Coursework1 Report

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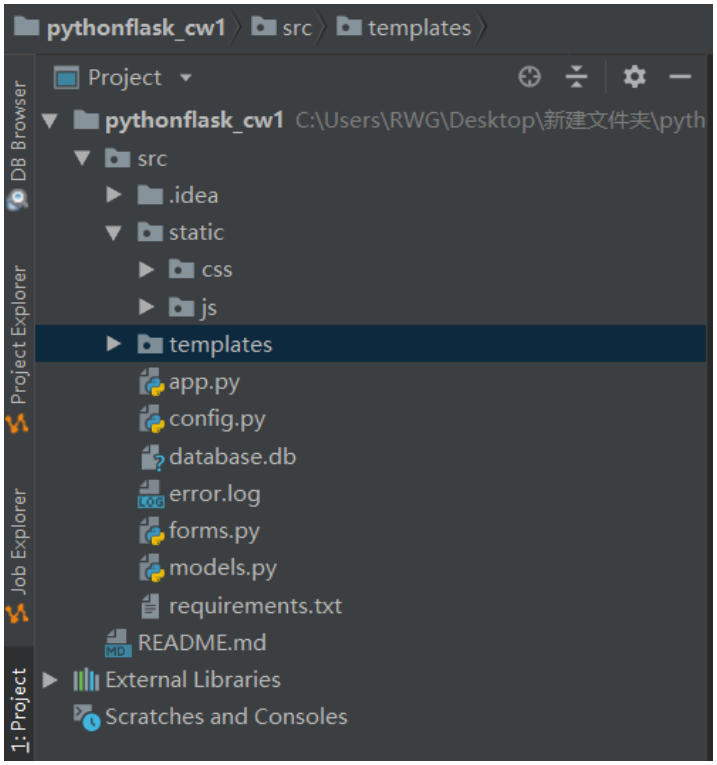
1 Introduction

Background
Python flask This application is based on python flask, and python flask is a micro web framework written in Python. It is classified as a microframework because it does not require particular tools or libraries. So if we want to build a small website, flask is a very good choose.
Jinjia2: Jinjia2 is one of the main framework in Python, and it also by Ronacher, which is a template engine for the Python programming language and is licensed under a BSD License. Similar to the Django web framework, it provides that templates are evaluated in a sandbox.
Werkzeug: Werkzeug is a utility library for the Python programming language, in other words a toolkit for Web Server Gateway Interface (WSGI) applications, and is licensed under a BSD License. Werkzeug can realize software objects for request, response, and utility functions. It can be used to build a custom software framework on top of it and supports Python 2.6, 2.7 and 3.3.

application
The app name is: Napier github catalogue, for this website, people can:
*Share ideas with other students
*chat and communicate course work with others
*set up students' homework
*find some friends who have the same major or hobbies
So basically it is the uni website for index and based on github.
Aim:As for an International student who study at Napier, I feel sometimes is hard to find someone solve the problems in my subject, github is good location, but it is too complicated and widely, I need waste a lot time to finding my problem. So I come up with the idea, what about set up a github catalogue for our uni? From this website students can find some repo or resources in our uni, also they can find someone else who study in our university.
environment
putty:PuTTY is a free and open-source terminal emulator, serial console and network file transfer application. It supports several network protocols, including SCP, SSH, Telnet, login, and raw socket connection. So in this application I use putty to link my windows system and linux system and test the coding in Linux system.
Pycharm:PyCharm is an integrated development environment (IDE) used in computer programming, specifically for the Python language. Due to use vim to developed website is quite slow and hard, so I decide use pycharm to coding in windows system, and after the programming, I sent codes and then test them in linux system.

2 Form



Explanation:
app.py:main file, used for flask
config.py:Configuration variable file
database.db:Store and manage user information on github
forms.py: a part of Django, and Django is the free and open source web
application framework written in Python.
models.py:the database for Django
templates:the framework for Jinjia2
static:storing static filesïijŇlike pictures, icons and background
requirements.txt::The packages required to run the app

3 processing

3.1 learning Putty

Overview: Putty is good software to do the ssh server, it is very safe, also it is not hard to learn how to use. Actually I just used a short time to learn putty.
Important thing: vim and linux system are two important things what we should practice. Vim is a text editor developed from vi. Its code-completed, compiled, error-jumping and other convenient programming features are particularly rich and widely used by programmers. So not only use vim at this coursework, also we will use it for many times. And Linxu system is also a super power system, it has a very strong open source mechanism and security features, but it has the High learning cost, which means you should take a lot time to learn it.
Problem: one of the problems I always have at putty are env and permission, we do not have the administrator permission, so sometimes it would run mistakes. And env is normally for many designers and programmers, it is one of the most important step for application developing.

3.2 learning flask

Overview:For me, I have to say 'flask' is the hardest part to learn, it spent a lot of my time, because flask is based on python, however I have not learned python before, so I need to learn python from the beginning. And there is no doubt that I had met many problems, like how to deploy the environment, what kinds of Dependency packages should we download, whats kind of roles for python should we considered? Finally, I spent around half course work time to learn python and flask. But through this coursework, I have learn a lot knowledge.
Important things: In the coursework, the main things are flask and Jinja2, actually we can build a website based on these two frames, it is very convenient and flexible.
Problems: One of the most difficult problem is how to build connection between flask and other packages(like Jinjia2 and bootstrap), Most packages are not complicated, but when connect to others, it would be the challenge. And another problem is the port, especially for myself. Because I always met 404 not found page or 202 not found page, even sometimes cannot find the server.

3.3 build website:

Overview: At the beginning, I used putty to write the web pages and build website frame, but later I find it is not convenient, because using vim is not intuitive enough, so I need an IDE to help me developed the website. Finally, I use and pycharm to finish my codes, and then using putty to transfer the file to Linux system.
Problems: When I wrote the codes, I met a lot of problems, for example:
*How to create a virtual environment on pycharm
*How to solve the "permission deneyed" problem
*How to solve"Error: Could not locate Flask application. You did not provide the FLASK-APP"
*How to solve "Attribute Error: 'module' object has no attribute 'xxx'" problem
*How to solve "Could not find a version that satisfies the requirement problem
*How to solve "you are using pip version 9.0.1, however version 9.0.3 is available. You should consider upgrade" problem

4 Coding

4.1 Framework:

Import flask:

```
from flask import Flask, render_template



app = Flask(__name__)
app.config.from_object('config')
```

Jinjia2 frame:

```
@app.route('/')
def home():
    return render_template('pages/home.html')
```

sql server frame:

```
from sqlalchemy import create_engine
from sqlalchemy.orm import scoped_session, sessionmaker
from sqlalchemy.ext.declarative import declarative_base
```

4.2 template:

4.2.1 layout:

form.html:

```
<!doctype html>
<head>
<meta charset="utf-8">
<title>{% block title %} {% endblock %}</title>

<!-- meta -->
<meta name="description" content="">
<meta name="author" content="">
<meta name="viewport" content="width=device-width, initial-scale=1">
```

main.html:

```
<div id="users" class="row list-group"></div>
<script type="text/javascript">
    $(function() {
        url = 'https://api.github.com/users';
        requestJSON(url, function(json) {
            for (i in json) {

                login = json[i].login;
                avatar = json[i].avatar_url;
                url = '/users/' + login;
```

4.2.2 forms:

- forgot.html

- login.html
- register.html

4.2.3 pages:

- home.html

```
<div class="jumbotron">
    <h1>Napier Github Catalog</h1>
    <p><h2>Welcome to Edinburgh Napier github catalogue!</h2><br>
    In this website you can:<br>
    *Share your idea with other students<br>
    *chat and communicate your course work with others<br>
    *set up your homework<br>
    *find some friends who have the same major or hobbies with you<br>
    SO,,,<br>
    Just feel free and join us!
    </p>
```

- repodetail.html
- repositories.html
- userdetail.html
- user.html

4.2.4 errors:

- 404.html
- 500.html

4.3 static:

4.3.1 css:

main.css

4.3.2 js:

app.js

4.4 codestyle:

project.html

```
<?xml version="1.0" encoding="UTF-8"?>
<project version="4">
  <component name="ChangeListManager">
    <list default="true" id="6b170a1b-59b7-47ab-835b-0d2dd3f36178" name="Default Changelist" comment="" />
    <option name="EXCLUDED_CONVERTED_TO_IGNORED" value="true" />
    <option name="SHOW_DIALOG" value="false" />
    <option name="HIGHLIGHT_CONFLICTS" value="true" />
    <option name="HIGHLIGHT_NON_ACTIVE_CHANGELIST" value="false" />
    <option name="LAST_RESOLUTION" value="IGNORE" />
  </component>
```

5 Knowledge:

From this coursework, I learned:

* How to use flask to build a simple website(without api, database and web server), and the web coding based on python
* Know how to use jinja2 flasksql and flask-wtf for developing website.
* How to use putty transfer files to linux system, kinds of knowledge for linux system and using vim to edit files.
* Learn some code specification issues in English
* Practice html and css skills

6 Installing:

Although I have finished and realize the main function, this application is simple and need some updates. Here are the points which the app should updates.
1.realize "log in" function, originally I prepare to realize this function, but I find it quite difficult, because it should Call the database and study the flask module which named "python-login". So I want to add this function at cw2. 2.updates html pages, I have to say that the current pages are very simple and Unattractive to people, so I need decorate the pages in the future. 3.add setting functions and searching functions. These two functions also very useful, but I do not have enough time in my cw1, so I will update them in my cw2. 4.update the database, in my cw1, I only use a simple database, but if this app use for the whole uni, the database should be update.

7 Critical thinking:

This is my first coursework when I study at Napier, so in this coursework, I found out that I have some problems to improve. For example, I was not ask teachers or students for some help when I have troubles or problems, so I experienced many problems and waste a lot of time. Also, I spent a lot of time studying pyhton and flask, so it was late when I began do the coursework, that is the reason why some functions I do have time to realize. And finally, I did not manage my time property, I put a lot of work in the end to do it. It is not good and the coursework is low quality.
So in the next coursework, I should:

- ask questions
- begin to do the coursework as soon as possible
- manage my timetable
- have the aim what should I realized
- search data and book when I have free time

8 Appendix I

Reference:

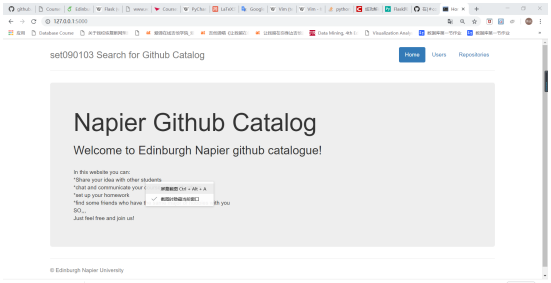
1.https://zh.wikipedia.org/wiki/Vim
2.https://blog.csdn.net/u012734441/article/details/62036503
3.Miguel GrinbergïijŃ"Flask web development".2015.[online] Available:http://www.miguelgrinberg.com/

9 Appendix II

Screenshots

pages

[home]



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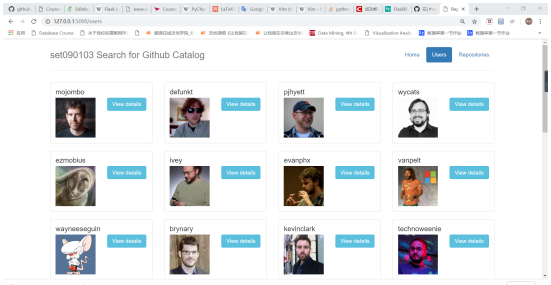

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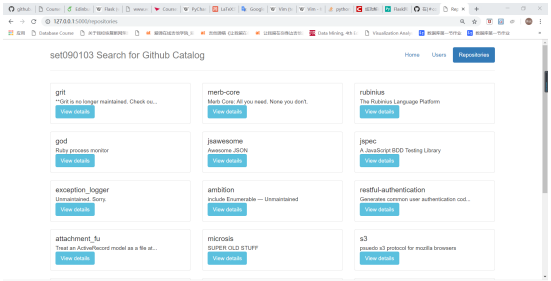

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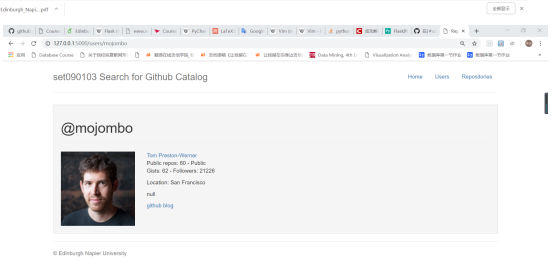

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