Internship Assignment

Answers

1. Explaining what is design pattern and how we can use design patterns in projects.

- Design pattern is a cording standard that is used by developers to solve problems.
- Design patterns make some complex problems to solve easier by developers. Design patterns can be used according the project needs.
- For example, if there only one instance need to be created we can use Singleton design pattern. So according to the complexity of the problem design pattern can be used to solve the problem in understandable manner.

2. What is DTO and explain the use of it.

- Data transfer object (Dto) is an object that used to carry data between different layers, for example client send request as request body, and by using the Dto data can be carried up to the data access layer and store the data and return a Dto as a response.

3. How are you going to store secrets in an application without exposing it to the internet?

- By creating .env file and store the secrets, and when making the commits add the .env file to the .gitignore file, so the secrets that are stored in .env file will not be store in repository.

4. What is JWT and how does it work?

- Jason Web Token (JWT) is use to authorize user by providing a token. Once the user login or register to the system a token will be given to the user. So by storing the token in local storage while user logged out from the system user can use the token and get the relevant needed data.
- Token will carried with user from logged in to the system to until user logged out from the system,
- Jwt token used in various validations (Email verification , login , register , roll base authentication).

5. What is the difference between SQL and NoSQL databases?

- Sql uses Relational data base and NoSQL uses Non-relational database
- SQL uses tables and NoSQL uses documents.
- In SQL data are stored in tables, and in No-SQL data are stored in Key-value pair
- In No-SQL data are in JSON format.

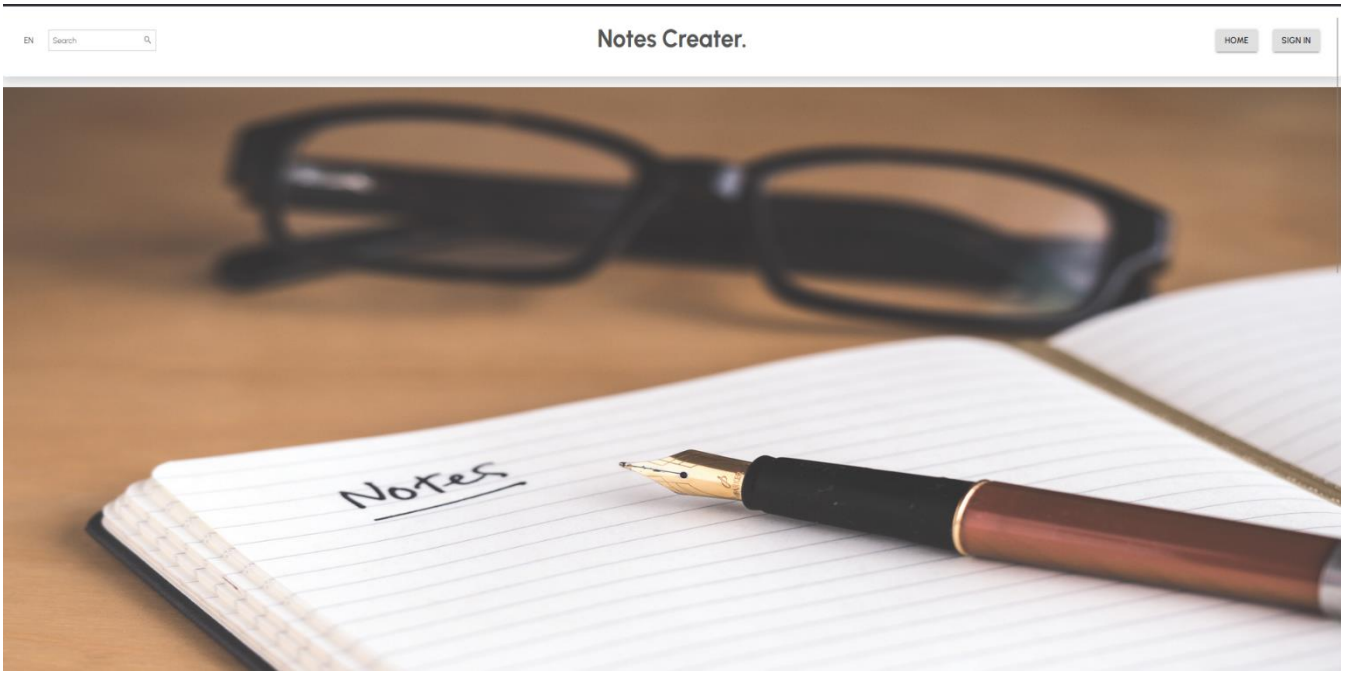
6. Suggest a good state management for frontend application and explain why you recommend it

- REDUX
- By using the state management, whatever component the data can be used by dispatching the relevant actions.
- Redux is one of the most popular state management tool.
- Redux uses actions, reducers so, all the action calls that need to be dispatch according to the need and by creating the relevant reducers, and it can be made easy for developers(developer friendly).

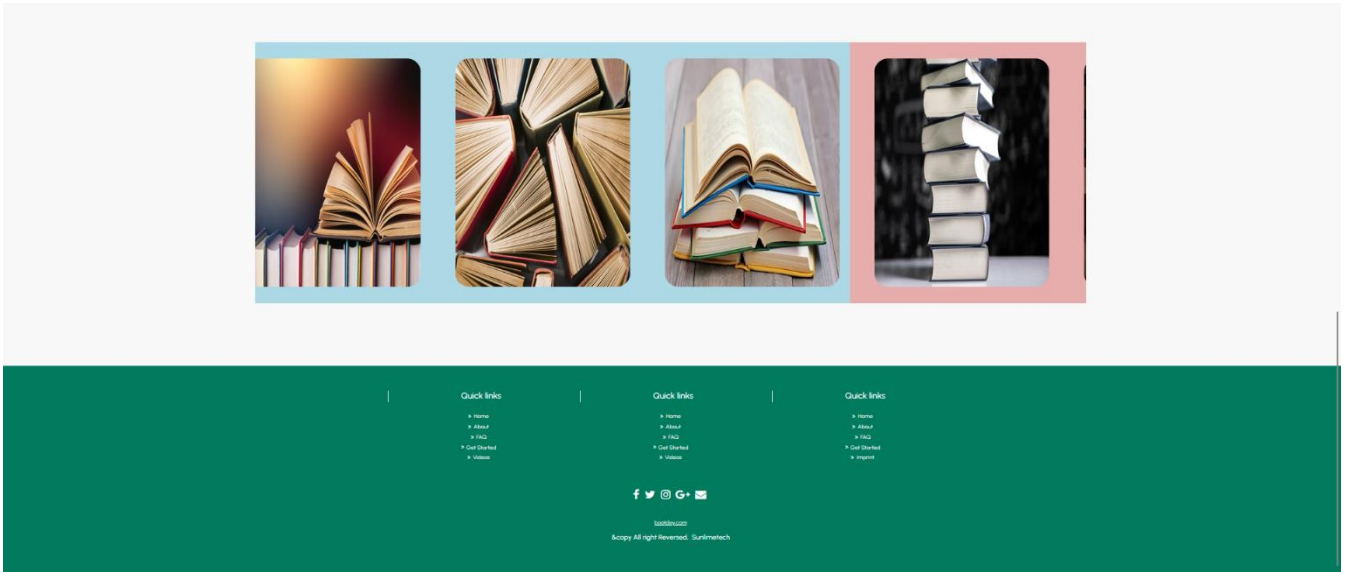
Interfaces

Home Page

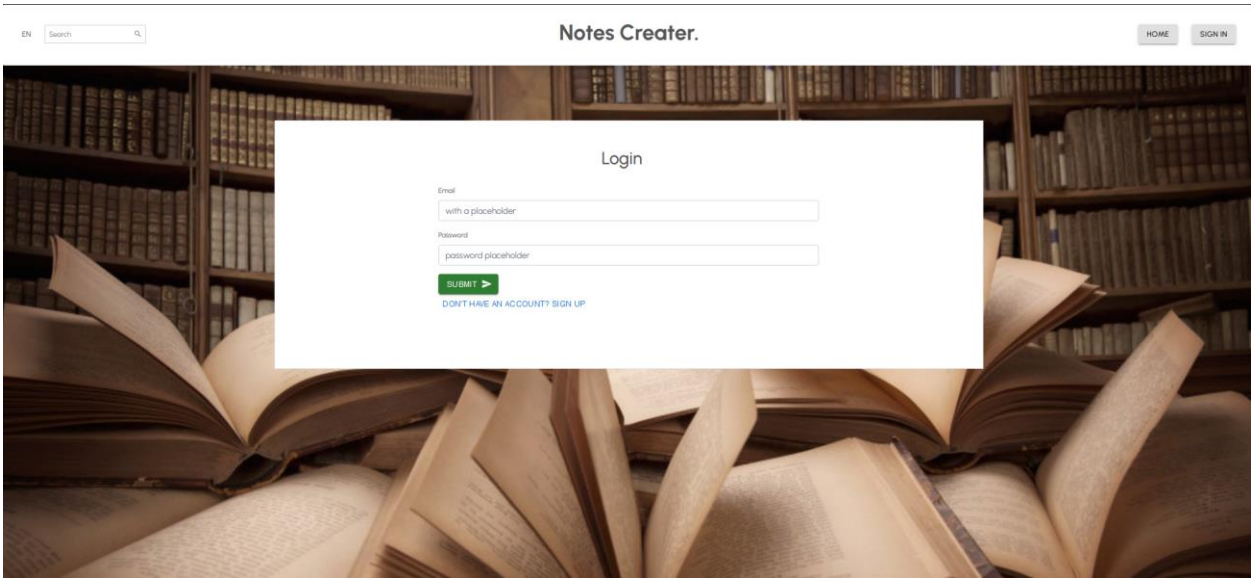
1.



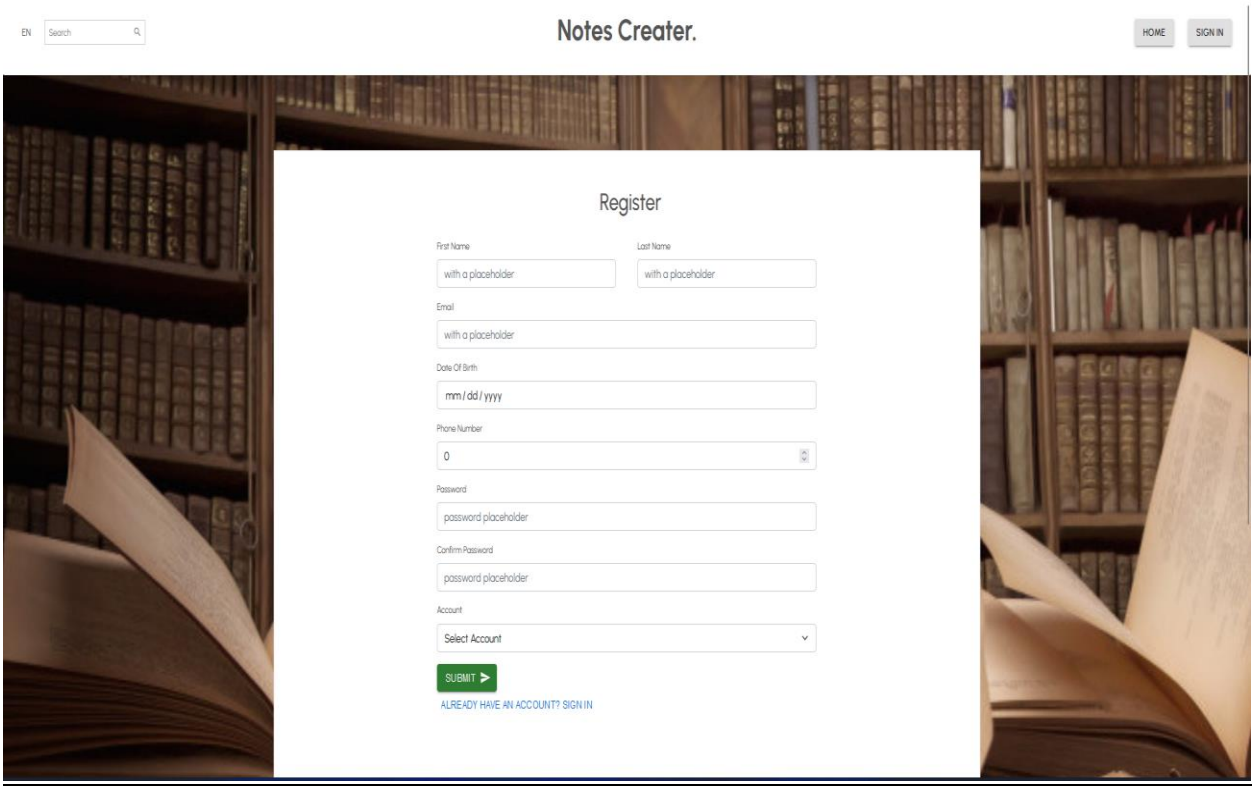
2.(slider , footer)



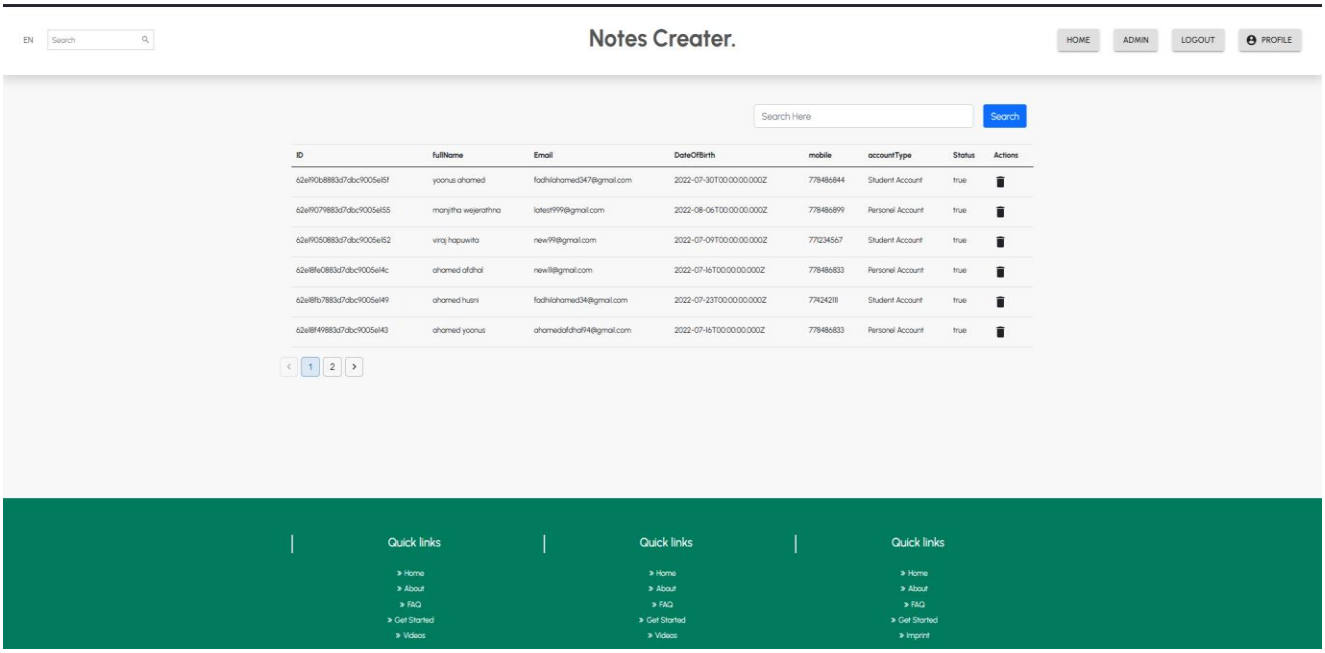
Login Page



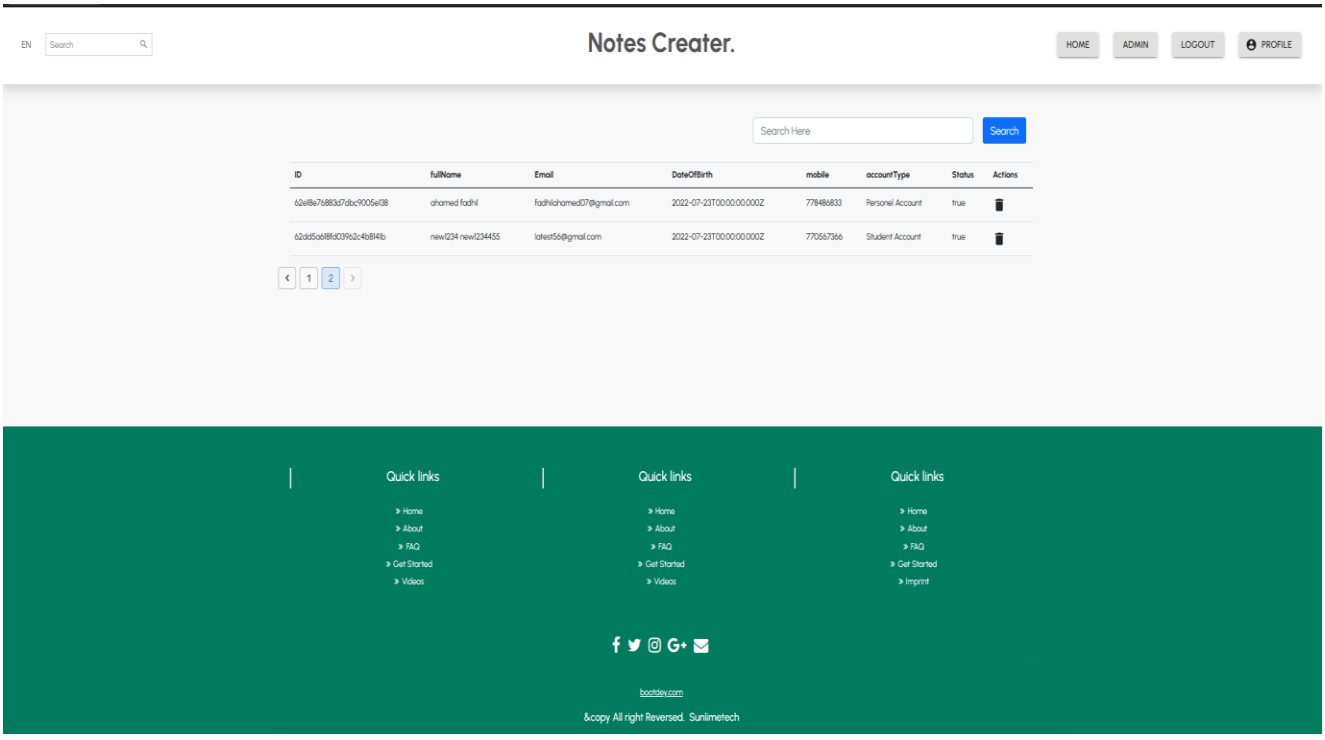
Registration Page



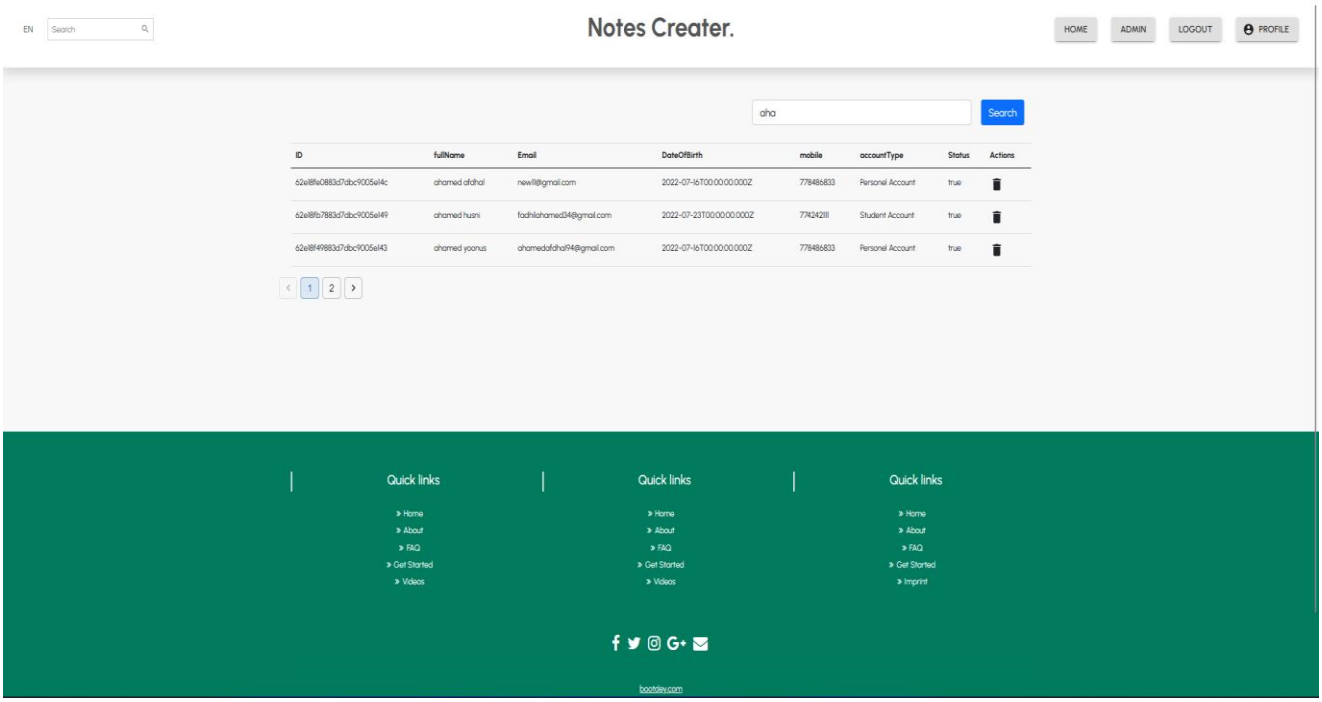
User Management (Admin)



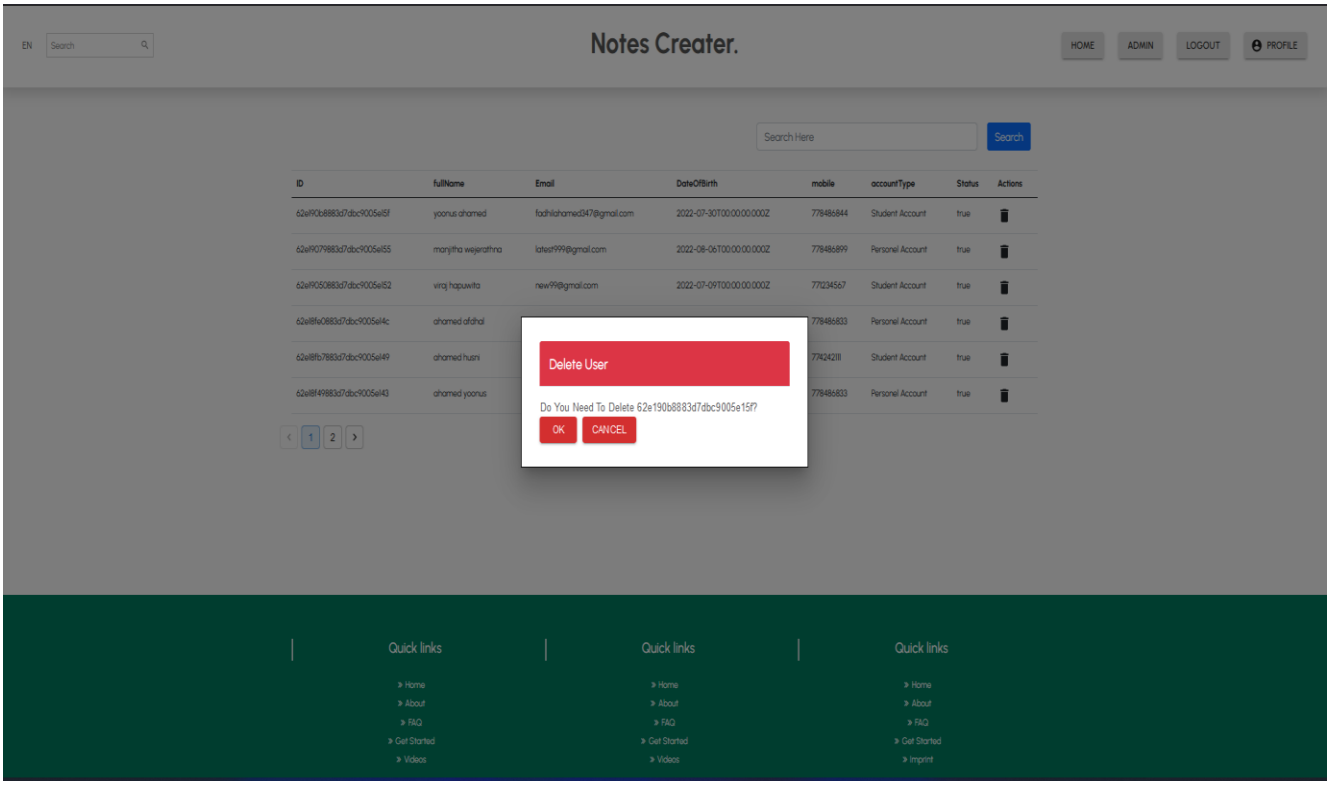
Add Pagination



Add Search Filter

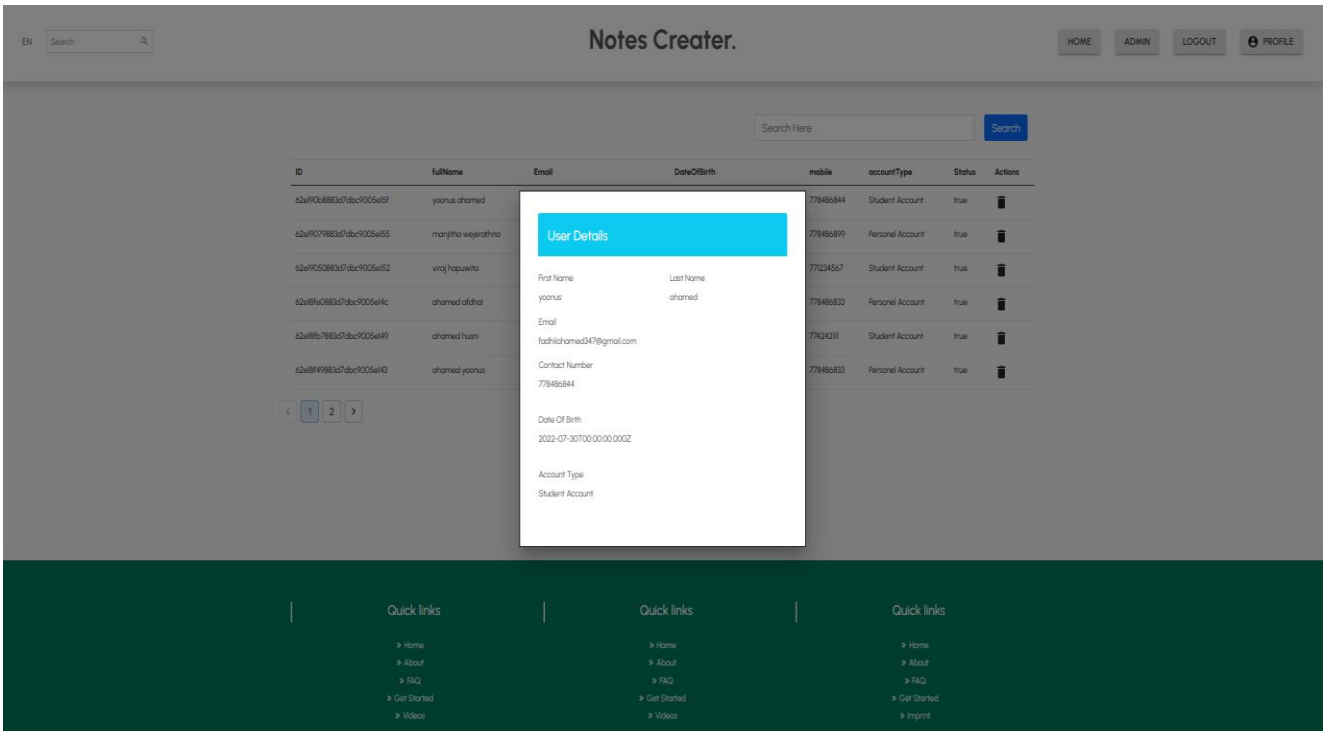


Delete User

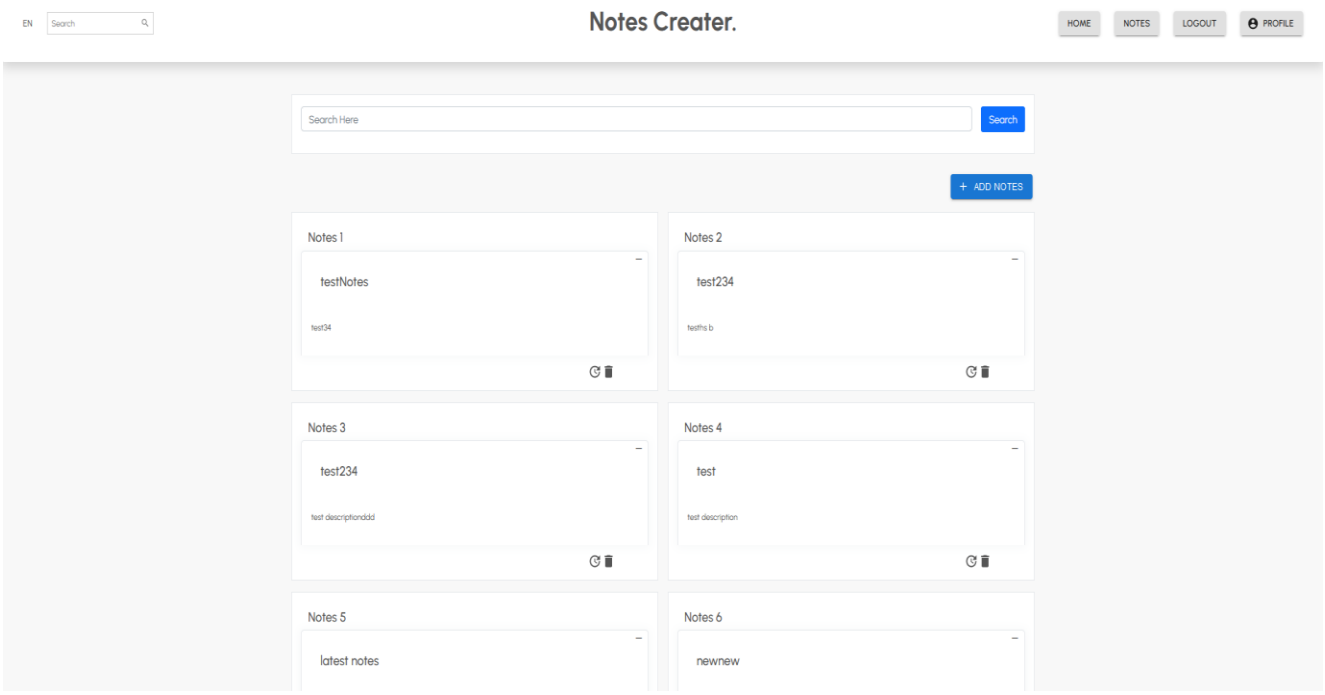


User Details (Pop Up)

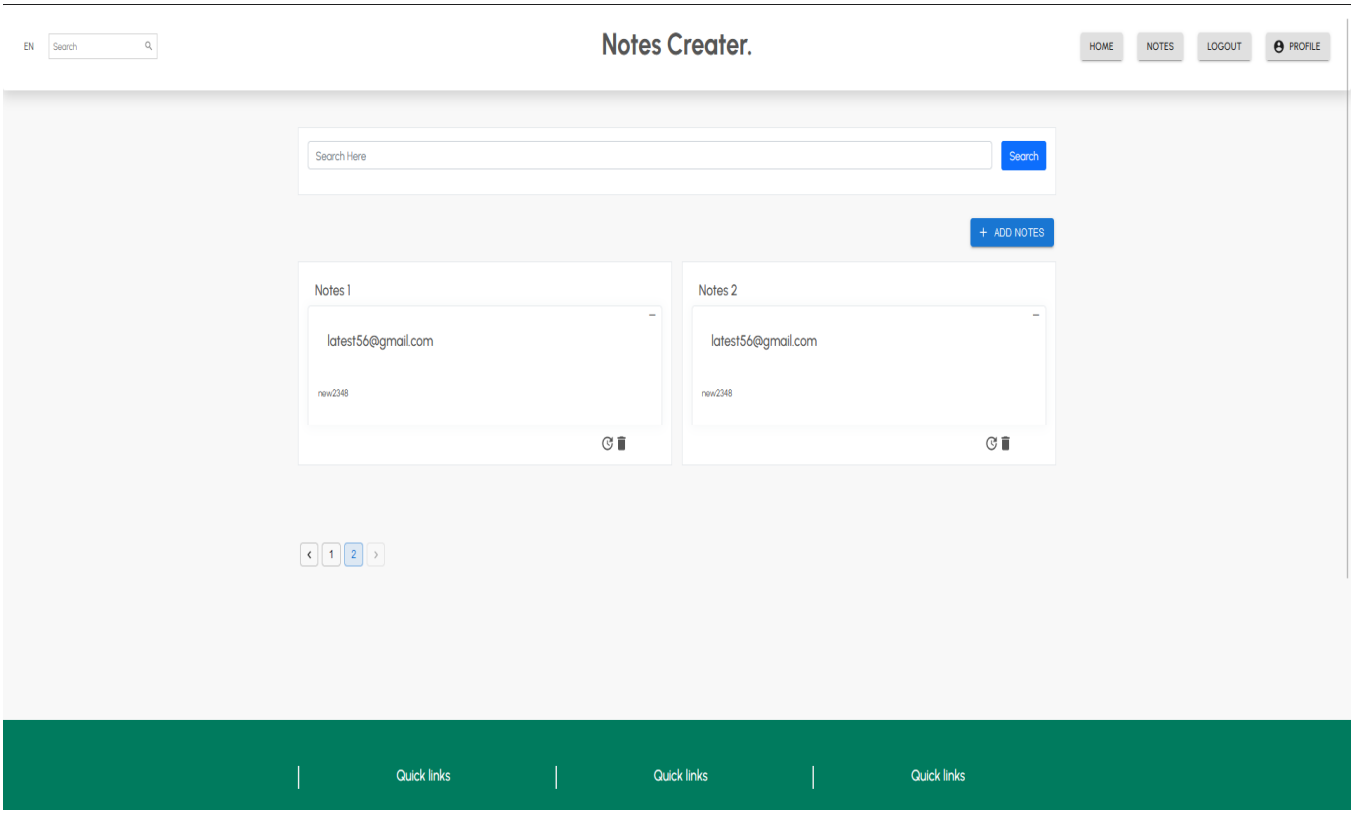
When click each table row



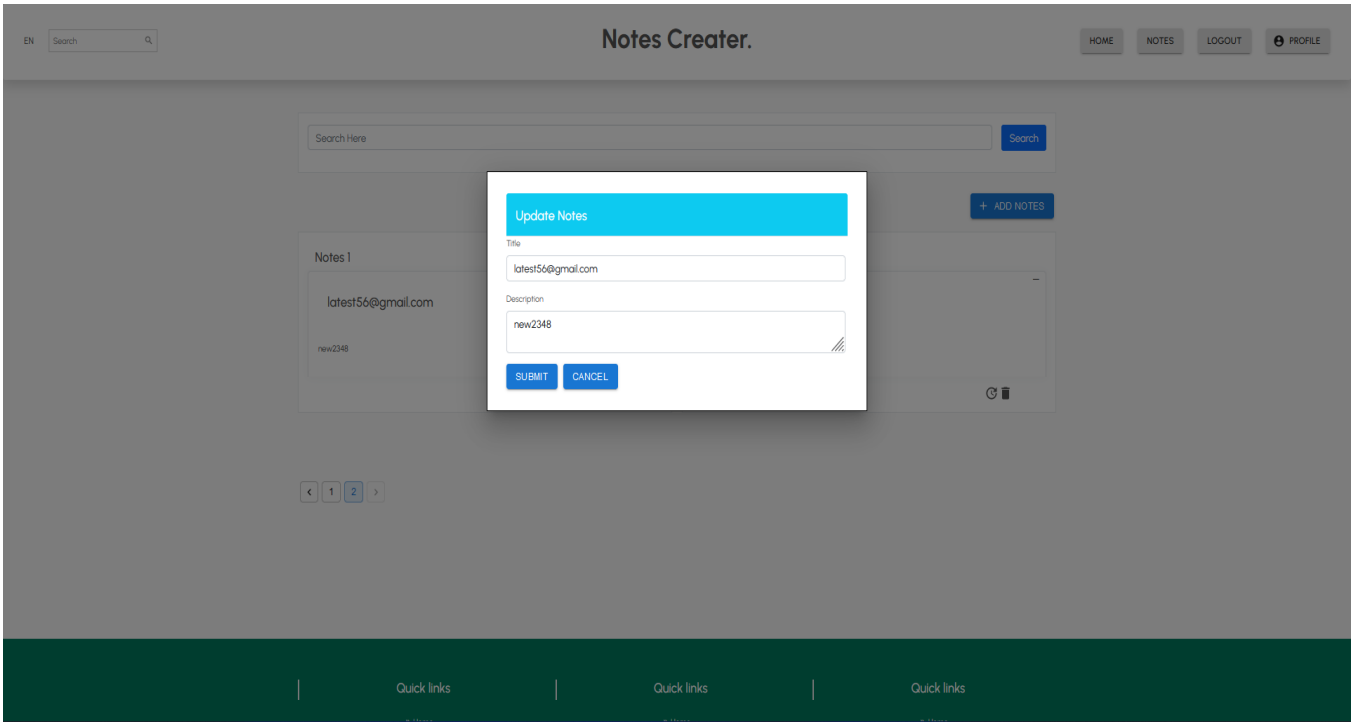
Notes Management (Student)



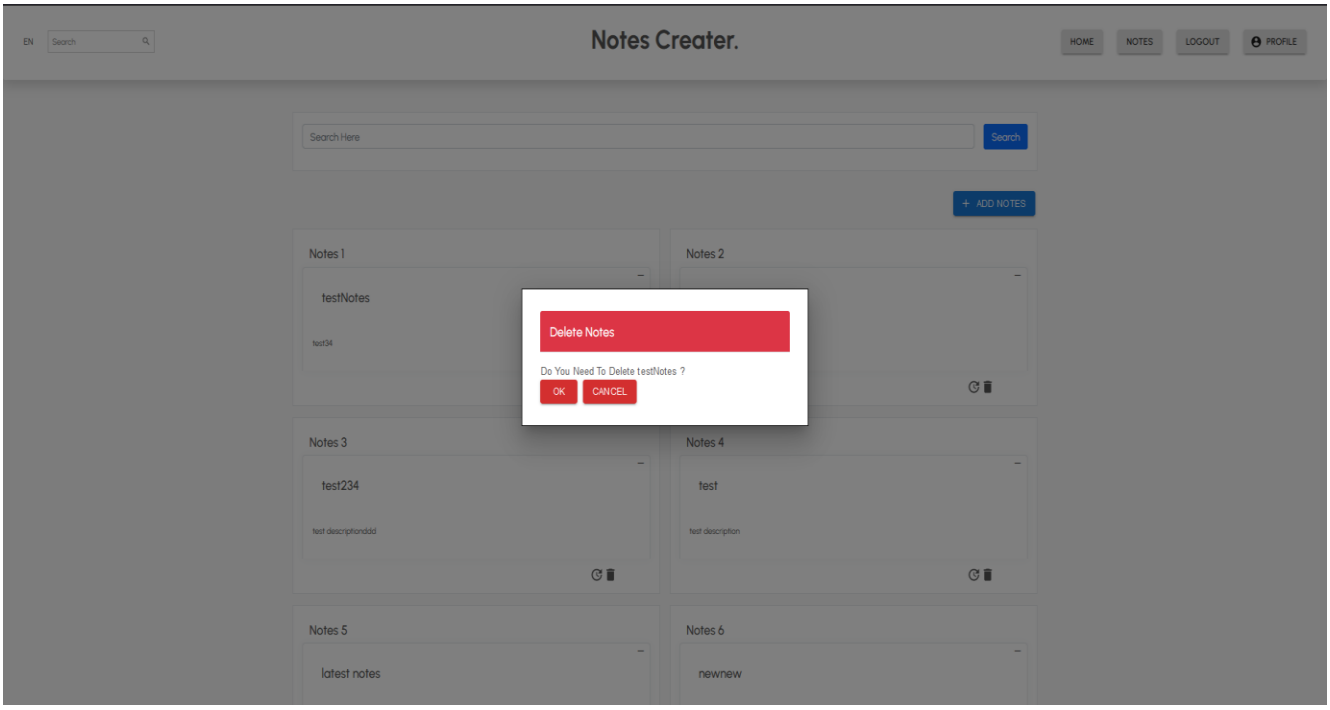
Notes Pagination



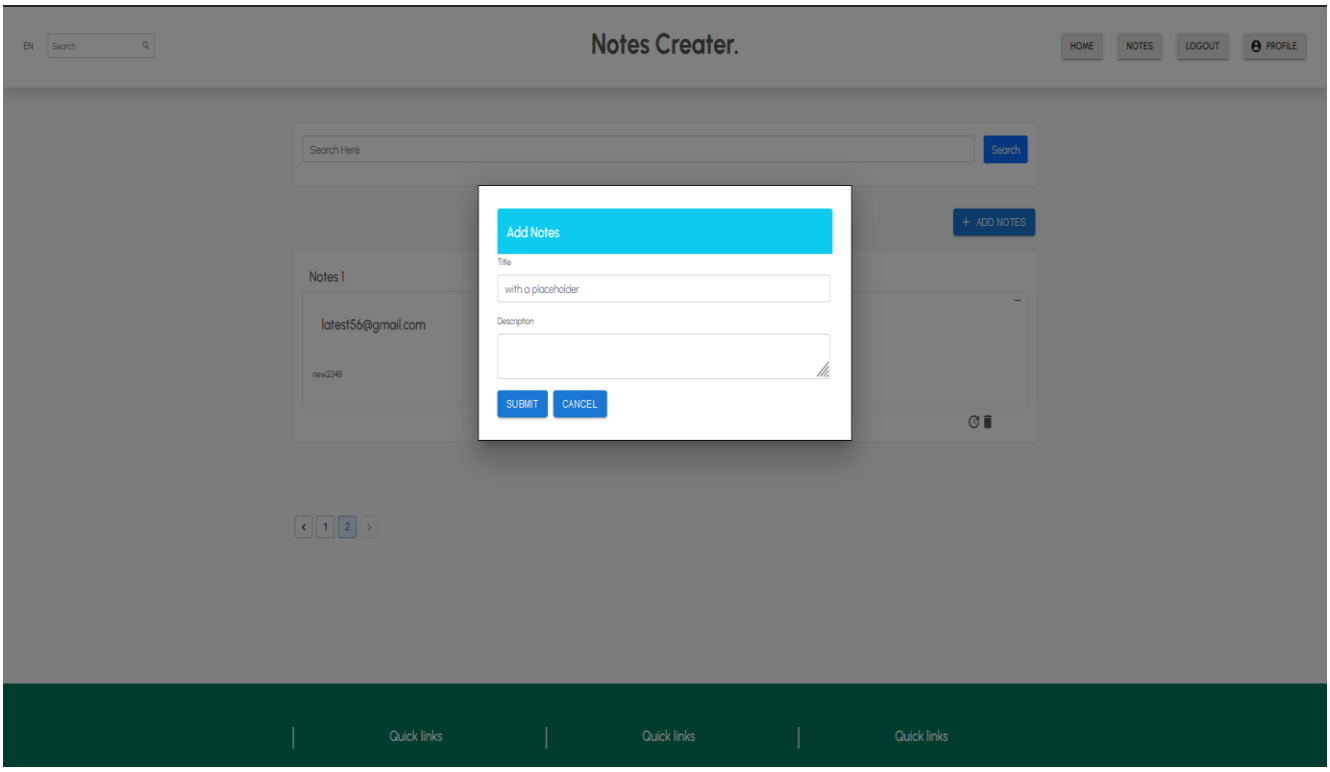
Update Notes



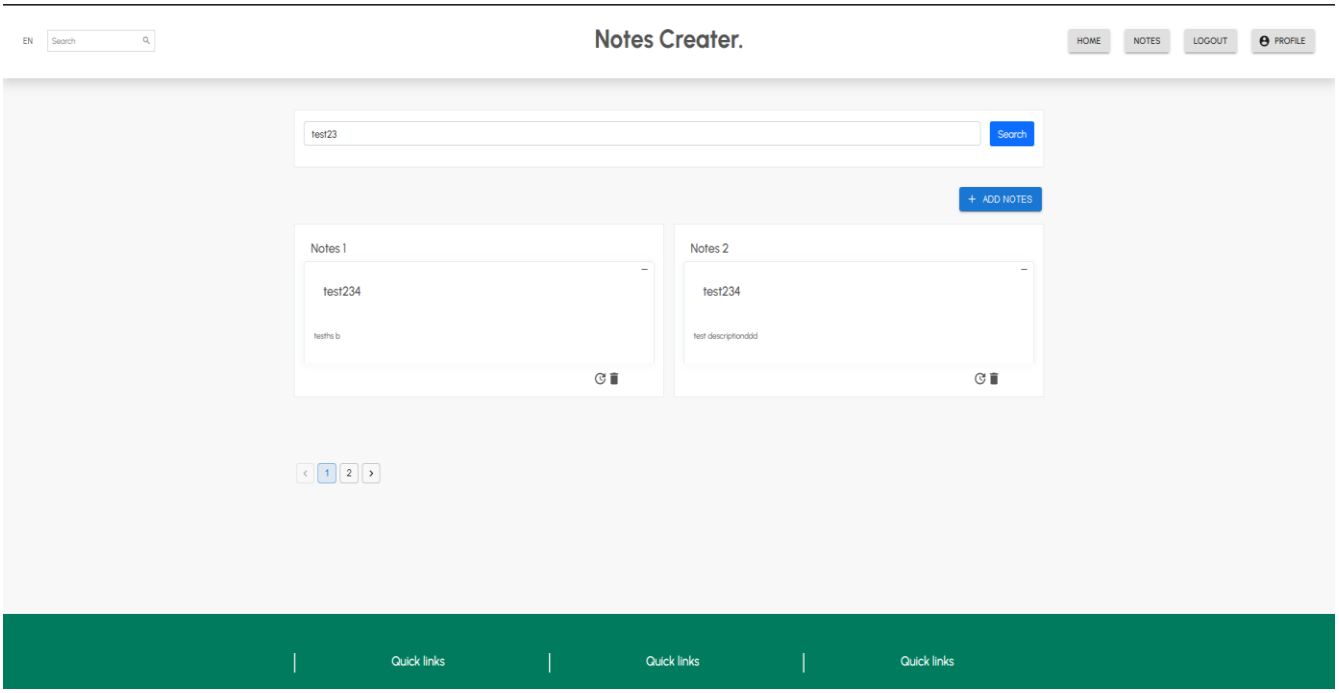
Delete Notes



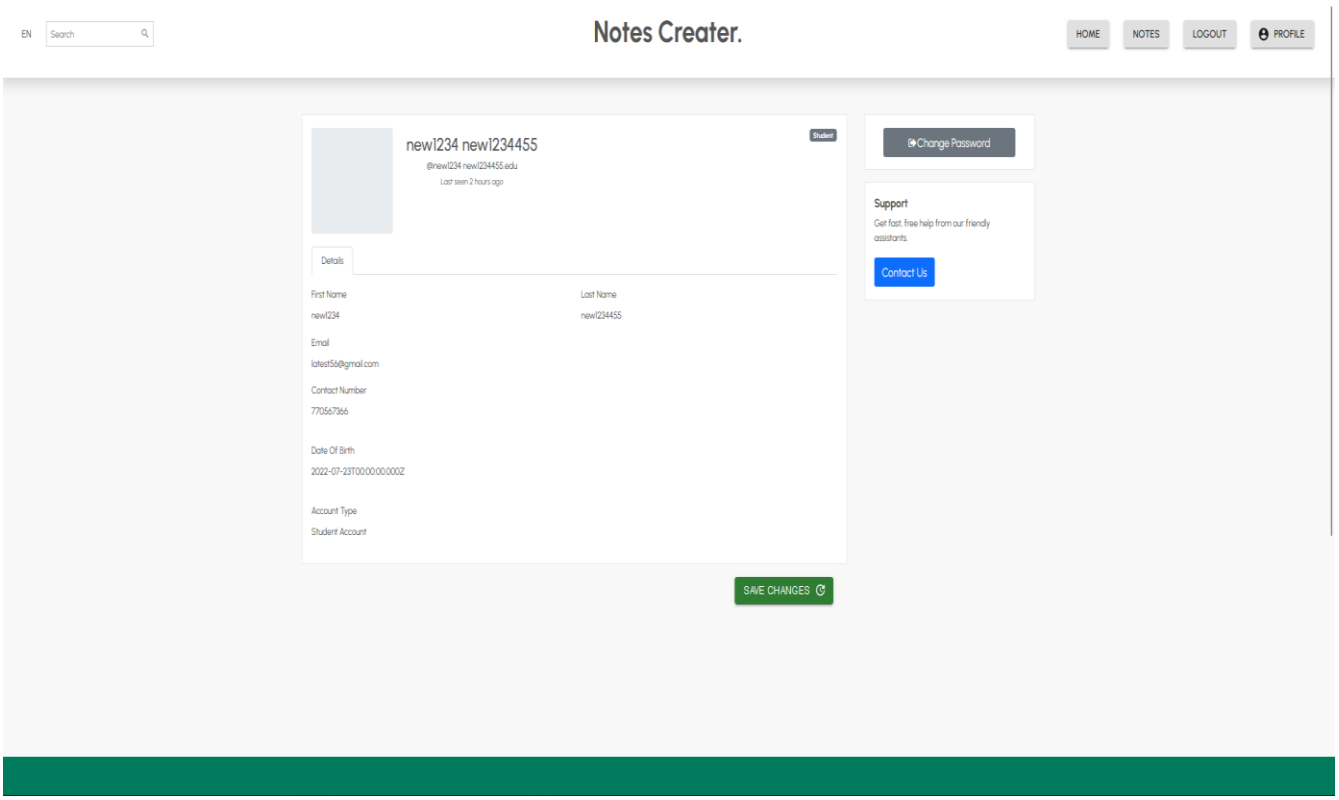
Add Notes



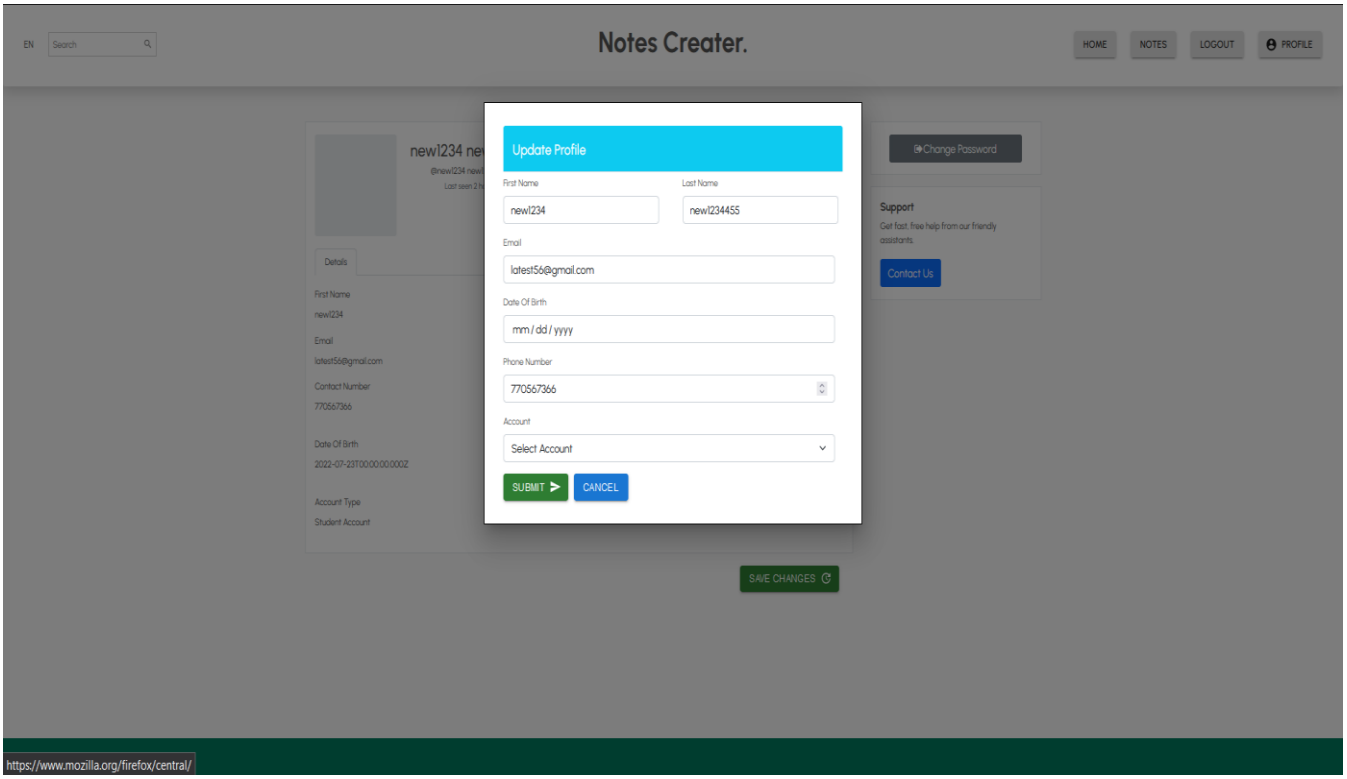
Search Notes Filter



User Profile

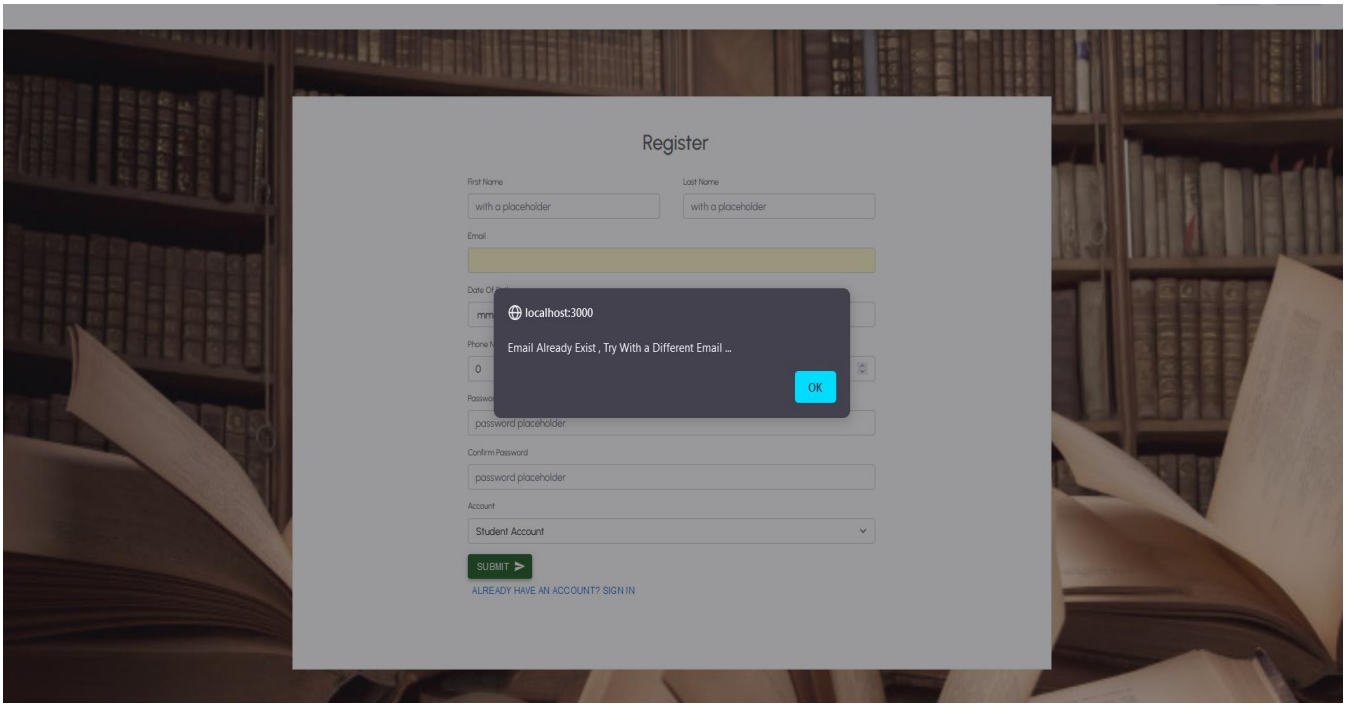


Update Profile

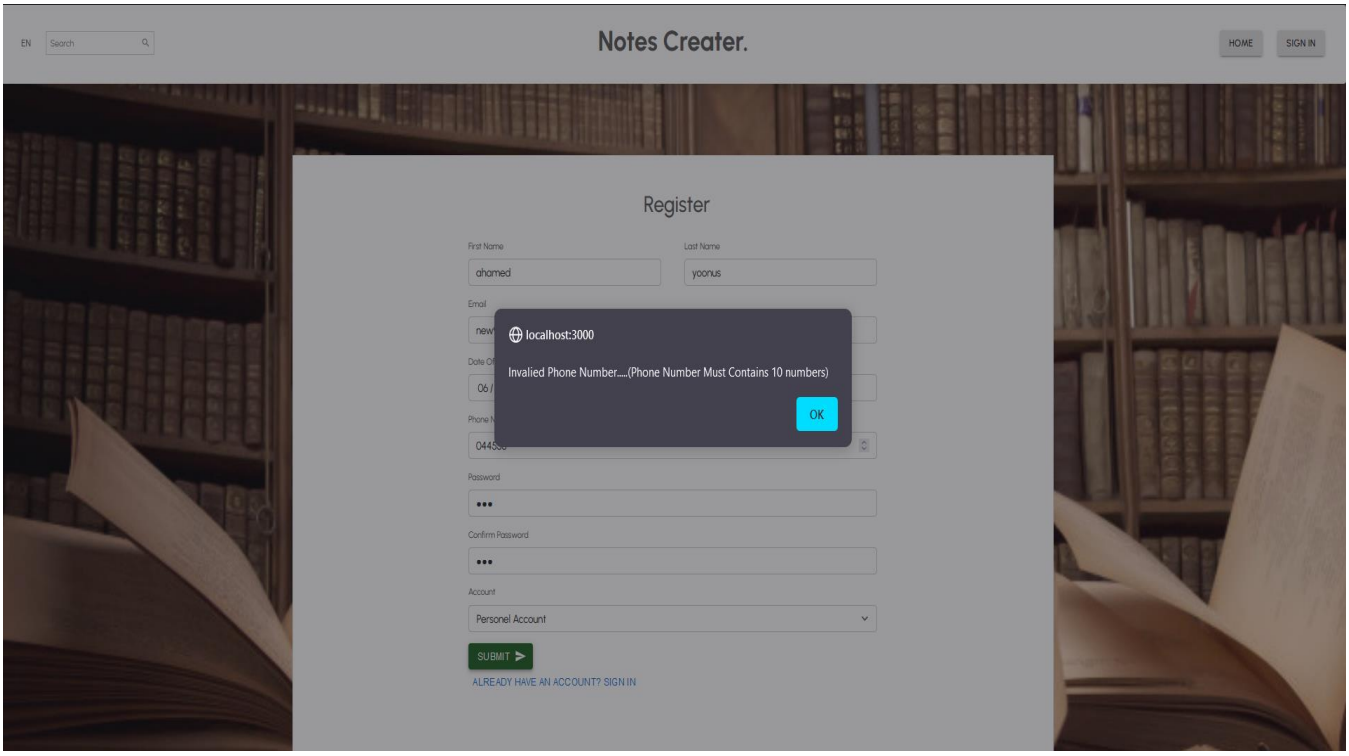


Auth Validations

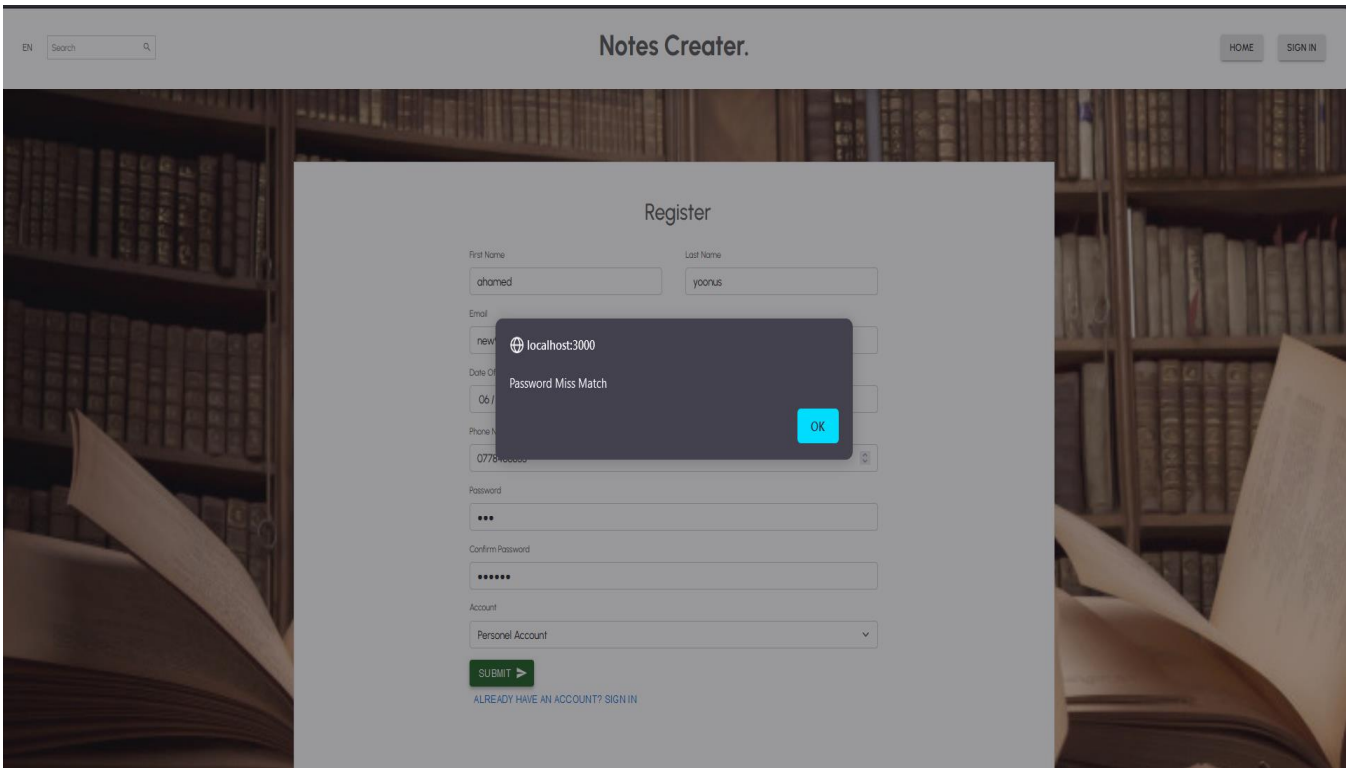
1.



2.


EN
Search
Notes Creater.
HOME
SIGN IN
Register
First Name
ahamed
Last Name
yoonus
Email
localhost:3000
Invalied Phone Number.....(Phone Number Must Contains 10 numbers)
OK
Password
Confirm Password
Account
Personel Account
SUBMIT
ALREADY HAVE AN ACCOUNT? SIGN IN

3.


EN
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HOME
SIGN IN
Register
First Name
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Last Name
yoonus
Email
localhost:3000
Password Miss Match
OK
Password
Confirm Password
Account
Personel Account
SUBMIT
ALREADY HAVE AN ACCOUNT? SIGN IN

Docker

Frontend

```
 => [internal] load build context                                                    0.2s
 => => transferring context: 7.13kB                                                  0.1s
 => CACHED [2/5] WORKDIR /app                                                        0.0s
 => CACHED [3/5] COPY package.json .                                                 0.0s
 => CACHED [4/5] RUN npm install                                                     0.0s
 => [5/5] COPY . .                                                                   3.7s
 => exporting to image                                                               0.5s
 => => exporting layers                                                              0.3s
 => => writing image sha256:a9ae1e515cfb0e45d77e2777d776a10dd2c15defccd69f3ff04f2979114a090c  0.0s
 => => naming to docker.io/library/frontend_react-app                                0.0s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
Recreating frontend_react-app_1 ... done
```

Backend

```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS E:\Surge_Global\Assignment_Surge1> cd backend
PS E:\Surge_Global\Assignment_Surge1\backend> yarn start
yarn run v1.22.18
 => [3/5] COPY package.json .                                    1.1s
 => [4/5] RUN npm install                                      265.1s
 => [5/5] COPY . ./                                              0.6s
 => exporting to image                                           7.1s
 => => exporting layers                                          6.4s
 => => writing image sha256:7d9cf11ff9f9c6cfc7bb99d61e4783392cd0a389  0.1s
 => => naming to docker.io/library/backend_node-app              0.1s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
Creating backend_mongo-express_1 ... done
Creating backend_node-app_1      ... done
Creating backend_mongo_1         ... done
PS E:\Surge_Global\Assignment_Surge1\backend>
```