

LIS 161 Project Documentation

Web application title: Plant&Me

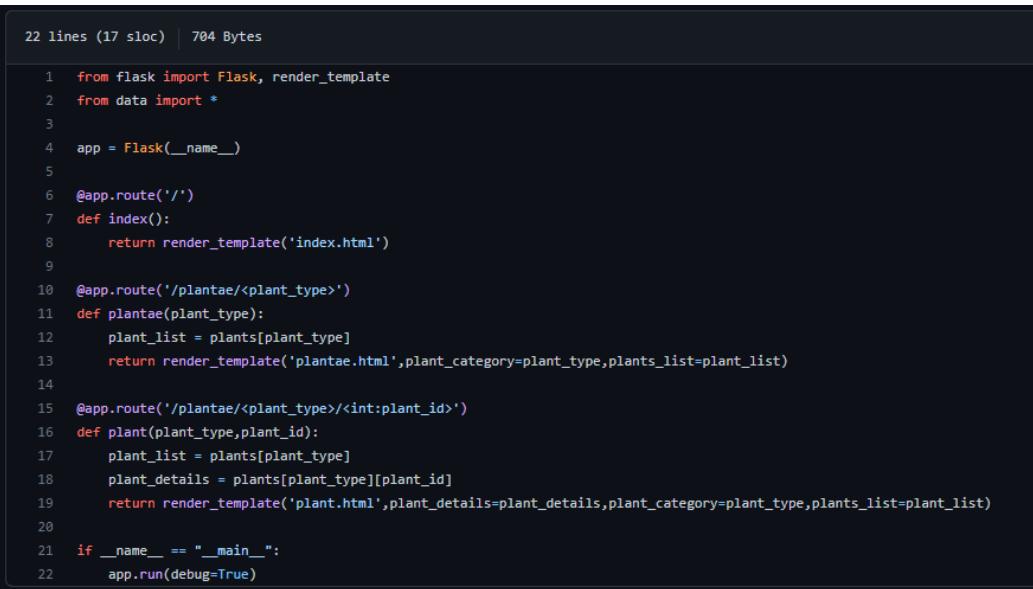
Live version of the application: <http://jndmnqt.pythonanywhere.com/>

Github link: <https://github.com/jndmnqt/lis161proj>

Source Code

Filenames:

- app.py
 - The main file for flask application



```
22 lines (17 sloc) | 704 Bytes

1 from flask import Flask, render_template
2 from data import *
3
4 app = Flask(__name__)
5
6 @app.route('/')
7 def index():
8     return render_template('index.html')
9
10 @app.route('/plantae/<plant_type>')
11 def plantae(plant_type):
12     plant_list = plants[plant_type]
13     return render_template('plantae.html', plant_category=plant_type, plants_list=plant_list)
14
15 @app.route('/plantae/<plant_type>/<int:plant_id>')
16 def plant(plant_type, plant_id):
17     plant_list = plants[plant_type]
18     plant_details = plants[plant_type][plant_id]
19     return render_template('plant.html', plant_details=plant_details, plant_category=plant_type, plants_list=plant_list)
20
21 if __name__ == "__main__":
22     app.run(debug=True)
```

- Lines 1 : Imports Flask and render_template method.
 - Flask is the Python web framework used for this project.
 - render_template method is used to render html files from the template folder.
- Line 2 : Imports data.
 - Python file (data.py) contains the data for the program. It has the information about each type of plant being presented in the application.
- Line 4 : Stores the instance of flask application to a variable called ‘app’
- Lines 6-8: Defines the index route and function.
 - The function renders ‘index.html’

- Lines 10-13 : Defines the route and function for the plant categories.
 - The variable plant list refers to ‘succulent’, ‘house’ and ‘bonsai’ as stated in the data.py file.
- Lines 15-19 : Defines the route and function for the individual plants listed in the plant categories.
 - The variable plant list refers to ‘succulent’, ‘house’ and ‘bonsai’ as stated in the data.py file.
 - The variable plant details refers to the details on plant categories and the individual plants, stored inside the dictionary.
- Lines 21-22: Ensures the program running is the main program
- data.py
 - The file that contains the data for the program.

```
88 lines (88 sloc)  4.71 KB
Raw Blame ⚙️ 🗑️

1 plants = [
2     'succulent': [
3         {
4             'name': 'aloe vera',
5             'price': 700,
6             'note': 'Oral ingestion of aloe vera is potentially toxic.',
7             'amount': 30,
8             'description': 'A herb with succulent leaves that are arranged in a rosette. They have sharp, pinkish spines.',
9             'url': 'https://www.thespruce.com/thumb/BM_aNpJmmW8a_yScdsVanFuEM-/150x0/filters:no_upscale():max_bytes(150000):strip_icc()/_DSC58741-476b7ffef66dd4ba8ce3jcbc0d7b8dd4.jpg'
10        },
11        {
12            'name': 'jade plant',
13            'price': 650,
14            'amount': 24,
15            'note': 'It lives for a long time, taking on the appearance of a miniature tree as it ages.',
16            'description': 'The jade plant has its features thick, with woody stems and glossy green, fleshy, oblong leaves up to two inches long.',
17            'url': 'https://www.gardeningknowhow.com/wp-content/uploads/2018/01/jade-plant-1.jpg'
18        },
19        {
20            'name': 'sunburst',
21            'price': 650,
22            'amount': 46,
23            'note': 'Sunburst is monocarpic, meaning that after it flowers, the main plant will die.',
24            'description': 'Sunburst leaves are white and green, with pink edges that turn red in full sun.',
25            'url': 'https://cdn.shopify.com/s/files/1/0259/6015/3122/products/Aeonium_SunburstCristata.png'
26        },
27        {
28            'name': 'bunny ears cactus',
29            'price': 700,
30            'amount': 10,
31            'note': 'It is dotted with fine spines called glochids that will get into your skin and make you itch.',
32            'description': 'Cactus that has pads resembling rabbit ears that look soft enough to stroke.',
33            'url': 'https://images.ctfassets.net/3s5io6mxqz/4sMpJVLBgttxfhm2IXGm/91b216da9da9138542fe9c8f476b7bb/AdobeStock_100596658_2.jpeg'
34        }
35    ],
36    'house': [
37        {
38            'name': 'peace lily',
39            'price': 550,
40            'amount': 14,
41            'note': 'The plant does not need large amounts of light or water to survive.',
42            'description': 'Peace lily has glossy, dark green oval leaves that narrow to a point. It periodically produce lightly fragrant white flowers that resemble calla lilies.',
43            'url': 'https://www.pennington.com/-/media/Project/OneWeb/Pennington/Images/blog/fertilizer/how-to-grow-and-care-for-a-peace-lilly/peace-lilly-h.jpg'
44        },
45        {
46            'name': 'African violet',
47            'price': 400,
48            'amount': 34,
49            'note': 'Spilling cold water on African violet leaves causes discoloration.',
50            'description': 'The leaves are rounded to oval and finely hairy with a fleshy texture. Its flowers has five-lobed velvety petals growing in clusters.',
51            'url': 'https://www.allaboutgardening.com/wp-content/uploads/2022/05/african-violets-blooming-indoors-1200x667.jpeg'
52        },
53        {
54            'name': 'anthurium',
55            'price': 600,
56            'amount': 12,
57            'note': 'Anthurium is a natural air purifier.',
58            'description': 'Anthurium has glossy, green heart-shaped leaves topped by heart-shaped pink, red, or white long-lasting blooms.',
59            'url': 'https://www.petarepublic.com/wp-content/uploads/2022/05/9-Amazing-Uses-and-Benefits-of-Anthurium-Plants.jpeg'
60        }
61    ],
62    'bonsai': [
63        {
64            'name': 'Japanese maple',
65            'price': 3000,
66            'amount': 8,
67            'note': 'In summer, they take on an intense green color, but when autumn arrives, the color fades to intense garnet tones.',
68            'description': 'It is famous for its spectacular sprouts, with an intense carmine color. Its leaves are palm-like, with slightly serrated edges.',
69            'url': 'https://i.pinimg.com/originals/9c/fe/be/9cfcebe025619fd608cedae15bb2b3c0.jpg'
70        },
71        {
72            'name': 'pomegranate',
73            'price': 2500,
74            'note': '',
75            'amount': 3,
76            'description': 'Has a thick trunk with interesting bark as well as eye-catching flowers that bear fruit.',
77            'url': 'https://www.bonsaiempire.com/images/carousel/pomegranate-bonsai-1-tree-3.jpg'
78        },
79        {
80            'name': 'azalea',
81            'price': 3000,
82            'amount': 4,
83            'note': 'Its shrubs have shallow roots that can be easily damaged if grown in hot, sunny sites.',
84            'description': 'This particular plant is very hardy and produces magnificent flowers that bloom brilliantly with radiant colors in late spring.',
85            'url': 'https://www.bonsaiempire.com/images/carousel/azalea06-azalea-flowers.jpg'
86        }
87    ]
88 }
```

- Line 1 : Creates the dictionary ‘plants’ containing the information for the program.
- Lines 2-35 : Contains the details for the plant category ‘succulent’.
 - ‘Succulent’ is a ‘plant category’ referred to in line 12 in the main application.
 - Each dictionary refers to the ‘plant_details’ in line 17 of the main application, the value that corresponds to the key ‘succulent’
- Lines 36-61 : Contains the details for the plant category ‘house’.
 - ‘House’ is a ‘plant category’ referred to in line 12 in the main application.
 - Each dictionary refers to the ‘plant_details’ in line 17 of the main application, the value that corresponds to the key ‘house’
- Lines 62-87 : Contains the details for the plant category ‘bonsai’.
 - ‘bonsai’ is a ‘plant category’ referred to in line 12 in the main application.
 - Each dictionary refers to the ‘plant_details’ in line 17 of the main application, the value that corresponds to the key ‘bonsai’

Templates

- base.html

- The html file that serves as the format for the web application

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta http-equiv="X-UA-Compatible" content="IE=edge">
6   <meta name="viewport" content="width=device-width, initial-scale=1.0">
7   <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha1/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-Gh1TQB1RABaZL163oWMSktQOpob7InIZ13Jr59b6EG6G01laFw7cmD6f6g0" crossorigin="anonymous">
8   <link rel="stylesheet" href="{{ url_for('static', filename='css/style.css') }}>
9   <title>Plants and me!</title>
10 </head>
11 <body>
12   {% include 'nav.html' %}
13   <div class="m-4">
14     {% block content %}
15     <h1> This is where the content is!</h1>
16     {% endblock %}
17   </div>
18
19   <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha1/dist/js/bootstrap.bundle.min.js" integrity="sha384-w76ApPDKMBDXo30jS15gez6pr3x5MlQ1ZAGC+nuZB+EYdgRzgiwxhTBTK7CXvN" crossorigin="anonymous"></script>
20 </body>
21 </html>
```

- Line 7 : References Bootstrap for styling
 - Line 8 : References ‘style.css’ for another styling
 - Line 9 : Web application title ‘Plants & Me!’ that appears on all pages
 - Line 12 : Includes ‘nav.html’ that will be inherited from parent (base.html) to all child files (other pages)
 - Line 13-17 : Serves as the content block for all pages’ contents
 - Line 15 serves as a placeholder for the page contents.
 - Line 19 : Imports Bootstrap JS Bundle with Popper

- index.html

- The file that serves as the landing page of the site, rendered in line 8 of the main application.

```
13 lines (12 sloc)  466 Bytes
1  {% extends 'base.html' %}
2
3  {% block content %}
4  <h1>PlantMe</h1>
5  <h2>Decorate your home with plants.</h2>
6  <br>
7  <p class="main">Browse through the links below and choose your botanic companion.</p>
8    <ul class="page">
9      <li><a href="/plantae/succulent">Succulent plants</a></li>
10     <li><a href="/plantae/house">House plants</a></li>
11     <li><a href="/plantae/bonsai">Bonsai plants</a></li>
12   </ul>
13  {% endblock %}
```

- Line 1 : Inherits the content of the base.html
 - Line 3-13 : The contents of the home page

- Contains the heading, description, instruction, and the list containing hyperlinks for each plant category. The plant categories are displayed as ‘Succulent Plants’, ‘House Plants’, and ‘Bonsai plants’.
- nav.html
 - The file that serves as the navigation bar for the web application.

16 lines (15 sloc) | 785 Bytes

```

1
2  <nav class="navbar navbar-expand-lg bg-body-tertiary" data-bs-theme="dark">
3    <div class="container-fluid">
4      <a class="navbar-brand" href="/">Plant&Me</a>
5      <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarNavAltMarkup" aria-controls="navbarNavAltMarkup" aria-expanded="false" aria-label="Toggle navigation">
6        <span class="navbar-toggler-icon"></span>
7      </button>
8      <div class="collapse navbar-collapse" id="navbarNavAltMarkup">
9        <div class="navbar-nav">
10         <a class="nav-link" href="/plantaee/succulent">Succulent plants</a>
11         <a class="nav-link" href="/plantaee/house">House plants</a>
12         <a class="nav-link" href="/plantaee/bonsai">Bonsai plants</a>
13       </div>
14     </div>
15   </div>
16 </nav>
```
 - Line 4 : The brand title for the navbar, “Plant&Me” that also directs the user to the homepage
 - Line 10-12 : Sub links in the navbar that directs the user to the plant categories ‘Succulent Plants’, ‘House Plants’, and ‘Bonsai plants’.
- plantaee.html
 - The file that serves as the directory to the plants for each plant category
 - The file is rendered in line 13 of the main application

12 lines (11 sloc) | 334 Bytes

```

1  {% extends 'base.html' %}
2
3  {% block content %}
4  <div class="plantaee">
5    <h1 class="plantaee"> List of {{ plant_category }} plants</h1>
6    <ul class="page">
7      {% for plant in plants_list %}
8        <li><a href="/plantaee/{{ plant_category }}/{{ loop.index - 1 }}"/>{{ plant.name }}</a></li>
9      {% endfor %}
10   </ul>
11 </div>
12 {% endblock %}
```
 - Line 1 : Inherits the contents of base.html
 - Lines 3-12 : Content of the pages for each plant category
 - Line 5 : Based on line 13 of the main application, it refers to the plant categories, namely: ‘Succulent Plants’, ‘House Plants’, and ‘Bonsai plants’.
 - Lines 7-9 : Creates a list of links of the plants available under the plant category.

- The href attribute links to each plant using the loop.index that loops through the contents of the plant categories. The plant.name is the displayed label for the clickable link.
- E.g. For the List of Succulent Plants page : Plant_category refers to ‘succulent’; plants refers to the 4 dictionaries inside ‘succulent’; plants_list refers to the list that contains the dictionaries; plant.name refers to the key ‘name’ in the dictionary that corresponds to the value ‘aloe vera’ (line 4 of data.py file)
- plant.html
 - The file that serves as the page information for each plant under the plants category (E.g. ‘aloe vera’ and its other details)
 - The file is rendered in line 19 of the main application

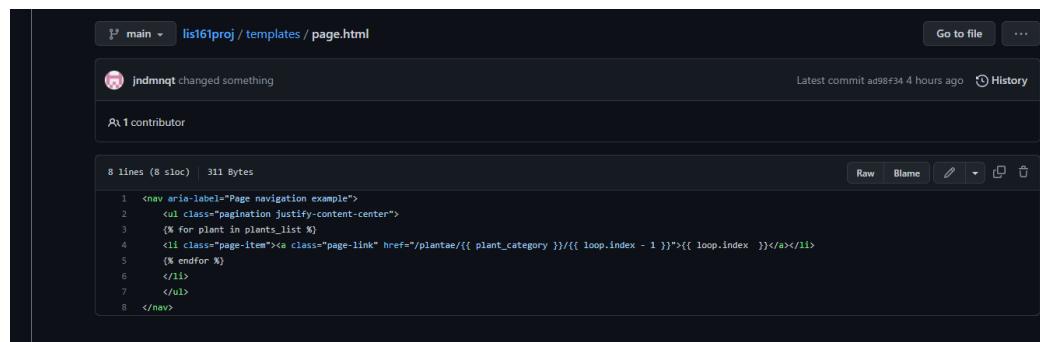
```

23 lines (22 sloc) | 642 Bytes
1  {% extends 'base.html' %}
2
3  {% block content %}
4  <div class="plants">
5  <h1 class="plants">{{ plant_details.name }}</h1>
6  
7  <p> {{ plant_details.description }}</p>
8  <ul class="plant">
9    {%if plant_details.note == "" %}
10    <li> Note: None.</li>
11    {% else %}
12    <li>Note: {{ plant_details.note }}</li>
13    {%endif%}
14    <li>Price: {{ plant_details.price }} php each</li>
15    {%if plant_details.amount ==0 %}
16    <li> Sold out.</li>
17    {% else %}
18    <li>Quantity available: {{ plant_details.amount }} pieces</li>
19    {%endif%}
20  </ul>
21 </div>
22 {% include 'page.html' %}
23 {% endblock %}

```

- Line 1 : Inherits the contents of base.html
- Line 3-23 : Content of the plants page
- For example, in the ‘aloe vera’ page:
 - Line 5 : Presents the value ‘aloe vera’ of the key ‘name’
 - Line 6 : Presents the image from the value ‘<https://www.thespruce.com...jpg>’ of the key ‘url’
 - Line 7 : Presents the plant description from the value ‘A herb with...’ of the key ‘description’
 - Lines 9-13 : If there is a blank value on the key ‘note’, the web application will display ‘Note: None’; Otherwise, it will display the note on plant from the value ‘Oral ingestion of...’ of the key ‘note’

- Line 14 : Presents the price from the value ‘700’ php each of the key ‘price’
- Lines 15-19 : If there is a 0 value on the key ‘amount’, the web application will display ‘Sold out.’; Otherwise, it will display the quantity available from the value ‘30’ pieces of the key ‘amount’
- Line 22 : Includes the page.html that will be inherited to other individual plant pages
- page.html
 - The file that serves as the pagination for each plant pages



```

main / lis16proj / templates / page.html
Go to file ...
jndmnqt changed something
Latest commit ad98f34 4 hours ago History
1 contributor

8 lines (8 sloc) 311 Bytes
Raw Blame ⚙️ ⌂ ⌓
1 <nav aria-label="Page navigation example">
2   <ul class="pagination justify-content-center">
3     {% for plant in plants_list %}
4       <li class="page-item"><a class="page-link" href="/plantae/{{ plant_category }}/{{ loop.index - 1 }}"/>{{ loop.index }}</a></li>
5     {% endfor %}
6   </ul>
7
8 </nav>

```

- Lines 2-7 : Creates a list of page numbers for each plant available under the plant category
 - Line 4 : The href attribute links to each plant page using the loop.index that loops through the contents of the plant categories. The loop.index is the displayed page number for the clickable link.
 - Line 3-5 : Works the same way as Line 7-9 in plantae.html

Static Files

Filenames:

- style.css

- The file contains the css styling for certain html elements in the web application that is applicable for all pages in the web application

```
1  * {
2   font-family:Georgia, 'Times New Roman', Times, serif;
3 }
4
5 body {
6  background-image: url(/static/img/bg.jpg);
7  background-size: 100%;
8 }
9
10 h1 {
11  color:black;
12  font-size: 8vw;
13  font-weight:bold;
14  margin-bottom: 0%;
15 }
16
17 h1.plantae {
18  font-size: 6vw;
19  line-height: 85%;
20 }
21
22 h1.plants{
23  position:relative;
24  font-size:5vw;
25  z-index: 3;
26  line-height:90%;
27 }
28
29 h2 {
30  font-style: italic;
31  font-size:150%;
32  margin-top:-2%;
33 }
34
35 div.plantae {
36  max-width: 60%;
37  margin: auto;
38  border: black solid 1px;
39  padding: 5ch;
40  background-color: whitesmoke;
41 }
42
43 div.plants {
44  max-width: 600px;
45  margin: auto;
46  background-color: whitesmoke;
47  padding:5ch;
48  border:black solid 1px;
49  margin-bottom: 2%;
50 }
51
52 p, li {
53  letter-spacing: 1px;
54  text-align: justify;
55 }
56
57 p{
58  font-style: italic;
59  margin-top: 2%;
60  line-height: 95%;
61 }
62
63 p.main {
64  font-style: normal;
65  font-size:120%;
66 }
67
68 ul.plantae {
69  margin-top: 5%;
70  margin-left: 5%;
71 }
72
73 ul.plantae a:link {
74  text-decoration: none;
75 }
76
77 ul.plantae a:visited {
78  text-decoration: none;
79 }
80
81 ul.plantae a:hover {
82  text-decoration: underline;
83 }
84
85 ul.plantae a:active {
86  text-decoration: underline;
87 }
88
89 ul.plants li {
90  font-size: 80%;
91 }
92
93 img {
94  display: block;
95  max-width: 100%;
96  border: black solid 1px;
97  margin-top: -1%;
98  position:sticky;
99  z-index: 2;
100 align-self: center;
101 }
102
103 a {
104  color: #035F1D;
105 }
106
107 a.page-link{
108  color:black !important;
109  font-family: Arial, Helvetica, sans-serif !important;
110  font-size: 80%;
111 }
```

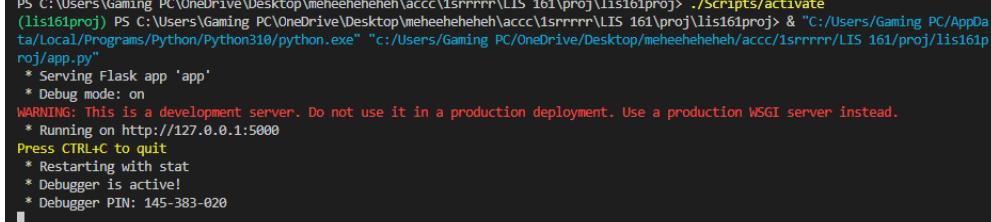
- Note: the classes .plantae and .plants are for the pages plantae.html and plants.html respectively
- Line 1-3: Setting the font family for the web page
- Line 5-8: Setting the background image for the web page
- Line 10-27 : Setting the various properties for heading 1 and its classes
- Line 29-33 : Setting the various properties for heading 2
- Lines 35-50: Setting the various properties for specific div classes
- Lines 52-55 : Setting the various properties for both paragraphs and lists
 - p.main for paragraphs in the home page
- Lines 57-66 : Setting the various properties for paragraphs and its classes
- Lines 68-91 : Setting the various properties for unlisted lists and its classes
 - Lines 73-87 : Setting the various properties for anchors under unlisted lists
- Lines 93-101 : Setting the various properties for images

- Lines 103-111: Setting the various properties for anchors and its classes
 - a.page-link for the Bootstrap links
- bg.jpg
 - The file that serves as the background image for the web page

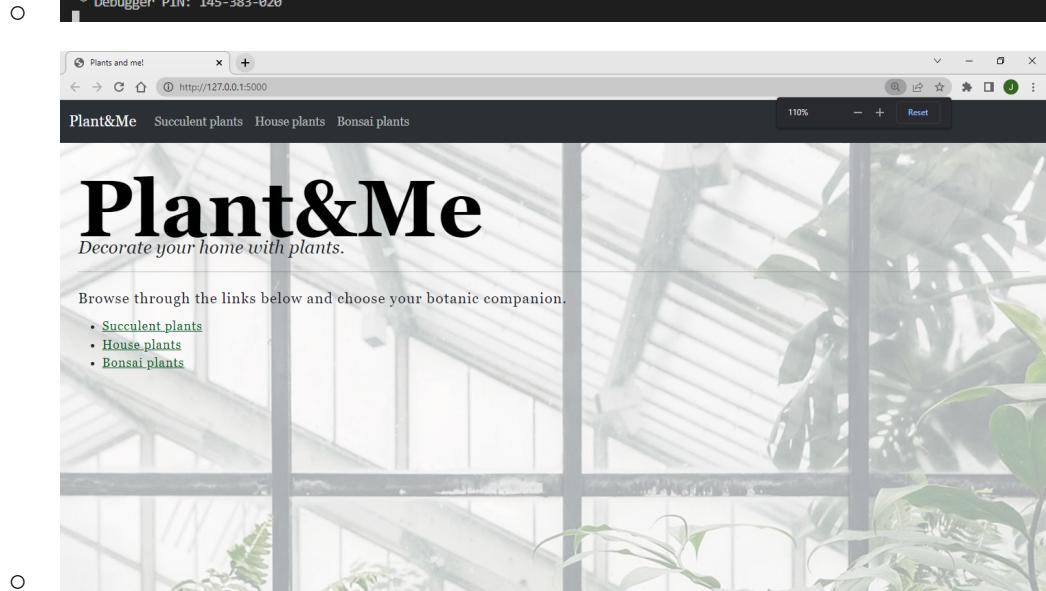
Project Requirements

R1. Functionality (Flask framework)

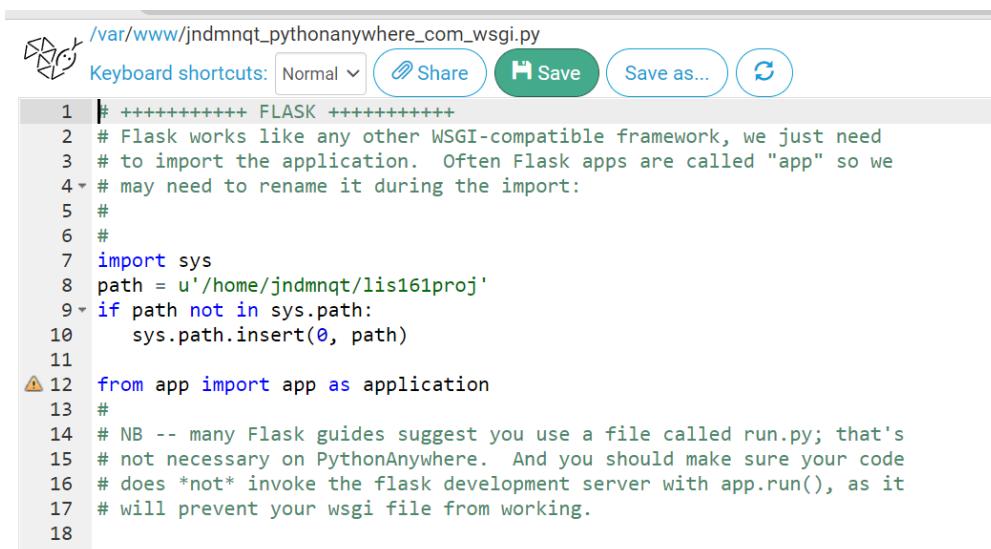
- Ran the app located in the imported repository through VS Code



```
PS C:\Users\Gaming PC\OneDrive\Desktop\meheeheheheh\accc\isrrrrr\LIS 161\proj\lis161proj> ./Scripts/activate
(lis161proj) PS C:\Users\Gaming PC\OneDrive\Desktop\meheeheheheh\accc\isrrrrr\LIS 161\proj\lis161proj> & "C:/Users/Gaming PC/AppData/Local/Programs/Python/Python310/python.exe" "c:/Users/Gaming PC/OneDrive/Desktop/meheeheheh\accc\isrrrrr\LIS 161\proj\lis161proj/app.py"
* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with stat
* Debugger is active!
* Debugger PIN: 145-383-020
```



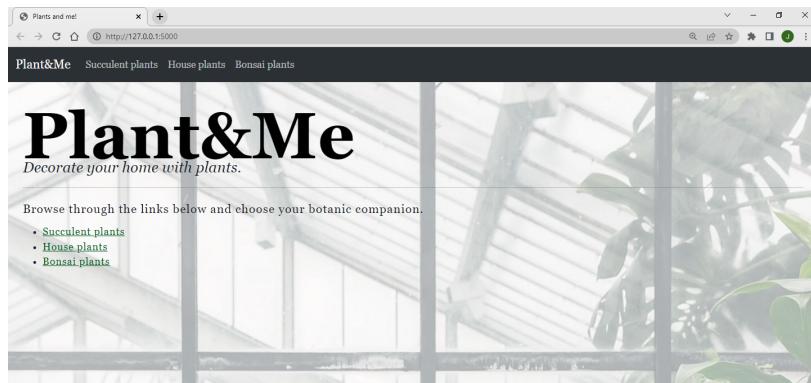
- WSGI configuration in pythonanywhere



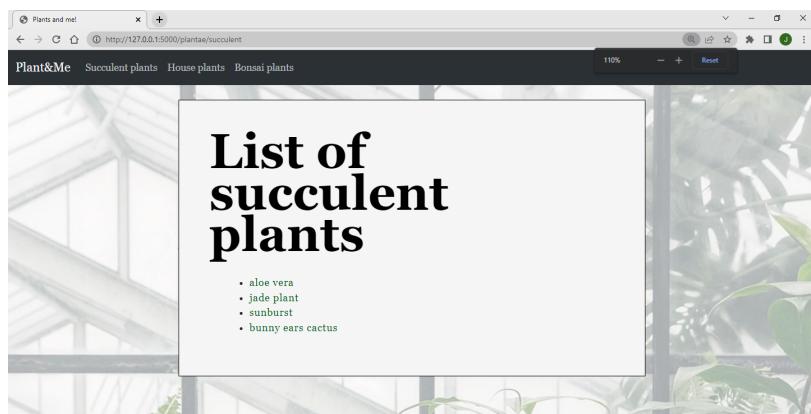
```
/var/www/jndmnqt_pythonanywhere_com_wsgi.py
Keyboard shortcuts: Normal ▾ Share Save Save as... ⌂
1 # ++++++ FLASK ++++++
2 # Flask works like any other WSGI-compatible framework, we just need
3 # to import the application. Often Flask apps are called "app" so we
4 # may need to rename it during the import:
5 #
6 #
7 import sys
8 path = u'/home/jndmnqt/lis161proj'
9 if path not in sys.path:
10     sys.path.insert(0, path)
11
12 from app import app as application
13 #
14 # NB -- many Flask guides suggest you use a file called run.py; that's
15 # not necessary on PythonAnywhere. And you should make sure your code
16 # does *not* invoke the flask development server with app.run(), as it
17 # will prevent your wsgi file from working.
18
```

R2. Functionality (List and item view)

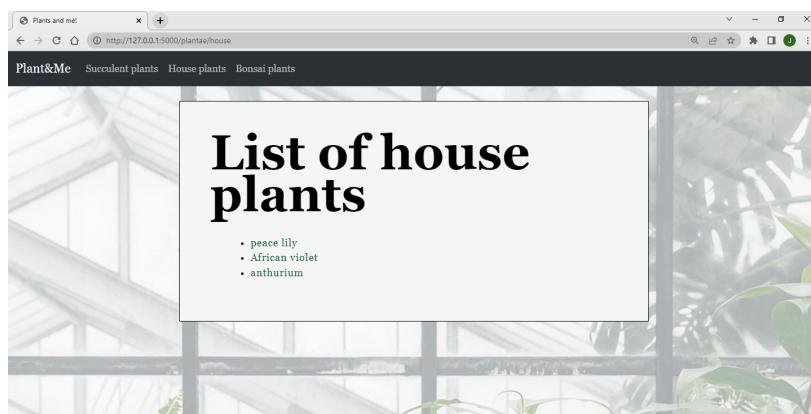
- List view



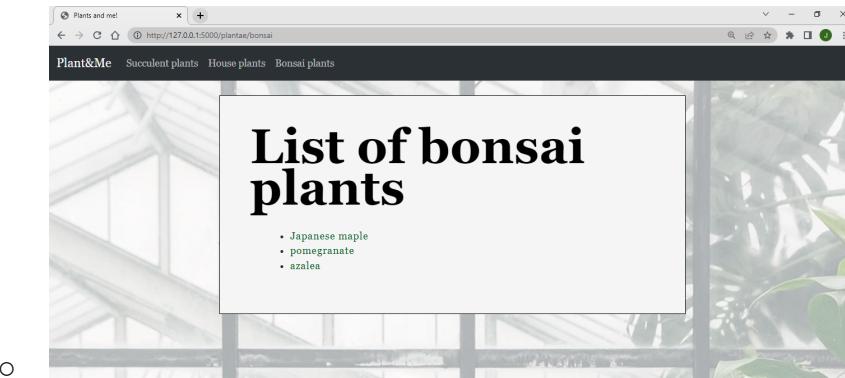
○



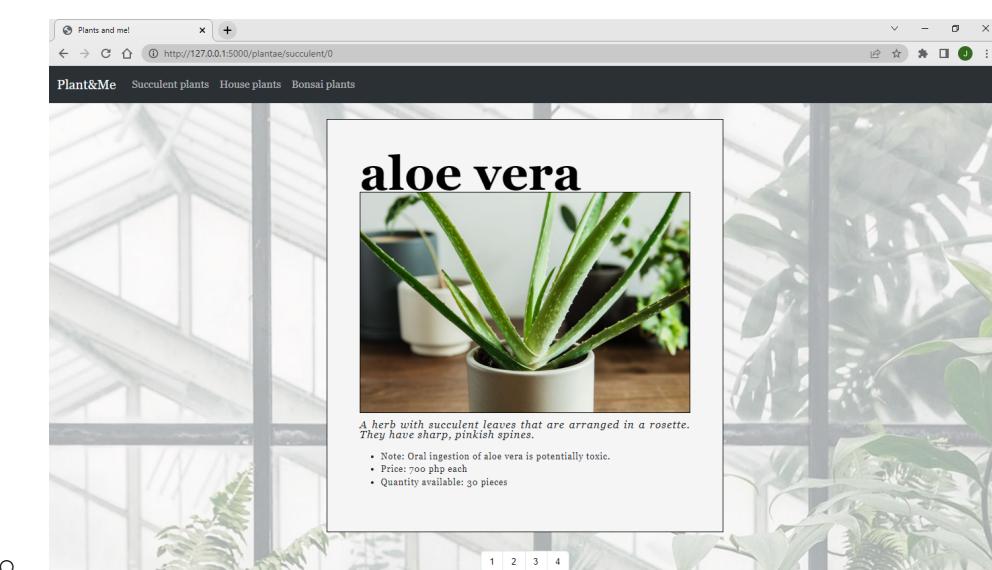
○



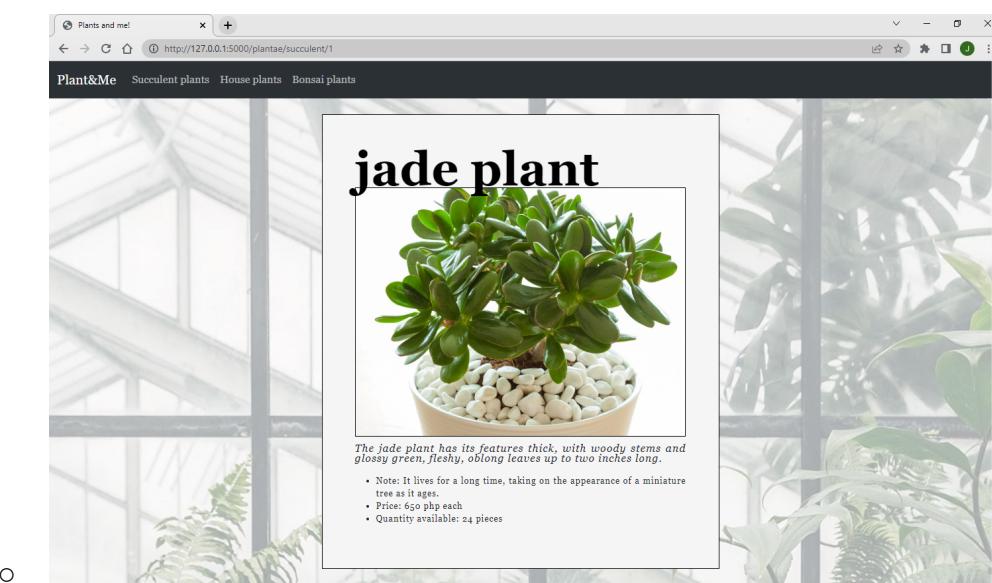
○



○ Item view



○



○

Plants and me! http://127.0.0.1:5000/plantae/succulent/2

Plant&Me Succulent plants House plants Bonsai plants

sunburst



Sunburst leaves are white and green, with pink edges that turn red in full sun.

- Note: Sunburst is monocarpic, meaning that after it flowers, the main plant will die.
- Price: 650 php each
- Quantity available: 46 pieces

○

Plants and me! http://127.0.0.1:5000/plantae/succulent/3

Plant&Me Succulent plants House plants Bonsai plants

bunny ears cactus



Cactus that has pads resembling rabbit ears that look soft enough to stroke.

- Note: It is covered with fine spines called glochids that will get into your skin and make you itch.
- Price: 700 php each
- Quantity available: 10 pieces

○

Plants and me! http://127.0.0.1:5000/plantae/house/0

Plant&Me Succulent plants House plants Bonsai plants

peace lily



Peace lily has glossy, dark green oval leaves that narrow to a point. It periodically produce lightly fragrant white flowers that resemble calla lilies.

- Note: The plant does not need large amounts of light or water to survive.
- Price: 550 php each
- Quantity available: 14 pieces

○

Plants and me! http://127.0.0.1:5000/plantae/house/1

Plant&Me Succulent plants House plants Bonsai plants

African violet



The leaves are rounded to oval and finely hairy with a fleshy texture. Its flowers has five-lobed velvety petals growing in clusters.

- Note: Spilling cold water on African violet leaves causes discoloration.
- Price: 600 php each
- Quantity available: 34 pieces

1 2 3

Plants and me! http://127.0.0.1:5000/plantae/house/2

Plant&Me Succulent plants House plants Bonsai plants

anthurium



Anthurium has glossy, green heart-shaped leaves topped by heart-shaped pink, red, or white long-lasting blooms.

- Note: Anthurium is a natural air purifier.
- Price: 600 php each
- Quantity available: 12 pieces

Plants and me! http://127.0.0.1:5000/plantae/bonsai/0

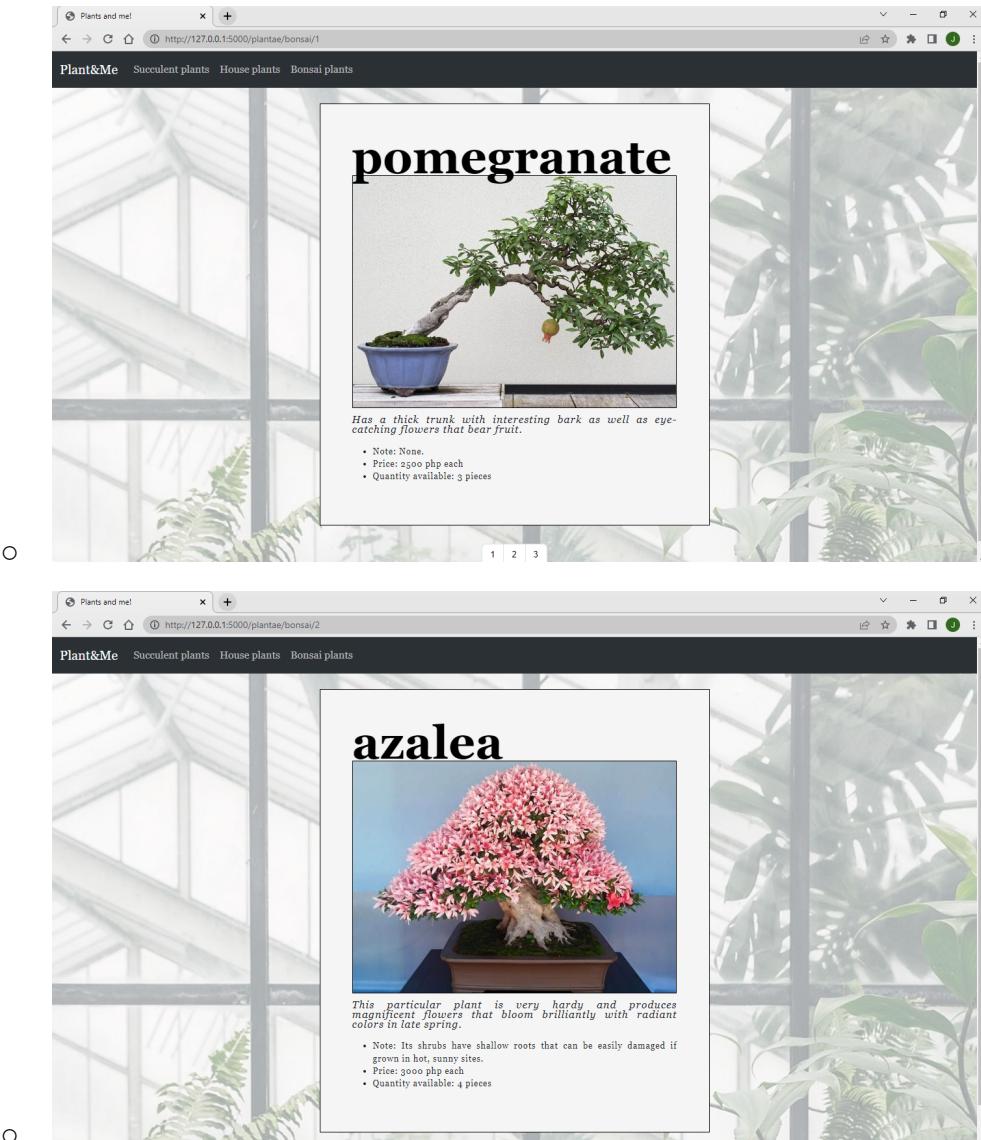
Plant&Me Succulent plants House plants Bonsai plants

Japanese maple



It is famous for its spectacular sprouts, with an intense crimson color. Its leaves are palm-like, with slightly serrated edges.

- Note: In summer, they take on an intense green color, but when autumn arrives, the color fades to intense garnet tones.
- Price: 3000 php each
- Sold out.



R3. Functionality (Navigation)

- The navigation bar is present on all pages of the web application.
- Addition: The pagination is present on all the individual pages of the plants

R4. Data (Stored in a separate python file)

- The data for the web application is present under the filename data.py.

R5. Data (At least 5 different data types)

- Text datatype: all the text present in the html files and some of the data found in data.py (str)
- Numeric data type: the price and amount values in data.py and the loop index (int)

- Image data type: the images used in the web application, mostly in .jpg or .jpeg format
- Mapping data type: the object ‘plants’ in data.py that contains nested dictionaries with values corresponding to keys
- Sequence data type: the list of plant categories (succulent plants, house plants and bonsai plants)
- Boolean data type: the if else statements in note and amount (quantity available) that requires True/False values

R6.Design (Flask templating)

- The render_template method was used in app.py, and a template folder containing the html templates rendered is present.

R7.Design (Static files and inheritance)

- Static files style.css and bg.jpg were used.
- The contents of the base.html including the nav.html were inherited by the rest of the pages.
- The contents of the page.html were inherited in each individual plant page.