Data Science Gallery 1

Justin Skycak
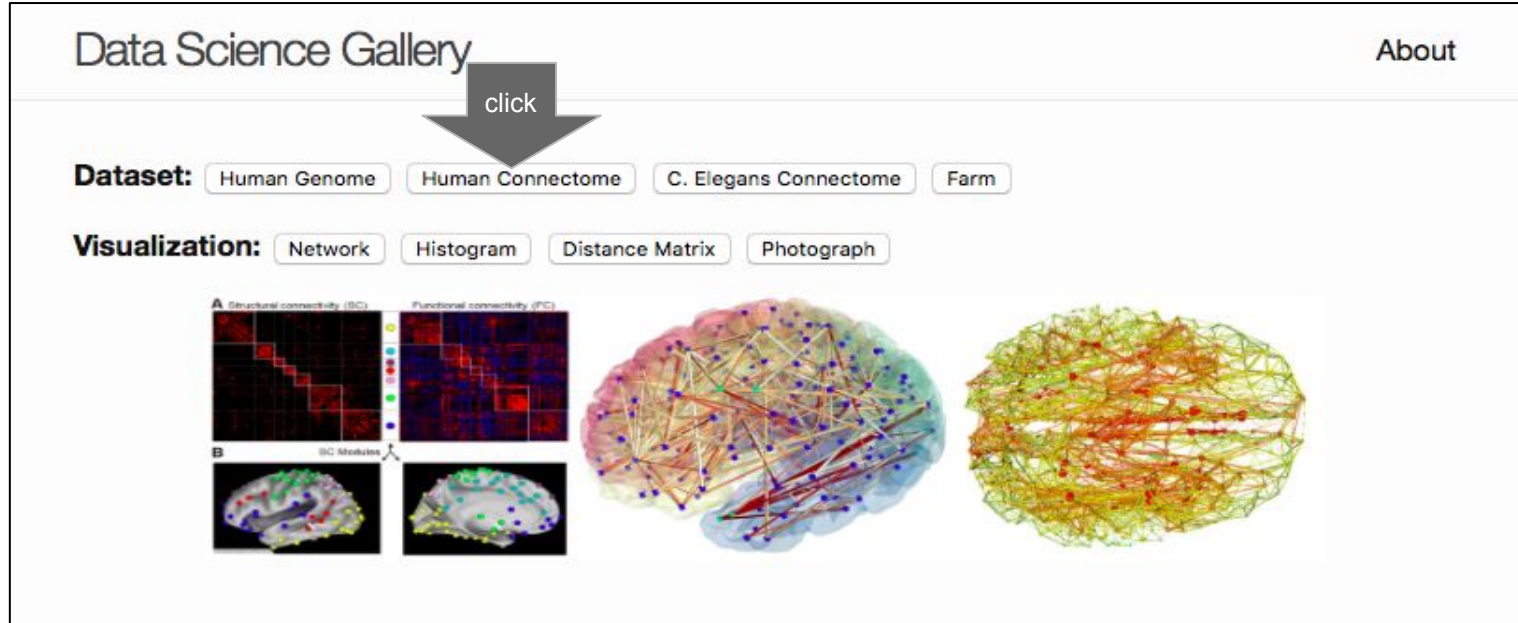June 27, 2016

Initial Prototype

https://jpskycak.github.io/ds-gallery/

Landing page

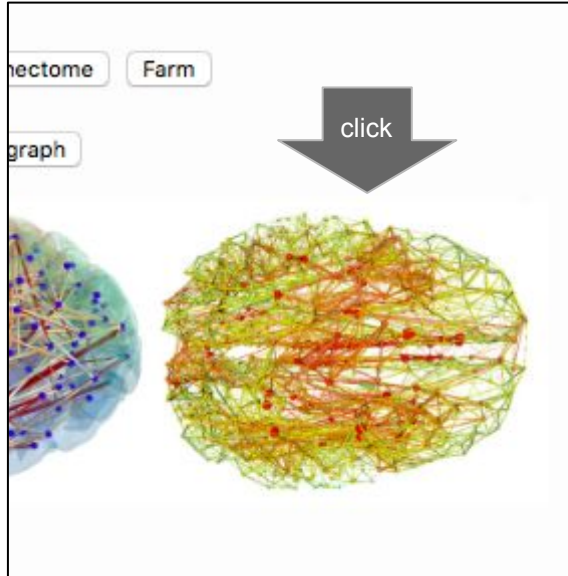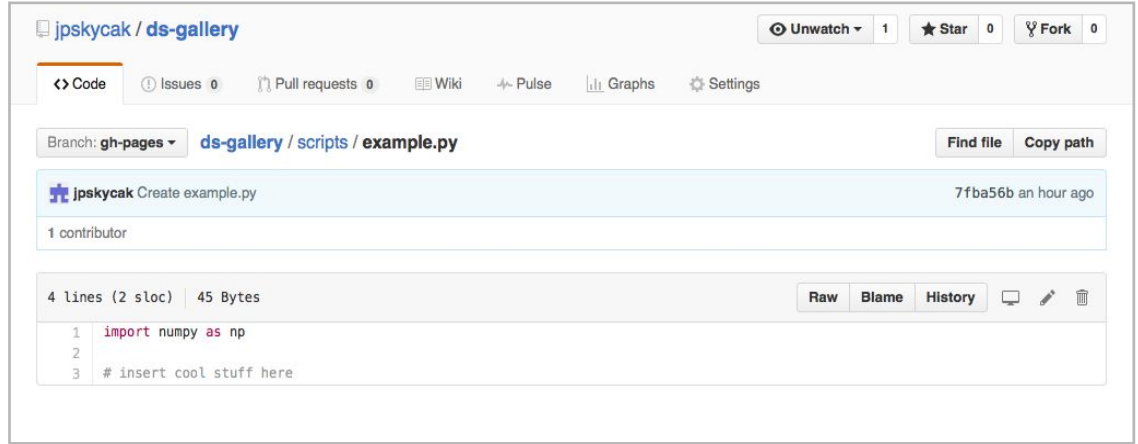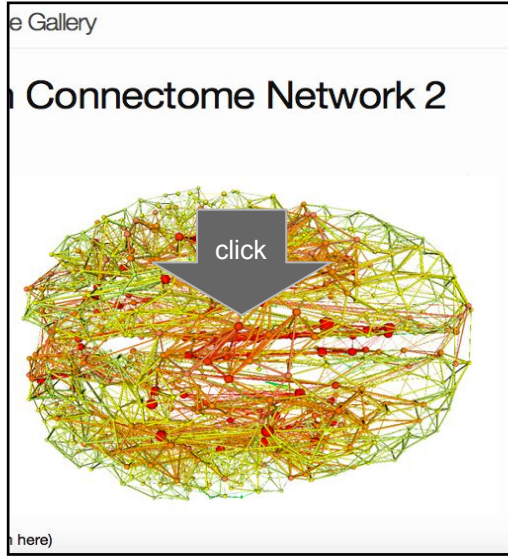Buttons which correspond to tags for e.g. the dataset used to generate images, and the type of visualization that each image uses. Once a tag button is clicked, all images with that tag are displayed below.

Image pages
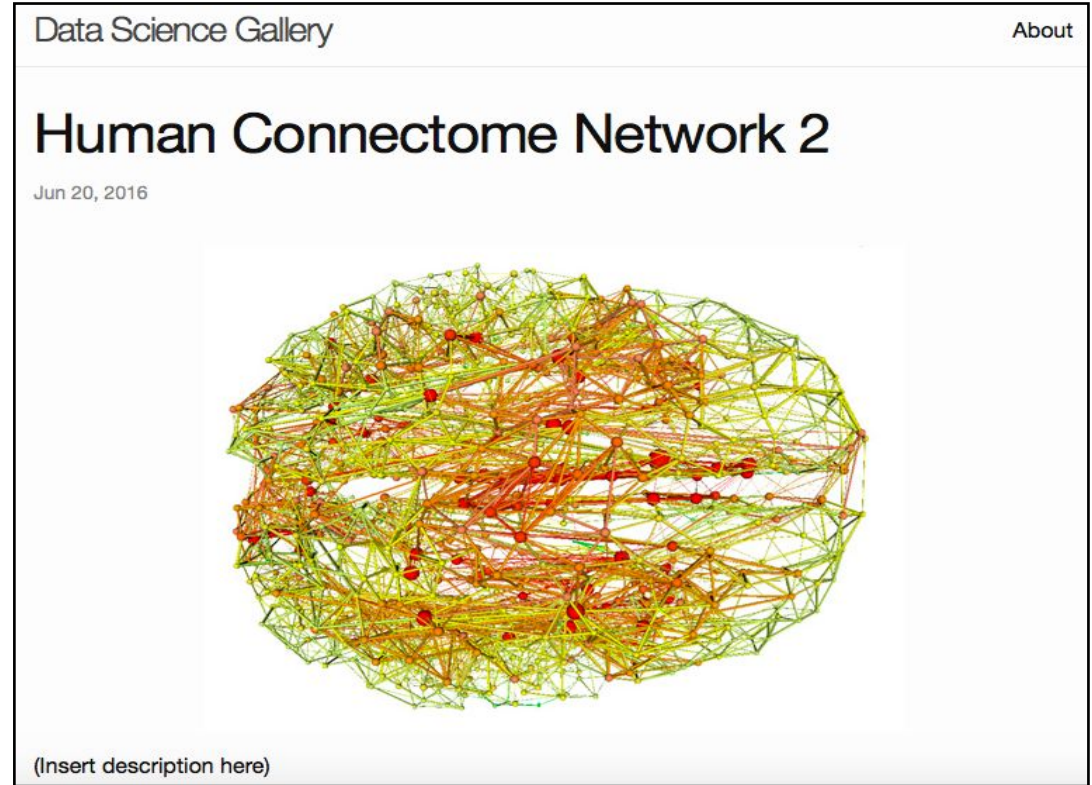
Each image links to its own page, where information about the image is displayed.

Code viewing

Each image links to a script that can be used to regenerate the image.

Adding new images

Add file `YYYY-MM-DD-name.image_ext` to the `assets/images` folder,

add attributes to `image_list` in `_includes/image_list.html`, and
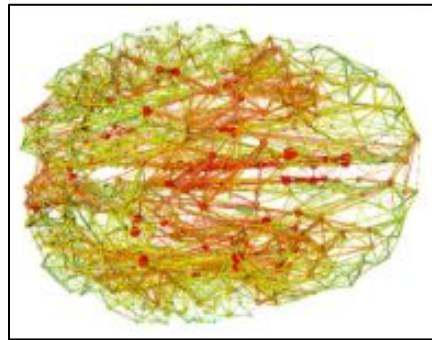
```
<script>
    var image_list = [{date: "2016-06-20", name: "c-elegans-network-1", image_ext: ".png", tags: ["c-elegans-connectome", "network"]},
                      {date: "2016-06-20", name: "c-elegans-network-2", image_ext: ".png", tags: ["c-elegans-connectome", "network"]},
                      {date: "2016-06-20", name: "c-elegans-network-3", image_ext: ".png", tags: ["c-elegans-connectome", "network"]},
                      {date: "2016-06-20", name: "c-elegans-network-4", image_ext: ".png", tags: ["c-elegans-connectome", "network"]},
                      {date: "2016-06-20", name: "goat-horse-1", image_ext: ".png", tags: ["farm", "photograph"]},
                      {date: "2016-06-20", name: "goat-horse-2", image_ext: ".png", tags: ["farm", "photograph"]},
                      {date: "2016-06-20", name: "goat-horse-3", image_ext: ".png", tags: ["farm", "photograph"]},
```

add description `YYYY-MM-DD-name.markdown` to the `_posts` folder.

```
---
layout: post
image_ext: .png
code_ext: .py
---

(Insert description here)
```

Adding new tags

Dataset:	Human Genome	Human Connectome	C. Elegans Connectome	Farm
Visualization:	Network	Histogram	Distance Matrix	Photograph

Add another button in `_includes/tag_buttons.html`

```html
<p><strong>Dataset:</strong>
<button onclick="generate_tag_code('human-genome')">Human Genome</button>
<button onclick="generate_tag_code('human-connectome')">Human Connectome</button>
<button onclick="generate_tag_code('c-elegans-connectome')">C. Elegans Connectome</button>
<button onclick="generate_tag_code('farm')">Farm</button></p>

<p><strong>Visualization:</strong>
<button onclick="generate_tag_code('network')">Network</button>
<button onclick="generate_tag_code('histogram')">Histogram</button>
<button onclick="generate_tag_code('distance-matrix')">Distance Matrix</button>
<button onclick="generate_tag_code('photograph')">Photograph</button></p>
```

New tag categories can be added as well (e.g. *Presentations*, *Running time*).

Blueprint for Integration with Notebooks

ds-gallery/	
dslib/	network_plot.py save_to_gallery.py
assets/ images/	au-network.png
_includes/	image_list.html
_posts/	2016-06-27-au-network.markdown
scripts/	2016-06-27-au-dep-network.ipynb

notebook

```
import dslib
load data

my_img = dslib.network_plot(data)

dslib.save_to_gallery(image = my_img,
                      image_ext = ".png",
                      name = "au-dep-network",
                      tags = ["au","network"],
                      description = "This is a network
                                    visualization of
                                    Aunsight
dependencies",
                      date = "2016-06-27" (implicit)
                      code_ext = ".ipynb" (implicit)   )
```

Blueprint for Integration with Notebooks

ds-gallery/	
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assets/ images/	au-network.png
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> import library >   > import library >   > import library >

> import library >

notebook

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dependencies",
                      date = "2016-06-27" (implicit)
                      code_ext = ".ipynb" (implicit)  )
```

< import library <   < import library <

Blueprint for Integration with Notebooks

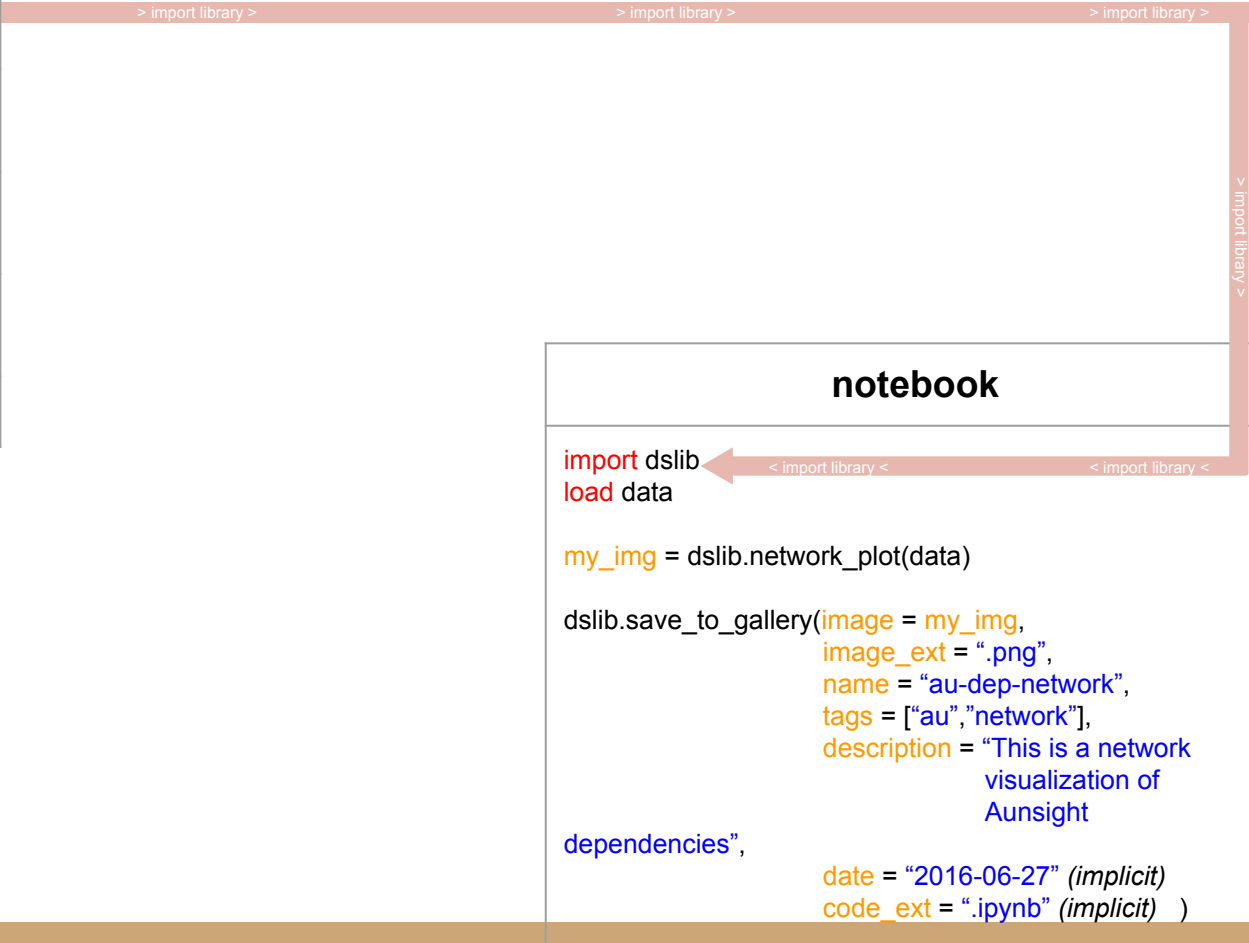| ds-gallery/	
dslib/	network_plot.py save_to_gallery.py
assets/ images/	au-network.png
_includes/	image_list.html
_posts/	2016-06-27-au-network.markdown
scripts/	2016-06-27-au-dep-network.ipynb

> import library > > import library > > import library >

< import library <

> manipulate args >

< manipulate args <

au-network.png

notebook

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Blueprint for Integration with Notebooks

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> import library >

> import library >

> import library >

< save image <   < save image <   < save image <

> manipulate args >

< manipulate args <

au-network.png

notebook

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                                    visualization of
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dependencies",
                      date = "2016-06-27" (implicit)
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```
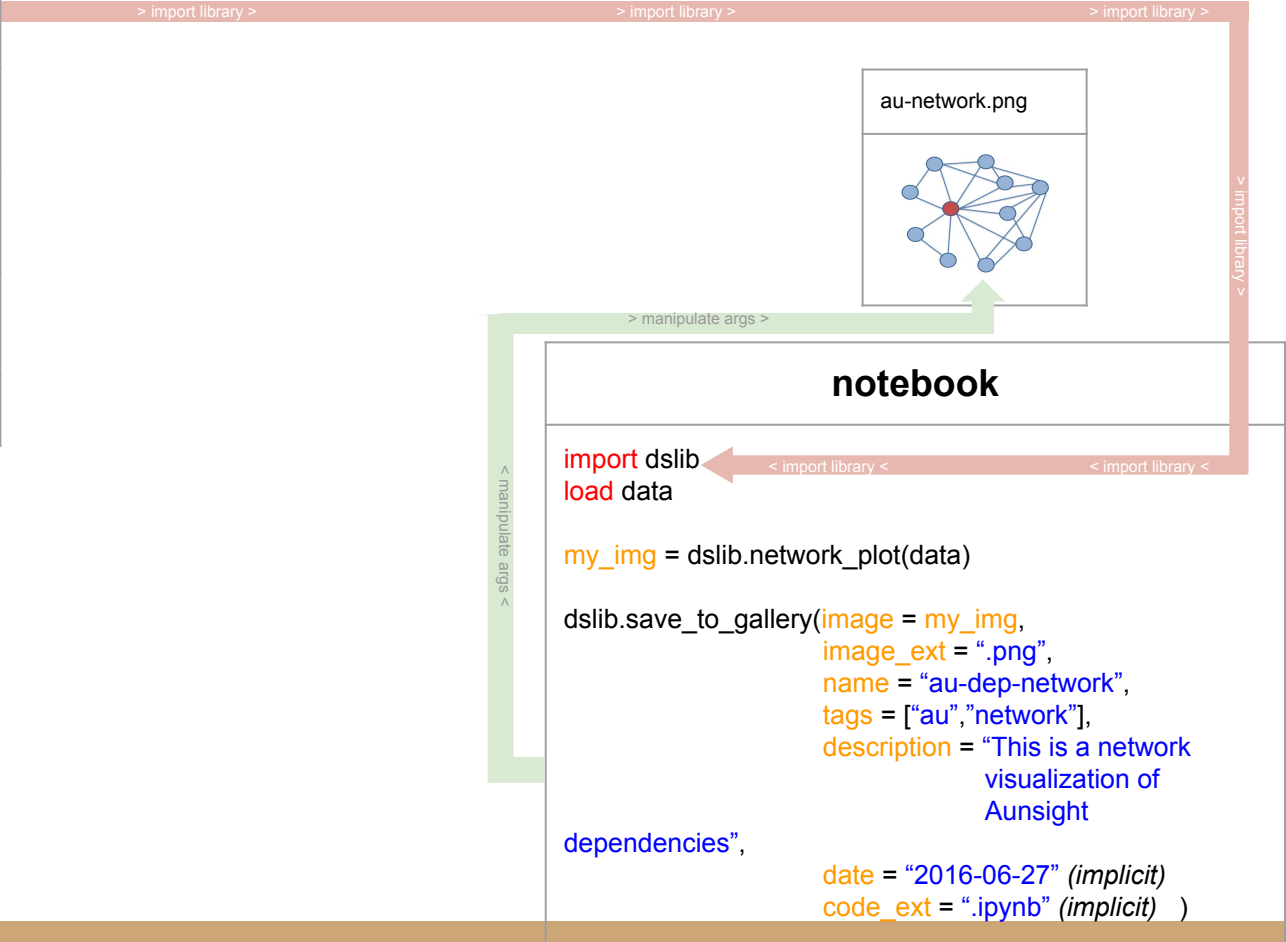
< import library <   < import library <

Blueprint for Integration with Notebooks

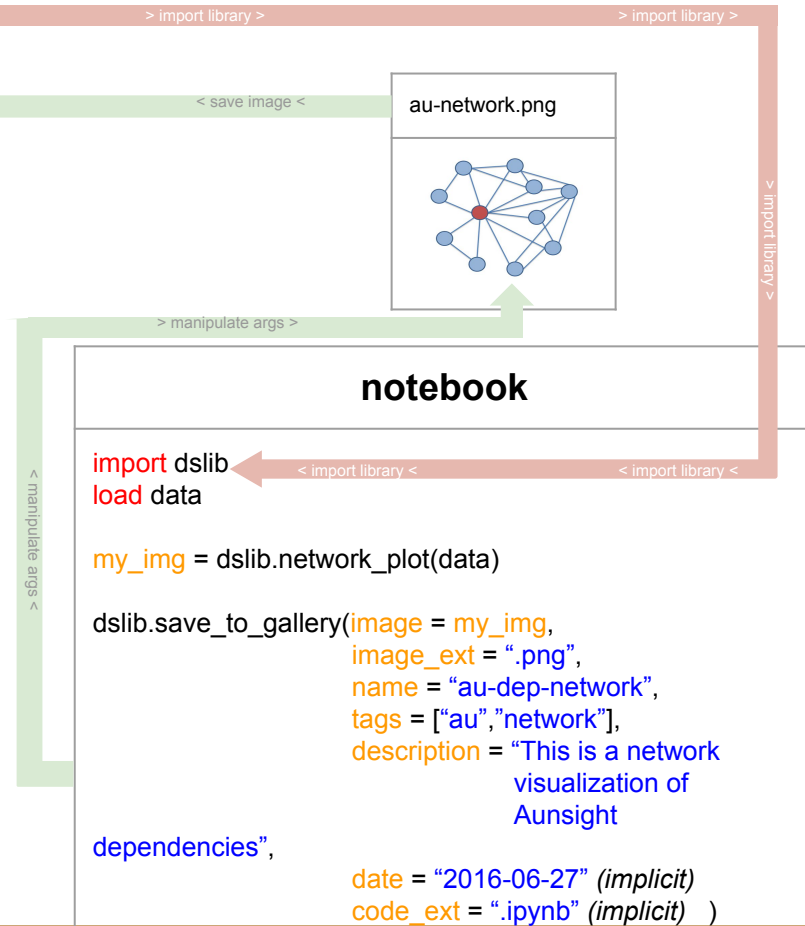| **ds-gallery/**	
dslib/	network_plot.py save_to_gallery.py
assets/ images/	au-network.png
_includes/	image_list.html
_posts/	2016-06-27-au-network.markdown
scripts/	2016-06-27-au-dep-network.ipynb

> import library >   > import library >   > import library >

< save image <   < save image <   < save image <

au-network.png

{date: "2016-06-27",
 name: "au-dep-network",
 image_ext: ".png",
 tags: ["au", "network"]}

> manipulate args >

notebook

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                      date = "2016-06-27" (implicit)
                      code_ext = ".ipynb" (implicit)   )
```

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< manipulate args <

Blueprint for Integration with Notebooks

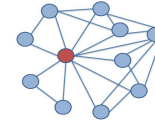| ds-gallery/	
dslib/	network_plot.py save_to_gallery.py
assets/ images/	au-network.png
_includes/	image_list.html
_posts/	2016-06-27-au-network.markdown
scripts/	2016-06-27-au-dep-network.ipynb

> import library >   > import library >   > import library >

< save image <   < save image <   < save image <

au-network.png

< append to object list <   < append to object list <

```
{date: "2016-06-27",
 name: "au-dep-network",
 image_ext: ".png",
 tags: ["au", "network"]}
```

> manipulate args >

< manipulate args <

> import library >

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Blueprint for Integration with Notebooks

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> import library >

< save image <

< append to object list <

> manipulate args >

< import library <

2016-06-27-au-network.markdown

```
---
layout: post
image_ext: .png
code_ext: .ipynb
---
This is a network visualization of
Aunsight dependencies
```

{date: "2016-06-27",
 name: "au-dep-network",
 image_ext: ".png",
 tags: ["au", "network"]}

au-network.png

< manipulate args <

notebook

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                      tags = ["au","network"],
                      description = "This is a network
                                    visualization of
                                    Aunsight
dependencies",
                      date = "2016-06-27" (implicit)
                      code_ext = ".ipynb" (implicit)   )
```
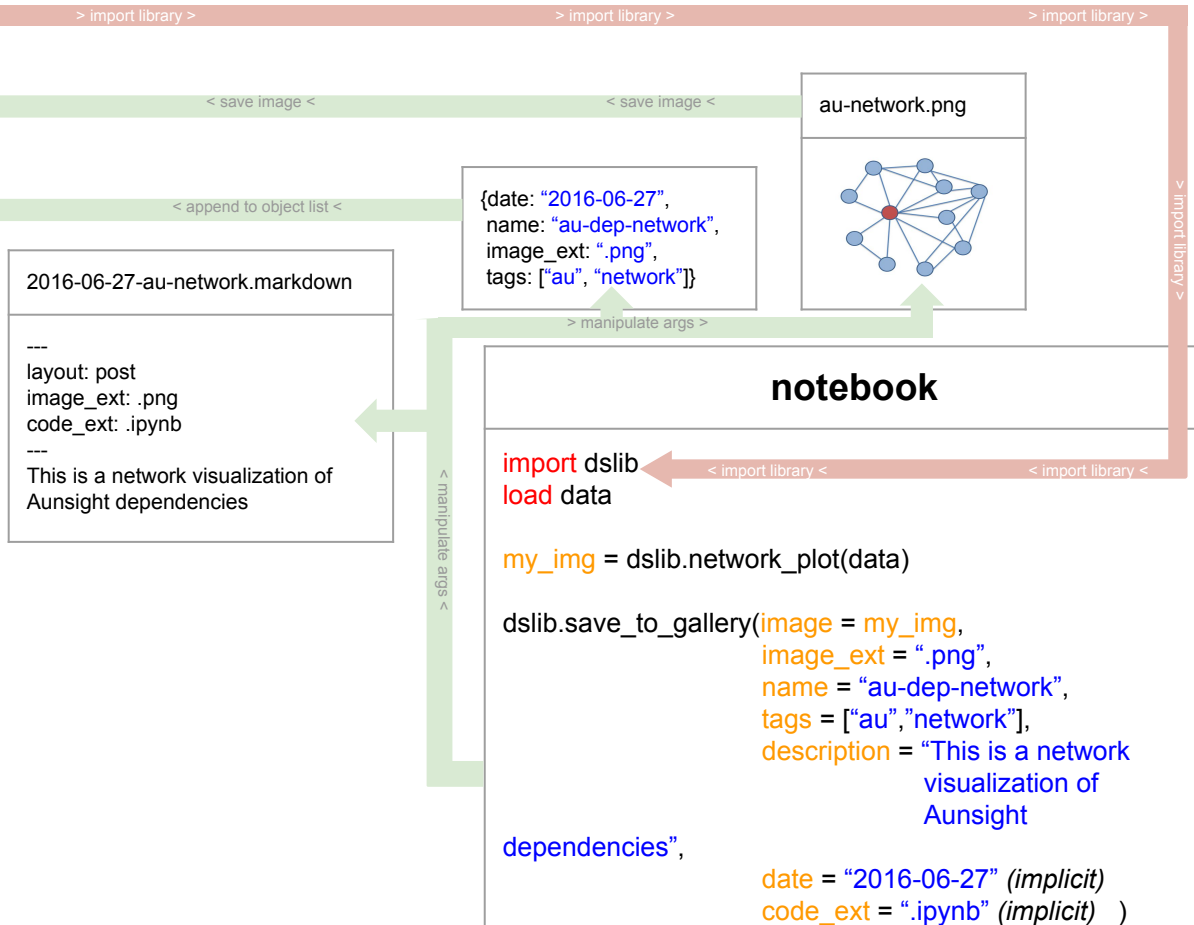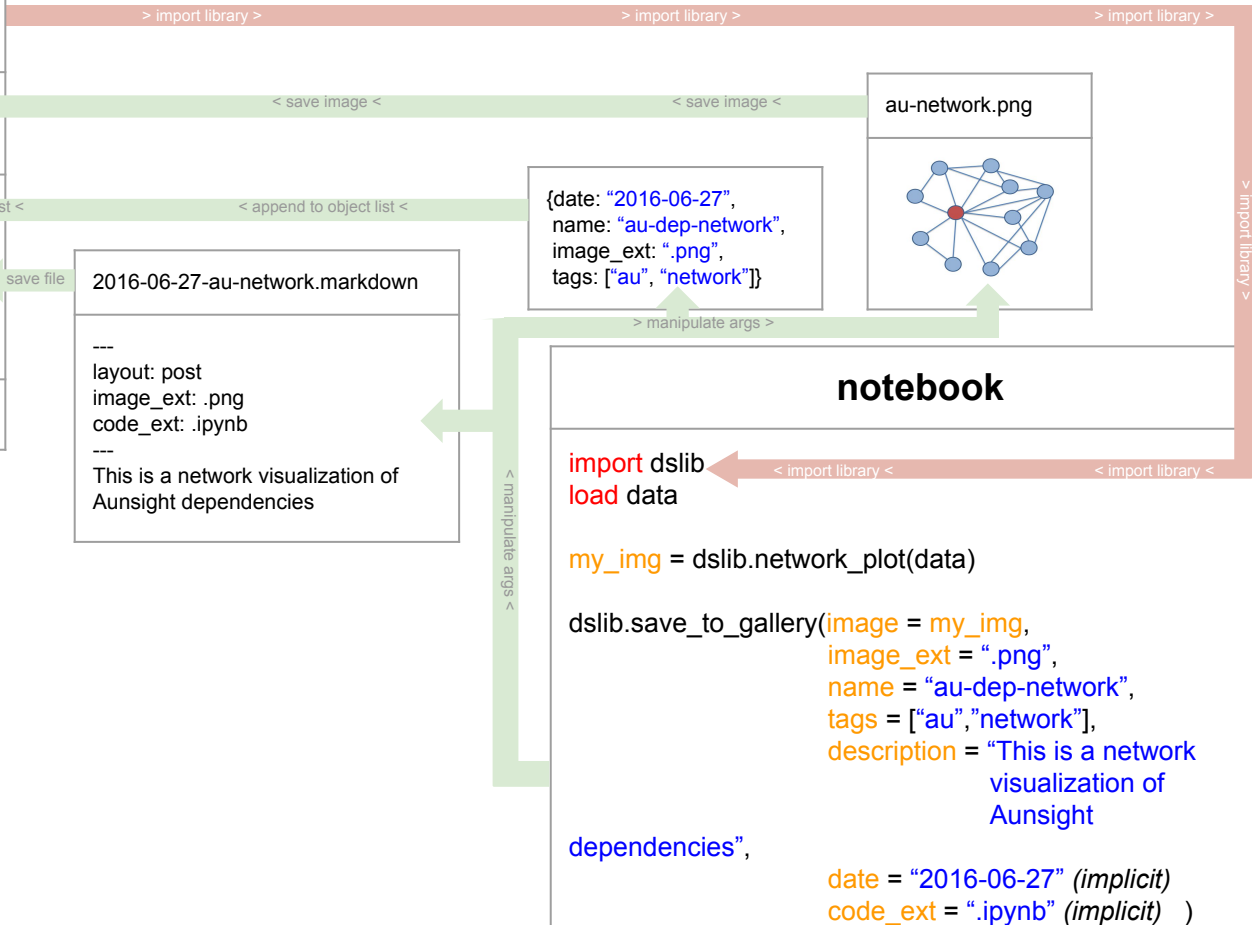
Blueprint for Integration with Notebooks

ds-gallery/

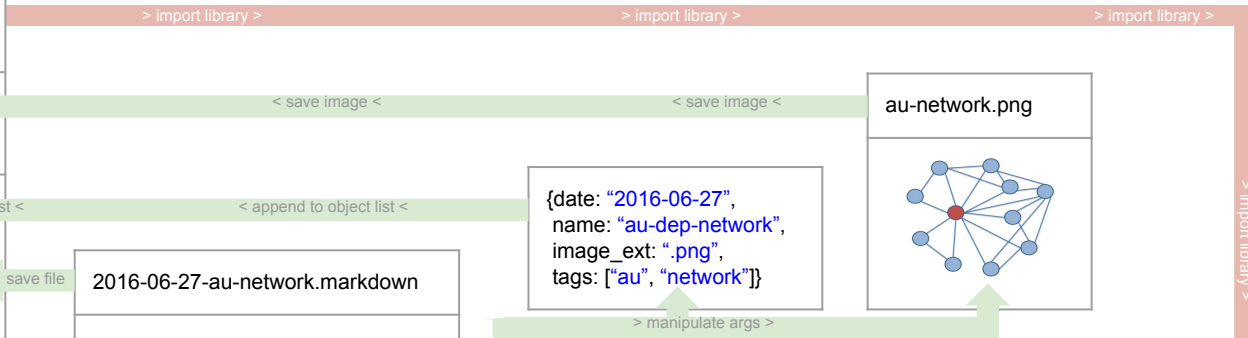|	
dslib/	network_plot.py save_to_gallery.py
assets/ images/	au-network.png
_includes/	image_list.html
_posts/	2016-06-27-au-network.markdown
scripts/	2016-06-27-au-dep-network.ipynb

> import library >

< save image <

< append to object list <

au-network.png

{date: "2016-06-27",
 name: "au-dep-network",
 image_ext: ".png",
 tags: ["au", "network"]}

save file

2016-06-27-au-network.markdown

---
layout: post
image_ext: .png
code_ext: .ipynb

This is a network visualization of
Aunsight dependencies

> manipulate args >

< manipulate args <

notebook

import dslib
load data

my_img = dslib.network_plot(data)

dslib.save_to_gallery(image = my_img,
                      image_ext = ".png",
                      name = "au-dep-network",
                      tags = ["au","network"],
                      description = "This is a network
                                    visualization of
                                    Aunsight
dependencies",
                      date = "2016-06-27" *(implicit)*
                      code_ext = ".ipynb" *(implicit)*   )

< import library <

Blueprint for Integration with Notebooks

ds-gallery/

dslib/	network_plot.py save_to_gallery.py
assets/ images/	au-network.png
_includes/	image_list.html
_posts/	2016-06-27-au-network.markdown
scripts/	2016-06-27-au-dep-network.ipynb

> import library >   > import library >   > import library >

< save image <   < save image <   < save image <

au-network.png

< append to object list <   < append to object list <

{date: "2016-06-27",
 name: "au-dep-network",
 image_ext: ".png",
 tags: ["au", "network"]}

> manipulate args >

2016-06-27-au-network.markdown

```
---
layout: post
image_ext: .png
code_ext: .ipynb
---
This is a network visualization of
Aunsight dependencies
```

save file

< manipulate args <

notebook

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import dslib
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                      description = "This is a network
                                    visualization of
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dependencies",

                      date = "2016-06-27" (implicit)
                      code_ext = ".ipynb" (implicit)   )
```

< import library <   < import library <

2016-06-27-au-dep-network.ipynb

```
import dslib
load data
my_img = dslib.network_plot(data)
dslib.save_to_gallery(image = my_img, image_ext = ".png",
name = "au-dep-network", tags = ["au","network"],
description = "This is a network visualization of Aunsight
dependencies")
```

< snapshot <   < snapshot <

Blueprint for Integration with Notebooks

ds-gallery/

dslib/	network_plot.py save_to_gallery.py
assets/ images/	au-network.png
_includes/	image_list.html
_posts/	2016-06-27-au-network.markdown
scripts/	2016-06-27-au-dep-network.ipynb

> import library >

< save image < < save image < < save image <

au-network.png

< append to object list < < append to object list <

```
{date: "2016-06-27",
 name: "au-dep-network",
 image_ext: ".png",
 tags: ["au", "network"]}
```

> manipulate args >

save file

2016-06-27-au-network.markdown

```
---
layout: post
image_ext: .png
code_ext: .ipynb
---
This is a network visualization of
Aunsight dependencies
```

> save script >

> manipulate args <

notebook

```
import dslib
load data

my_img = dslib.network_plot(data)

dslib.save_to_gallery(image = my_img,
                      image_ext = ".png",
                      name = "au-dep-network",
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```
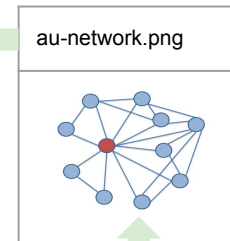
< import library < < import library <

2016-06-27-au-dep-network.ipynb

```
import dslib
load data
my_img = dslib.network_plot(data)
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name = "au-dep-network", tags = ["au","network"],
description = "This is a network visualization of Aunsight
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```

< snapshot < < snapshot <