Documentation

Anouncement

In this document, we will explain the important parts of our application and introduce how to use it. We also made a video about our application and each page of it which goes into more details. If there is still anything unclear, please contact us at lizhenqiao@mail.utoronto.ca, we will respond as soon as possible.

Introduction

A web application for storing and browsing photographs.

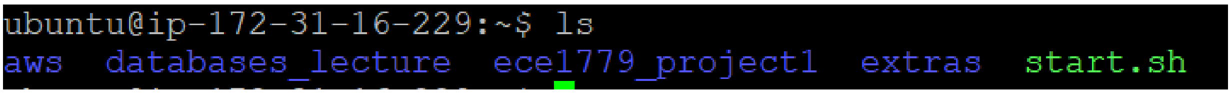
Start

> This part basically explains how to run the project.

- Quickstart

  At the **root path**, you are supposed to find a script called "start. sh". This script will establish the virtual environment, prepare you with all the dependencies, and run on the server. Use the command below to run the project.

  ```
  ./start.sh
  ```

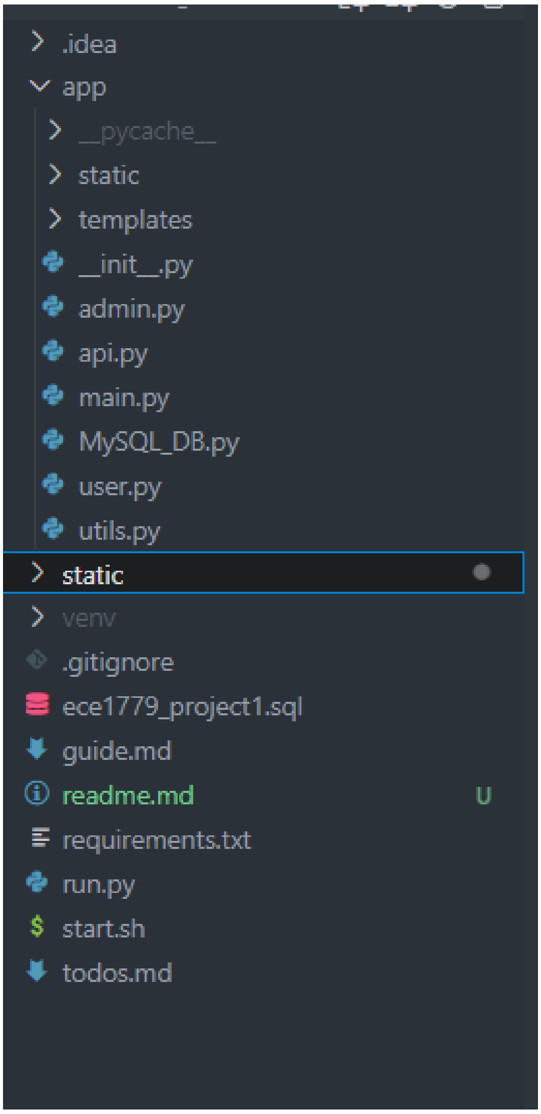


```
ubuntu@ip-172-31-16-229:~$ ls
aws  databases_lecture  ece1779_project1  extras  start.sh
```

Architecture

For web framework, we use `Flask` as our application. Right now, we are using `template` for the UI part since it is relatively simple to accomplish. However, we have established a version2.0 application which uses `react.js` for our front-end application. In that way, our application could be more flexible and powerful. `flask` would be API layer, our front-end and back-end would be seperated in that way.
Since most of our data are structured, we tend to use `MySQL` to store all our data to have a better performance and be easier to update.

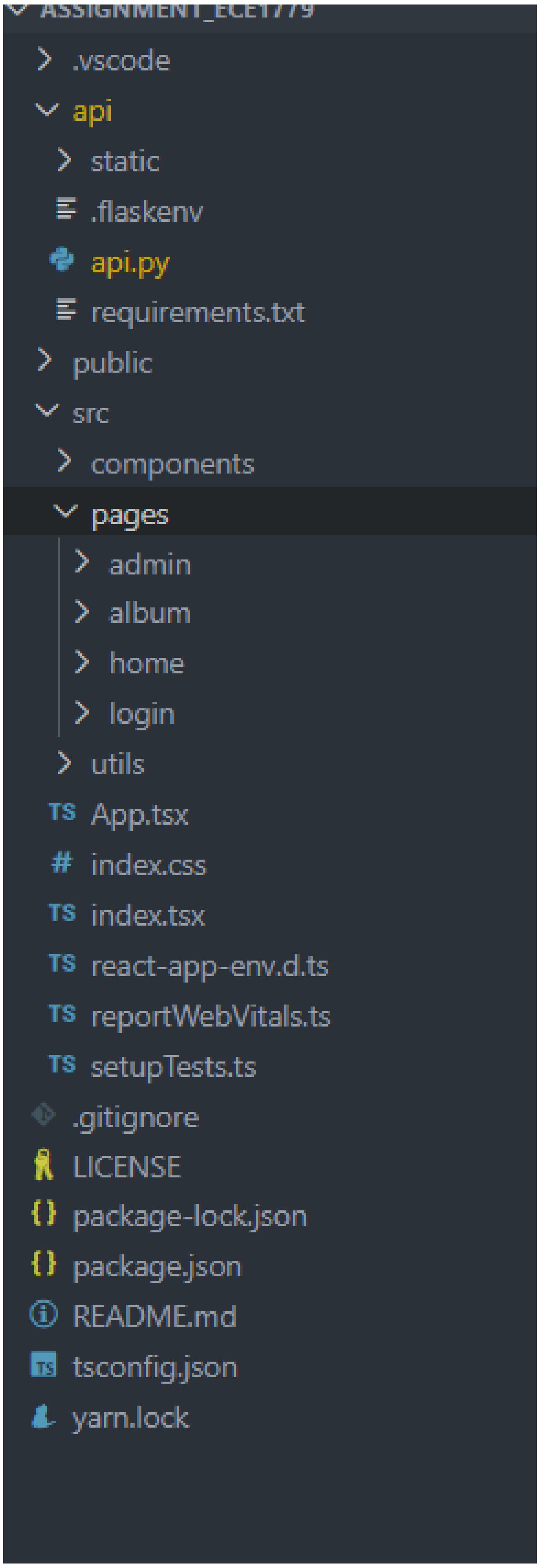
Version 1.0 (Current version)



```
> .idea
v app
  > __pycache__
  > static
  > templates
    __init__.py
    admin.py
    api.py
    main.py
    MySQL_DB.py
    user.py
    utils.py
> static
> venv
  .gitignore
  ece1779_project1.sql
  guide.md
  readme.md                U
  requirements.txt
  run.py
  $ start.sh
  todos.md
```

The architechture of our version1.0 project basically looks like this. We have a app folder which contains main content of our flask app. We divided this folder by the functions of each part as admin, user and so on. Except for app folder, we have several files related to version control and project co-working, and a file related to code-format-checking.

Version 2.0 (Developing version)



```
ASSIGNMENT_ECE1779
  .vscode
  api
    static
    .flaskenv
    api.py
    requirements.txt
  public
  src
    components
    pages
      admin
      album
      home
      login
    utils
    App.tsx
    index.css
    index.tsx
    react-app-env.d.ts
    reportWebVitals.ts
    setupTests.ts
  .gitignore
  LICENSE
  package-lock.json
  package.json
  README.md
  tsconfig.json
  yarn.lock
```

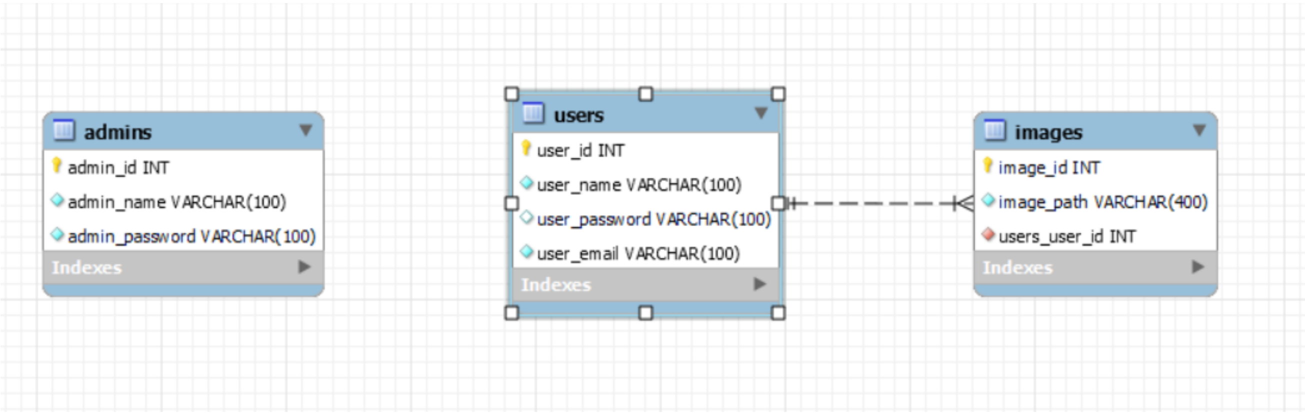
We use react.js as front-end in this version because React.js could provide user with more friendly interaction, more beautiful UI, and more powerful functions. You could find more in the video we recorded.

Database

Our database is based on MySQL which could deal with the syntactic reading and writing. By now we have three TABLEs in the DATABASE as the picture shows below.

- *admins* stores the related information of admin users, mainly for login and verification of identity.
- *users* stores the related message of normal users, it is important for the main functions of our application.

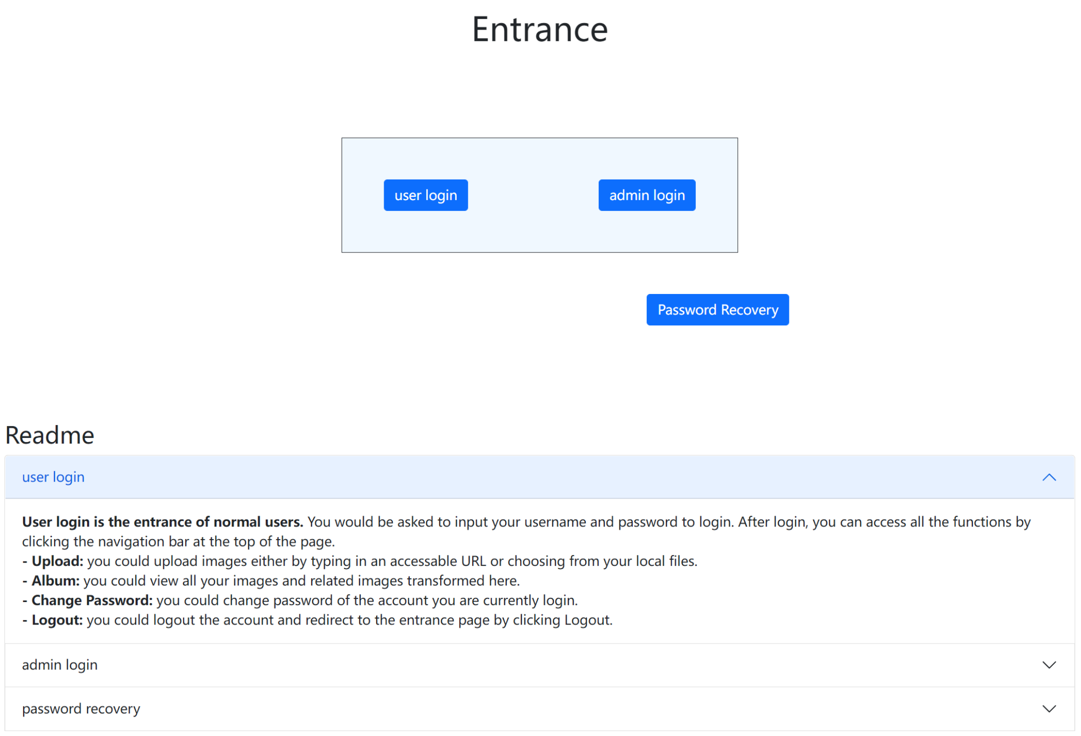
- *images* stores the user_id and image_path, which is the core of our image storage system.



User Tutorial

Entrance

Entrance page is the first page you will see. There is a readme which explains the functions of the three part right in the webpage.



Entrance

Readme

user login

User login is the entrance of normal users. You would be asked to input your username and password to login. After login, you can access all the functions by clicking the navigation bar at the top of the page.
- **Upload:** you could upload images either by typing in an accessable URL or choosing from your local files.
- **Album:** you could view all your images and related images transformed here.
- **Change Password:** you could change password of the account you are currently login.
- **Logout:** you could logout the account and redirect to the entrance page by clicking Logout.

admin login

password recovery

- **User Login**
  User login is the entrance of normal users.
  You would be asked to input your username and password to login.
  After login, you can access all the functions by clicking the navigation bar at the top of the page.
  - Upload: you could upload images either by typing in an accessable URL or choosing from your local files.
  - Album: you could view all your images and related images transformed here.
  - Change Password: you could change password of the account you are currently login.

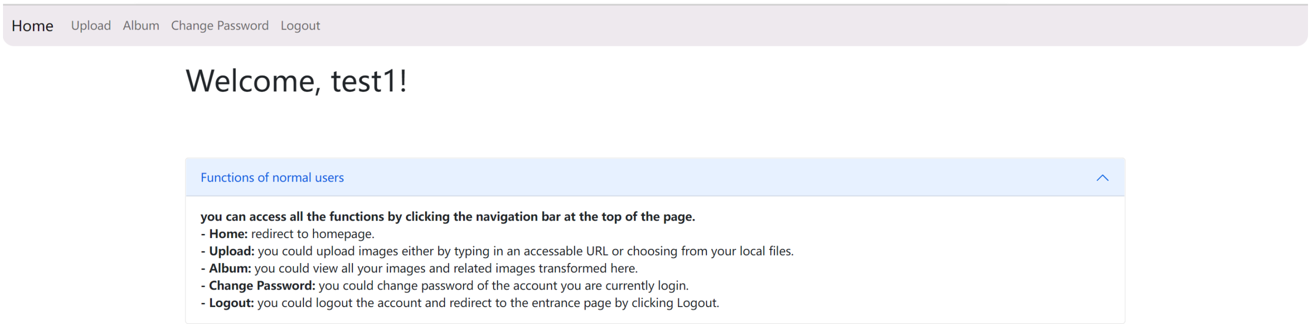
- Logout: you could logout the account and redirect to the entrance page by clicking Logout.

- **Admin Login**
  Admin login is the entrance of admins.
  You would be asked to input the username and password to login.
  After login, you can access all the functions by clicking the navigation bar at the top of the page.
  - Register: you could add new accounts of normal users here by typing in `Username`, `Password` and `Email`
  - Edit&Delete: you could delete or edit the name and password of normal user accounts here.
  - Logout: you could logout the account and redirect to the entrance page by clicking Logout.

- **Password Recovery**
  If you cannot recall your password, please click `PasswordRecovery` You would be asked to input the username of your account. An email will be sent to the email address attached to your account for you to reset the password.

normal user

After login as normal user, you would see the homepage of normal user shown as the picture below.



Welcome, test1!

Functions of normal users

you can access all the functions by clicking the navigation bar at the top of the page.
- Home: redirect to homepage.
- Upload: you could upload images either by typing in an accessable URL or choosing from your local files.
- Album: you could view all your images and related images transformed here.
- Change Password: you could change password of the account you are currently login.
- Logout: you could logout the account and redirect to the entrance page by clicking Logout.

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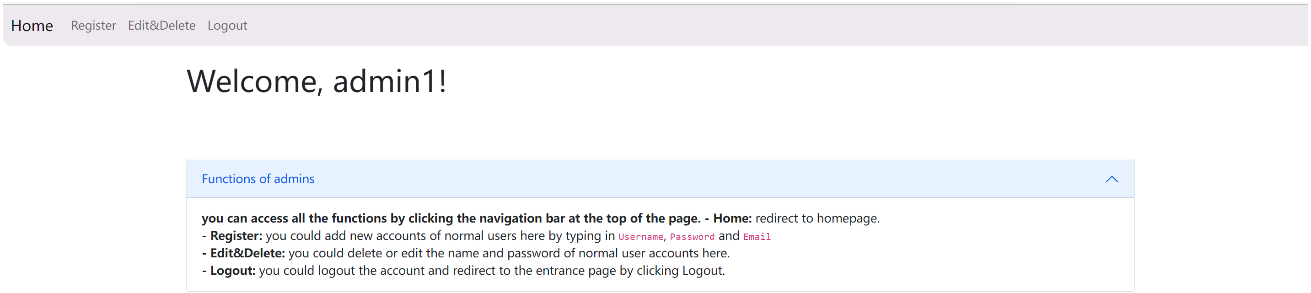
- Home: redirect to homepage.
- Upload: you could upload images either by typing in an accessable URL or choosing from your local files.
- Album: you could view all your images and related images transformed here.
- Change Password: you could change password of the account you are currently login.
- Logout: you could logout the account and redirect to the entrance page by clicking Logout.

admin

After login as admin, you would see the homepage of admin shown as the picture below.



Welcome, admin1!

you can access all the functions by clicking the navigation bar at the top of the page. - Home: redirect to homepage.
- Register: you could add new accounts of normal users here by typing in `Username`, `Password` and `Email`
- Edit&Delete: you could delete or edit the name and password of normal user accounts here.
- Logout: you could logout the account and redirect to the entrance page by clicking Logout.

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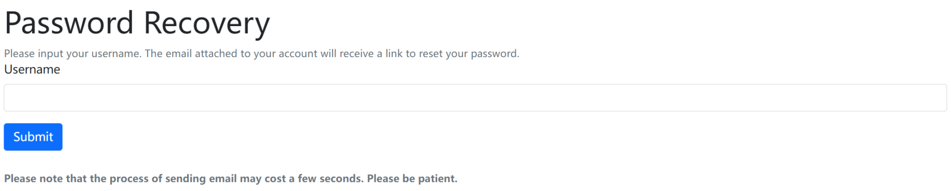
- Home: redirect to homepage.
- Register: you could add new accounts of normal users here by typing in `Username`, `Password` and `Email`
- Edit&Delete: you could delete or edit the name and password of normal user accounts here.
- Logout: you could logout the account and redirect to the entrance page by clicking Logout.

password recovery

If you cannot recall your password, please click `PasswordRecovery` You would be asked to input the username of your account. An email will be sent to the email address attached to your account for you to reset the password.



Password Recovery

Please input your username. The email attached to your account will receive a link to reset your password.

Please note that the process of sending email may cost a few seconds. Please be patient.

Developer Tutorial

Initialize Project.

- **Prepare**

  - Import dataset into your MySQL system. The simplest way of doing this is importing '/ece1779_project1.sql' .
  - Build your virtual environment for python.

    ```
    python -m venv venv
    ```

    After create your own venv, you could activate it, your subsequent development should based on this virtual environment.

    ```
    venv/Scripts/activate
    ```

    Please note that is for Windows, Macos have other command which is pretty similar.

  - Use the requirements.txt to download all dependencies in one time.

    ```
    pip install -r requirements.txt
    ```

    One thing worth mentioning is that after each time you add some new dependencies. Before push your code to the repository. You should run the command below. This will update the dependencies in the requirement.txt

    ```
    pip freeze > requirements.txt
    ```

  By now, you've got your development environment ready.

- **Run the code.**

  Just type in the command below.

  ```
  python run.py
  ```

Tech Stack

Version 1.0

- python
- flask
- mysql

> You could see the details of all the dependencies at "requirements.txt"