ECE1779 Assignment 1

# Description

This application is written in python and html using the flask library and it performs as an online text detector. It automatically draws rectangular boxes around the text on the photos which users uploaded. Users can explore all the photos they uploaded and compare the photos before and after text detection in pairs.

# Prerequisite

An Python 3.7 interpreter is required.

The following python packages are required in order to start the server.

* Click
* PyMySQL
* Flask
* Flask-SQLAlchemy
* Jinja2
* MarkupSafe
* SQLAlchemy
* Werkzeug
* aiofiles
* aiohttp
* async-timeout
* attrs
* chardet
* idna
* imutiles
* itsdangerous
* multidict
* opencv-python
* pip
* setuptools
* yarl

# API

Tests can be done by sending API requests. You are allowed to create new users and upload images using an existing account.

The register request requires the following interface.

URL: <http://f91.ca:5000/api/register>

local URL: <http://0.0.0.0:5000/api/register>

method = POST

POST parameter: name = username, type = string

POST parameter: name = password, type = string

The upload request requires the following interface.

URL: <http://f91.ca:5000/api/upload>

local URL: <http://0.0.0.0:5000/api/upload>

enctype = multipart/form-data

method = POST

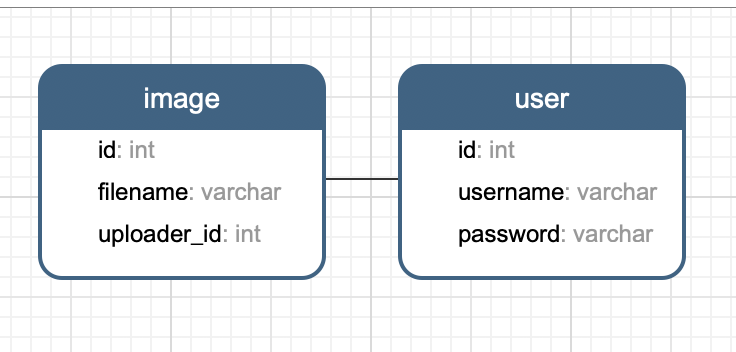
POST parameter: name = username, type = string

POST parameter: name = password, type = string

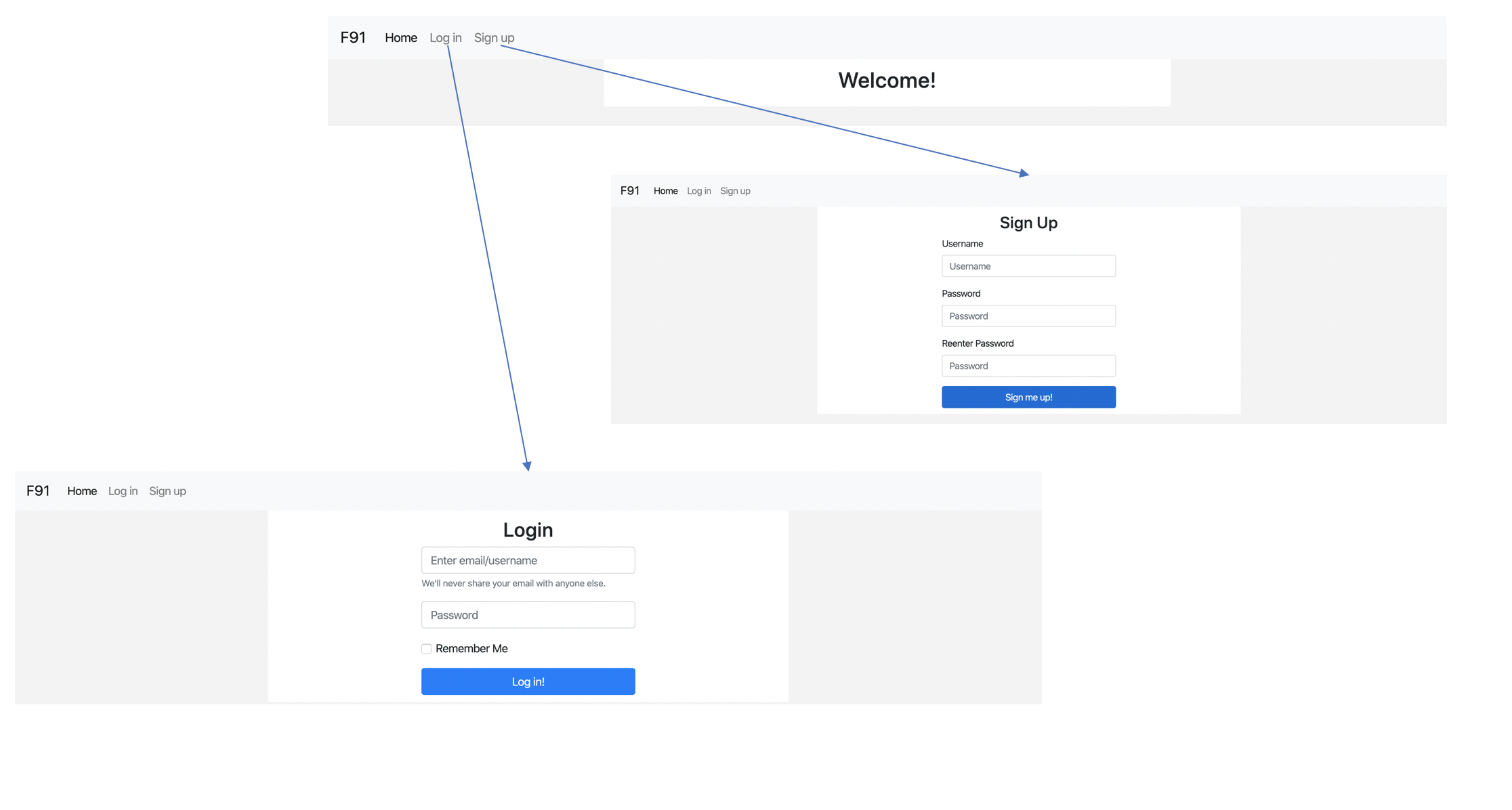
POST parameter: name = file, type = file

Web Architecture

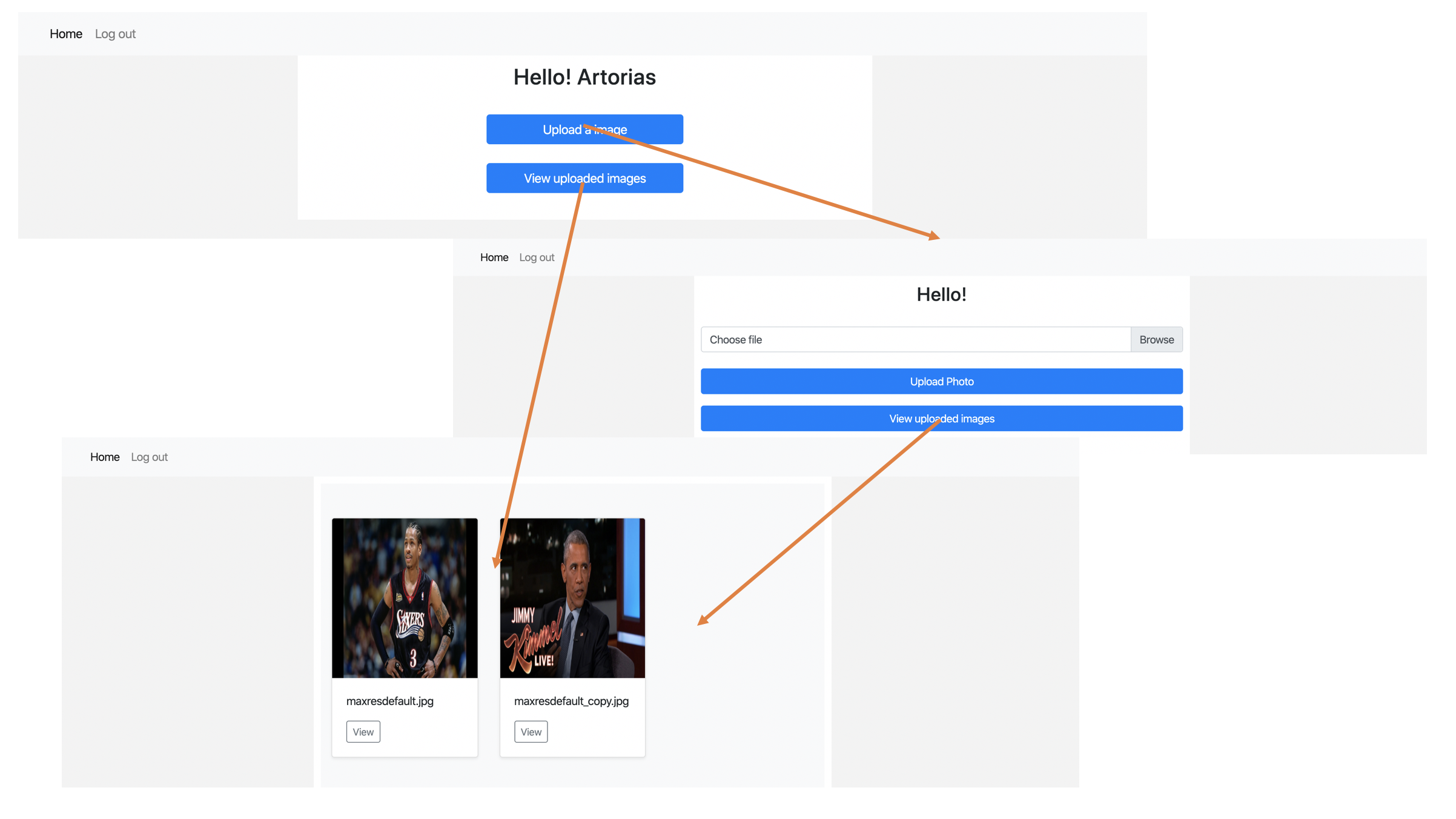
The database consists of two tables, image and user, which are connected to each other by sharing the user id. Hence, each user is only allowed to access the image he or she uploaded. Moreover, since each image is given a unique image id, different images with the same filename will be treated as different images. The detailed database structure is shown below.



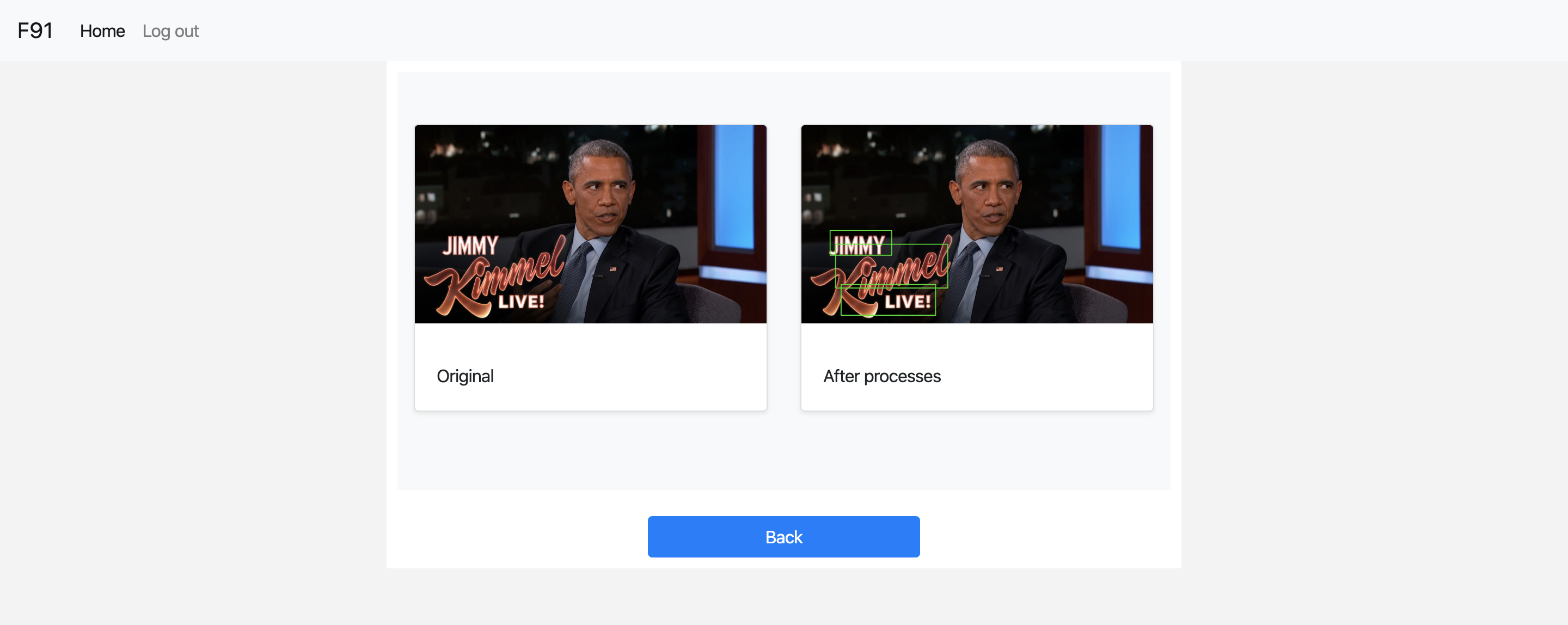
The application structure is shown as follows.



There are two buttons on the main page. The ‘Login’ button will direct the user to the login page while the ‘Sign up’ button will lead the user to the sign-up page. After logging in or creating an account, the user will be directed to the user page.



When clicking the ‘view’ button, users can see the difference between the original photos that they upload and the photos after text detection.



# Application Structure