

User Interface customization for AEM 6

CQ Gems
May 7th, 2014

Gilles Knobloch
Damien Antipa



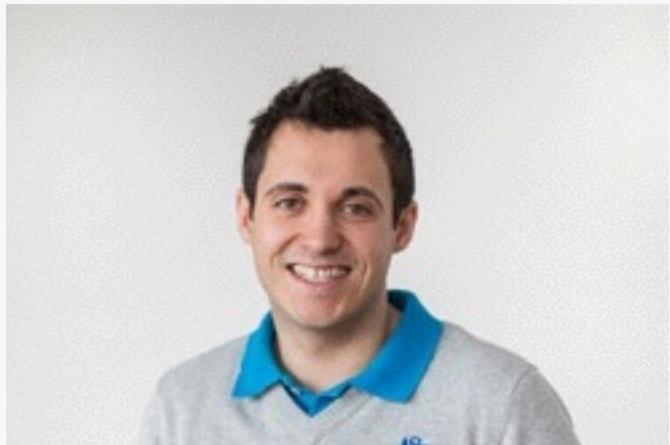


Gilles Knobloch, Engineering Manager

4 years of AEM experience
working on AEM/Granite/Coral
architect of the Sling Resource Merger



@gilknob



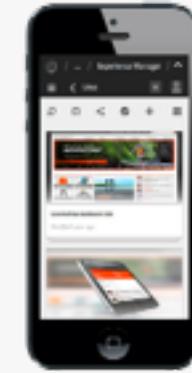
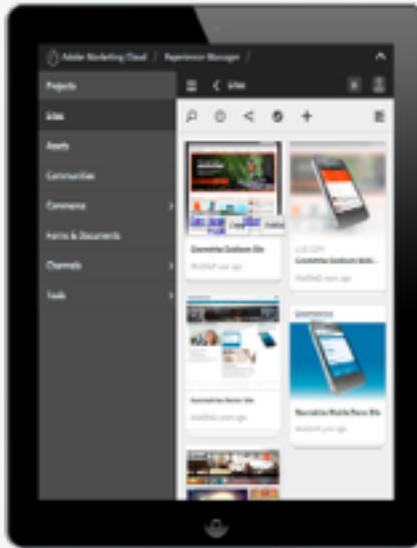
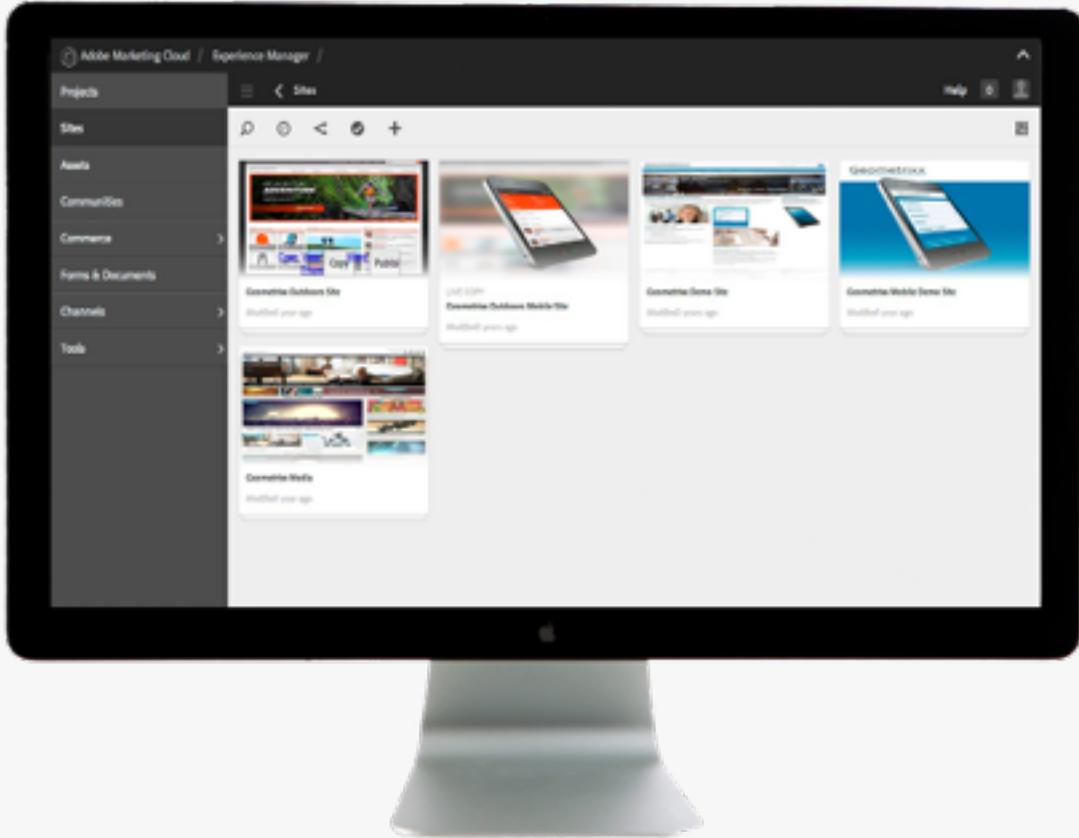
Damien Antipa, Senior UX Engineer

working on AEM/Granite/Coral and
wherever Javascript is used



@visiongeist

Introduction



New UI: Mobile first, Desktop in mind

Introduction

- Granite UI introduced in 5.6.0
- Now spread across multiple UIs of the product
- UI framework provides base components

Challenges

Extensible technology for partners/customers

Goal of the session

Understand how to extend admin screens and page authoring

Extending the Administration pages



- Sling Resource Merger
- Extend existing admin screen
- Create a custom admin screen
- Includes

Sling Resource Merger

<https://issues.apache.org/jira/browse/SLING-2986>

- Custom resource provider
- Overlays of resources using resource resolver search paths
- Working as a diff
- Custom Sling vocabulary

Overall goal: override in /apps, never touch /libs

- Guarantees upgradability
- Easier for customers to debug

Sling Resource Merger

Add or override a property

Create the corresponding property within /apps
(the property will have priority based on Sling Resource Resolver configuration)

Changing the type of the property is supported

Sling Resource Merger

Add or override a property

The screenshot shows the AEM authoring interface. On the left is a tree view of the JCR structure under the path /content/sites/jcr:content/body. The node 'breadcrumbs' is selected. On the right is a properties editor for this node. The 'Properties' tab is active, showing two properties:

Name	Type	Value
jcr:primaryType	Name	nt:unstructured
rootTitle	String	My Sites

Sling Resource Merger

Delete one or more properties

Create the corresponding node within /apps,

Add sling:hideProperties property: list of properties to delete (String[])

* wildcard can be used to delete all the properties



Sling Resource Merger

Delete one or more properties

The screenshot shows the AEM authoring interface. On the left, there is a tree view of the site structure under 'sites/jcr:content'. A specific resource, 'rendercondition', is selected and highlighted with a blue selection bar at the bottom of the tree. On the right, there is a properties table for this selected resource.

Properties		Access Control	Replication	Console	Build Info
	Name	Type	Value		
1	groups	String[]	administrators		
2	jcr:primaryType	Name	nt:unstructured		
3	sling:hideProperties	String[]	privileges, path		
4	sling:resourceType	String	myapp/components/renderconditions/group		

Sling Resource Merger

Delete a node (and its children)

Create the corresponding node within /apps
Set sling:hideResource to true (Boolean)



Sling Resource Merger

Delete a node (and its children)

The screenshot shows the Sling Resource Manager interface. On the left, there is a tree view of nodes under the 'default' workspace. The visible nodes include 'items', 'create' (which has 'items' and 'createsite' as children), and 'rendercondition'. At the bottom of the tree view is a button labeled 'togglelayout'. On the right, there is a detailed view of a selected node's properties. The 'Properties' tab is active, showing two properties:

Name	Type	Value
1 jcr:primaryType	Name	nt:unstructured
2 sling:hideResource	Boolean	true

Sling Resource Merger

Delete children of a node (but keep the properties of the node)

Create the corresponding node within /apps,
Add sling:hideChildren property: list of children to delete (String[])

* wildcard can be used to delete all the children



Sling Resource Merger

Delete children of a node

The screenshot shows the AEM authoring interface. On the left is the navigation tree:

- help
- items
 - list
 - Items
 - mydoc1
 - mydoc2
 - content

To the right is the node editor for the 'list' node. The 'Properties' tab is selected, showing the following table:

Name	Type	Value
1 jcr:primaryType	Name	nt:unstructured
2 sling:hideChildren	String[]	searchform, whatsnew, home, community, customercare



Sling Resource Merger

Reorder nodes

Create the corresponding node within /apps

Set sling:orderBefore to the name of the sibling where that node should be reordered before (String)

TODO: support redefining the whole list of children



Sling Resource Merger

Reorder nodes

The screenshot shows the AEM authoring interface with the 'Properties' tab selected for a resource named 'mydoc1'. The left sidebar displays a tree view of nodes under 'content'. The 'Properties' table lists the following properties:

Name	Type	Value
1 href_i18n	String	https://www.mycustomdoc.com/1
2 jcr:primaryType	Name	nt:unstructured
3 sling:orderBefore	String	aemdoc
4 sling:resourceType	String	granite/ui/components/foundation/hyperlink
5 text	String	My Custom Doc 1 before AEM Docs

Extend existing admin screen

Sling Resource Merger is our friend!

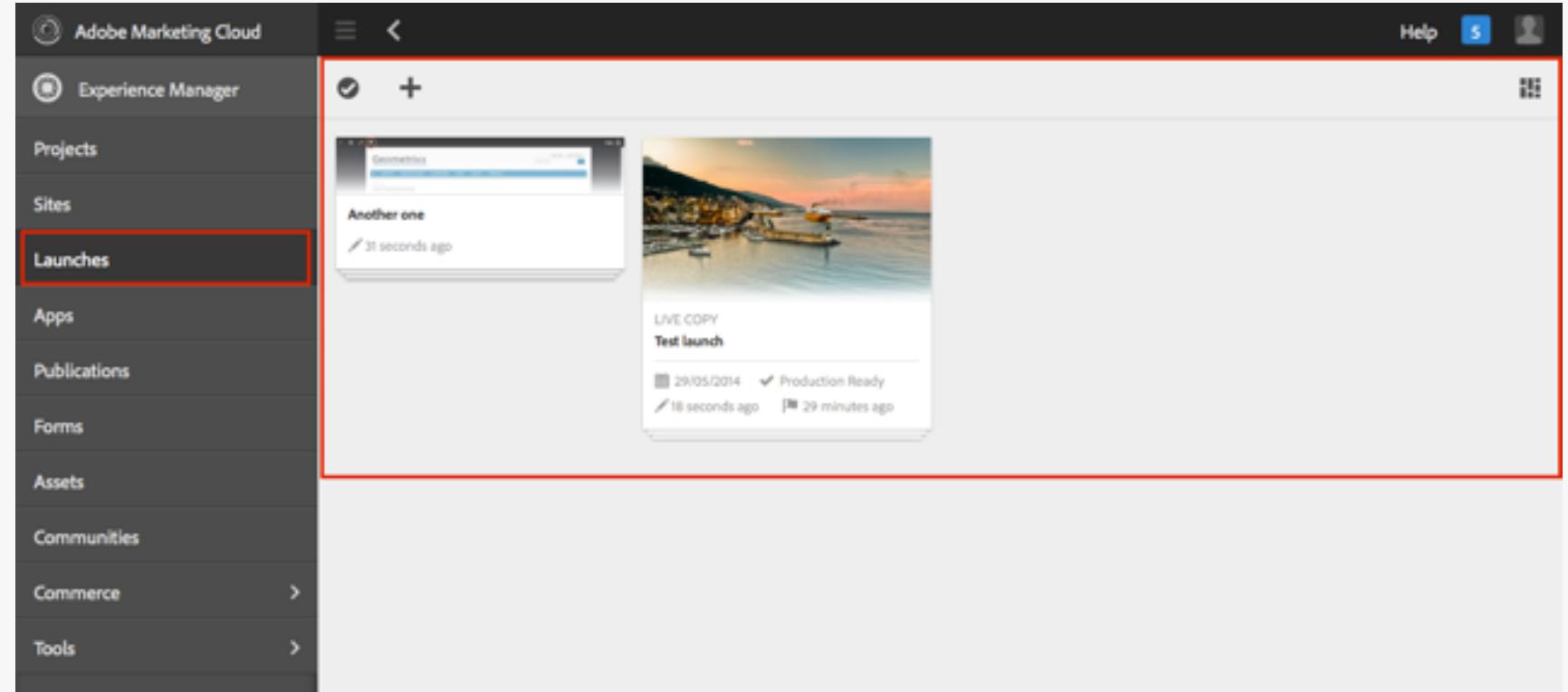
- Update root title for breadcrumb
- Custom documentation links (sling:hideChildren, sling:orderBefore)
- Additional toolbar action
- Restrict Create Site to administrators (custom rendering condition)
- Default layout to list view, removed toggle to card view (sling:hideResource)



Create a custom admin screen

Launches Console

- Custom console
- Custom menu entry
- Specific actions



Create a custom admin screen

Root space for Launches console

The screenshot shows the CRXDE Lite interface with two main panels. On the left is a file tree of the AEM repository structure under '/apps'. On the right is a table of properties for a specific page resource.

Custom components (styles, scripts, JSPs): Points to the 'launches' folder in the file tree, which contains 'launches.jsp' and 'launch.jsp' files.

Page definition: Points to the 'head' and 'body' files under the 'jr:content' folder in the file tree.

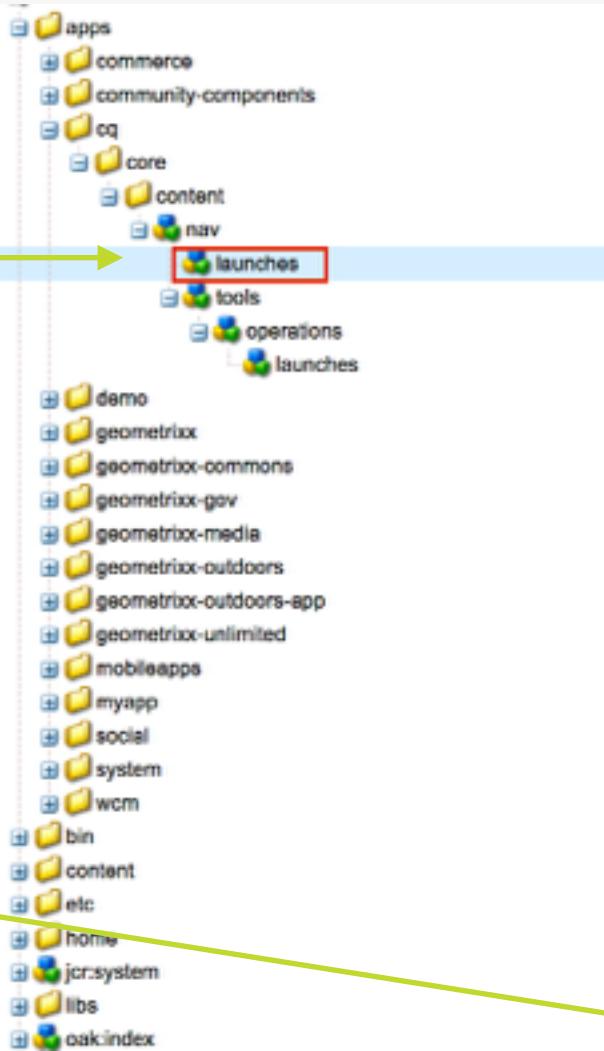
Granite UI page resource: Points to the 'sling:resourceType' property in the table, which is set to 'granite/ui/components/foundation/page'.

Name	Type	Value	Protected	Mandatory	Multiple	Auto Created
1 jcr:mixinTypes	Name[]	sling-VanityPath	true	false	true	false
2 jcr:primaryType	Name	nt:unstructured	true	true	false	true
3 jcr:title	String	AEM Launches	false	false	false	false
4 sling:resourceType	String	granite/ui/components/foundation/page	false	false	false	false
5 sling:vanityOrder	Long	301	false	false	false	false
6 sling:vanityPath	String	/launches	false	false	false	false

Create a custom admin screen

Add in navigation

Extend navigation



Specify location in the tree

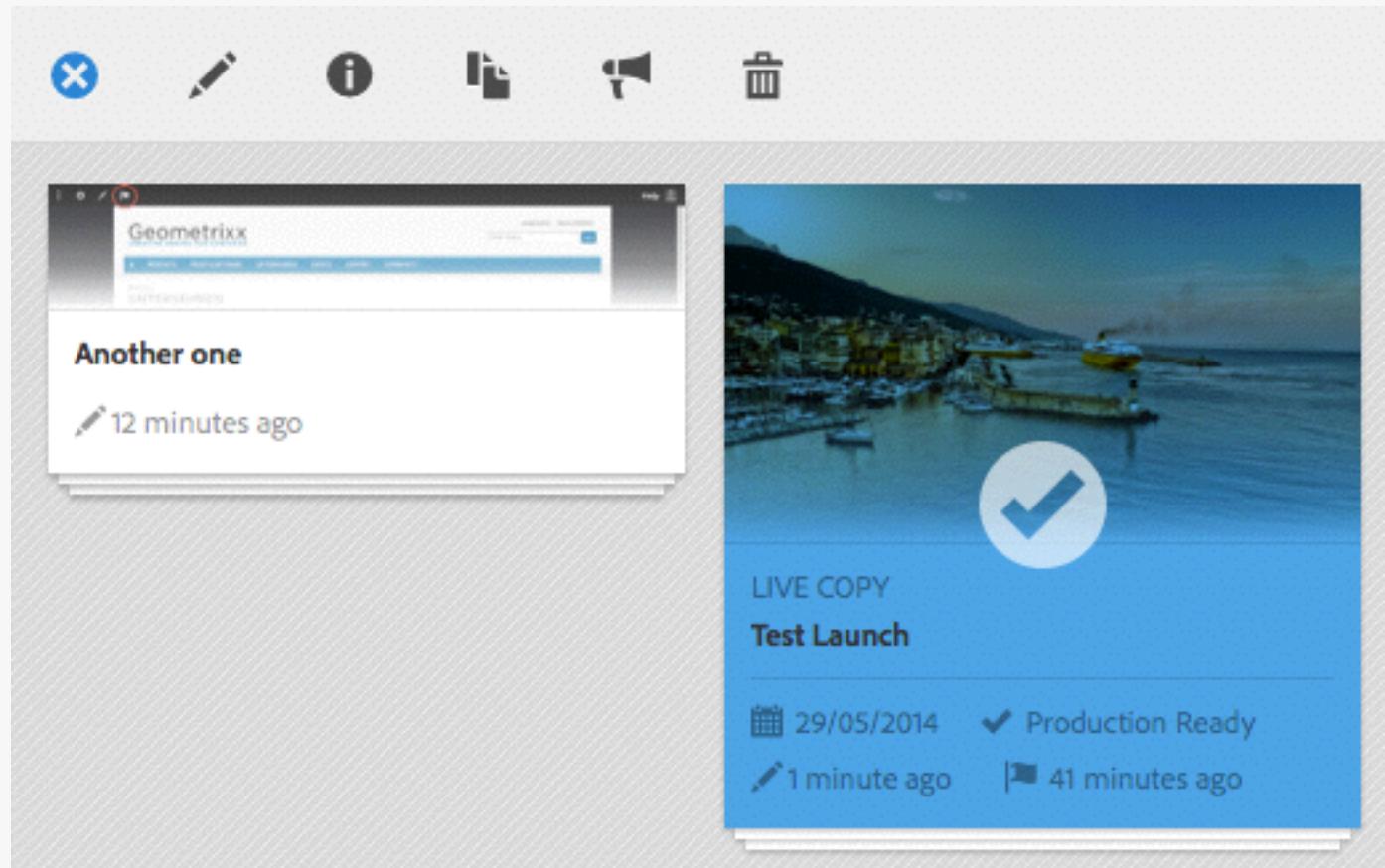
The screenshot shows the properties editor for the 'launches' node. A red box highlights the 'id' property with the value 'cq-launches'. A yellow arrow points from the text 'Give same ID as your console and point to it' to this field.

Properties	Access Control	Replication	Console
Name	Type	Value	
1 href	String	/launches.html	
2 id	String	cq-launches	
3 jcr:primaryType	Name	nt:unstructured	
4 jcr:title	String	Launches	
sling:orderBefore	String	apps	

Create a custom admin screen

Custom action bar

- Build your own components
- Include the corresponding client libraries for custom actions



Granite UI Includes

granite/ui/components/foundation/include

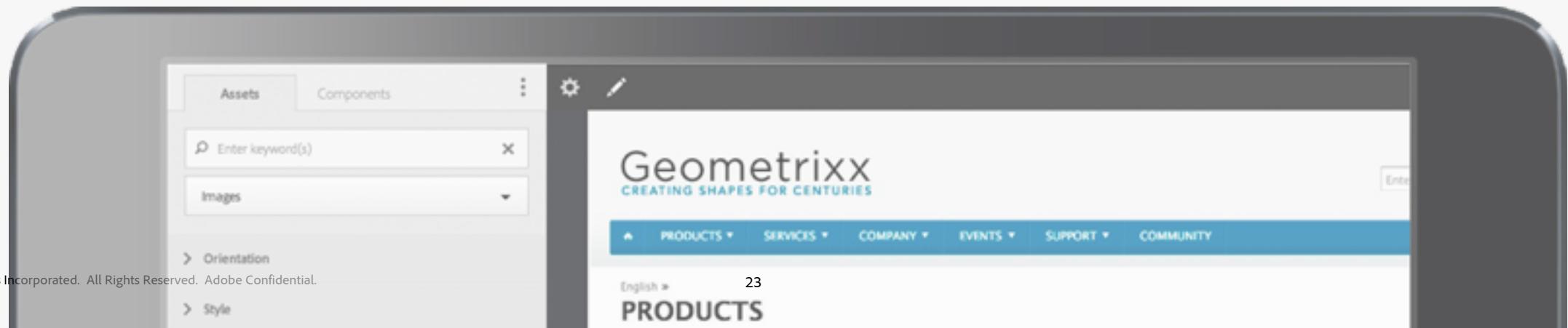
- Specify path to include

The screenshot shows the AEM authoring interface with the URL `/libs/wcm/core/content/sites/properties/jcr:content/body/account` in the header. On the left is a tree view of the node structure under `body`, including `breadcrumbs`, `title`, `helpactivator`, `badge`, `user`, `help`, `notifications`, `account`, and `content`. The `account` node is selected. On the right is a properties grid with tabs for `Properties`, `Access Control`, `Replication`, `Console`, and `Build Info`. The `Properties` tab is active, showing three properties:

Name	Type	Value
1 jcr:primaryType	Name	nt:unstructured
2 path	String	granite/ui/components/foundation/include
3 sling:resourceType	String	granite/ui/components/foundation/include

Can be used to extend component dialogs

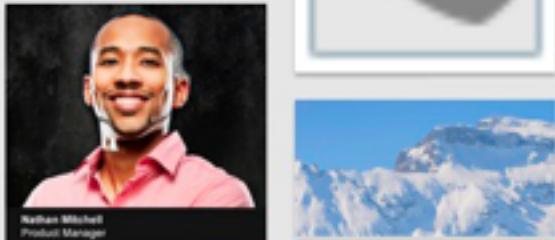
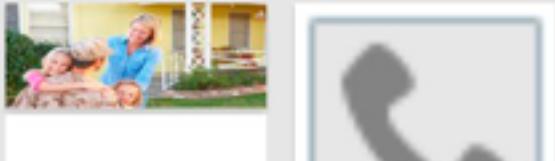
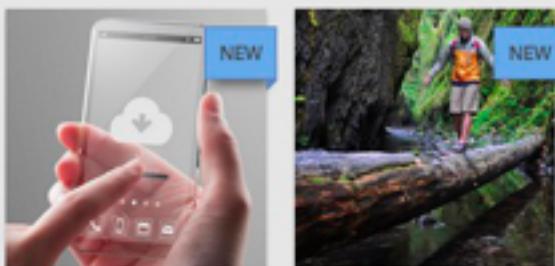
The new Page Authoring in AEM 6.0



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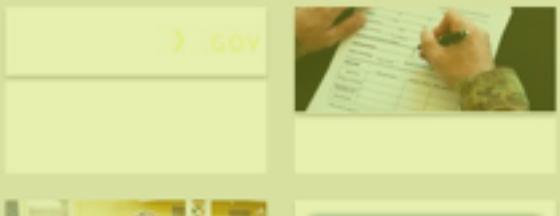
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Sidepanel

Nathan Mitchell
Product Manager

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2 Columns

COLUMNS

3 Columns

FORM

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FORM

Address

GENERAL

Captcha

Carousel

GENERAL

Chart

Form

Checkbox Group

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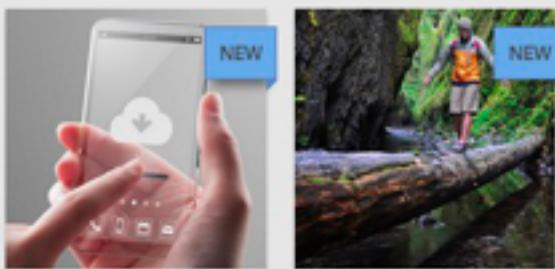
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Toolbar

Triangle

Square

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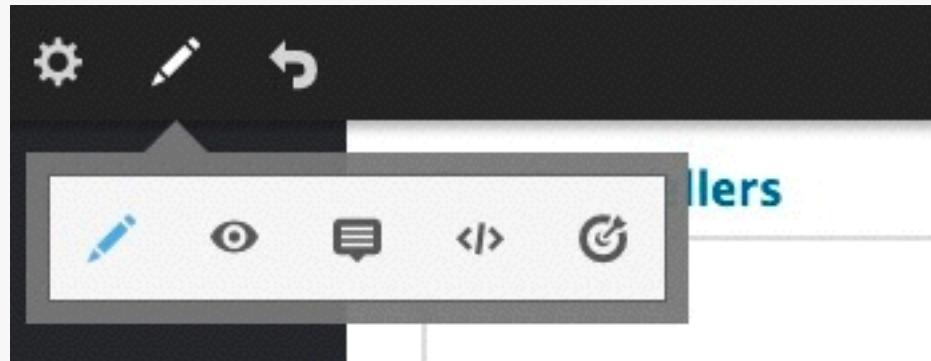
- Triangle
- Square
- Circle
- Mandelbrot Set

What is an Editable?

- Constructor: `Granite.author.Editable`
- inherits from `Granite.author.Inspectable`
- is an instance of a component on a page
- allows access to the page's DOM and its overlay
- is aware of its JCR path and edit configuration
- all Editable's of the current page are accessible through `Granite.author.store`

What is a layer?

- A layer is an independent bundle of functionality which can be activated in order to manipulate or interact with the page
- What can I do with a layer? **What ever you want.**
(but please cleanup:-)



Extending the Page Authoring



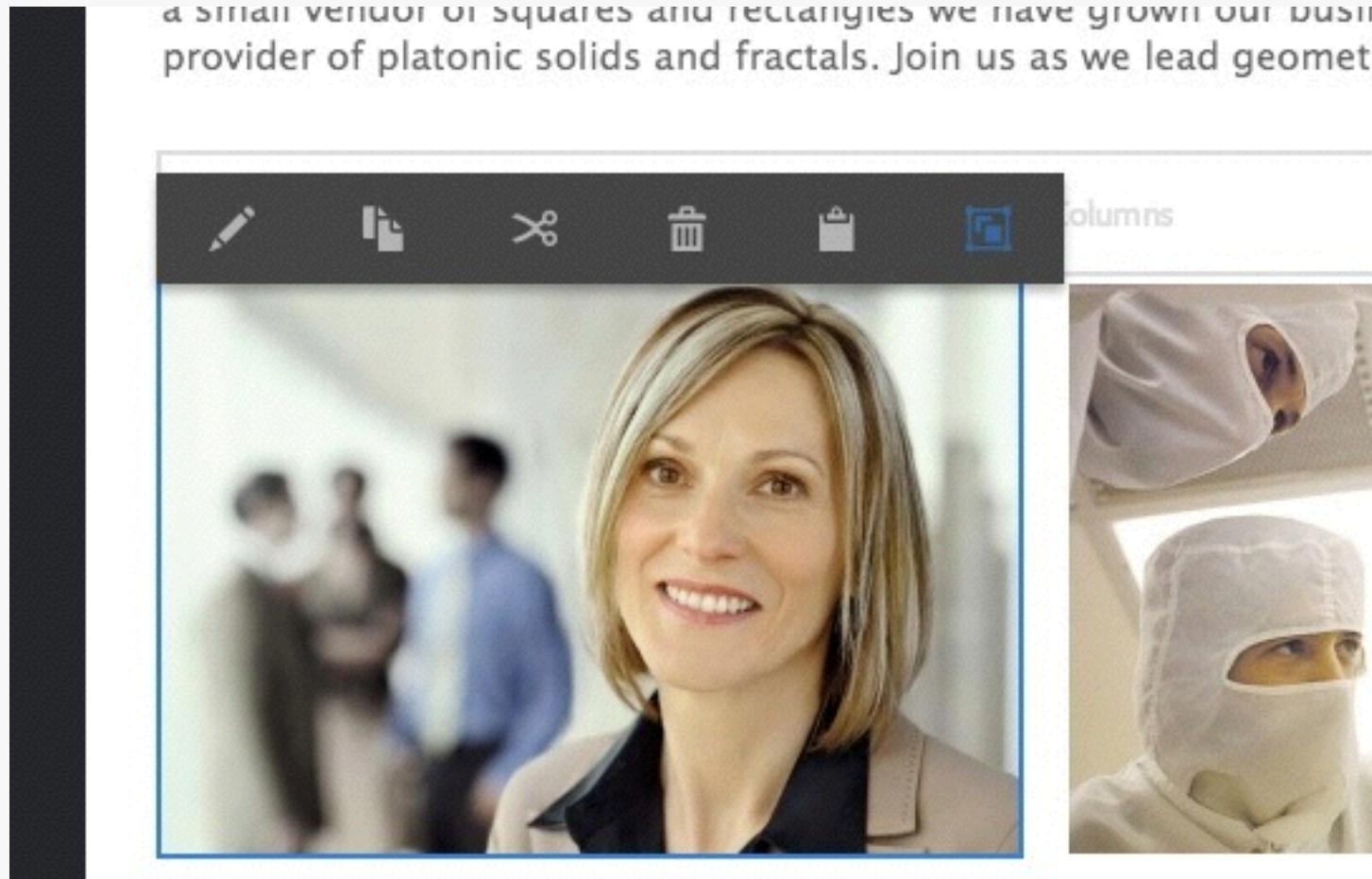
- Toolbar action
- Page action
- Inplace Editor
- Custom Layer
- Assetfinder Group

Before we start...

- Javascript Namespace: `Granite.author`
- ClientLib category hook: `cq.authoring.editor.hook`
- Overlays are managed by `overlayManager`
- Current page's Editables are in `Granite.author.store`
- A lot of page data is in `Granite.author.page`



Custom toolbar action

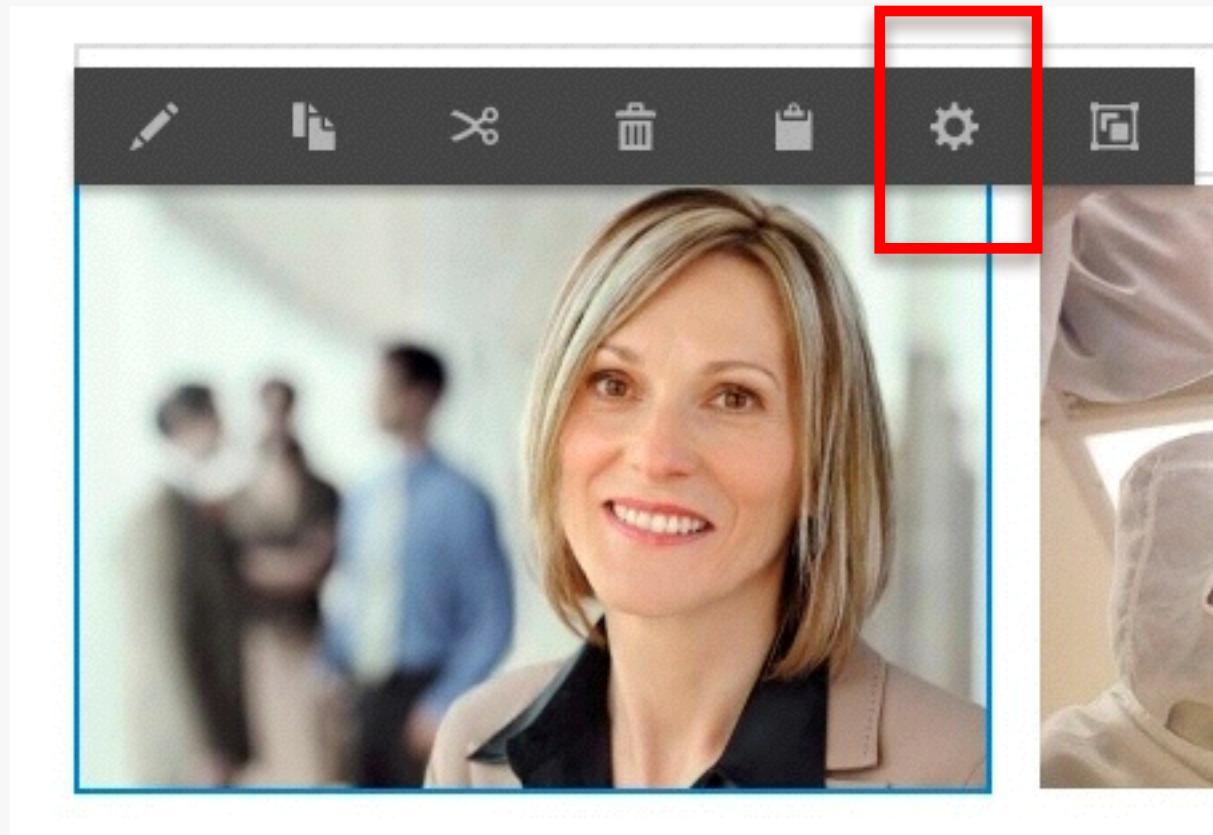


Still working: Adding custom actions to components

The screenshot shows the AEM authoring interface. On the left, there is a tree view of the page structure under the node 'image'. The visible nodes include 'analytics', 'clientlibs', 'cq:dialog', 'cq:editConfig' (which is expanded to show 'cq:dropTargets', 'cq:inplaceEditing', 'cq:actionConfigs', and 'custom'), and 'custom'. On the right, a modal dialog is open showing the 'Properties' tab of a component. The table contains the following data:

	Name ▲	Type	Value
1	handler	String	<code>function () { alert('my custom action') }</code>
2	icon	String	coral-Icon--gear
3	jcr:primaryType	Name	nt:unstructured
4	text	String	Custom action

Still working: Adding custom actions to components



New: Manipulating the toolbar with Javascript

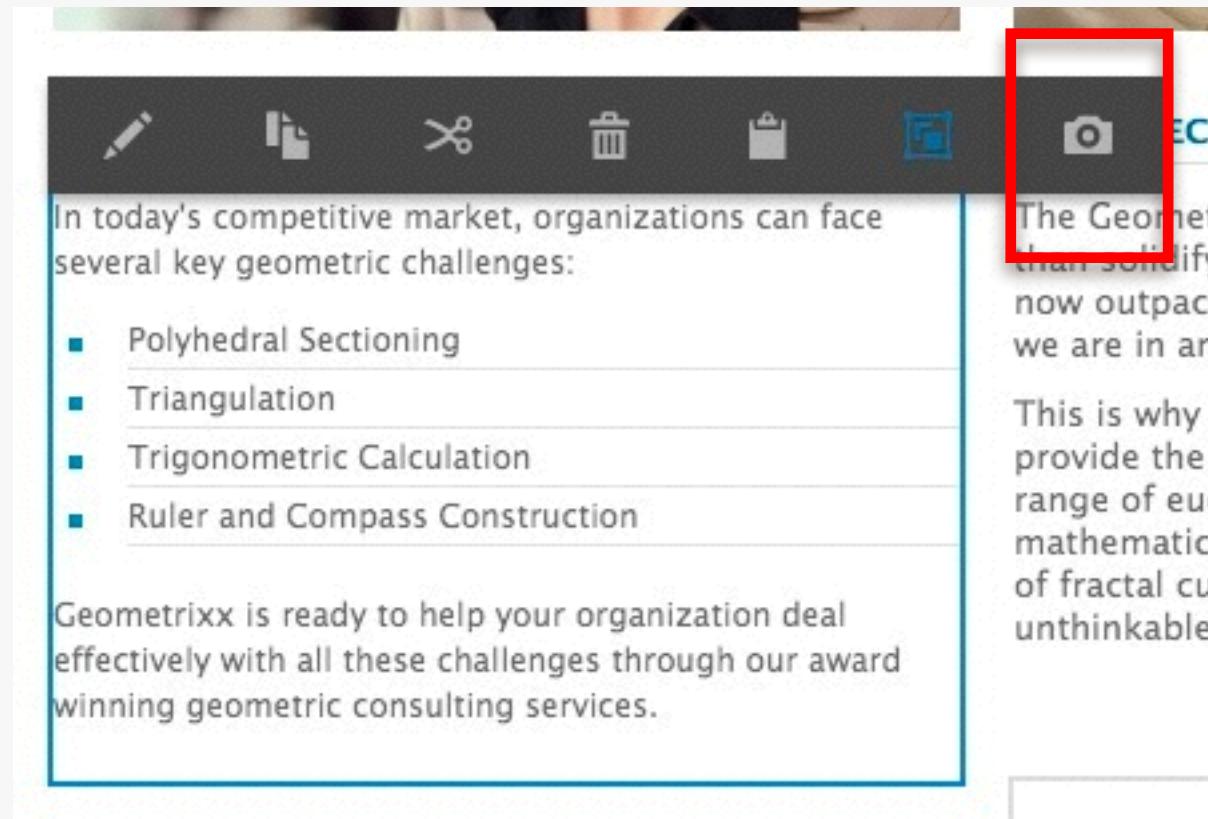
- component independent actions
- understand eventing in the authoring channel
- use global objects
- toolbar entry definition



```
'CUSTOM': {
    icon: 'coral-Icon--gear',
    text: Granite.I18n.get('Custom'),
    handler: function (editable, param, target) {
        alert('my custom action');
        // do not close toolbar
        return false;
    },
    condition: function (editable) {
        // optional condition to show action
        return !!editable.config.orderable;
    },
    render: function (dom) {
        // custom rendering
        return dom;
    },
    // could be executed when only one editable is selected
    // default: false
    isNonMulti: true
}
```

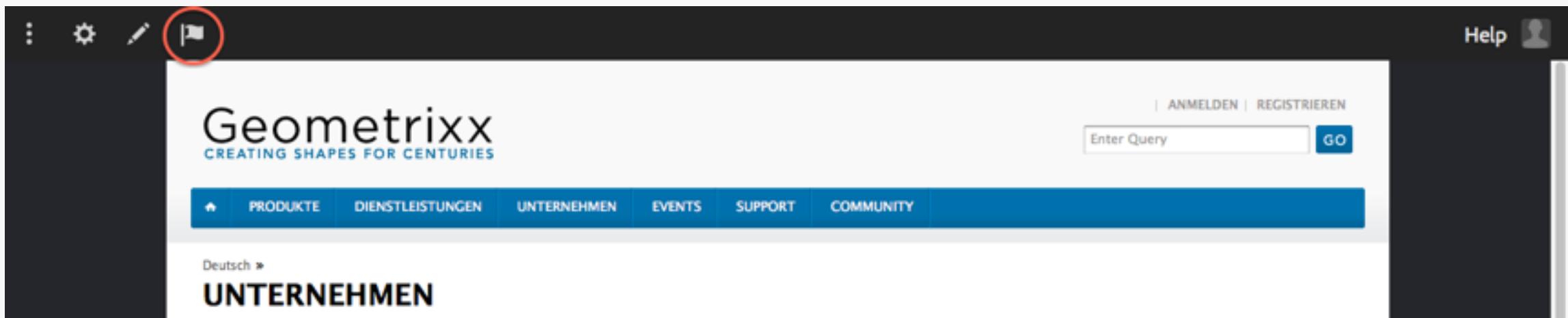


Adding a screenshot functionality



Custom page action

Add an action to page authoring toolbar



Example: a button to translate the page

Custom page action

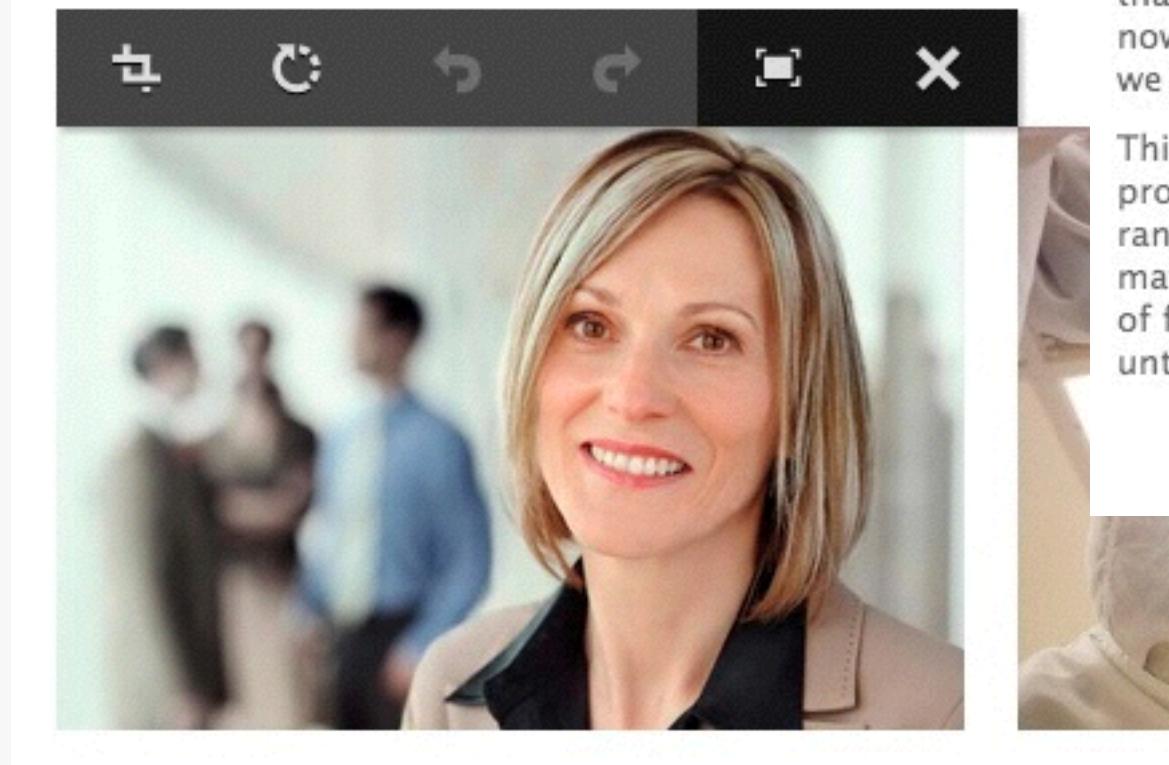
new action added under /apps

- define as a header action
- cq-Translate-action used as jQuery selector

extension to cq.authoring.editor client library

Properties	Access Control	Replication	Console	Build Info							
Name ▲	Type	Value			Protected	Mandatory	Multiple	Auto Created			
1 align	String	left			false	false	false	false			
2 class	String	cq-Translate-action header-action			false	false	false	false			
3 hideText	Boolean	true			false	false	false	false			
4 icon	String	icon-flag			false	false	false	false			
5 jcr:primaryType	Name	nt:unstructured			true	true	false	true			
6 minimal	Boolean	true			false	false	false	false			
7 sling:orderBefore	String	lockmode			false	false	false	false			
8 sling:resourceType	String	granite/ui/components/foundation/button			false	false	false	false			
9 title	String	Update Translation			false	false	false	false			
10 translationWorkflowModel	String	/etc/workflow/models/wcm-translation/translate-language-copy/jcr:content/model			false	false	false	false			
11 workflowModel	String	/etc/workflow/models/wcm-translation/update_language_copy/jcr:content/model			false	false	false	false			

Inplace Editors



The Geometrixx investment in R&D has done more than solidify our industry leadership role, we have now outpaced our competitors to such an extent that we are in an altogether new space.

This is why our high quality polygons and polyhedra provide the only turnkey solutions across the whole range of euclidean geometry. And our mathematicians are working on the next generation of fractal curves to bring you shapes that are unthinkable today.

Create an Inplace Editor

The screenshot shows the AEM authoring interface. On the left, the page tree displays nodes: title, cq:dialog, cq:editConfig, cq:inplaceEditing (which is selected and highlighted in blue), and config. On the right, the properties dialog for the cq:inplaceEditing node is open, showing the following properties:

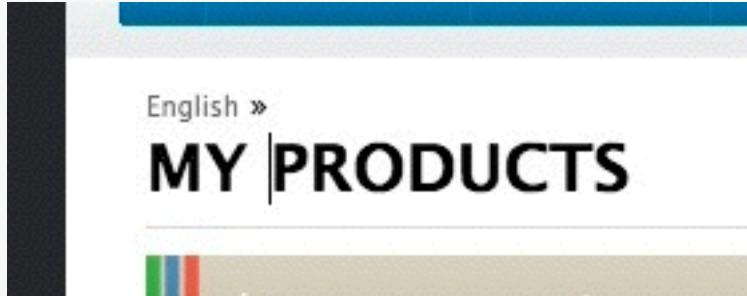
Properties		Access Control	Replication	Console
Name	Type			
1 active	Boolean	true		
2 editorType	String	title		
3 jcr:primaryType	Name	cq:InplaceEditingConfig		

The row for 'editorType' has a red box drawn around it.

```
var MyEditor = function () {  
};  
  
MyEditor.prototype.setUp = function (editable) {  
};  
  
MyEditor.prototype.tearDown = function (editable) {  
};  
  
Granite.author.editor.register('myeditor', new MyEditor());
```

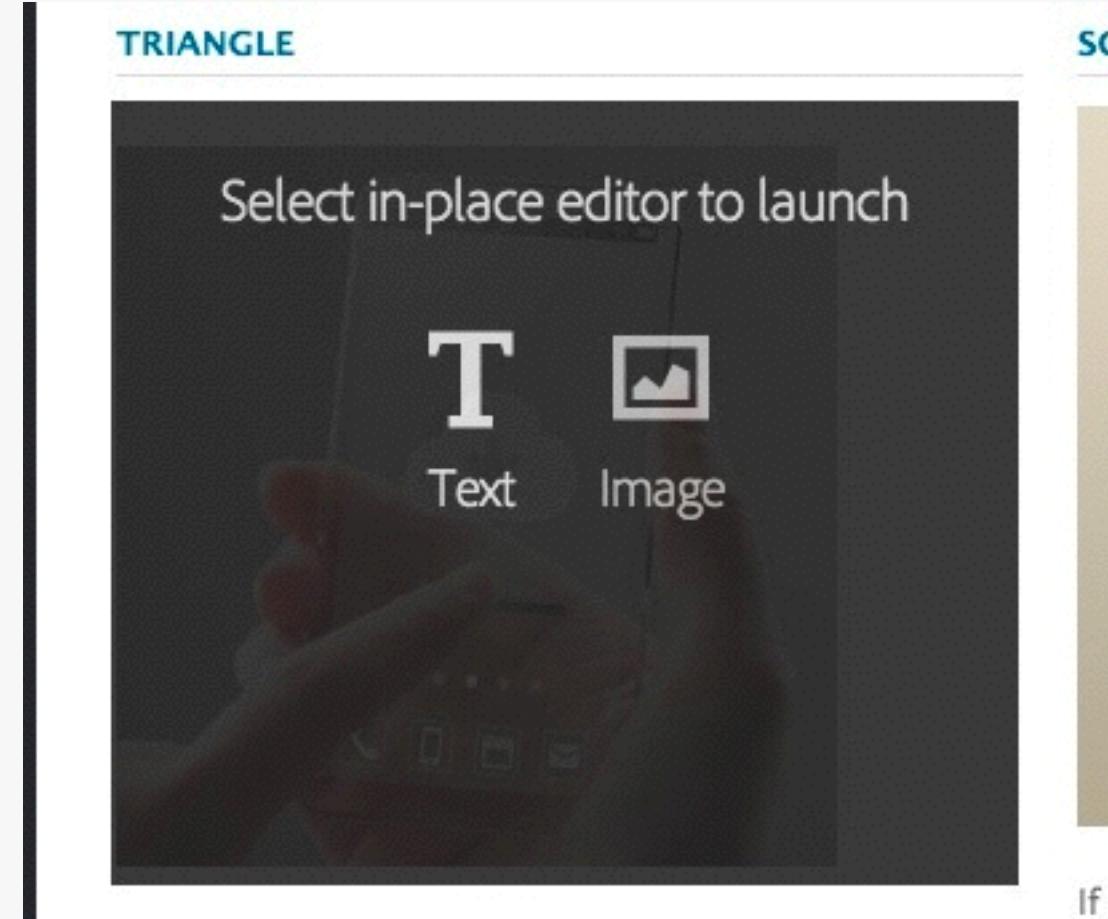
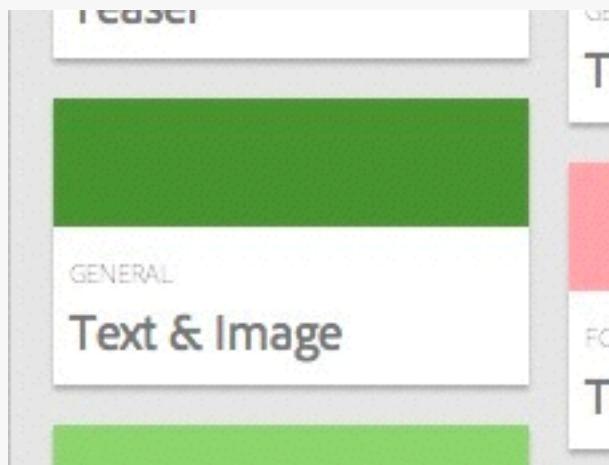


How we created the title editor



- manipulate the Editable's DOM

Create a Hybrid Editor



```
var textImageEditorConfig = {
    editors: [
        {
            editorType: "text",
            imageClass: "coral-Icon coral-Icon--text coral-Icon--sizeL"
        },
        {
            editorType: "image",
            imageClass: "coral-Icon coral-Icon--image coral-Icon--sizeL"
        }
    ]
};

Granite.author.editor.TextImageEditor = function () {
};

Granite.author.editor.TextImageEditor.prototype =
    new Granite.editor.HybridEditor(textImageEditorConfig);

// register the editor to the editor registry
Granite.author.editor.register('textimage', new Granite.editor.TextImageEditor());
```

Creating a layer

- Build-in layers: Edit, Preview, Annotation, Developer, Target
- Important objects: layerManager, overlayManager, persistence
- Change the view and actions



```
var MyLayer = function () {
    // Call super constructor
    this.constructor.prototype.constructor.call(this, "MyLayer", "coral-Icon--bug");
};

MyLayer.prototype = new author.Layer();

MyLayer.prototype.setUp = function () {
    // allow user interaction with the iframe content (e.g., click on links)
    author.ContentFrame.showFullScreenMask(false);

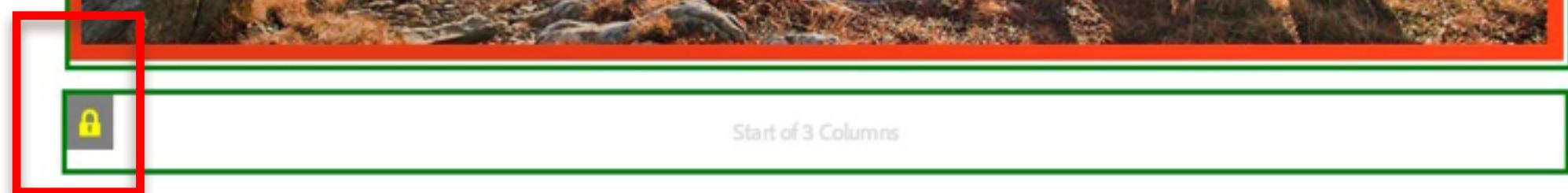
    // Close the sidepanel
    author.SidePanel.close();
};

MyLayer.prototype.tearDown = function () {
    // prevent user interaction with the iframe content (e.g., click on links)
    author.ContentFrame.showFullScreenMask(true);
};

// register at the manager
author.layerManager.registerLayer(new MyLayer());
```

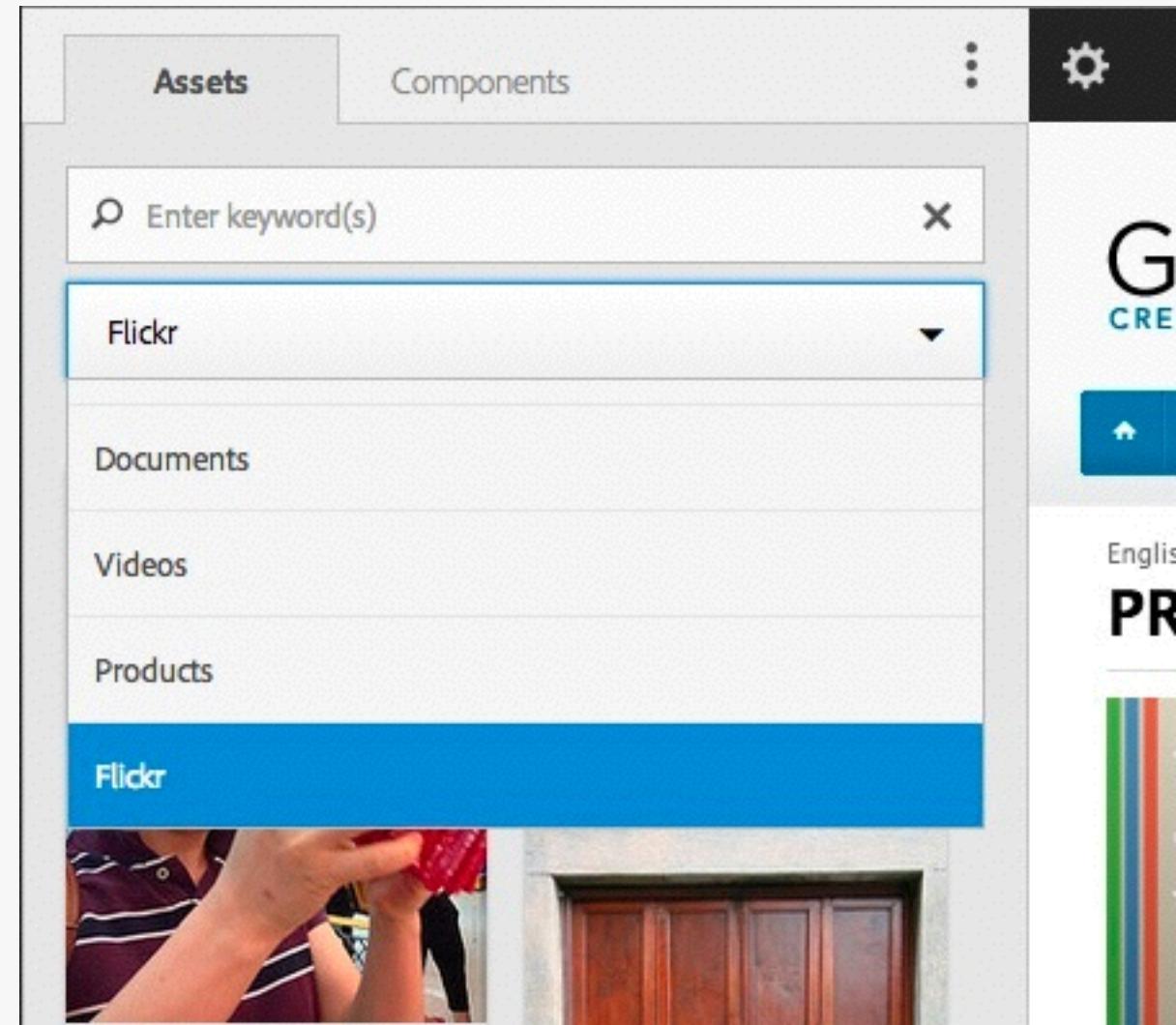


A screenshot of a web browser window. At the top, there's a toolbar with icons for settings, refresh, and search. The address bar shows a URL starting with "gooutdoors.com". To the right of the address bar are links for "(Anonymous Surfer)", "My Cart", "Sign In or Register", and a search bar with a magnifying glass icon. The main navigation menu below the toolbar includes categories like "MEN'S", "WOMEN'S", "EQUIPMENT", "ACTIVITIES", "COMMUNITY", "SUPPORT", and "BRAND".



Assetfinder

- Adding a new asset group
- Handling the rendering
`Granite.author.ui.assetFinder`
- Handling the Drag&Drop
`Granite.author.dropController`
- Handling the Persistence
`Granite.author.edit.actions` or
`Granite.author.persistence`



Resources

Upcoming resources on Package Share

- Sample packages
- CRXDE Lite extension tool
- Dialog conversion tool

Extension points currently being documented



Questions & Comments?

