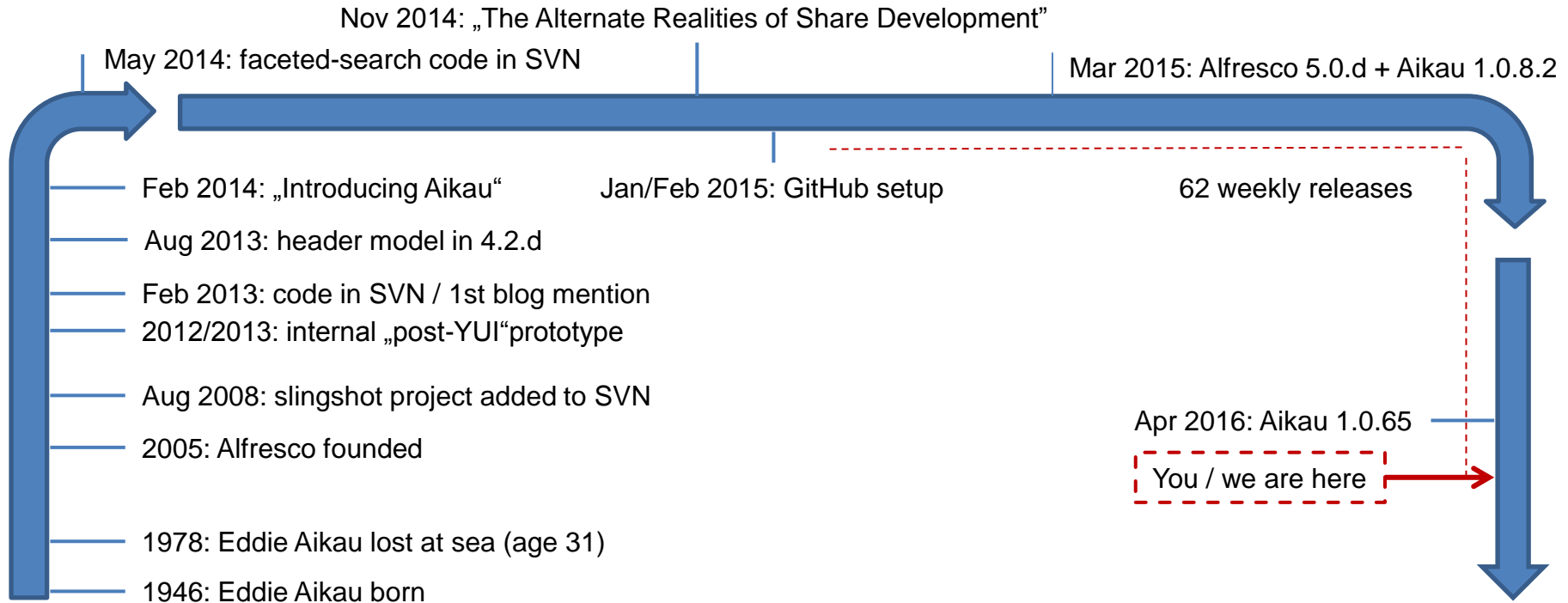# 2 years of Aikau

How is it faring and what do we want from it?

Axel Faust, Senior IT-Consultant / Software Architect
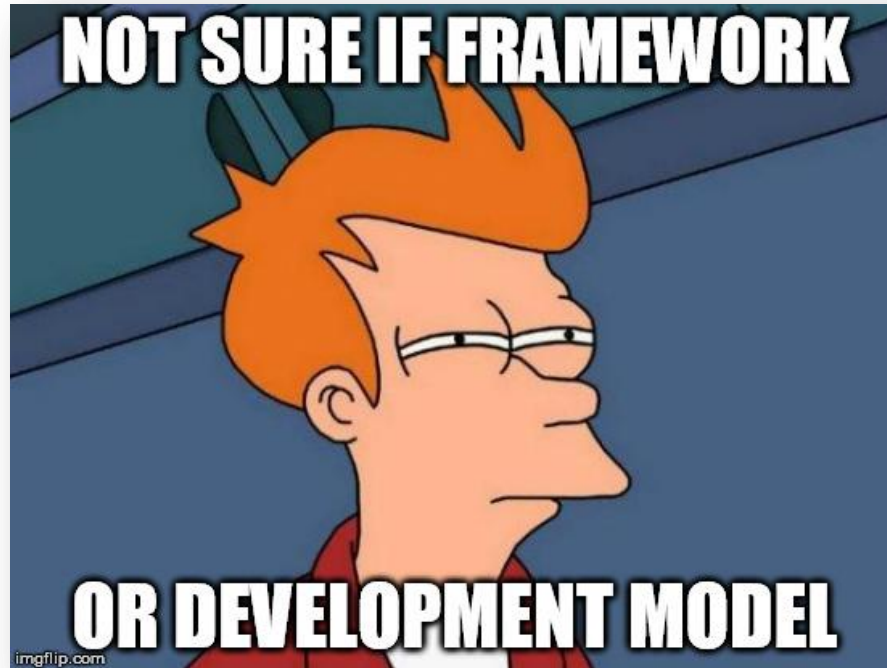
The Aikau history minute*
(* in more or less a minute)

Nov 2014: „The Alternate Realities of Share Development"

May 2014: faceted-search code in SVN

Mar 2015: Alfresco 5.0.d + Aikau 1.0.8.2

Feb 2014: „Introducing Aikau"

Jan/Feb 2015: GitHub setup

62 weekly releases

Aug 2013: header model in 4.2.d

Feb 2013: code in SVN / 1st blog mention

2012/2013: internal „post-YUI"prototype

Aug 2008: slingshot project added to SVN

2005: Alfresco founded

Apr 2016: Aikau 1.0.65

You / we are here

1978: Eddie Aikau lost at sea (age 31)

1946: Eddie Aikau born

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What is Aikau?

What is Aikau?

- „Just" a library
  - Widgets / services
  - Tests suite during build

- Dev / customization model
  - Modular components
  - Publication / subscription
  - Declarative page model
  - Post-processing
  - Dependency collection / aggregation

Frameworks behind the „framework"

(to a limited extent)

What is Aikau?

(Very simple) Examples

```
var services, widgets;

widgets = [{
    name : 'alfresco/lists/AlfList',
    config : {
        loadDataPublishTopic : 'LOAD_SIMPLE_LIST',
        widgets : [{
            name : 'alfresco/lists/views/AlfListView',
            config : {
                widgets : [{
                    name : 'alfresco/lists/views/layouts/Row',
                    config : {
                        widgets : [{
                            name : 'alfresco/lists/views/layouts/Cell',
                            config : {
                                widgets : [{
                                    name : 'alfresco/renderers/Property',
                                    config : {
                                        propertyToRender : 'id'
                                    }
                                }]
                            }
                        }]
                    }
                }]
            }
        }]
    }
}];

services = ['test/SimpleListService'];

model.jsonModel = {
    rootNodeId : 'simpleList',
    services : services,
    widgets : widgets
};
```

```
define(["dojo/_base/declare", "dijit/_WidgetBase", "dijit/_TemplatedMixin", "dojo/text!./templates/Label.html",
        "alfresco/core/Core", "dojo/_base/lang", "dojo/dom-construct"],
    function(declare, _WidgetBase, _TemplatedMixin, template, AlfCore, lang, domConstruct) {
    return declare([_WidgetBase, _TemplatedMixin, AlfCore], {

        i18nRequirements: [{i18nFile: "./i18n/Label.properties"}],
        cssRequirements: [{cssFile:"./css/Label.css"}],
        templateString: template,

        label: "",
        subscriptionTopic: null,
        subscriptionPayloadProperty: "label",

        postMixInProperties: function alfresco_html_Label__postMixInProperties() {
            this.label = this.message(this.label);
            if (this.subscriptionTopic && lang.trim(this.subscriptionTopic) !== "")
            {
                this.alfSubscribe(this.subscriptionTopic, lang.hitch(this, this.onLabelUpdate));
            }
        },

        onLabelUpdate: function alfresco_html_Label__onLabelUpdate(payload) {
            var update = lang.getObject(this.subscriptionPayloadProperty, false, payload);
            if (update !== null && typeof update !== "undefined")
            {
                domConstruct.empty(this.labelNode);
                var textNode = document.createTextNode(update);
                this.labelNode.appendChild(textNode);
            }
        }
    });
});
```

rvice, lang)

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2 years of Aikau

Use cases from trivial to complex

Use cases / scope of applicability

- Simple customizations
  - Modifying, adding or removing elements of a pre-existing page

- Custom features / enhancements
  - Extending, adding or replacing key components in pre-existing pages

- Custom pages / apps
  - Simple, stand-alone feature pages
  - Solutions consisting of dozens of custom pages

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Simple customizations
Example: Faceted search result

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Simple customizations

- Pretty straightforward
  - Extension module + custom JS
  - widgetUtils for traversal / manipulation
  - IDs from base JS file

- See Aikau jsdoc for widgets / params
  http://dev.alfresco.com/resource/docs/aikau-jsdoc

```javascript
var headerMenuBar, widgets = model.jsonModel.widgets;

widgetUtils.deleteObjectFromArray(widgets, 'id', 'HEADER_MY_FILES');
widgetUtils.deleteObjectFromArray(widgets, 'id', 'HEADER_SHARED_FILES');
widgetUtils.deleteObjectFromArray(widgets, 'id', 'HEADER_SITES_MENU');
widgetUtils.deleteObjectFromArray(widgets, 'id', 'HEADER_TASKS');
widgetUtils.deleteObjectFromArray(widgets, 'id', 'HEADER_PEOPLE');
widgetUtils.deleteObjectFromArray(widgets, 'id', 'HEADER_REPOSITORY');

headerMenuBar = widgetUtils.findObject(widgets, 'id', 'HEADER_APP_MENU_BAR');

headerMenuBar.config.widgets.splice(1, 0, {
    id : 'HEADER_POC_ORG_CONFIG',
    name : 'alfresco/menus/AlfMenuBarItem',
    config : {
        label : 'page.poc-supplier-meta.title',
        targetUrl : '<url>'
    }
});
```

```javascript
  var searchHeader = widgetUtils.
      findObject(model.jsonModel.widgets, 'id', 'HEADER_SEARCH');
  searchHeader.name = 'prodyna-search/header/SearchBox';
  searchHeader.config.popupMenuWidgets =
      searchHeader.config.popupMenuWidgets || [];
  if (page.url.templateArgs.site)
  {
      searchHeader.config.popupMenuWidgets.splice(0, 0,
      {
          name : 'prodyna-search/header/SearchInputAwareMenuItem',
          config :
          {
              label : '<label>',
              targetUrl : '<url>',
              inputAwareTargetUrl : '<url>'
          }
      });
  }
```

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Simple customizations
Limitations / issues

- Customizability of (new) pages
  - E.g. no widget IDs in faceted search until 5.0.2
  - Changes to key widgets + services

- Customizability of complex / composite widgets
  - Partial / no JSON sub-model

- JSDoc = terse + developer-focussed + unversioned

documentAndFolderActions :string[]

This can be configured to override the default filter for the actions that are applicable to folder and document nodes. Actions need to be filtered as Aikau does not currently support all of the actions that can be configured in Alfresco Share. However, if custom actions are provided by an extension or further filtering is required then they can be configured using this attribute.
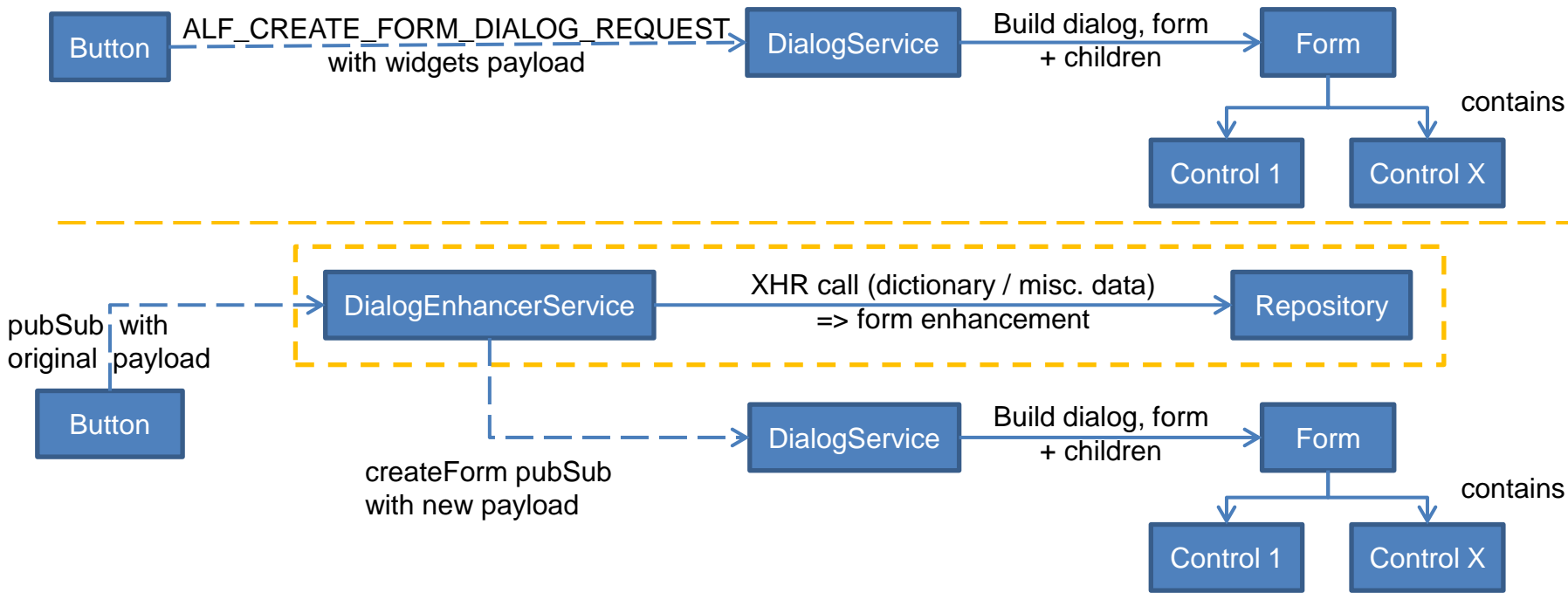
Type:
- string[]

Default Value:	null
Source:	search/AlfSearchResult.js, line 124

Custom features / enhancements
Example: Form enrichment

Custom features / enhancements

- Basic patterns for custom services
  - pubSub (Core) + ReST (CoreXhr)
  - Service lifecycle (Aikau 1.0.32+)

- pubSub (inter-)action flow
  - Composition / orchestration
  - Unique, dynamic pubSubScope

- Support of common features
  - Feature aspect mixins
  - Feature base widgets

```javascript
define(['dojo/_base/declare','alfresco/services/BaseService','alfresco/core/topics',
  'dojo/_base/lang','dojo/_base/array' ],
  function(declare, BaseService, topics, lang, array) {
    return declare([BaseService], {
      /* ... */

      onCreateEntryRequest : function (payload) {
        var dialogRequest, rqId = this.generateUuid(), handles, reqCB;
        dialogRequest = this._buildDialogRequest(payload);
        reqCB = [...];
        handles = [];
        array.forEach(reqCB, function(cb){
          handles.push(this.alfSubscribe(
            rqId + '/' + cb.suffix, lang.hitch(
              this, cb.fn, rqId, payload, handles), true));
          }, this);
        this.alfPublish(topics.CREATE_FORM_DIALOG, dialogRequest, true);
      },

      onCreateEntrySubmit : function (rqId, originalPayload, handles, payload) {
        var createPayload;
        createPayload = this._buildPayloadFromForm(originalPayload, payload);
        handles.push(this.alfSubscribe(rqId + '/CREATED', lang.hitch(
          this, this.onCreateEntryCreated, rqId, originalPayload, handles), true));
        createPayload.successTopic = rqId + '/CREATED';
        this.alfPublish(this.createEntryTopic, createPayload, true);
      },

      onCreateEntryCreated : function (rqId, originalPayload, handles, payload) {
        this.alfUnsubscribe(handles);
        this.alfPublish(originalPayload.alfResponseTopic, payload, false, false,
          payload.alfResponseScope);
      }
    });
});
```

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Custom features / enhancements
Limitations / issues

- Learning curve for „citizen developers"
  - AMD, pubSub, „how module X works"
  - Tutorials partially outdated

    „I hate subscription model already"   *„looks like I start loving YUI2"*

- Limited ability to redirect / intercept standard pubSub
  - (Virtually) hard-coded topics / constants
  - Service sub-classing problematic

- Few defined extension points (1.0.60 => 18)
  - Only config params guaranteed

Custom pages / apps
Example: Complex page prototype

Navigation into different sub-apps
(i.e. master data management, dynamically loaded menu contents)

Dynamic tabs with simple or
semi-complex controls
(secondary lists; DMS)

- Nested, semi-scrollable data list
- complex inline editing
- Up to 200 dynamic columns
- bulk export / import

| Home | Ausschreibungen ▾ | Einkaufspreismanagement ▾ | Profil-/Stammdaten ▾ | Aufgaben ▾ | | Axel Faust ▾ |

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Allgemein | Zeitrahmen | Lose | Lieferanten | Rollen | Dokumente | Nachrichten | Notizen

Schlüssel:	A2016-0001	Modul: Nahrungsmittel
Name:	Test	Typ: Ausschreibung
Version:	0001	Mit Zielpreisvorgabe: Nein
Status:	Vorbereitung Phase 1	Mit Auf-/Abschläge: Nein
Statusvermerk:		NAZ erforderlich: Nein

Neu laden | Bearbeiten

Hinzufügen ▾ | Massenänderung ▾ | 1-15 von 60 ▾ | < Zurück | 1 | Weiter > | 15 pro Seite ▾ | Ansicht ▾ | Ausgewählte Elemente… ▾

Fehlende Daten: 23

	Los	Art-nr.	Art-name	WG	WG St. 1	WG St. 2	Kategorie	Geb.-einheit	Geb.-inh.	Inh.-einheit	Erw. Preisgült.	CPV	EK-Vol.	Einhei	Neu	Alt. erf.	Anbr. erw.	Zielpreis	Währung	
	2	10049	MIXED PICKLES 0,37…	34	105	205	Grundsortiment	GL	1	GL	14 Tage		1	GL	Ja	Nein	Nein		EUR	Aktionen
	2	10050	BOHNEN SALAT 2,6…	34	105	205	Grundsortiment	KTN	2	GL	14 Tage		1	KTN	Ja	Nein	Nein		EUR	Aktionen
	1	10051	SCHNITTKÄSE PFEF…	12	103	203	Grundsortiment	PCK	0,5	KG	14 Tage		1	PCK	Ja	Nein	Nein		EUR	Aktionen
	1	10052	SCHNITTKÄSE TOM…	12	103	203	Grundsortiment	PCK	0,5	KG	14 Tage		1	PCK	Ja	Nein	Nein		EUR	Aktionen
	1	10053	HERREN KUCHEN	47	108	207	Grundsortiment	KTN	3,2	KG	14 Tage		1	KTN	Ja	Nein	Nein		EUR	Aktionen
	1	10054	BAGUETTE GASTR…	21	104	204	Grundsortiment	KTN	5,28	KG	14 Tage		1	KTN	Ja	Nein	Nein		EUR	Aktionen
	2	10055	PETERSILIE GLATT	8	102	202	Grundsortiment		1		14 Tage		1		Ja	Nein	Nein		EUR	Aktionen
	2	10055	PETERSILIE GLATT	8	102	202	Grundsortiment	ST	0,2	KG	14 Tage		1	ST	Ja	Nein	Nein		EUR	Aktionen
	1	10064	MANDARIN ORANG…	38	105	205	Grundsortiment	DS	1	DS	14 Tage		1	DS	Ja	Nein	Nein		EUR	Aktionen
	1	10063	KARTOFFEL PÖRRE…	32	105	205		KTN	4	KG	14 Tage		1	KTN	Ja	Nein	Nein		EUR	Aktionen
	1	10067	FRUCHTCOCKTAIL…	38	105	205	Grundsortiment	DS	1	DS	14 Tage		1	DS	Ja	Nein	Nein		EUR	Aktionen

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Custom pages / apps

- Common use case modules / mixins
  - DnD, upload, charts, a11y, prototyping…

- Easy to add productivity tooling
  - Runtime model processing / generation
  - Modelling + model-to-text transformation

Custom pages / apps
Limitations / issues

- Ramp-up and productivity
  - Learning curve + dev optimization

- Performance and scalability
  - Heap (ACE-5049), page load (ACE-4812), rendition times (Aikau #958)

- Missing key features
  - Forms framework / doclib

- Rich feature extensions vs. easy lib update

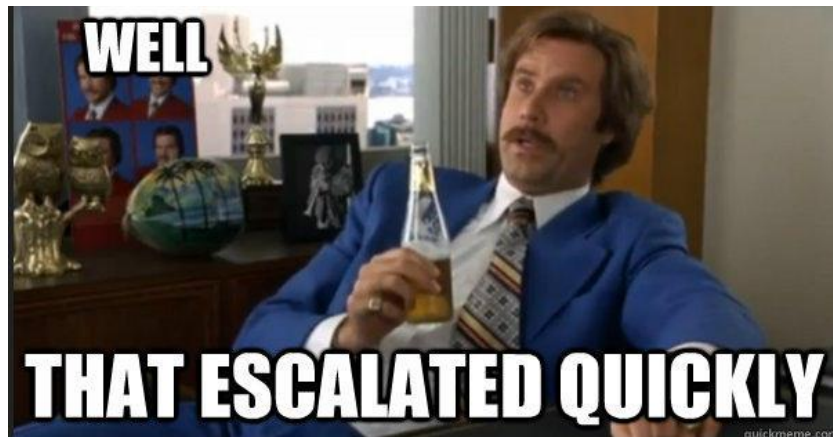2 years of Aikau
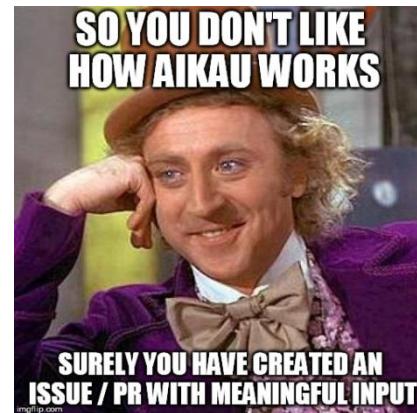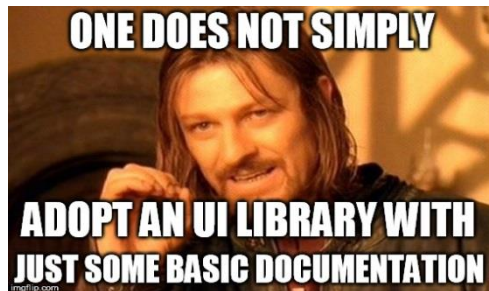

Where are we at / What do we want?

Where are we at?

- GitHub
  - 3.300+ commits, 80+ releases, 15 contributors (primarily Alfresco)
  - Pillars of Aikau: Dave Draper, Martin Doyle

- Product
  - 5 active + 4 prototype pages + header component
  - Individual components in RM and other (?)

- Community
  - 1 „real" project (https://github.com/EisenVault) + several tutorial runs
  - (Partially) adopted by 3 – 5 in #alfresco
  - Unknown adoption by customers / partners

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Discussing low adoption within the community

ALFRESCO, Y U NO
REPLACE YUI WITH AIKAU

ONE DOES NOT SIMPLY
ADOPT AN UI LIBRARY WITH
JUST SOME BASIC DOCUMENTATION

KILL AIKAU - LET'S USE
ALL THE EXIST./FANCY UI LIBS

SO YOU DON'T LIKE
HOW AIKAU WORKS
SURELY YOU HAVE CREATED AN
ISSUE / PR WITH MEANINGFUL INPUT

WELL
THAT ESCALATED QUICKLY

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Discussing low adoption within the community
Not always as productive as hoped

- [„The Sad State of Entitled Web Developers"](#)
  - „Etiquette does not end where your keyboard begins."
  - "No developer tries to build a bad product on purpose."

- Same issues with ANY other UI library
  - Simplification vs. expert expectations
  - Custom scaffolding / abstraction always required

- Consensus about best web UI dev approach? – Madness!!!

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What do we want?

- Clear strategy / timeframe for „updated Share UI"
  - Defined lib + target of X years
  - Eliminate YUI / competing UI libs

- Priority for key functionality / components
  - Who adopts niche UI?
  - Find + fix scalability issues early/earlier

- Extended documentation
  - Architectural / design concepts
  - Implied / expected conventions

Try & adopt Aikau
Provide feedback / requests
(Build utilities if necessary)

Consistent + flexible UI layer
in 5.3 / 6.0?

Dismiss Aikau / discourage its use
Use / push alternative UI library

Increased UI fragmentation
Repeat of Aikau growing pains?
Share replaced with multiple,
isolated clients?

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I, for one, welcome our (new) Aikau overlord

* Edward Ryon Makuahanai Aikau

No alternatives with net benefits

Conceptionally sound

Org. / tech. Issues easy to address

Thank you