Working With Libraries and Helpers

tutorial #normal05

James L. Parry
B.C. Institute of Technology

Tutorial Goals

This tutorial is meant to give you some practice using and extending a library and a helper, as described in lesson 6.

I have prepared a starter webapp – based on the "quotes" webapp you saw and fixed earlier, in tutorial 3. The webapp is complete, showing the most recent quote on the homepage, and then a gallery when you drill down, but it is painfully boring. We will add some ratings to the individual quote presentations, as well as a simple maintenance component for the quotes.

Revisions & Notes

- The screenshot on original page 3, "The End Result", was incorrect - it showed the end result of the previous tutorial.
- One of the rating widget parameters shown on original page 24, "Initializing a Rating Widger", is incorrect. The highest rating should use the parameter `rateMax` and not `maxRate`

Preparation

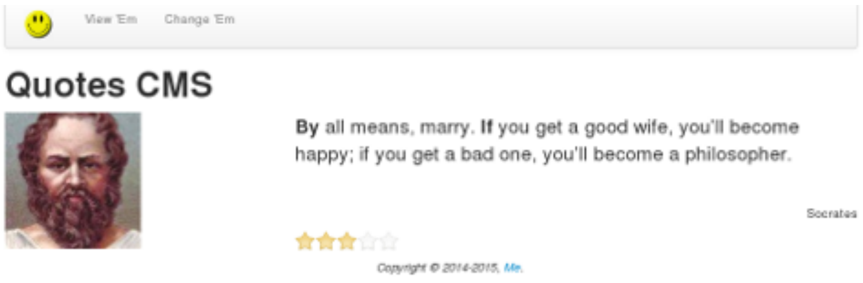
I have prepared a starter webapp. The lab 5 starter, Quotes, is meant to handle ordering in a small restaurant.

The webapp is fully functional as delivered, but painfully boring. You are going to spice it up a bit :)

Fork the github project, and clone it locally to work with, the same as you have done with the previous tutorial.

The End Result

This is what the end result should look like, after fixing!



Quotes CMS

By all means, marry. If you get a good wife, you'll become happy; if you get a bad one, you'll become a philosopher.

Socrates

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Database Setup

You will need to setup your webapp's database, using the supplied script, `quotes-setup.sql`. Please name the database "quotes", so that your webapp will work without additional setup when I run it on my system.

As part of the tutorial, you will add a few columns to the table, for ratings.

The Database

The database provided contains a single table, with a single field as the primary key. The model provided, `Quotes`, extends MY_Model, inheriting all of the CRUD methods we need.

The quotes table has four columns:

- `id` is a unique numeric identifier for a quote; it must be positive
- `who` is the name of the person quoted; it cannot be blank, and has a maximum length of 64
- `mug` is the filename of the author's picture; images are stored in the `data` folder off of the document root; filenames have a maximum length of 64
- `what` is is the actual quoted text, of arbitrary length

What Needs Doing?

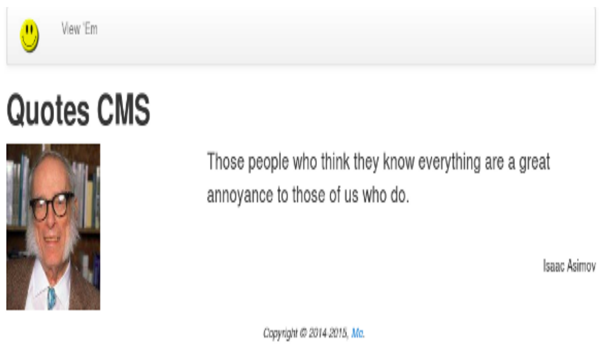
1. Enable the supplied bolding hook
2. Add a viewer rating widget
3. Randomize the quote presented on the homepage
4. Add a maintenance controller, presenting an ordered list of the quotes (#5b)
5. Add the ability to add a new quote (#5b)
6. Add the ability to edit a quote (#5c)
7. Add the ability to delete a quote (#5c)
8. Add the ability to fake admin rights (#5c)
9. Add an on-page editing for an admin (#5c)
10. Return to the page we were on after editing a quote (#5c)

The Starting Point

The webapp is functional when you start, with the homepage shown to the right.

It has a simple menubar on the top, with the smiley face linked back to the homepage, and the "View 'Em" menu link taking you to the "viewer" page.

The quote shown is the most recently added, i.e. the one with the highest ID.



Quotes CMS

Those people who think they know everything are a great annoyance to those of us who do.

Isaac Asimov

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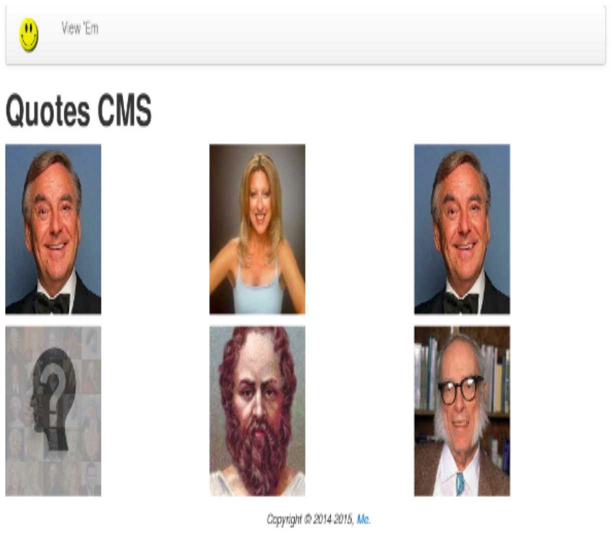
And Beyond the Homepage?

The "viewer" presents a table of the quotes on file, showing the author's mugshots. This is ordered from left-to-right and top-to-bottom by ID#.

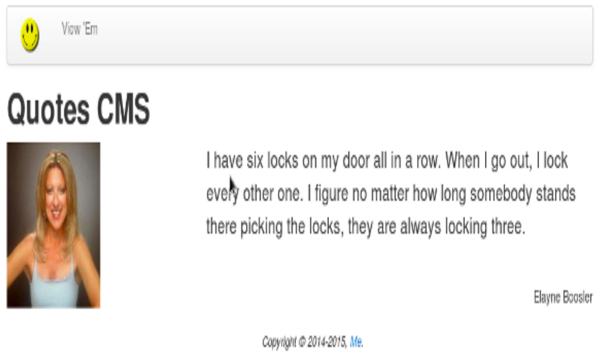
Each image is itself a link to the page that presents just that one quote, implemented by the `quote` method inside the `Viewer` controller, and using the `justone` view that you saw in lab 3.



And Then There Be Quotes

The single page presentation of a quote shows all of the quote's data fields, arranged somewhat pleasingly though neutral.

The `justone` view uses the template parser to substitute actual data values.



Quotes CMS

I have six locks on my door all in a row. When I go out, I lock every other one. I figure no matter how long somebody stands there picking the locks, they are always locking three.

Elayne Boosler

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1. ENABLE THE SUPPLIED BOLDING HOOK

The challenge part of lab 3 was to add a "hook" to your webapp, to bold capitalized words in the quoted text. A couple of students asked for a solution for that, so I have included one of the simpler ones submitted.

The "hook" itself is found in `application/hooks/Hooks.php`. Check it out ... I'll wait.

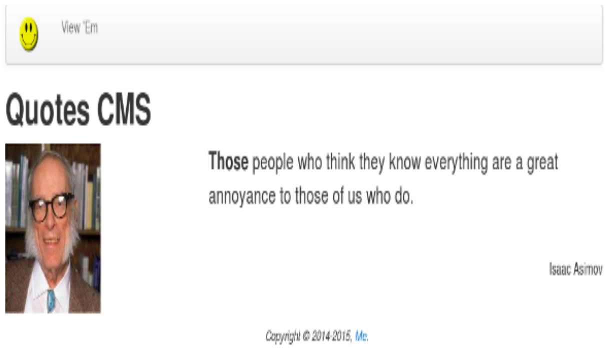
The hook's configuration is in `application/config/hooks.php`. Go ahead - check that one out too.

So, why isn't it working already?

One Teeny Step Needed

We need to enable hooks if ours is to do anything.

In `application/config/config.php` change the value of the 'enable_hooks' setting, and you should see a change in the homepage, shown right - the capitalized words are bolded as expected.



Those people who think they know everything are a great annoyance to those of us who do.

Isaac Asimov

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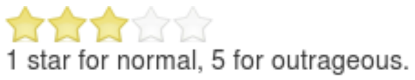
```
$config['enable_hooks'] = TRUE;
```

2. ADD A VIEWER RATING WIDGET

This is a fun little idea, and an excuse to explore the **Caboose** widget manager mentioned in lesson 6. The idea is to add a rating star widget somewhere in the view fragment used to present a quote, and to track the votes as part of our webapp.

A rating widget looks something like:

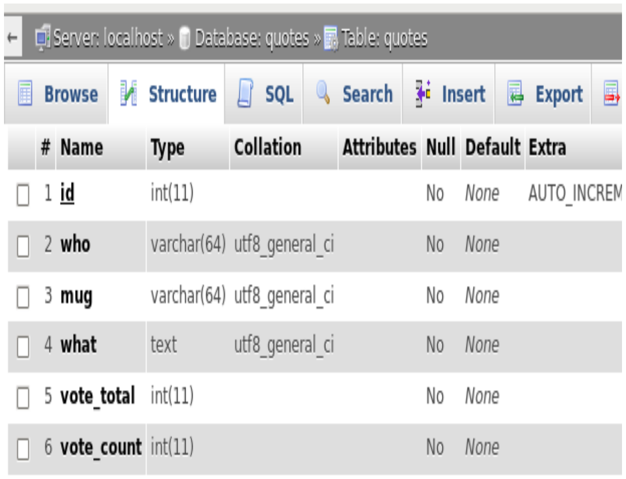


Database Mods for Voting

We need to add two fields to our quotes table:

- **vote_total** - an integer to hold the total of all votes
- **vote_count** - an integer to hold the number of votes cast

I suggest using phpMyAdmin to do this, resulting in the table structure shown right.

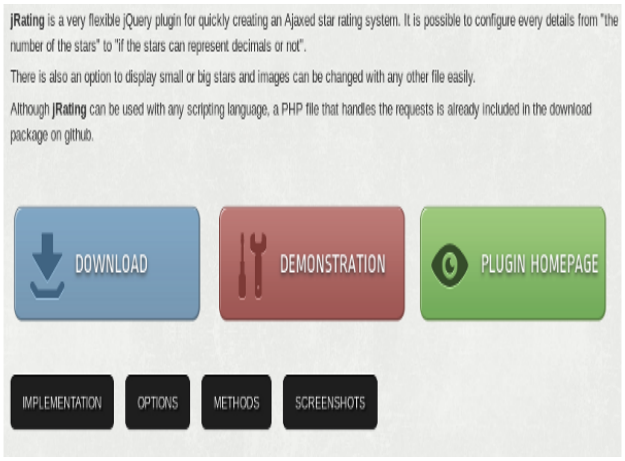


#	Name	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	None	AUTO_INCREM
2	who	varchar(64)	utf8_general_ci		No	None	
3	mug	varchar(64)	utf8_general_ci		No	None	
4	what	text	utf8_general_ci		No	None	
5	vote_total	int(11)			No	None	
6	vote_count	int(11)			No	None	

Get a Rating Widget

A rating widget that I have used is jRating, from Alpixel.

The jRating link above leads to the documentation for the widget, which is pretty easy to follow for our purposes. The Download link leads to their Github page, from which you can download a zip of the project. Do so!



jRating is a very flexible jQuery plugin for quickly creating an Ajaxed star rating system. It is possible to configure every details from "the number of the stars" to "if the stars can represent decimals or not".

There is also an option to display small or big stars and images can be changed with any other file easily.

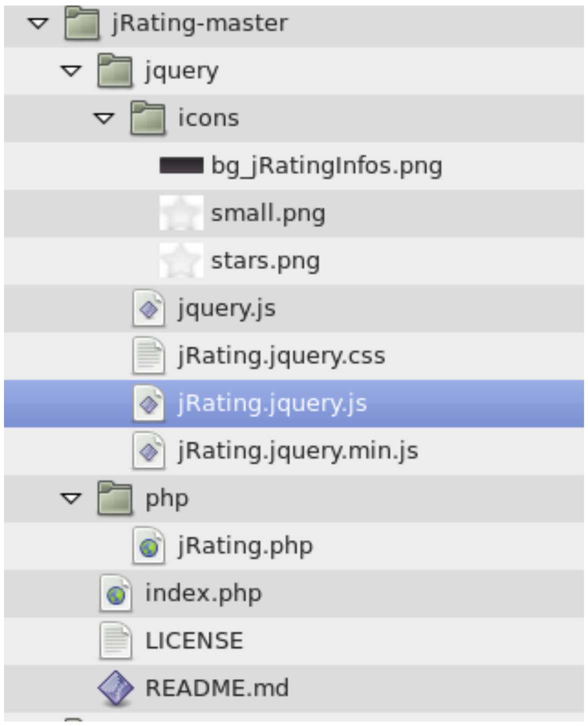
Although **jRating** can be used with any scripting language, a PHP file that handles the requests is already included in the download package on github.

What's In the Widget?

Extract the jRating once downloaded. When you checkout its contents (shown right), you can see several files or foldersof interest:

- **icons/** - images used by the widget
- **jRating.jquery.css** - CSS styling for the widget
- **jRating.jquery.js** - the widget's Javascript source

We won't need the others. **The supplied php/jRating.php does not belong anywhere inside our project!**

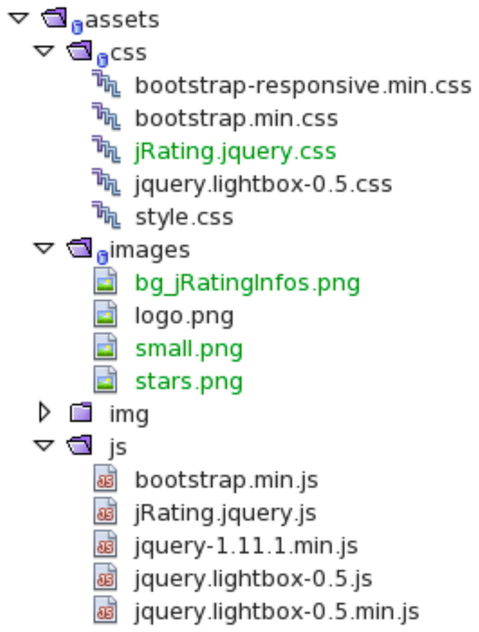


```
jRating-master
  jquery
    icons
      bg_jRatingInfos.png
      small.png
      stars.png
    jquery.js
    jRating.jquery.css
    jRating.jquery.js
    jRating.jquery.min.js
  php
    jRating.php
  index.php
  LICENSE
  README.md
```

Copy the Widget Into Our Project

Let's copy the widget pieces that we need into our project's `assets` folder, and we can then tailor them.

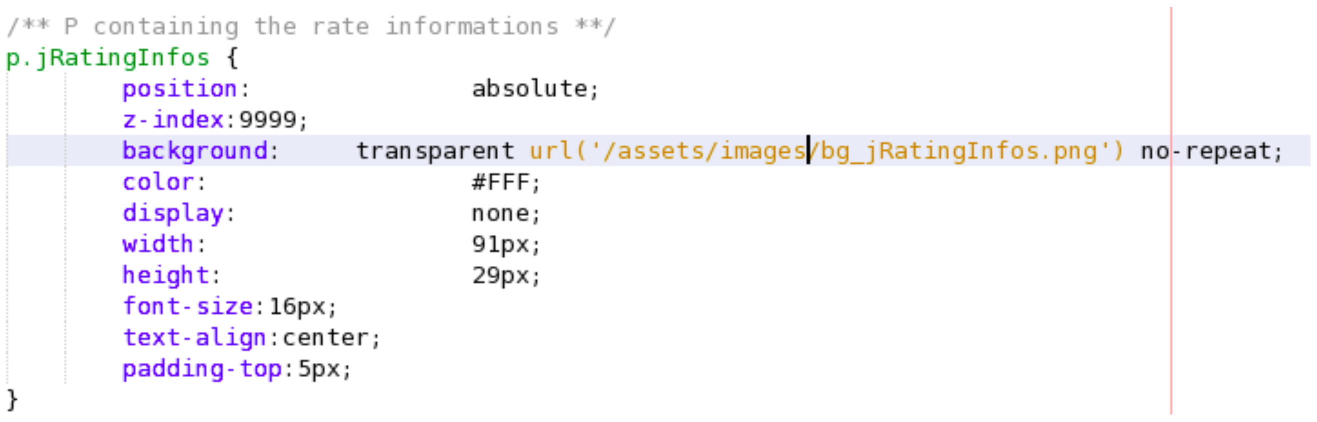
- **icons/*** - the .png images go into our `images` folder
- **jRating.jquery.css** - goes inside `css`
- **jRating.jquery.js** - goes inside `js`



```
assets
  css
    bootstrap-responsive.min.css
    bootstrap.min.css
    jRating.jquery.css
    jquery.lightbox-0.5.css
    style.css
  images
    bg_jRatingInfos.png
    logo.png
    small.png
    stars.png
  img
  js
    bootstrap.min.js
    jRating.jquery.js
    jquery-1.11.1.min.js
    jquery.lightbox-0.5.js
    jquery.lightbox-0.5.min.js
```

Fix the CSS Image References

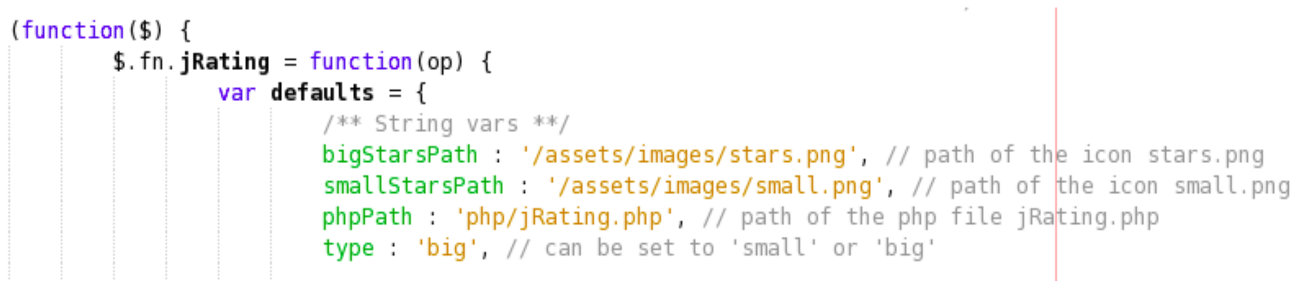
We copied the images into our `assets/images` folder, and need to reflect that in `jRating.jquery.css`, as shown below.



```
/** P containing the rate informations **/
p.jRatingInfos {
        position:               absolute;
        z-index:9999;
        background:     transparent url('/assets/images/bg_jRatingInfos.png') no-repeat;
        color:                  #FFF;
        display:                none;
        width:                  91px;
        height:                 29px;
        font-size:16px;
        text-align:center;
        padding-top:5px;
}
```

Fix the JS Image References

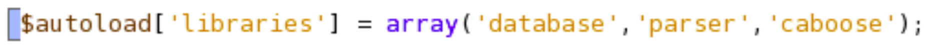
We need to make a similar change in `jRating.jquery.js`, as shown below.



```
(function($) {
        $.fn.jRating = function(op) {
                var defaults = {
                        /** String vars **/
                        bigStarsPath : '/assets/images/stars.png', // path of the icon stars.png
                        smallStarsPath : '/assets/images/small.png', // path of the icon small.png
                        phpPath : 'php/jRating.php', // path of the php file jRating.php
                        type : 'big', // can be set to 'small' or 'big'
```

Enable Caboose in our webapp (1/3)

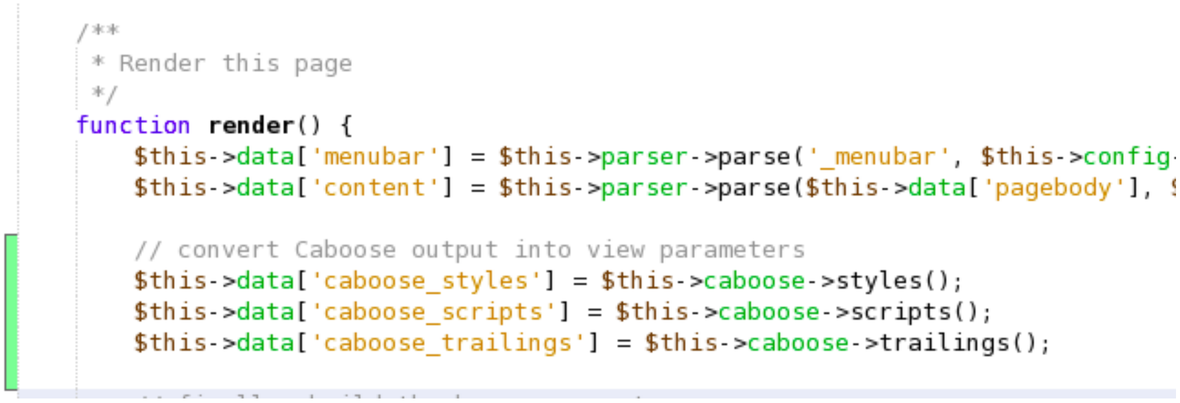
We want to autoload the Caboose library, as it will be used in our master template.



```
$autoload['libraries'] = array('database','parser','caboose');
```

Enable Caboose in our webapp (2/3)

We want to set some view parameters from our Caboose object, inside `core/MY_Controller`, as discussed in the lesson.



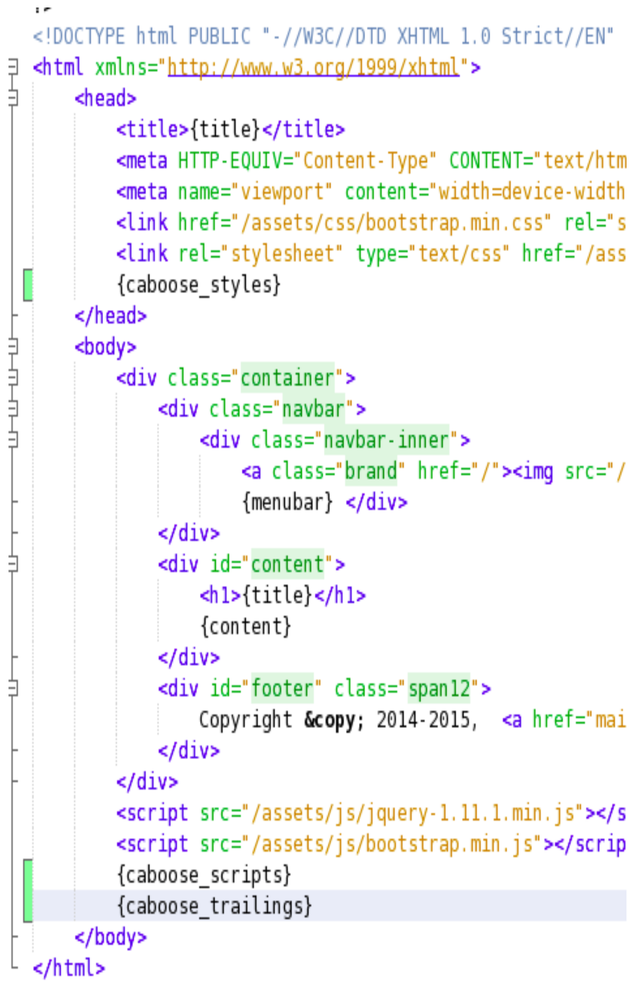
```
    /**
     * Render this page
     */
    function render() {
        $this->data['menubar'] = $this->parser->parse('_menubar', $this->config
        $this->data['content'] = $this->parser->parse($this->data['pagebody'], $

        // convert Caboose output into view parameters
        $this->data['caboose_styles'] = $this->caboose->styles();
        $this->data['caboose_scripts'] = $this->caboose->scripts();
        $this->data['caboose_trailings'] = $this->caboose->trailings();
```

Enable Caboose in our webapp (3/3)

And we want to include the Caboose output at the appropriate points in our `views/_template.php`, using substitution parameters, again as discussed in the lesson.

You did notice both places wher material was added, didn't you? Check the green bars down the left side of the code editor window :)

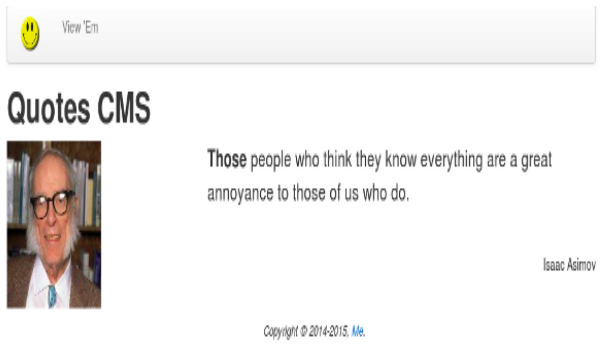


```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
<html xmlns="http://www.w3.org/1999/xhtml">
    <head>
        <title>{title}</title>
        <meta HTTP-EQUIV="Content-Type" CONTENT="text/htm
        <meta name="viewport" content="width=device-width
        <link href="/assets/css/bootstrap.min.css" rel="s
        <link rel="stylesheet" type="text/css" href="/ass
        {caboose_styles}
    </head>
    <body>
        <div class="container">
            <div class="navbar">
                <div class="navbar-inner">
                    <a class="brand" href="/"><img src="/
                    {menubar} </div>
            </div>
            <div id="content">
                <h1>{title}</h1>
                {content}
            </div>
            <div id="footer" class="span12">
                Copyright &copy; 2014-2015,  <a href="mai
            </div>
        </div>
        <script src="/assets/js/jquery-1.11.1.min.js"></s
        <script src="/assets/js/bootstrap.min.js"></scrip
        {caboose_scripts}
        {caboose_trailings}
    </body>
</html>
```

We Have Caboose

At this point, we have enabled the Caboose, without making any requests of it.

We should also not have broken anything in doing so. Our webapp should look the same as it did a short while ago...



Quotes CMS

Those people who think they know everything are a great annoyance to those of us who do.

Isaac Asimov

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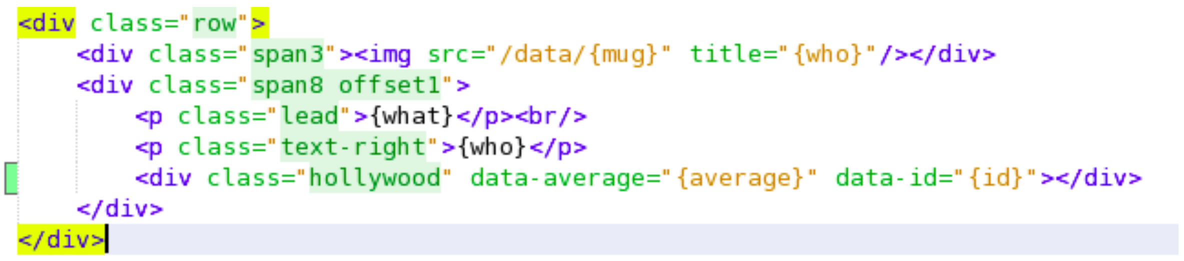
Add a Rating to a Quote

The jRating documentation shows some sample HTML to hold an instance of their widget...
`<div class="basic" data-average="12" data-id="1"></div>`

In our case, the data-id will be the `id` from a quote, and we will need to calculate the average from the values stored in our table...
`<div class="hollywood" data-average="{average}" data-id="{id}"></div>`

Add this `div` below the paragraph holding the author, in `views/justone.php`



```
<div class="row">
    <div class="span3"><img src="/data/{mug}" title="{who}"/></div>
    <div class="span8 offset1">
        <p class="lead">{what}</p><br/>
        <p class="text-right">{who}</p>
        <div class="hollywood" data-average="{average}" data-id="{id}"></div>
    </div>
</div>
```

Initializing a Rating Widget

Again referring to the jRating documentaiton, we need to initialize the jRating widget, binding it to a component on the webpage. This will be our `views/_components/jrating.php`.

We can set some options when it is initialized, including the planned target URL for the AJAX call that the widget will make to record a vote.

Ours should look like:

```
$('.{field}').jRating({
  rateMax : 5, // highest rating
  phpPath : '/viewer/rate' // target for the AJAX call
});
```

Configure Caboose for Ratings

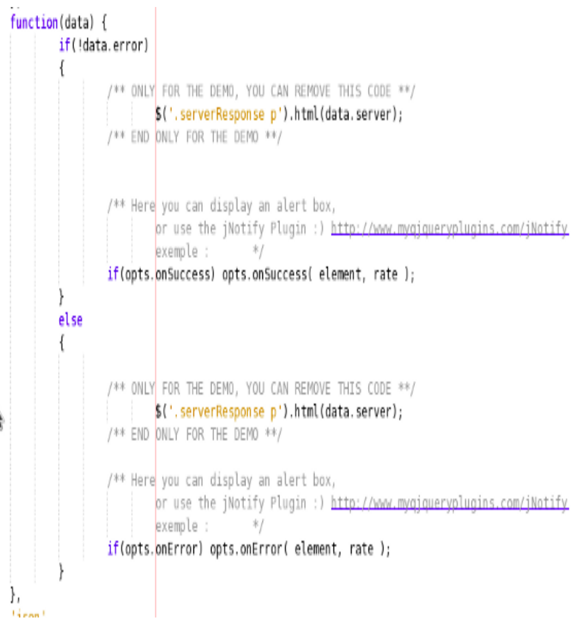
We are finally ready to add a configuration entry for our ratings widget, in `libraries/Caboose.php`. We can add it to the `$components` array after the existing two configuration entries...

```
'jrating' => array(
  'css' => 'jRating.jquery.css',
  'js' => 'jRating.jquery.js',
  'template' => 'jrating'
),
```

jRating Housekeeping

We have another bit of housekeeping to tend to - removing the "demo only" blocks in the jrating's javascript file, `assets/js/jRating.jquery.js`

For example, the original code is shown to the right, and after trimming below.

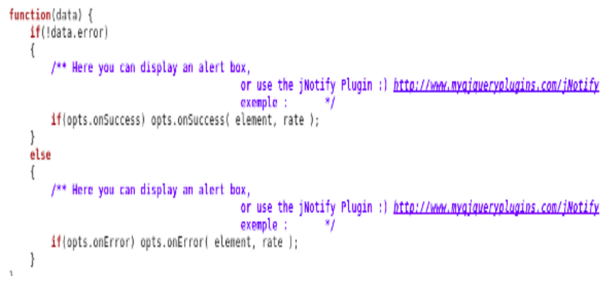


```
function(data) {
        if(!data.error)
        {
                /** ONLY FOR THE DEMO, YOU CAN REMOVE THIS CODE **/
                        $('.serverResponse p').html(data.server);
                /** END ONLY FOR THE DEMO **/


                /** Here you can display an alert box,
                        or use the jNotify Plugin :) http://www.myqjqueryplugins.com/jNotify
                        exemple :       */
                if(opts.onSuccess) opts.onSuccess( element, rate );
        }
        else
        {

                /** ONLY FOR THE DEMO, YOU CAN REMOVE THIS CODE **/
                        $('.serverResponse p').html(data.server);
                /** END ONLY FOR THE DEMO **/

                /** Here you can display an alert box,
                        or use the jNotify Plugin :) http://www.myqjqueryplugins.com/jNotify
                        exemple :       */
                if(opts.onError) opts.onError( element, rate );
        }
},
```



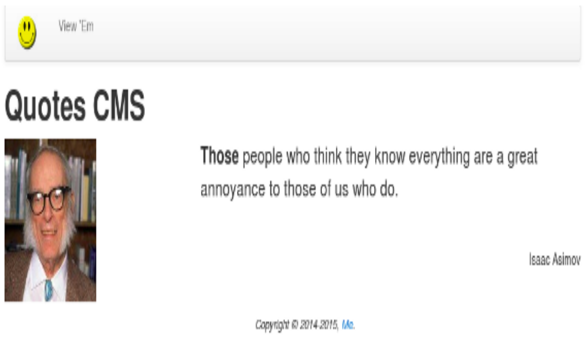
```
function(data) {
    if(!data.error)
    {
        /** Here you can display an alert box,
                                        or use the jNotify Plugin :) http://www.myqjqueryplugins.com/jNotify
                                        exemple :       */
        if(opts.onSuccess) opts.onSuccess( element, rate );
    }
    else
    {
        /** Here you can display an alert box,
                                        or use the jNotify Plugin :) http://www.myqjqueryplugins.com/jNotify
                                        exemple :       */
        if(opts.onError) opts.onError( element, rate );
    }
```

Let's Invoke the Caboose!

We show single quotations in two places: in `controllers/Welcome::index()` and in `controllers/Viewer::quote()`. In both cases, we need to invoke the rating widget before the `$this->render();`...

```
$this->caboose->needed('jrating','ho
```

And the result is...



Those people who think they know everything are a great annoyance to those of us who do.

Isaac Asimov

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Oops - We Need the Average

The homepage didn't look any different. If you examine the page source, however, you will find...

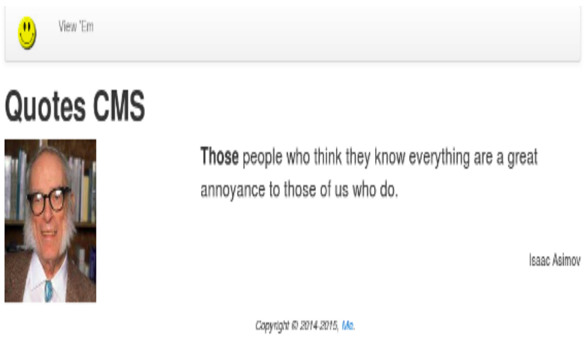
```
<div class="hollywood"
data-average="{average}"
data-id="6"></div>
```

We need to add a bit of logic to calculate the rating average, and to pass it on as a view parameter.

```
$this->data['average'] =
($this->data['vote_count'] > 0)
?
  ($this->data['vote_total'] /
$this->data['vote_count']) : 0;
```

This calculation and parameter setting should go into both `Welcome::index()` and `Viewer::quote()`. And the result is...

Arghh ... the rating widget should be visible, but isn't!



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Isaac Asimov

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And We Need to Process the Rating

We need to add the `rate()` method to our `Viewer`, to handle the AJAX request from the rating widget. Without going into too much detail about it, this will look like...

```
// handle a rating
function rate() {
  // detect non-AJAX entry
  if (!isset($_POST['action']))
redirect("/");
  // extract parameters
  $id = intval($_POST['idBox']);
  $rate =
intval($_POST['rate']);
  // update the posting
  $record =
$this->quotes->get($id);
  if ($record != null) {
    $record->vote_total +=
$rate;
    $record->vote_count++;
    $this->quotes->update($record)
  }
  $response = 'Thanks for
voting!';
  echo json_encode($response);
}
```

Wait, What?

Some of you wanted the detail about the approach shown on the previous slide, so ...

The `rate()` method is an example of the handling of an AJAX request.

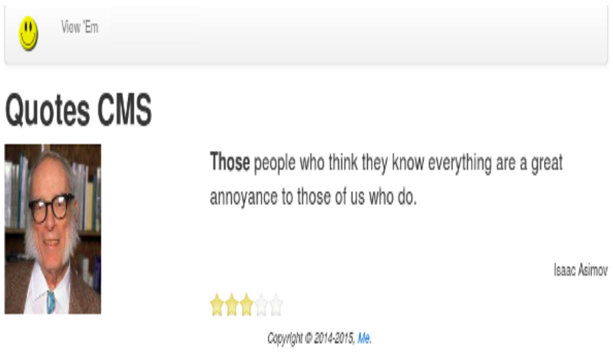
That would make this a "utility controller", i.e. one which is not meant to return HTML. Done properly, it would be a separate controller, perhaps `controllers/Rate`, and what you see here as `rate()` would then be `index()`.

Done properly/, its endpoint (for an AJAX request) would be `mysite.com/rate`. Done this way, the endpoint is `mysite.com/viewer/rate`.

You asked for this!

And The Result Is...

The results after voting a few times...



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Isaac Asimov

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3. RANDOMIZE THE HOMEPAGE QUOTE

Now that we are voting, we should mix things up a bit on the homepage. Let's choose a quote randomly instead. We'll need to make an adjustment in the `index()` method of our `Welcome` controller...

Instead of

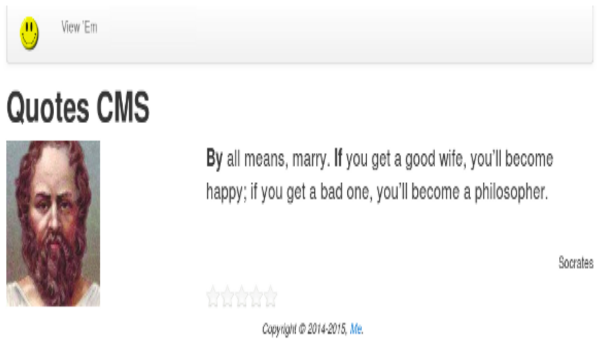
```
$this->data = array_merge($this->data, (array)
$this->quotes->last());
```

We can choose a quote randomly instead...

```
$choice = rand(1,$this->quotes->size());
$this->data = array_merge($this->data, (array)
$this->quotes->get($choice));
```

Our Improved Homepage

It doesn't look any different, except that we don't get the same quotation every time we reload the page.



By all means, marry. **If** you get a good wife, you'll become happy; if you get a bad one, you'll become a philosopher.

Socrates

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Congratulations!

You have completed tutorial #normal05: Working With Libraries and Helpers

If you would take a minute to provide some feedback, we would appreciate it!

The next activity in sequence is: normal05b Libraries and Helpers, Part (b)

You can use your browser's back button to return to the page you were on before starting this activity, or you can jump directly to the course homepage, organizer, or reference page.