

Python Project: Week 3 Report

● Graded

Group

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 [View or edit group](#)

Total Points

40 / 45 pts

Question 1

Workload Division

5 / 5 pts

✓ - 0 pts Correct

Question 2

Preliminary Comment

10 / 10 pts

✓ - 0 pts Correct

Question 3

HOWTO Questions

 15 / 20 pts

✓ - 1 pt Wrong / not specific form-data type.

 - 4 pts Need a specific answer about the decorator. Need to specify the location of each HTML tag.

1 Where

2 Specific?

3 Where

Question 4

Implementation

10 / 10 pts

✓ - 0 pts Correct

Questions assigned to the following page: [1](#), [2](#), and [3](#)

Project Report - Week 3

SI100B Project Report - Control Panel

Please submit this report as a PDF file along with your code to receive full score of the project.

Workload Division

- 苏慧哲 (suhzh@shanghaitech.edu.cn or yhtmscyo@gmail.com):
Write python program .
- 颜毅恒 (yanyh1@shanghaitech.edu.cn) & 彭琬迪 (pengwd@shanghaitech.edu.cn):
Examine the code and fix bugs. Write the report.

Preliminary Comment

References

- [Flask Documentation\(1.1.x\)](#)
- [Getting started with HTML](#)
- [Your first form](#)

Difficulties

- Unable to refresh the web page automatically when the data is updated.
- It's possible that a program would try to write a file which is currently being written.

Easy: Use CLI

- How do you get the user input in Python when building your CLI program?
- Briefly describe how you design the scheme of the command? Give example command for doing the following things:
 - Change the central coordinate to 30N 101W;
 - Change the range to 100 nm;
 - Change the frequency of data crawling to once per 5 sec.

Advanced: Use Flask and HTML

Answering the following questions with a concrete example is desirable.

- How to serve the request sent from the client for a specific path? For example, if a request is requesting the path `\public` on your server and another one is requesting `\confidential` on your server, how could you distinguish them and send different responses?

Answer: Use a decorator to specify the demanded path 2

- How to serve the different request methods? For example, one request is sent to your server for the path `\public` with a `GET` method and another one with a `POST` method, how could you distinguish them and send different responses?

Answer: Give the parameter to the decorator

Question assigned to the following page: [3](#)

- How to render a HTML template in Flask? How to create a simple template in Flask?

Answer: Use the Flask method `render_template()`.

- How to get the form data a user sends to your server in a `POST` request? Which data type is it?

Answer: Import `request` from `flask` and use `request.form`. The type is `json`.

- How to specify the title of a web page? How to add a paragraph to a web page? How to add a title to a web page?

Answer: The title: `<title> The Public Page </title>`

The paragraph: `<p>This is a paragraph.</p>`

- How to design a form on a web page? How to add text box to your form? How to add an option to your form?

- Answer: To design a form:

```
<form action=<request_url> method='post'> .....</form>
```

To add text box to the form:

```
<input type='text' name='one-line'> </input>
```

for one-line text boxes.

```
<textarea type='text' name='mul-line'> </textarea>
```

for text blocks.

To add an option:

```
<select name='select'>
```

```
<option value='option1'>option1</option>
```

```
<option value='option2'>option2</option>
```

```
</select>
```

- How to send the content of the form to the server? What HTTP methods are generally used for those requests? In Flask, how do you handle the request containing a form?

Answer: Use `button` with the parameter `type="submit"`. The HTTP method `POST` is generally used. Use it as a immutable dictionary. Read the data we need from it.

#Example

```
from flask import Flask
from flask import render_template
from flask import redirect
from flask import request

web_server = Flask(__name__)

@web_server.route('/public', methods=['GET', 'POST'])
def public():
    if request.method == 'POST':
        data = request.form
```

```
data = request.form  
return redirect(url_for('confidential'))
```

Questions assigned to the following page: [3](#) and [4](#)


```

return render_template('public.html')

@web_server.route('/confidential',methods=['GET','POST'])
def confidential():
    return render_template('confidential.html')

```

```

<title> The Public Page </title>
<form action=<request_url> method='post'>
    <p>This is a paragraph. </p>
    <input type='text' name='one-line'> </input>
    <br>
    <textarea type='text' name='mul-line'> </textarea>
    <br>
    <select name='select'>
        <option value='option1'>option1</option>
        <option value='option2'>option2</option>
    </select>
    <button type="submit">Submit</button>
</form>

```

Implementation

- How do you share the flight data between the crawler and the control panel? Which approach do you choose?

We choose to use a file. Store the parameters into a `.json` file and put it under `/tmp`. Then we let the crawler to check the parameter in the file periodically.

- Which parameters in your program is allowed to be changed?

For the crawler: The longitude and latitude of the central point, the longitude and latitude of the north-west point, the interval.

For the LEDs: The ground speed and altitude can be more than/ more than or equal to/ equal to/ less than/ less than or equal to a certain value that user input.

