The modx CMS and framework

Jayesh Sheth

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Hive at 55,
55 Broad Street, New York, NY

Why modx?

- CMS + framework
- Open Source + PHP
- Flexibility (no framework "straight-jacket")
- Graphical approach
- Simple & accessible, yet powerful (like PHP)
- Active community

A little history ...

- The beginnings: fork of Etomite
- Main modx guys: Ryan Thrash, Jason Coward, Shaun McCormick
- modx Evolution: the beginning
- modx Revolution: the re-write

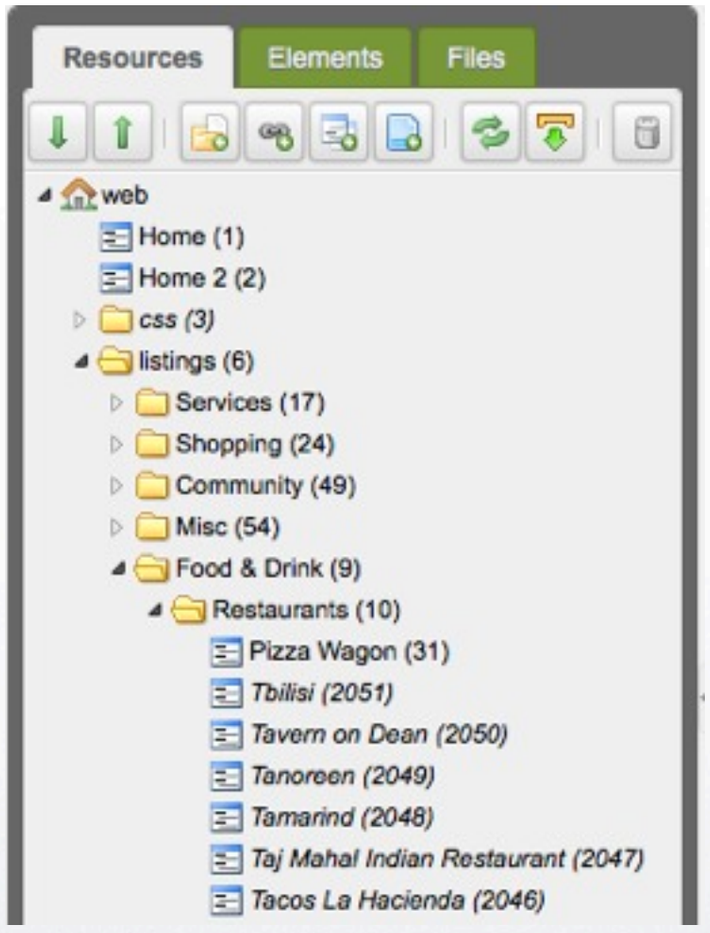
Requirements

- PHP 5.1.1+
- Apache 1.3.x+ / IIS / lighttpd / Zeus
- MySQL 4.1.20+
- Linux / Mac OS X / Windows

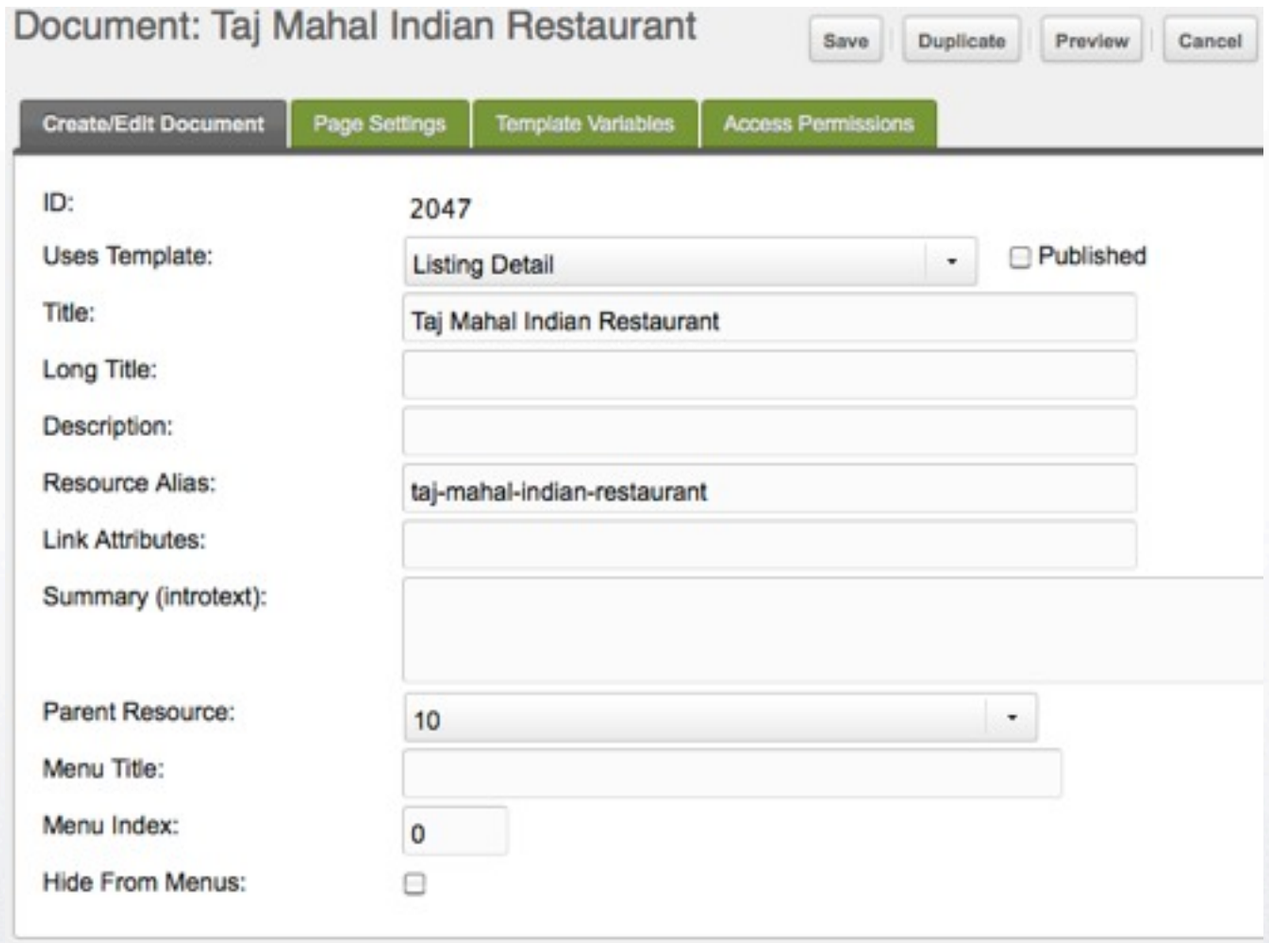
Documents / Resources

- Basic unit of information
- Document == Resource == “Page”
- Document: File or Folder

Documents as folders



Documents as files



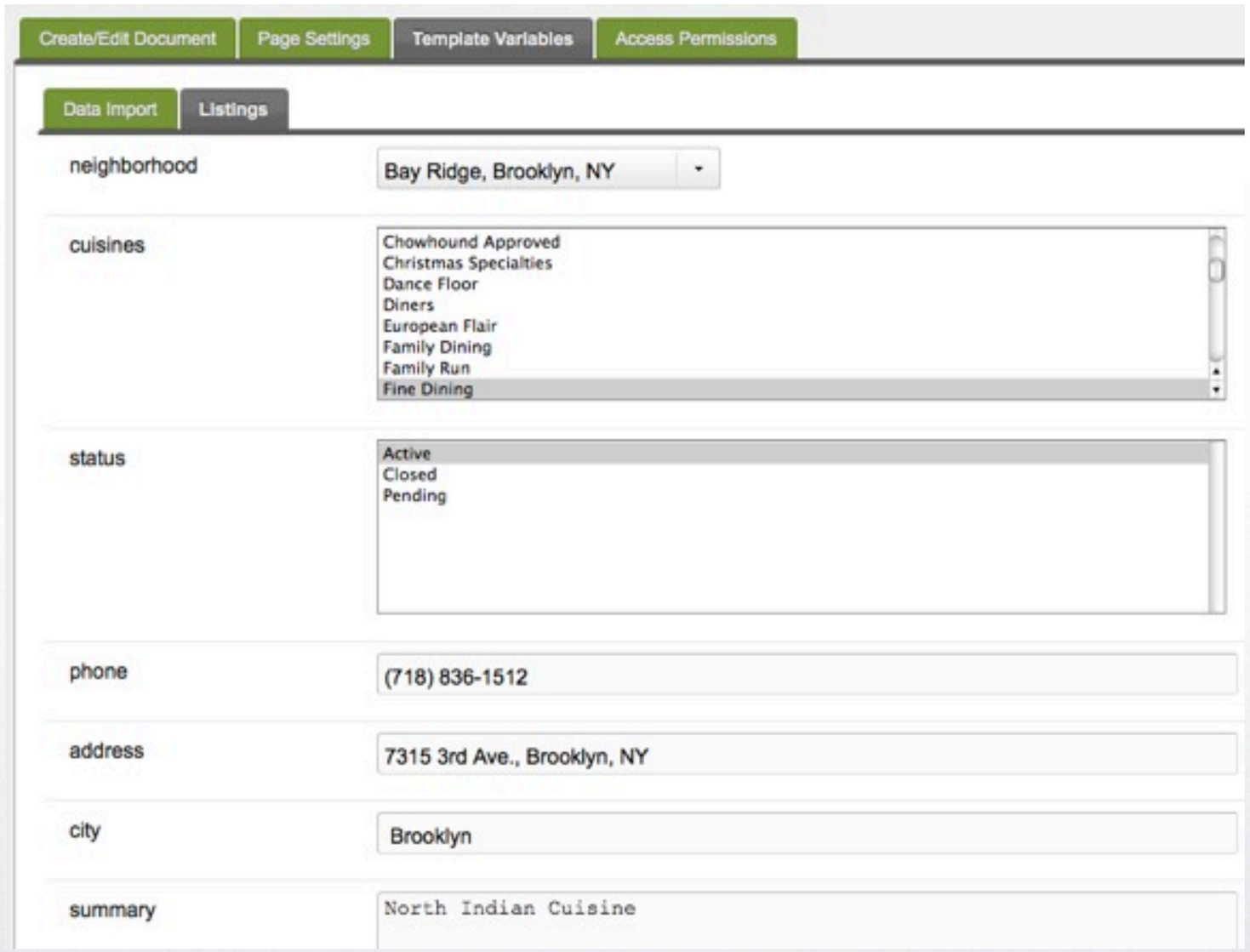
Templates

- At the foundation of every modx site
- Basic “glue” for all site elements
- Determine every document’s look
- Help to classify documents based on their type / purpose

Documents ⟷ Templates

Template Variables
(a.k.a. TVs)

Template Variables



Snippets

- contain PHP code
- act like functions
- can be called by documents & templates
- In an MVC architecture, the “M” (model)

Document

Template

Snippet

Snippet: definition (#1)

Snippet: google_maps

Save | Cancel | Help!

Create/edit snippet | Properties

Here you can add/edit snippets. Remember, snippets are 'raw' PHP code, and if you expect the output of the snippet to be shown at a certain point within the template, you need to return a value from within the snippet.

Snippet name: google_maps

Description: Show google maps page, given lat, lng and des

Category: Maps

Lock snippet for editing: ☐

Clear Cache on Save: ☑

Snippet code (php)

```
<?php
//Params:
//lat - latitude, lng -longitude, desc - description
require_once MODX_BASE_PATH . 'includes/maps/phoogle.class.php';
require_once MODX_BASE_PATH . 'core/config/custom_config.inc.php';

$map = new PhoogleMap();
$map->setAPIKey(GMAPS_API_KEY);

echo "<html> <head>\n";

$map->printGoogleJS();

echo "</head> <body>\n";

$map->addGeoPoint($lat, $lng, $desc);
$map->showMap();

echo "</body></html>";
?>
```

Snippet: definition (#2)

Snippet: google_maps_iframe_contents

Save | Cancel | Help!

Create/edit snippet | Properties

Here you can add/edit snippets. Remember, snippets are 'raw' PHP code, and if you expect the output of the snippet to be shown at a certain point within the template, you need to return a value from within the snippet.

Snippet name: google_maps_iframe_contents

Description: Show google maps page, given lat, lng and des

Category: Maps

Lock snippet for editing: ☐

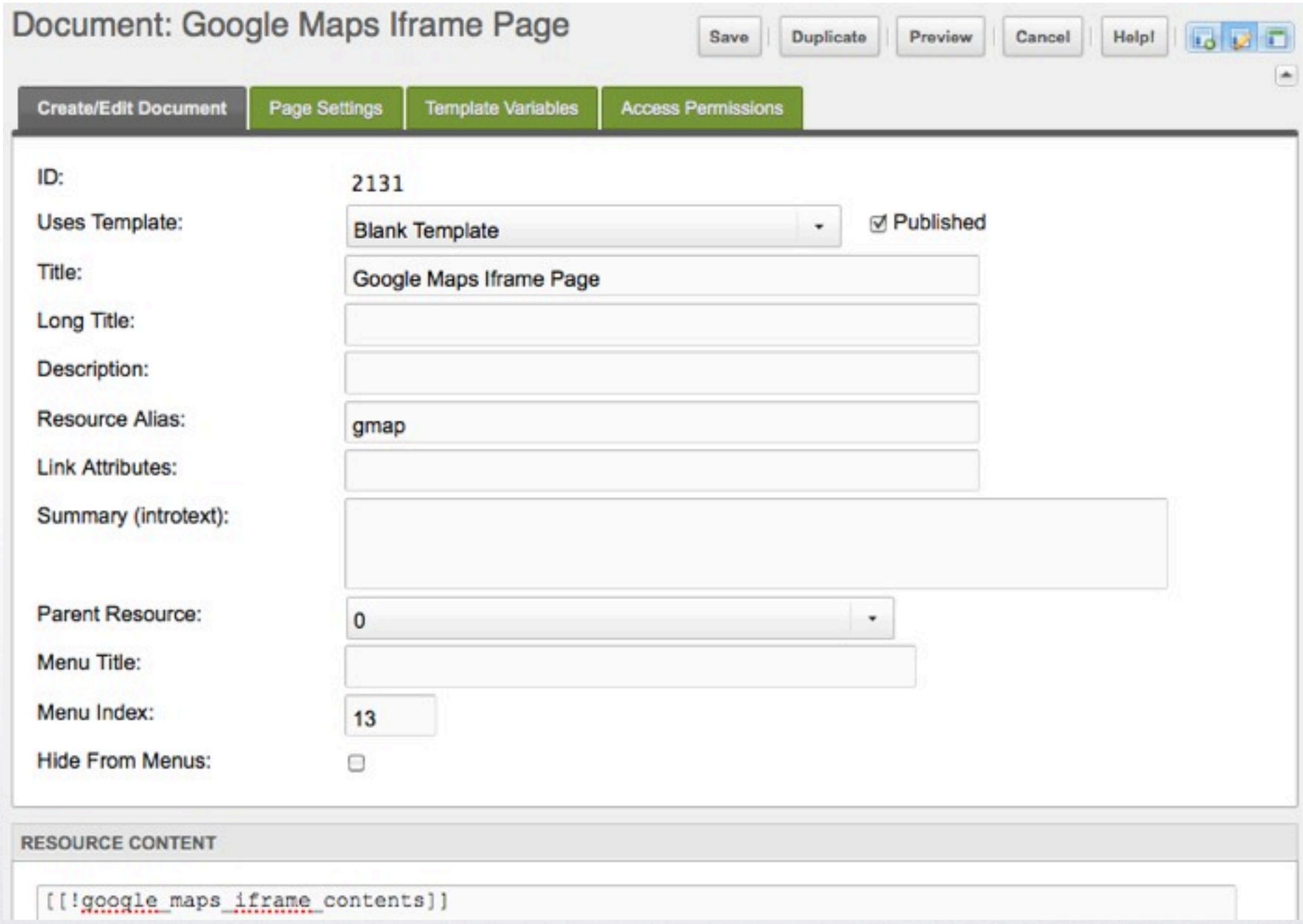
Clear Cache on Save: ☑

Snippet code (php)

```
<?php
//Get params: lat, lng, desc

$googleMap = $modx->runSnippet('google_maps',array(
    'lat' => $_GET['lat'],
    'lng' => $_GET['lng'],
    'desc' => $_GET['desc']
 ));
echo $googleMap;
?>
```

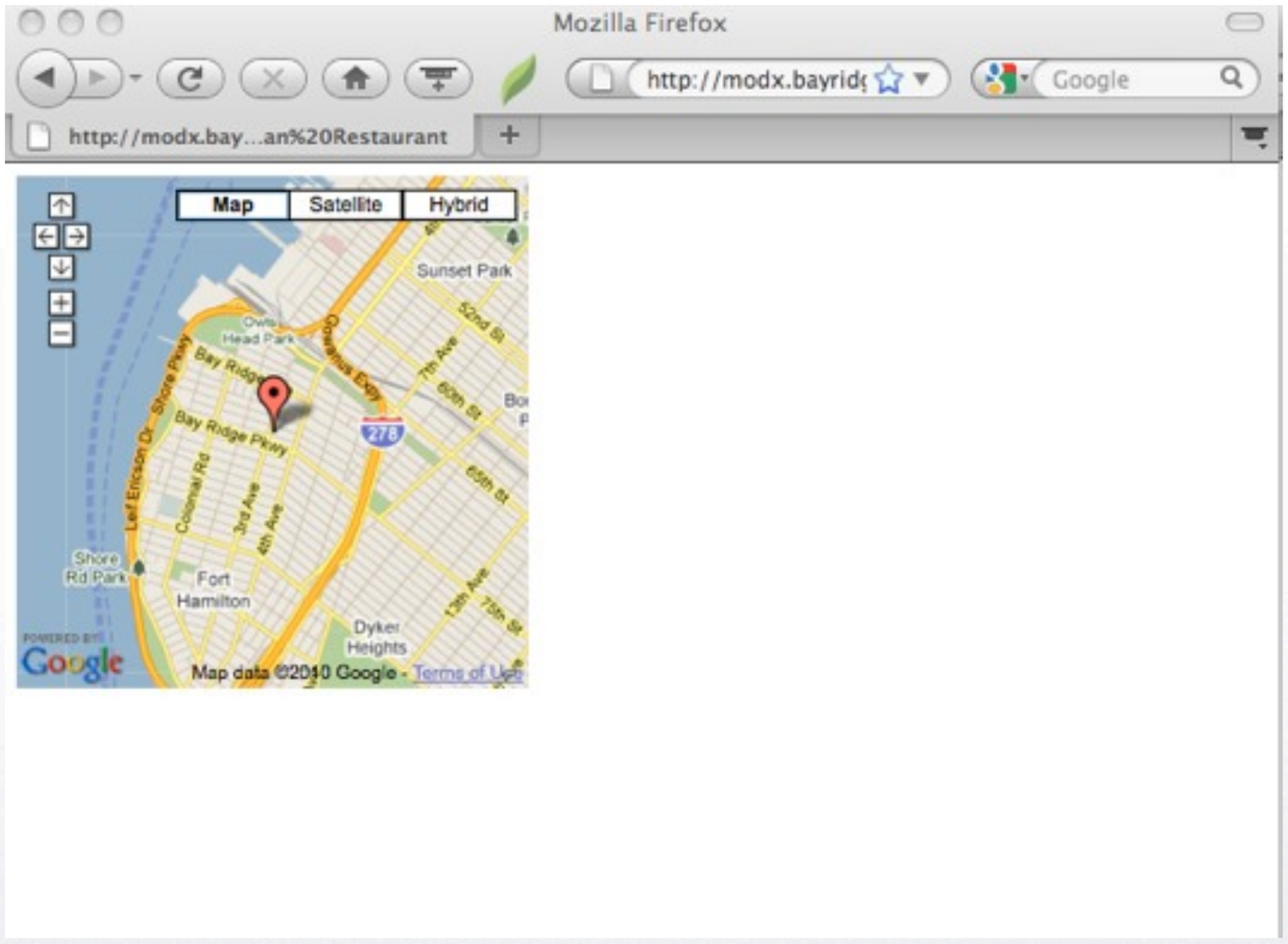
Side-note: this is a little sneak peak at the modx API!

Snippet: calling it (from a document)



And the result is ...

http://modx.bayridge-business.com/gmap.html?lat=40.6323290&lng=-74.0270810&desc=Taj%20Mahal%20Indian%20Restaurant



Snippet: calling it (from a template)

Template: Listing Detail

Save | Cancel | Help!

Create/edit template | Properties | Template Variables

Create and edit templates. Changed or new templates won't be visible in your site's cached pages until the cache is emptied, however, you can use the preview function on a page to see the template in action.

Template name: Listing Detail

Description:

Category: Listings

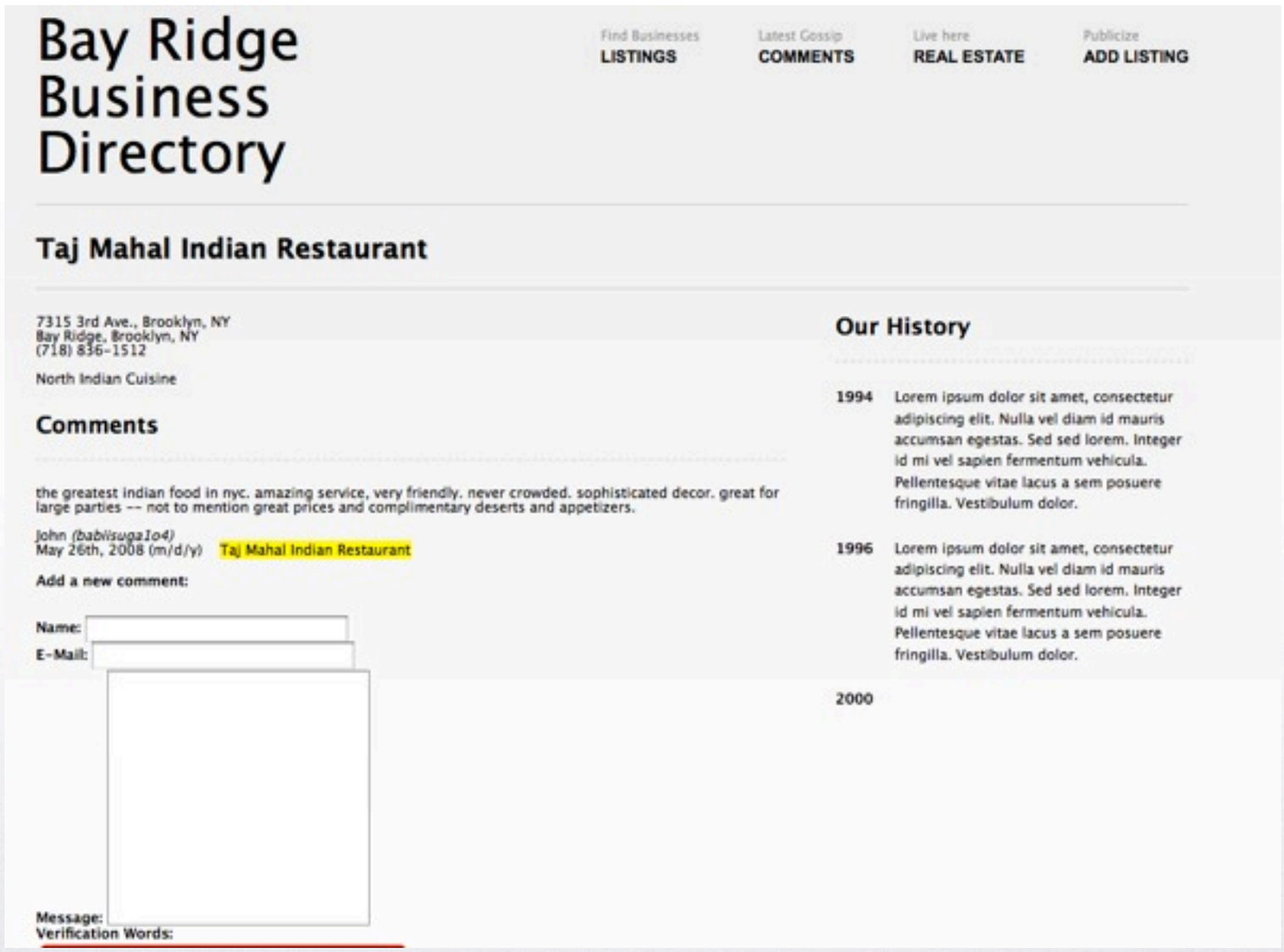
Lock template for editing:

Clear Cache on Save:

Template code (html)

```
[[*address]] <br />
[[*neighborhood]] <br />
[[*phone]] <br /> <br />
[[*summary]] <br />

<br />
<br />
<h4 class="page_title">Comments</h4>
<div class="hr dotted clearfix"> </div>

[[!modComments? &docId=`[[*id]]` ]]

[[$footer]]

 </div>
<!--  End Main Content -->

<!--  Begin Sidebar -->

  <div class="grid_4">
    <h4>Our History</h4>
    <div class="hr dotted clearfix"> </div>

    <dl class="history">
```

Snippets in a template
affect all documents using that template!



Bay Ridge Business Directory

Find Businesses **LISTINGS** | Latest Gossip **COMMENTS** | Live here **REAL ESTATE** | Publicize **ADD LISTING**

Taj Mahal Indian Restaurant

7315 3rd Ave., Brooklyn, NY
Bay Ridge, Brooklyn, NY
(718) 836-1512

North Indian Cuisine

Comments

the greatest indian food in nyc. amazing service, very friendly. never crowded. sophisticated decor. great for large parties -- not to mention great prices and complimentary deserts and appetizers.

John *(babilsuga1o4)*
May 26th, 2008 (m/d/y) Taj Mahal Indian Restaurant

Add a new comment:

Name:
E-Mail:
Message:
Verification Words:

Our History

1994 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla vel diam id mauris accumsan egestas. Sed sed lorem. Integer id mi vel sapien fermentum vehicula. Pellentesque vitae lacus a sem posuere fringilla. Vestibulum dolor.

1996 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla vel diam id mauris accumsan egestas. Sed sed lorem. Integer id mi vel sapien fermentum vehicula. Pellentesque vitae lacus a sem posuere fringilla. Vestibulum dolor.

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Chunks

- Pieces of HTML, with placeholders
- Think of them as simplified Smarty templates
- Used by snippets, or templates to create HTML output
- In an MVC architecture, the “V” (view)

Document

Rendered Page

Snippet

Chunk

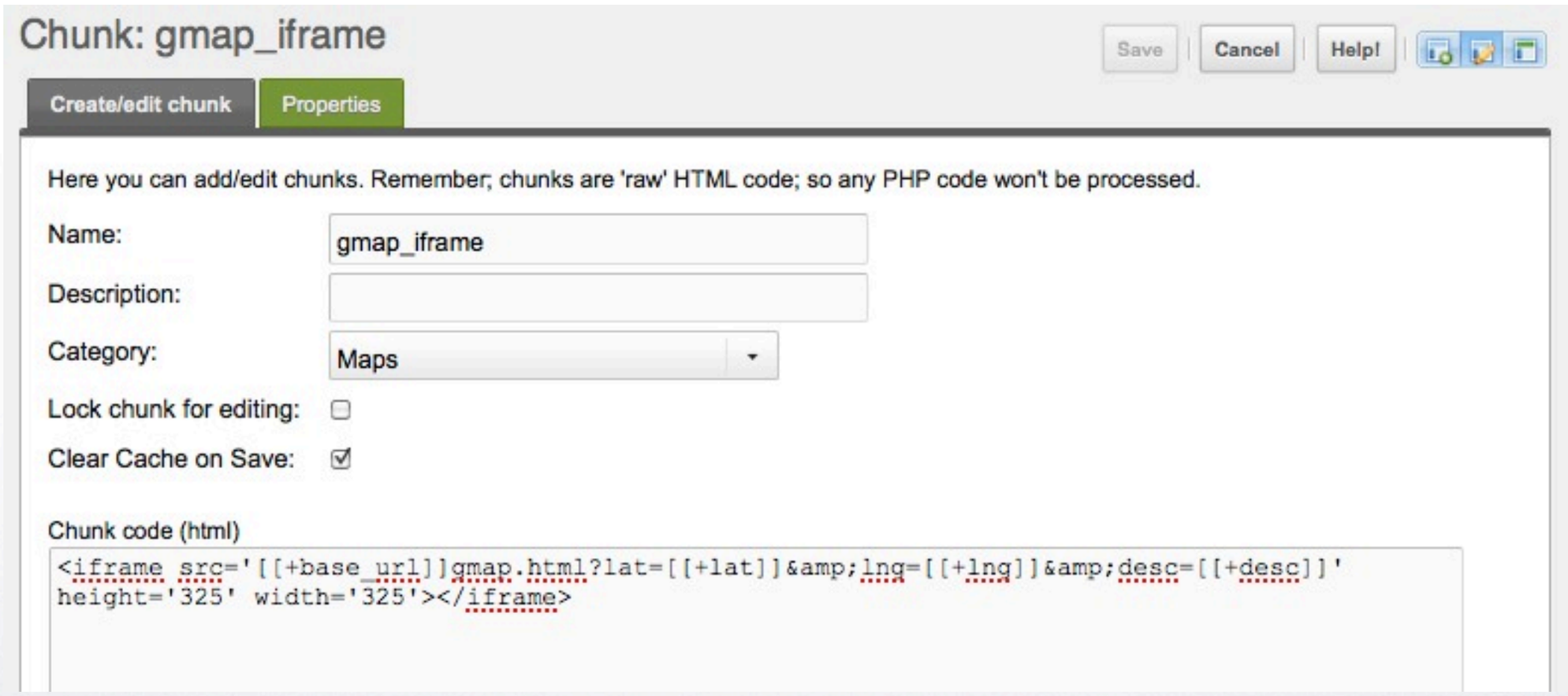
Template

Document

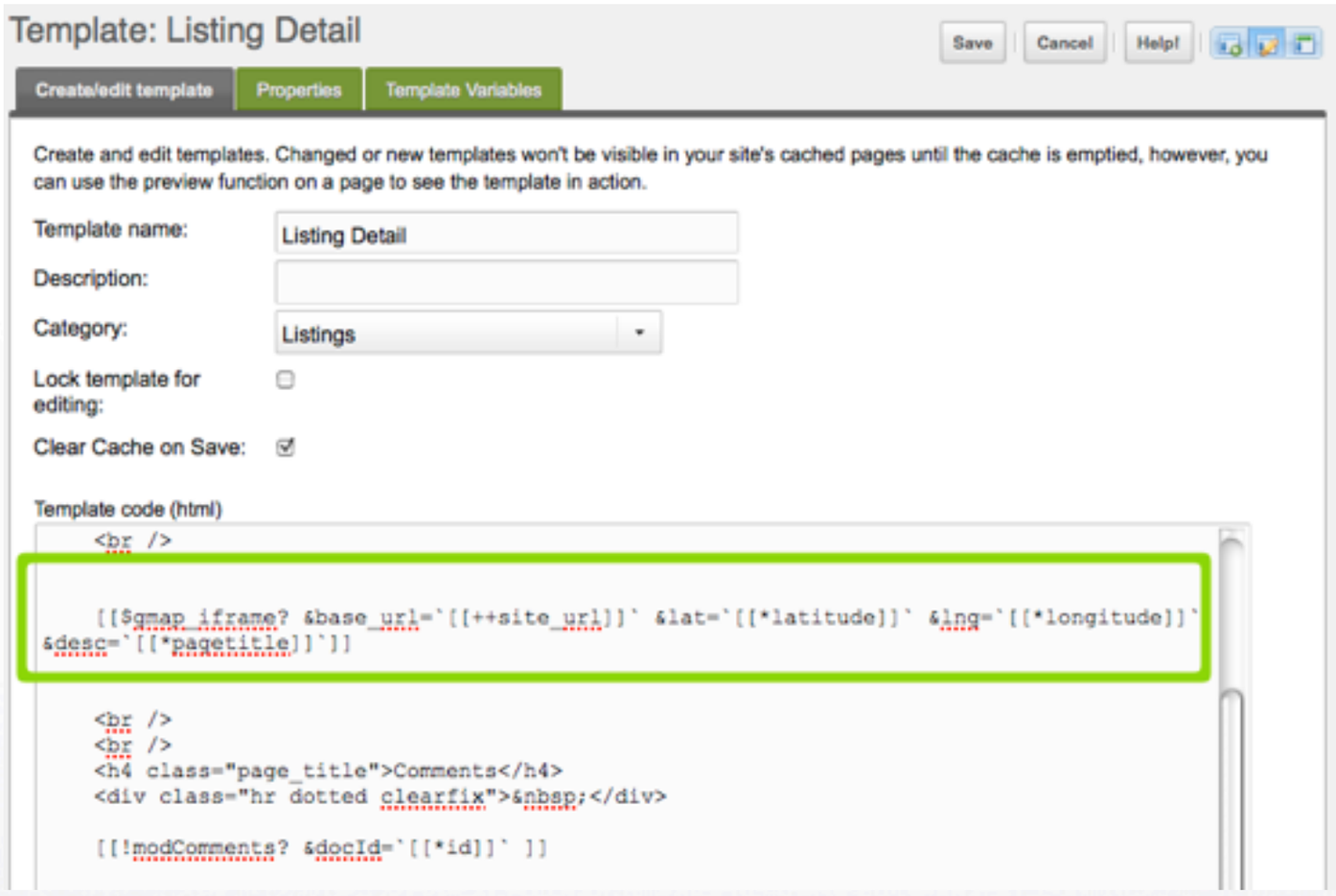
Chunk

Rendered Page

Chunk: definition



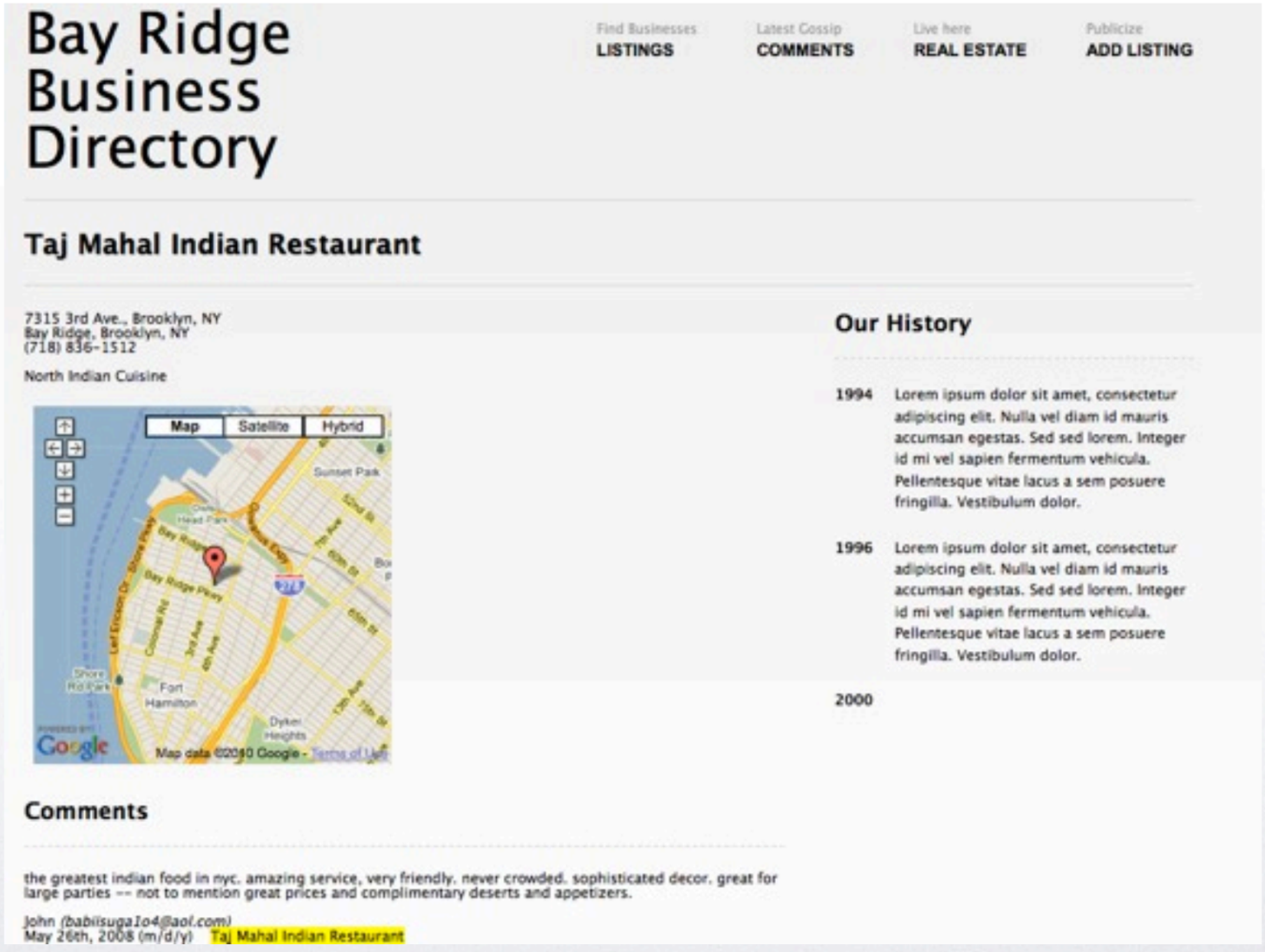
Chunk: calling it (from a template)



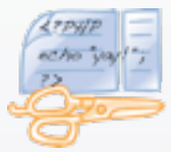
- Chunks accept parameters
- You can pass either system settings (site_url) or template variables (latitude,longitude,pagetitle) as parameters

And the result is ...

http://modx.bayridge-business.com/listings/food-drink/restaurants/taj-mahal-indian-restaurant/



modx tag syntax

	Evolution (old)	Revolution (new)
Template Variable	[*content*]	[[*content]]
Cached Snippet 	[[amzn_book_srch]]	[[amzn_book_srch]]
Uncached snippet	[! amzn_book_srch!]	[[!amzn_book_srch]]
Chunk	{{gmap_iframe}}	[[$gmap_iframe]]
Chunk placeholders	[+latitude+]	[[+latitude+]]

More info.: http://rtfm.modx.com/display/revolution20/Tag+Syntax

“Hackable” URLs

- Using aliases and folders to create, hackable, semantic URLs
- E.g.:

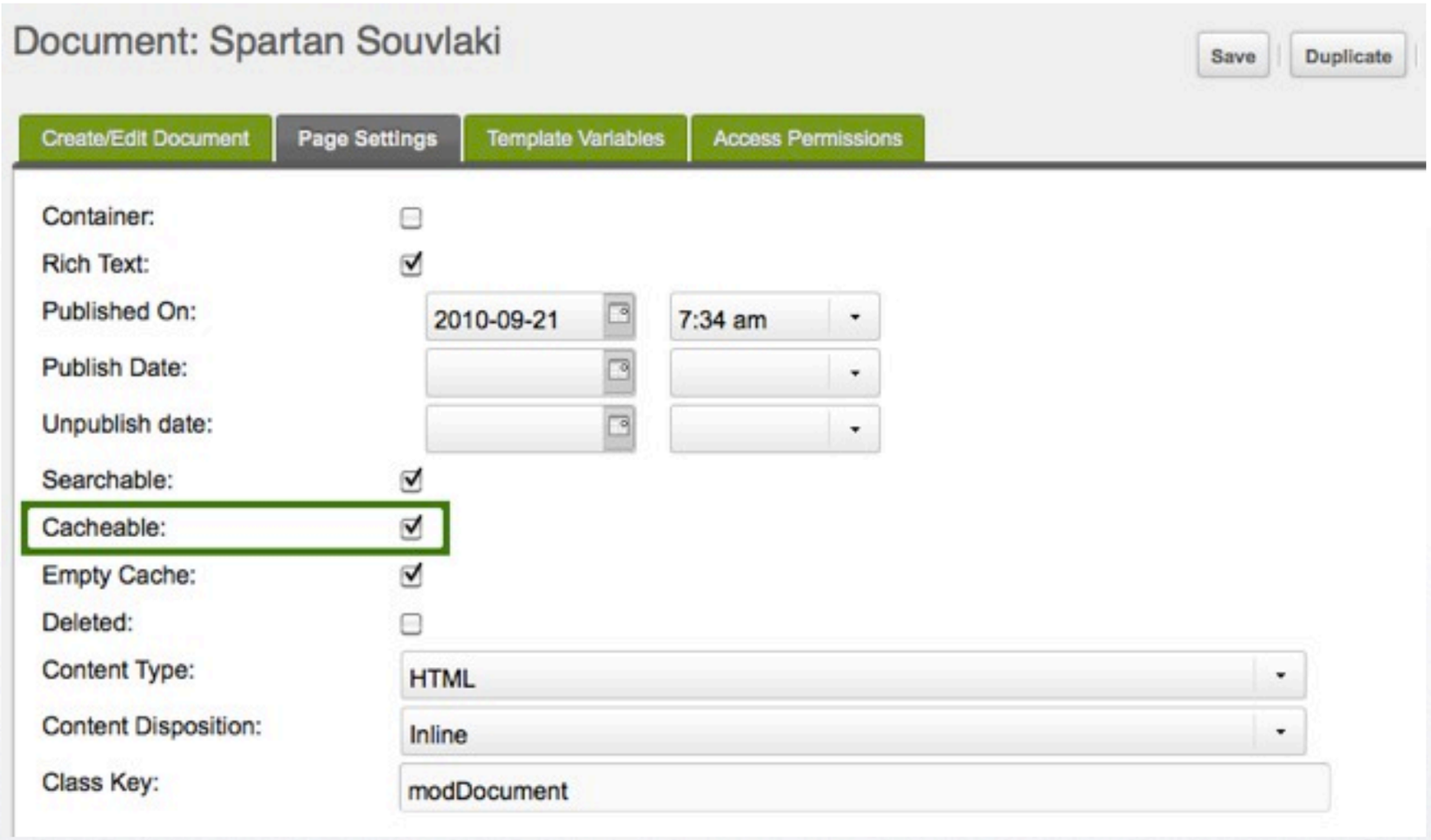
  http://modx.bayridge-business.com/listings/food-drink/restaurants/taj-mahal-indian-restaurant/

- Organize your content in the same way that you think about it, and the URLs will reflect this semantic structure automatically!

Caching

- Document-level caching
- Snippet-level caching
- Caching is essential for high-traffic sites!

Document-level caching



Document are cacheable by default

Snippet- and element-level caching

- Cached snippet: [[google_maps]]
- Uncached snippet: [[!google_maps]]
- Uncached chunk: [[!$chunk]],
- Uncached placeholder: [[!+placeholder]]
- Uncached template variable [[!*template_var]]

Page-level + snippet-level caching

Page	Snippet	Result (Page)
Cached	Cached	Cached
Cached	Uncached	If only 1 snippet / page: Uncached If > 1 snippet/page: Mixed
Uncached	Cached	Uncached
Uncached	Uncached	Uncached

Caching: summary

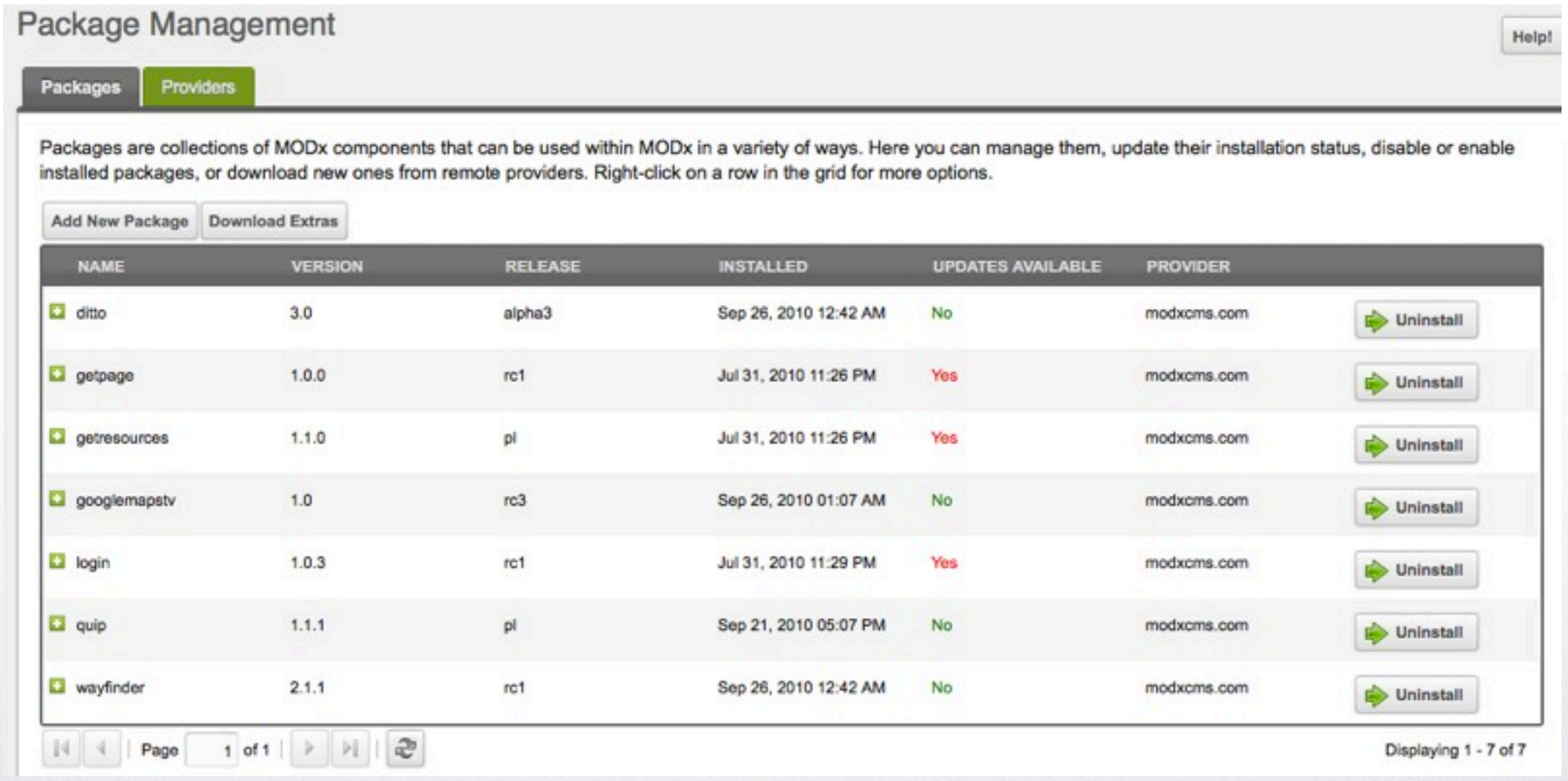
- Page-level cache overrides snippet-level cache
- Best practice: keep all pages cached, use uncached snippets for sections doing data processing, or needing instant updates
- Page cache is automatically cleared when the page (or snippets it uses) is updated

Extending modx

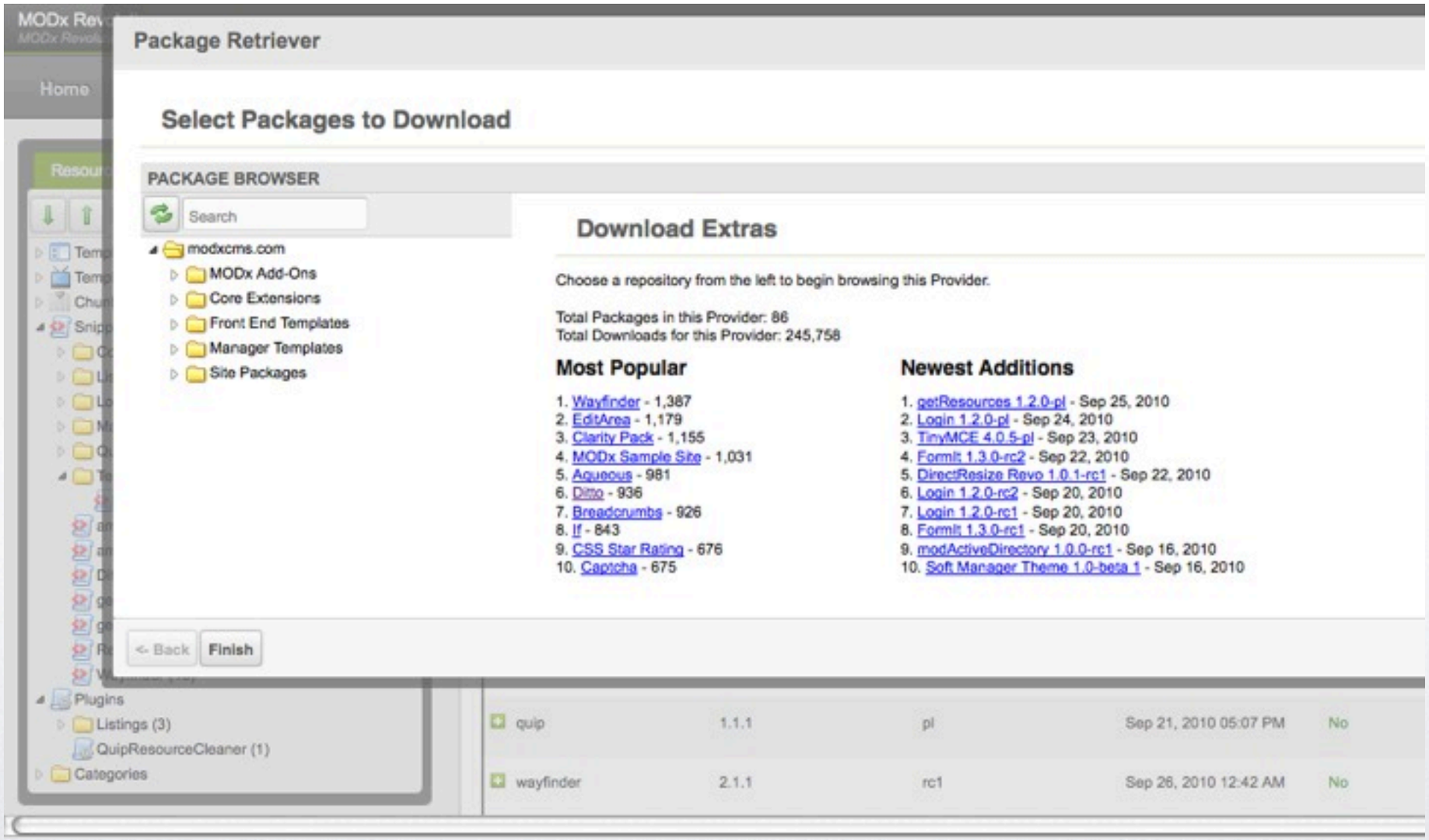
- snippets, plugins, packages ("add-ons")
- plugins: pieces of PHP code that affect how the modx manager and user-facing site operate
- packages: collections of snippets and chunks available through the modx manager

Browse add-ons: http://modxcms.com/extras/repository/10

Extending modx: upgrading packages



Extending modx: adding new packages



modx API

Why use the modx API?

- Call a snippet from a snippet
- Parse a chunk, and return its output from a snippet
- Cache the result of a function
- Save data to the database using xPDO library

Using the modx API

- All snippets running within modx have access to the global $modx object
- The $modx object is the main, and most important object
- Call various methods of $modx

API Reference: http://rtfm.modx.com/display/revolution20/modX

modx API, snippets

Call a snippet from a snippet:

```
$googleMap = $modx->runSnippet('google_maps',array(
    'lat' => $_GET['lat'],
    'lng' => $_GET['lng'],
    'desc' => $_GET['desc']
));
```

modx API, chunks

Parse a chunk, and return its output (from a snippet)

Snippet:

```
$row = array(‘name’ => ‘Tom Jones’, ‘email’ => ‘tj@tomjones.example.com’, ‘message’ => ‘hi there!’);

$formattedComment = $this->oModx->getChunk('show_comment', $row);

echo $formattedComment;
```

Chunk:

```
<p> [[+message]]  <br />

[[+name]] <em>([[+email]])</em> </p>
```

modx API - accessing TVs

- Get current document's id:

  $modx->resource->get('id');

- Get current document's (built-in) "content" TV:

  $modx->resource->get('content');

- Get the value of current document's (custom) "latitude" TV:

  $oTV = $modx->getObject('modTemplateVar', array('name'=>'latitude'));

  $latitude = $oTV->renderOutput($modx->resource->get('id'));

modx API - running DB queries

- PDO -> xPDO -> $modx ($modx inherits from PDO!)
- Sample code:

```
foreach( $modx->query('SELECT cuisine_id, cuisine FROM cuisines LIMIT 5') as $row ){
    echo $row['cuisine_id'] . ',' . $row['cuisine'] . '<br />';
}
```

- Result

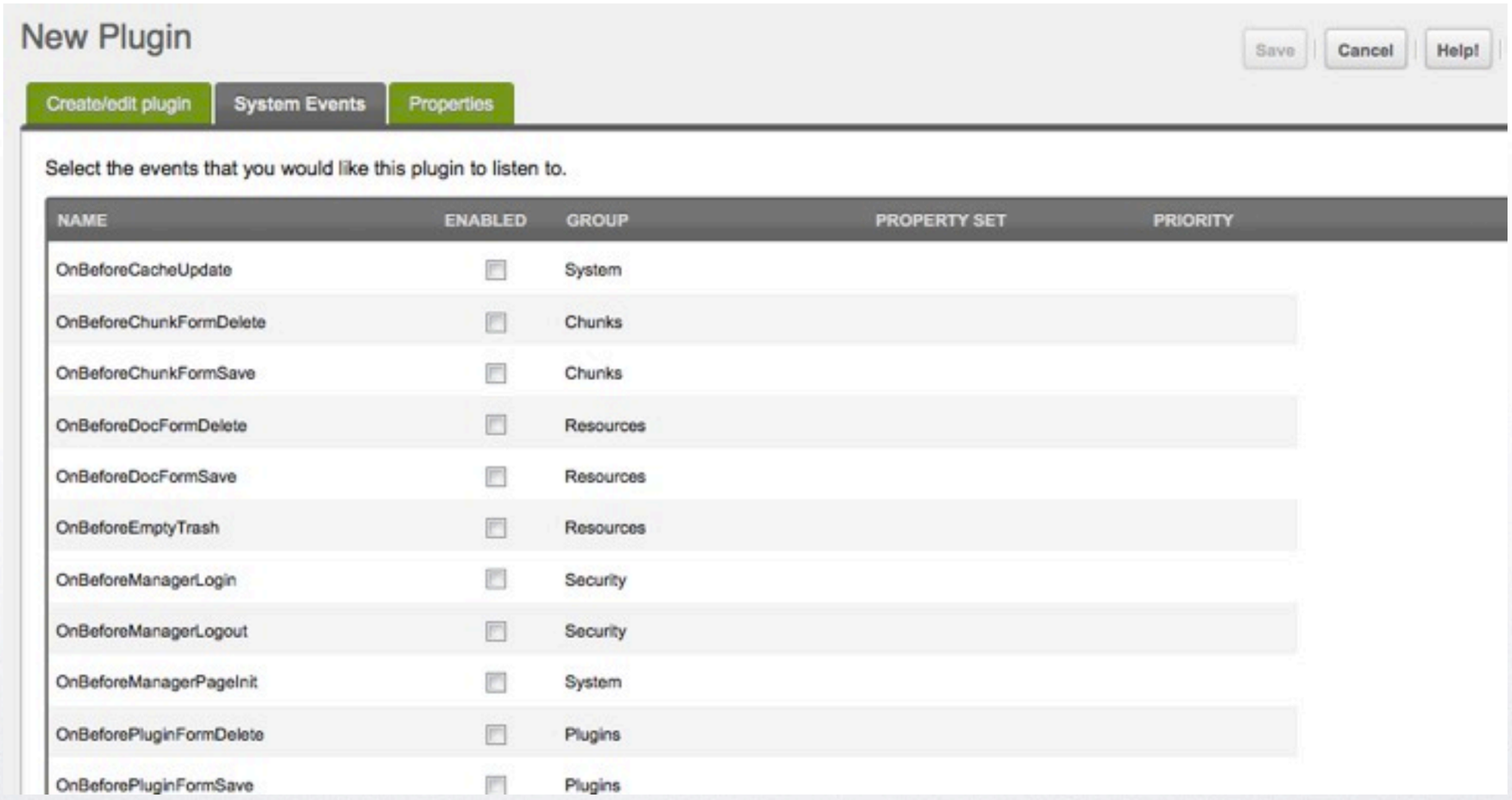
```
1,nocuisine
2,Christmas Specialties
3,Italian
...
```

(More on xPDO and PDO in the appendix)

Modx Plugins

- Extend and modify core modx functionality
- Example: create a custom routing system to serve “virtual pages”, using 404 handler

Modx Plugin Events



Questions? Comments?

Thank You!

- See appendix for links, and more info.

Appendix

Start Here:

- Main site: http://www.modxcms.com/
- Forums: http://modxcms.com/forums/
- modx Revolution documentation: http://rtfm.modx.com/display/revolution20/Home
- Book: MODx Web Development (covers modx Evolution). https://www.packtpub.com/modx-web-development/book
- Bob's Guides: http://bobsguides.com/MODx.html

xPDO

xPDO is an object-relational mapping framework that stands at the core of modx Revolution. It was written by modx core contributor Jason Coward.

PDO reference: http://us3.php.net/manual/en/intro.pdo.php
xPDO intro.: http://rtfm.modx.com/display/xPDO20/Fundamentals
xPDO class ref.: http://rtfm.modx.com/display/xPDO20/Class+Reference
xPDO api docs: http://api.modxcms.com/xpdo/xPDO.html
xPDO forum: http://modxcms.com/forums/index.php/board,219.0.html

Blog Posts:
http://marcoraven.net/modx/modxrevolutionxpdo.html

Useful Packages

Listing and Summarization:

- getResources:

  http://modxcms.com/extras/package/?package=552

- Ditto:

  http://modxcms.com/extras/package/?package=96

Useful Packages

Menus:

- Wayfinder:

  http://modxcms.com/extras/package/?package=487

- Breadcrumbs:

  http://modxcms.com/extras/package/?package=54

For all packages, see: http://modxcms.com/extras/repository/10