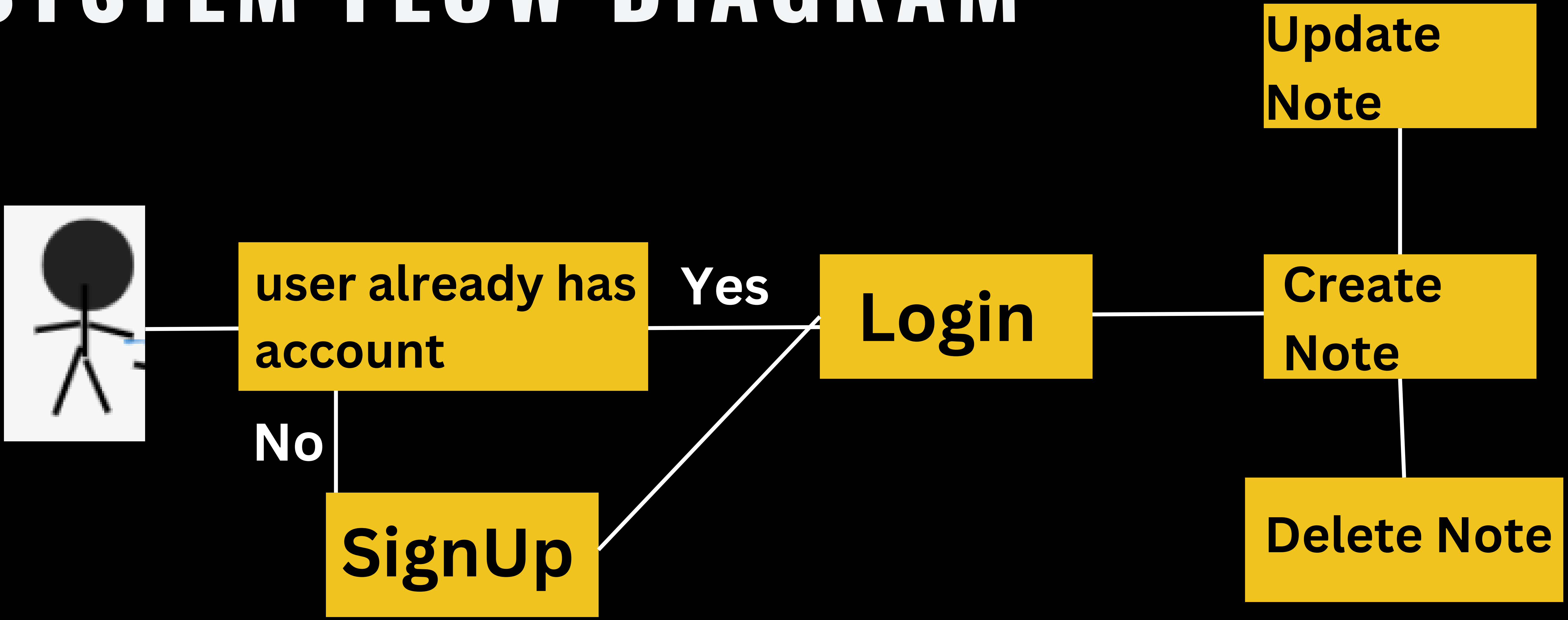
MERN Stack:

- MongoDB: Used as the database system for flexible data storage and querying.
- Express.js: Powers the backend server, handling HTTP requests and APIs.
- React.js: Builds the frontend user interface with dynamic components.
- Node.js: Executes server-side JavaScript for seamless integration with the MERN stack.

MongoDB Compass:

- GUI tool for MongoDB, facilitating database management with features like schema visualization, query building, and index management.

SYSTEM FLOW DIAGRAM



MODULES

- **Home:** Main page which renders all other components.
- **Notes:** This is rendered by Home and contains list of notes.
- **Noteitem:** Contains each note separately.
- **Login:** User will login
- **Signup:** For creating account.

LIST OF DATABASE TABLES

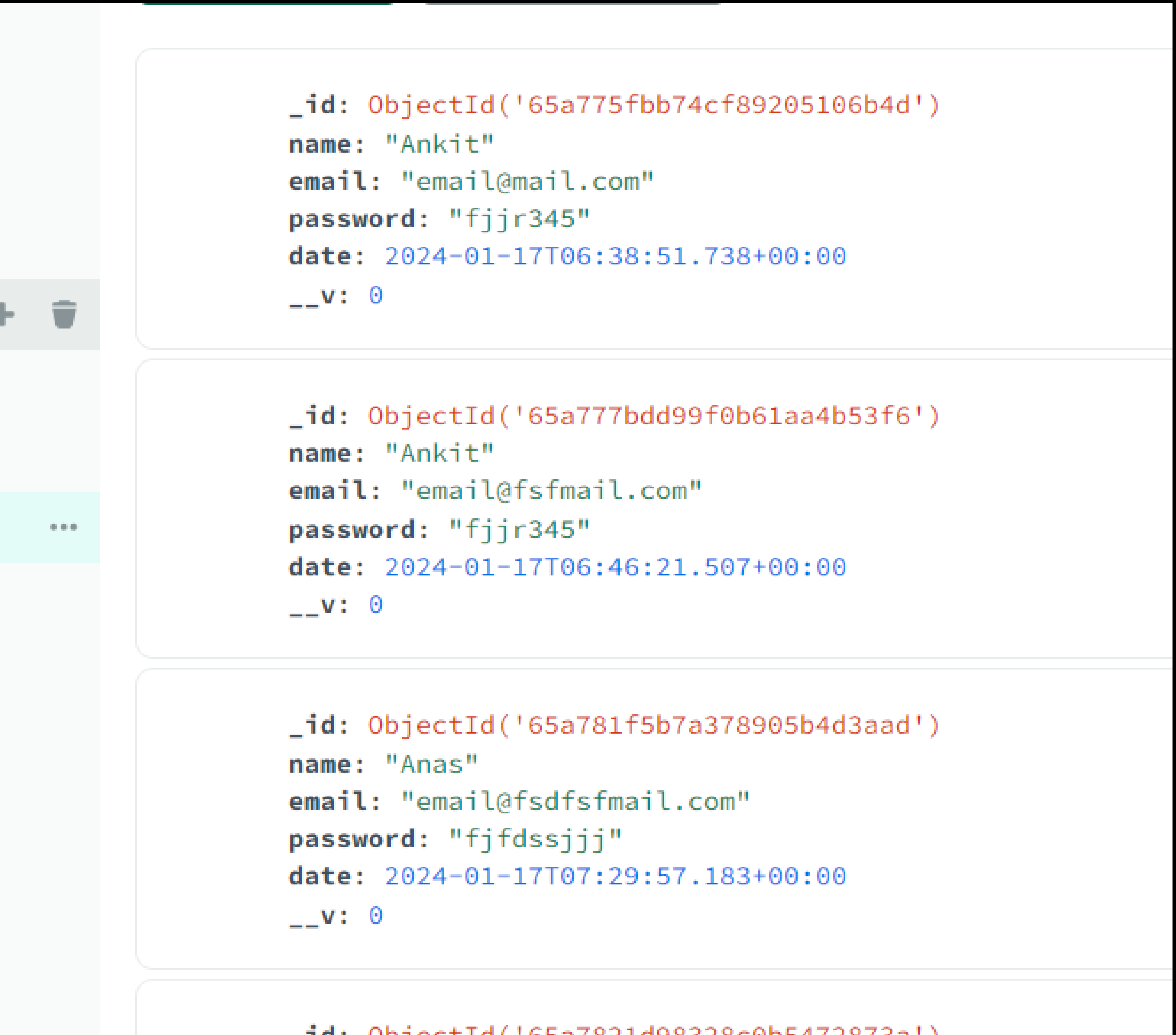
Notes:

- Title- Title of the note
- Description- Description of the note
- Tag - Related Tags
- File - file attached
- Date- Date Created

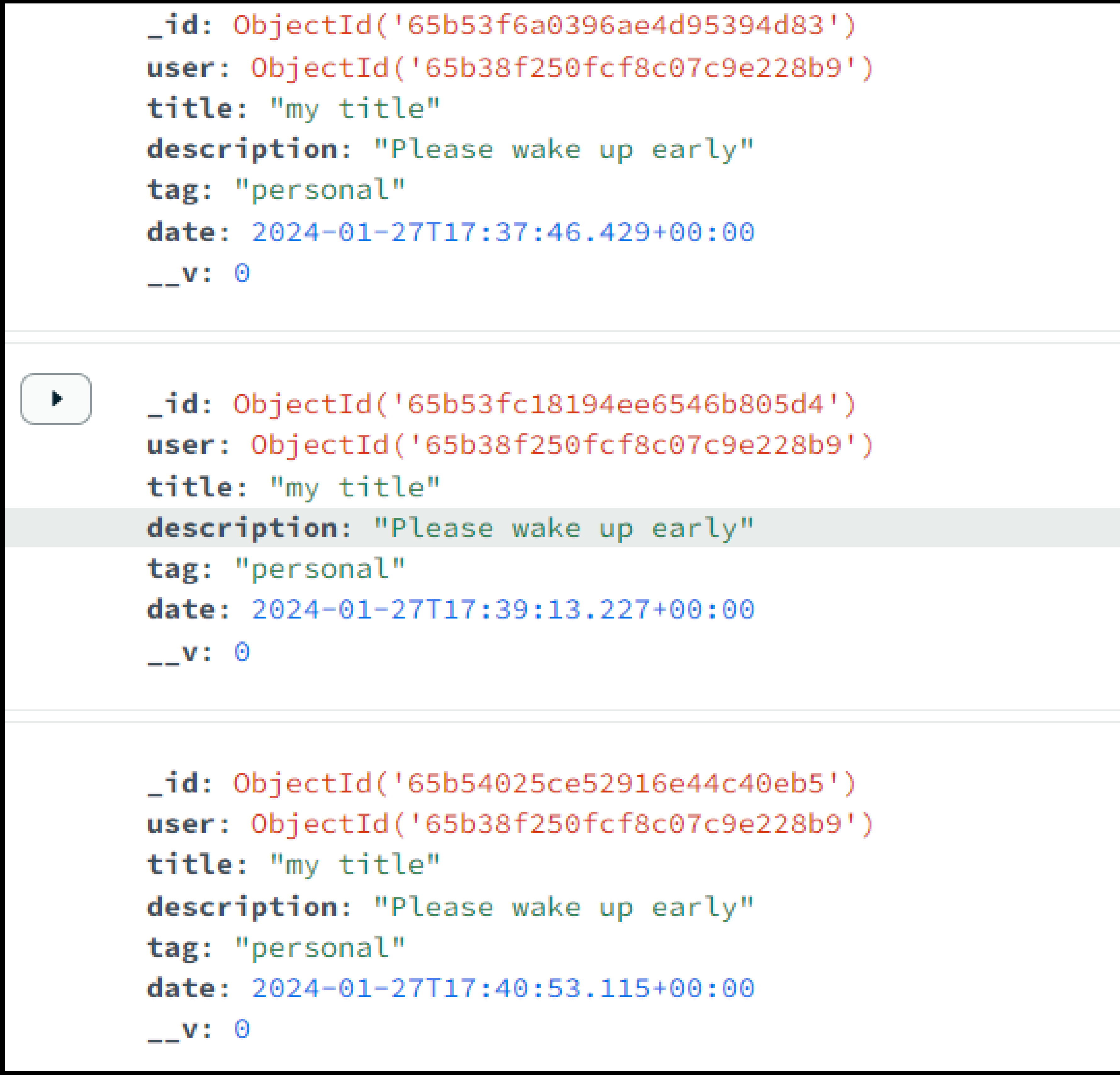
Users:

- Username
- Email Address
- Password

DATABASE



```
_id: ObjectId('65a775fbb74cf89205106b4d')
name: "Ankit"
email: "email@mail.com"
password: "fjjr345"
date: 2024-01-17T06:38:51.738+00:00
__v: 0

_id: ObjectId('65a777bdd99f0b61aa4b53f6')
name: "Ankit"
email: "email@fsfmail.com"
password: "fjjr345"
date: 2024-01-17T06:46:21.507+00:00
__v: 0

_id: ObjectId('65a781f5b7a378905b4d3aad')
name: "Anas"
email: "email@fsdfsfmail.com"
password: "fjfdssjjj"
date: 2024-01-17T07:29:57.183+00:00
__v: 0

_id: ObjectId('65a7821d98328c0b5472873a')
```

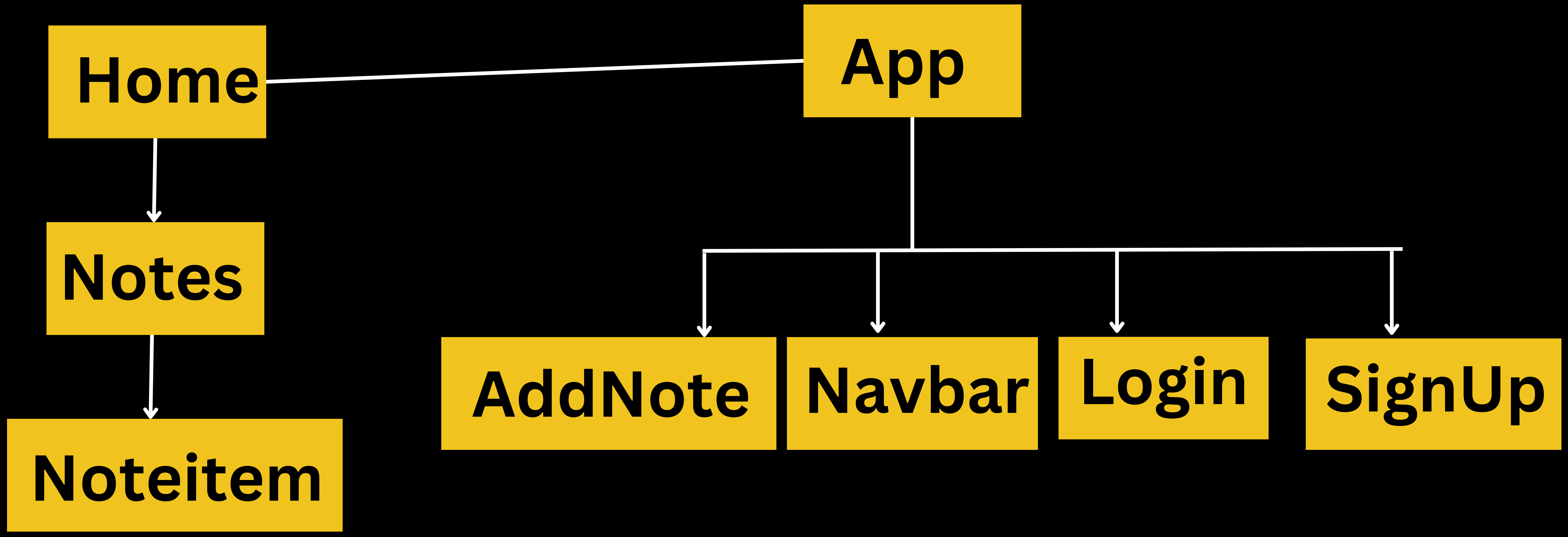


```
_id: ObjectId('65b53f6a0396ae4d95394d83')
user: ObjectId('65b38f250fcf8c07c9e228b9')
title: "my title"
description: "Please wake up early"
tag: "personal"
date: 2024-01-27T17:37:46.429+00:00
__v: 0

_id: ObjectId('65b53fc18194ee6546b805d4')
user: ObjectId('65b38f250fcf8c07c9e228b9')
title: "my title"
description: "Please wake up early"
tag: "personal"
date: 2024-01-27T17:39:13.227+00:00
__v: 0

_id: ObjectId('65b54025ce52916e44c40eb5')
user: ObjectId('65b38f250fcf8c07c9e228b9')
title: "my title"
description: "Please wake up early"
tag: "personal"
date: 2024-01-27T17:40:53.115+00:00
__v: 0
```

TESTING TECHNIQUE USED

1. **Unit Testing:**
   - Tested individual components, functions, or modules in isolation to verify their correctness.
   - Tools like Jest is used for writing and executing unit tests.
2. **Integration Testing:**
   - Tested the interaction and integration between different modules or components of the application.
3. **System Testing:**
   - Tested the entire system as a whole to validate its functionality and behavior.
   - Performed end-to-end testing to simulate user interactions and scenarios across the entire application.

COMPONENTS



FEATURES

- Secure Data saving web app where we can create a note.
- We can update the note or delete the note whenever we want.
- We can share our our notes with others.

LIMITATIONS

- Less interactive User Interface.
- Limited Functionality.
- Limited Features.

FUTURE WORK

- Going to add functionality for arranging the notes category wise.
- Add functionality to allow users to add their profile picture and personal bio.
- Will add search functionality for user and topic specific notes.
- Going to make some UI improvement.

THANK YOU!