

San Diego Python User Group

Lightning Talk - How to present static content with Python Flask

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Overview

- ❖ Re-cap last month's presentation
(How to deploy a Python Flask web app to the cloud)
- ❖ Shallow dive into the source code
 - Serve (and style) content from a static CSV file
 - Serve content from a markdown file
 - Serve content from a JSON file
- ❖ Resources

... in under 10 minutes!

Slides / Recording

- ❖ Slides: <https://github.com/dan-king/presentations>
- ❖ Recording: San Diego Python User Group YouTube Channel (https://www.youtube.com/channel/UCXU-oZwaHnoYUhja_yrrrGg)



Re-cap

- ❖ Last month's presentation: *How to deploy a Python Flask web app to the cloud*
- ❖ We deployed a simple Python Flask web application
 - Spun up a new Linux (Ubuntu) VM on DigitalOcean
 - Installed software stack (Nginx, Python)
 - Cloned Python Flask from GitHub
 - Configured Nginx
 - Got free (12-month) .tk domain from Freenom.com
 - Secured site with free https certificate from Let's Encrypt

Re-cap



APPSTORESCHOOL

7 milestone roadmap to publishing
your first app in the Apple App Store

July 2021 Edition



<https://i-love-cats.tk/>

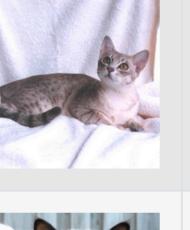
iOS Sticker Pack Website Template

Product Privacy Support

Product Page

Sticker Image Attribution

Search:

Sticker ↑↓	Image ↑↓	License ↑↓	License Page ↑↓	Copyright Year ↑↓	Copyright Name ↑↓	Copyright Website ↑↓
Abyssinian		Creative Commons Attribution-Share Alike 2.5 Generic, 2.0 Generic and 1.0 Generic license.	License Page	Aug-05	Karin Langner-Bahmann	Copyright Website
American Shorthair		Creative Commons Attribution-Share Alike 2.0 Generic license.	License Page	25-Jan-06	Dustin Warrington	Copyright Website
Asian Cat		Creative Commons Attribution-Share Alike 3.0 Unported license.	License Page	18-May-07	Scotia	Copyright Website
Asian Semi-longhair		Creative Commons Attribution 3.0 Unported License	License Page	22-Nov-08	Heikki Siltala	Copyright Website
Australian Mist		Creative Commons Attribution-Share Alike 3.0 Unported license.	License Page	29-Jun-05	Regis2007	Copyright Website
Birman		Creative Commons Attribution-Share Alike 3.0 Unported license.	License Page	3-Jun-07	Berk	Copyright Website
Bobtail		Creative Commons	License	2008	torbakhopper	Copyright

Stack

- ❖ Back end
 - Ubuntu (Linux operating system)
 - Nginx (web server, reverse proxy)
 - Python (programming language)
 - Pandas (data analysis library)
 - Flask (web framework for Python)
 - Jinja (template engine for Flask)
- ❖ Front end
 - HTML/JavaScript/CSS
 - Bootstrap (front-end CSS framework)
 - jQuery (JavaScript framework)
 - DataTables (table plug-in for jQuery)
- ❖ Vendors
 - DigitalOcean
 - GitHub (source code repository)
 - Freenom (.tk domain name - free for first 12 months)
 - Let's Encrypt (free domain certificate)



Source Code

- ❖ Index
 - Code
- ❖ Page Navigation
 - Code
- ❖ Delivery and Presentation of Content
 - Marketing Page (CSV)
 - Privacy Policy (MD)
 - Contact Page (JSON)

index.html template

```
1 <!doctype html>
2 <html>
3     <head>
4         <meta charset="utf-8">
5         <meta name="viewport" content="width=device-width, initial-scale=1">
6         <title>iOS Sticker Pack Website Template</title>
7         <meta name="description" content="iOS Sticker Pack Website Template">
8
9         <link rel="stylesheet" type="text/css" href="https://cdnjs.cloudflare.com/ajax/libs/twitter-bootstrap/4.6.0/css/bootstrap.min.css"/>
10        <link rel="stylesheet" type="text/css" href="https://cdn.datatables.net/1.11.2/css/dataTables.bootstrap4.min.css"/>
11
12        <script type="text/javascript" src="https://code.jquery.com/jquery-3.6.0.min.js"></script>
13        <script type="text/javascript" src="https://cdnjs.cloudflare.com/ajax/libs/twitter-bootstrap/4.6.0/js/bootstrap.min.js"></script>
14        <script type="text/javascript" src="https://cdn.datatables.net/1.11.2/js/jquery.dataTables.min.js"></script>
15        <script type="text/javascript" src="https://cdn.datatables.net/1.11.2/js/dataTables.bootstrap4.min.js"></script>
16
17        <link href=".static/application.css" rel="stylesheet" type="text/css"/>
18    </head>
19    <body>
20        <div class="d-flex flex-column min-vh-100">
21            <nav class="navbar navbar-expand-md navbar-dark fixed-top" style="background-color: #007bff;">
22                <div class="mx-auto order-2 text-center">
23                    <h3 style="color: white;"><a href=".start?cache_buster={{ range(1000000, 9999999) | random }}"><span style="color:white">
24                </div>
25            </nav>
26            <main class="flex-fill" style="padding-top:100px">
27                <div>
28                    <div class="list-group list-group-horizontal pb-5">
29                        <span class="list-group-item flex-fill"><a href=".product">Product</a></span>
30                        <span class="list-group-item flex-fill"><a href=".privacy">Privacy</a></span>
31                        <span class="list-group-item flex-fill"><a href=".support">Support</a></span>
32                    </div>
33
34                </div>
35                <div class="container-fluid text-center" style="max-width: 1020px;">
36                    {% block body %}
37                    {% endblock %}
38                </div>

```

Privacy Policy (MD)

- ❖ MD is the easiest of the three (MD, JSON, CSV)
- ❖ Just send and present with {{curly brackets}} in the template

main ▾ ios-sticker-pack-website-template / content / privacy_policy.MD

dan-king Add content to Privacy Policy

1 contributor

55 lines (30 sloc) | 4.21 KB

```
1 # Privacy Policy
2
3 Viewpoint Technical LLC built each iMessage sticker pack as a Freemium app. This SERVICE is provided by Viewpoint Technical LLC at no cost and is intended for use as is.
4
5 This page is used to inform visitors regarding our policies with the collection, use, and disclosure of Personal Information if anyone
6
7 If you choose to use our Service, then you agree to the collection and use of information described in this Privacy Policy.
8
9 ## Information Collection and Use
10
11 For a better experience, while using our Service, we may require you to provide us with
12
13 ## Log Data
14
15 We want to inform you that whenever you use our Service, in a case of an error in the a
```

iOS Sticker Pack Website Template

Product	Privacy	Support
---------	---------	---------

Privacy Policy

Viewpoint Technical LLC built each iMessage sticker pack as a Freemium app. This SERVICE is provided by Viewpoint Technical LLC at no cost and is intended for use as is.

This page is used to inform visitors regarding our policies with the collection, use, and disclosure of Personal Information if anyone decided to use our Service.

If you choose to use our Service, then you agree to the collection and use of information in relation to this policy. The Personal Information that we collect is used for providing and improving the Service, we will not use or share your information with anyone except as described in this Privacy Policy.

Information Collection and Use

For a better experience, while using our Service, we may require you to provide us with certain personally identifiable information. The information that we request will be retained by us and used as described in this privacy policy.

Log Data

We want to inform you that whenever you use our Service, in a case of an error in the app we collect data and information (through third party products) on your phone called Log Data. This Log Data may include information such as your device Internet Protocol ("IP") address, device name, operating system version, the configuration of the app when utilizing our Service, the time and date of your use of the Service, and other statistics.

```
76 # Privacy page route
77 @app.route("/privacy")
78 def privacy() -> "html":
79     with app.open_resource("content/privacy_policy.MD") as f:
80         privacy_policy_md = f.read()
81     privacy_policy = privacy_policy_md.decode("utf-8")
82     privacy_policy_html = markdown.markdown(privacy_policy)
83     return render_template(
84         "privacy.html",
85         privacy_policy_html=privacy_policy_html,
86     )
```

main ▾ ios-sticker-pack-website-template / templates / privacy.html

dan-king Add content to Privacy Policy

1 contributor

9 lines (6 sloc) | 131 Bytes

```
1 {% extends 'index.html' %}
2
3 {% block body %}
4
5 <div class="text-left">
6 {{ privacy_policy_html | safe }}
7 </div>
8
9 {% endblock body %}
```

Support Page (JSON)

❖ Option 1: Send entire JSON object

- Parse in template with Flask {{curly jacket}} notation

The screenshot shows a GitHub commit for the file `templates/support.html`. The commit message is "dan-king Populate support page with content from JSON". It has 1 contributor and 9 lines (5 sloc) of code, totaling 109 Bytes. The code uses Jinja2 templating syntax to extend 'index.html' and include the contents of 'support.json'.

```
1  {% extends 'index.html' %}  
2  
3  {% block body %}  
4  
5  <h1>Support Page</h1>  
6  
7  {{ support_json }}  
8  
9  {% endblock body %}
```

```
89 # Support page route  
90 @app.route("/support")  
91 def support() -> "html":  
92     with app.open_resource("content/support.json") as f:  
93         support = f.read()  
94     support_json = support.decode("utf-8")  
95     return render_template("support.html", support_json=support_json)
```

❖ Option 2: Parse object on server-side

- Send each item as its own argument

The screenshot shows a GitHub commit for the file `content/support.json`. The commit message is "dan-king Add contact details to support page". It has 1 contributor and 4 lines (4 sloc) of code, totaling 89 Bytes. The code defines a single object with two properties: "Support Email" and "Support Phone Number".

```
1 {  
2     "Support Email": "dan.king@vptech.io",  
3     "Support Phone Number": "(619) 289-5101"  
4 }
```

The website interface shows a blue header bar with the text "iOS Sticker Pack Website Template". Below the header, there is a navigation bar with links for "Product", "Privacy", and "Support". The "Support" link is underlined. The main content area is titled "Support Page" and contains the JSON object defined in the file.

```
{ "Support Email": "dan.king@vptech.io", "Support Phone Number": "(619) 289-5101" }
```

Marketing Page (CSV)

❖ Raw CSV

- Easy to present raw, but not pretty

❖ Avail of front-end tools for presentation

- DataTables
- Bootstrap
- jQuery

Screenshot of a GitHub repository showing a CSV file named `stickers.csv`. The file contains 28 lines (28 sloc) and is 6.31 KB. It lists cat breeds with their names, images, and licensing information.

Sticker	Image	License	license_page
Abyssinian	Abyssinian.jpg	Creative Commons Attribution-Share Alike 2.5 Generic, 2.0 Generic and 1.0 Generic license.	https://commons.wikimedia.org/wiki/File:Gustav_chocolate.jpg
American Shorthair	American-Shorthair.jpg	Creative Commons Attribution-Share Alike 2.0 Generic license.	https://commons.wikimedia.org/wiki/File:American_Shorthair.jpg
Asian Cat	Asian-Cat.jpg	Creative Commons Attribution-Share Alike 3.0 Unported license.	https://commons.wikimedia.org/wiki/File:BrownVarientAsianCat.jpg
Asian Semi-longhair	Asian-Semi-longhair.jpg	Creative Commons Attribution 3.0 Unported License	https://commons.wikimedia.org/wiki/File:Tiffanie_at_cat_show.jpg
Australian Mist	Australian-Mist.jpg	Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License	https://commons.wikimedia.org/wiki/File:Australian_Mist.jpg
Birman	Birman.jpg	Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License	https://commons.wikimedia.org/wiki/File:Birman2.jpg
Bobtail	Bobtail.jpg	Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License	https://commons.wikimedia.org/wiki/File:Bobtail.jpg

The screenshot also shows a browser window displaying a marketing page titled "iOS Sticker Pack Website Template". The page lists the same cat breeds with their images and attribution details, matching the data from the CSV file.

Flask Route

Marketing Page (CSV)

Option 1

- Pass entire payload to the template

Option 2

- Parse the payload on the server-side

```
43 # Product page route
44 @app.route("/product")
45 def product() -> "html":
46     stickers_csv = pd.read_csv("content/stickers.csv")
47     print(f"stickers_csv: {stickers_csv}")
48     sticker_list = []
49     for index, row in stickers_csv.iterrows():
50         print(row['Sticker'], row['License'])
51         sticker = row['Sticker']
52         image = row['Image']
53         license = row['License']
54         license_page = row['license_page']
55         copyright_year = row['copyright_year']
56         copyright_name = row['copyright_name']
57         copyright_link = row['copyright_user_link']
58         s = [
59             sticker,
60             image,
61             license,
62             license_page,
63             copyright_year,
64             copyright_name,
65             copyright_link
66         ]
67         sticker_list.append(s)
68
69     return render_template(
70         "product.html",
71         stickers_csv=stickers_csv,
72         sticker_list=sticker_list,
73     )
```

Marketing Page (CSV)

main ▾ ios-sticker-pack-website-template / templates / product.html

dan-king Add sticker images to product page

1 contributor

65 lines (55 sloc) | 1.93 KB

```
1  {% extends 'index.html' %} 
2
3  {% block body %} 
4
5  <h1>Product Page</h1>
6
7  <div>
8    <h3>Sticker Image Attribution</h3>
9
10   <table id="sticker_table" class="table table-striped table-bordered" style="width:100%"></table>
11
12 </div>
13 <script>
14
15   // Define a "None" variable in case any Python values are set to None
16   var None = 'not set'
17
18   // Convert Python payload to JavaScript
19   var sticker_list = {{ sticker_list | safe }}
20
21   console.log("stickers: ", sticker_list)
22
23   // =====
24   // Initial page load
25   // =====
26   $(function(){
27     $('#sticker_table').DataTable( {
28       data: sticker_list.
29
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
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48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
```

```
27   $('#sticker_table').DataTable( {
28     data: sticker_list,
29     columns: [
30       { title: "Sticker" },
31       { title: "Image" },
32       { title: "License" },
33       { title: "License Page" },
34       { title: "Copyright Year" },
35       { title: "Copyright Name" },
36       { title: "Copyright Website" }
37     ],
38     columnDefs: [
39     {
40       "render": function ( data, type, row ) {
41         return ''
42       },
43       "targets": 1
44     },
45     {
46       "render": function ( data, type, row ) {
47         return '<a href="' + data + '" target="_blank">License Page</a>'
48       },
49       "targets": 3
50     },
51     {
52       "render": function ( data, type, row ) {
53         return '<a href="' + data + '" target="_blank">Copyright Website</a>'
54       },
55       "targets": 6
56     }
57   ],
58   info: true,
59   paging: false,
60   searching: true
61   } )
62 })
63 </script>
64
65 {% endblock body %}
```

Next Time

- ❖ ~~Review the Python Flask code~~
- ❖ Add automated testing
- ❖ Implement custom configuration
- ❖ Deploy in a Docker container
- ❖ Deploy on a different vendor (e.g. AWS or Linode)
- ❖ Share the published sticker pack!



Links/Resources

- ❖ Slides: <https://github.com/dan-king/presentations>
- ❖ Recording: <https://www.sandiegopython.org>
- ❖ Code: <https://github.com/dan-king/ios-sticker-pack-website-template>
- ❖ Sticker Packs: <https://vptech.io/sticker-packs>
- ❖ Roadmap: <https://appstoreschool.thinkific.com>
- ❖ Contact details:

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- ❖ Thank you!

