

Next level reuse of UI5 Components with the UI5 Component Loader

Wouter Lemaire, Independent Consultant
June 17th, 2021

UI5con^{ON AIR}

UI5 Developer

Since the very beginning

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June 17th, 2021



ON AIR 
UI5con

How it **Started**



Master 1

Detail 1

Master 2

Detail 2

Master 3

Detail 3

Master 1

Detail 1

Master 2

Detail 1

Master 2

Detail 2

Master 1

Detail 2

Master 3

Detail 3

Master 3

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Master 3

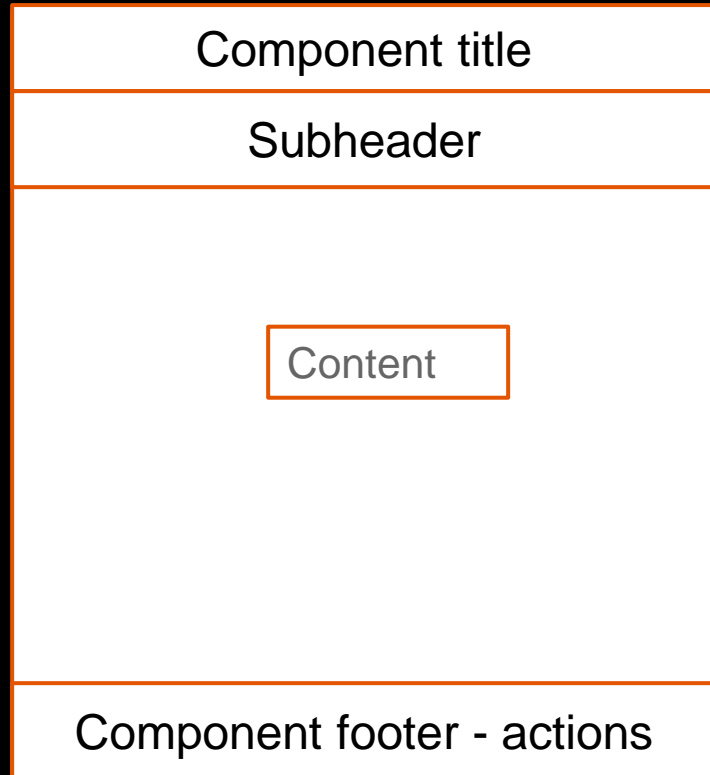
Detail 1

Detail 2

UI5 Component Loader App



UI5 Component for UI5 Component Loader



- **Standalone UI5 app**
- **Contains its own logic**
- **Can have own customizing table**
- **Handles his own actions**

UI5 Component Loader

UI5 Component Loader Library

Flexible Column Layout

Master

Detail

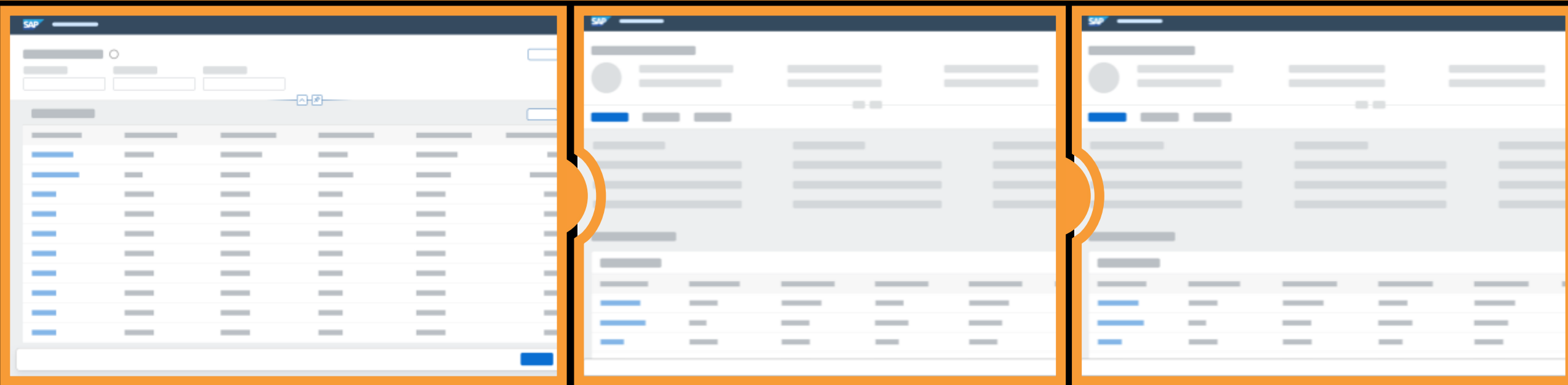
DetailDetail

- **Load, update and close Components**
- **Handles navigation (including data transmission)**
- **Passes parameters for Components**
- **Sets title for current configuration**

UI5 Component Loader

UI5 Component Loader Library

Flexible Column Layout

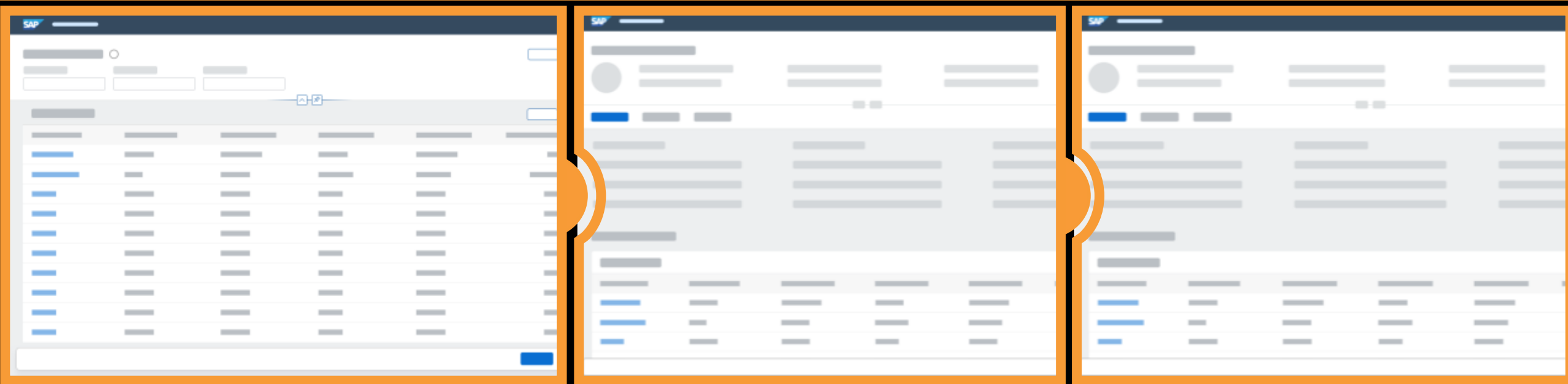


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UI5 Component Loader

UI5 Component Loader Library

Flexible Column Layout



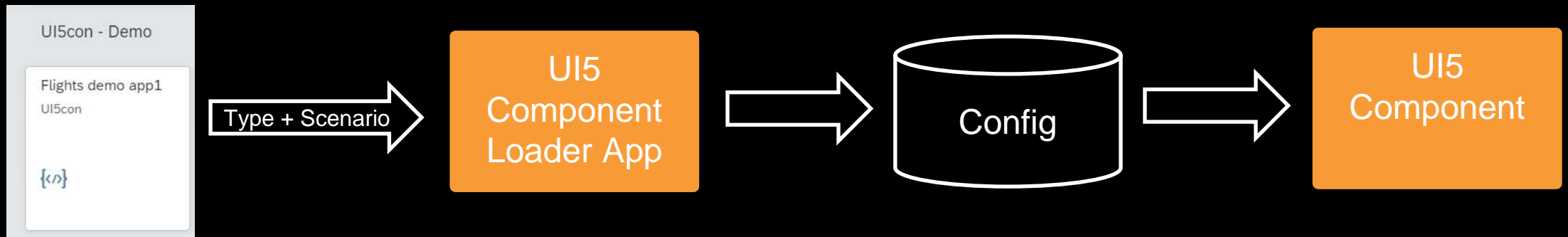
ZCL_CONFIG

Type	Scenario	Level	View	Component	Fiori Elem ents	Layout
Type1	Scenario1	1	MA	ListComponent1	X	
Type1	Scenario1	2	DE	DetailComponent1		TwoColumnsBegin Expanded
Type1	Scenario2	1	MA	ListComponent1	X	
Type1	Scenario2	2	DE	DetailComponent2		
Type1	Scenario2	3	DD	DetailComponent1		

ZCL_PARAM

Type	Scenario	Component	Key	Param	value
Type1	Scenario1	ListComponent1	0	editable	false
Type1	Scenario2	ListComponent1	0	editable	true

Full Flow



Demo

- 5 full working apps:
 - List Components: 2
 - Detail Components: 3
 - Reused components: 4



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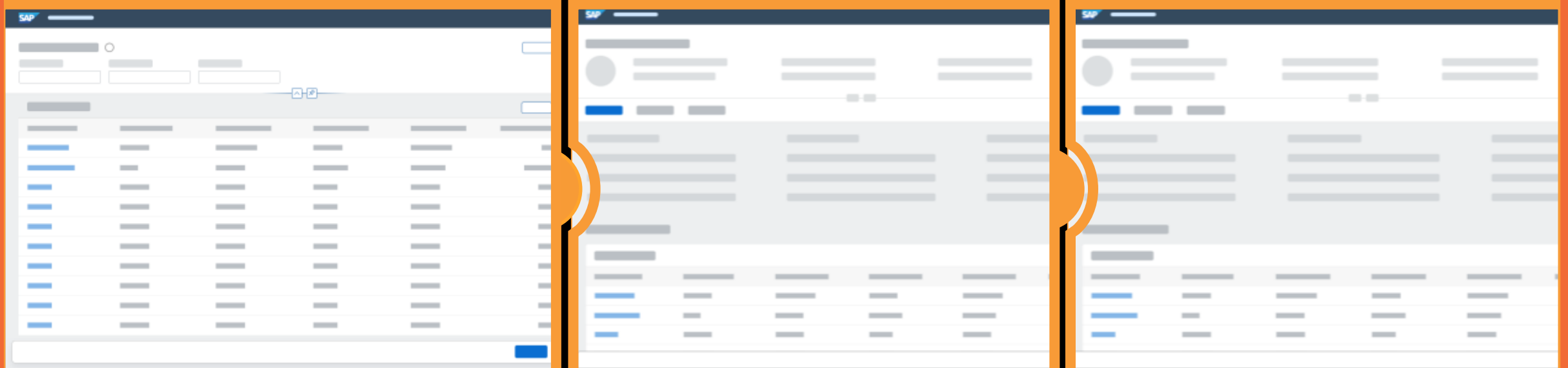
How it **Works**



Technically

App.view.xml
Route: view/level/layout

UI5 Component Loader

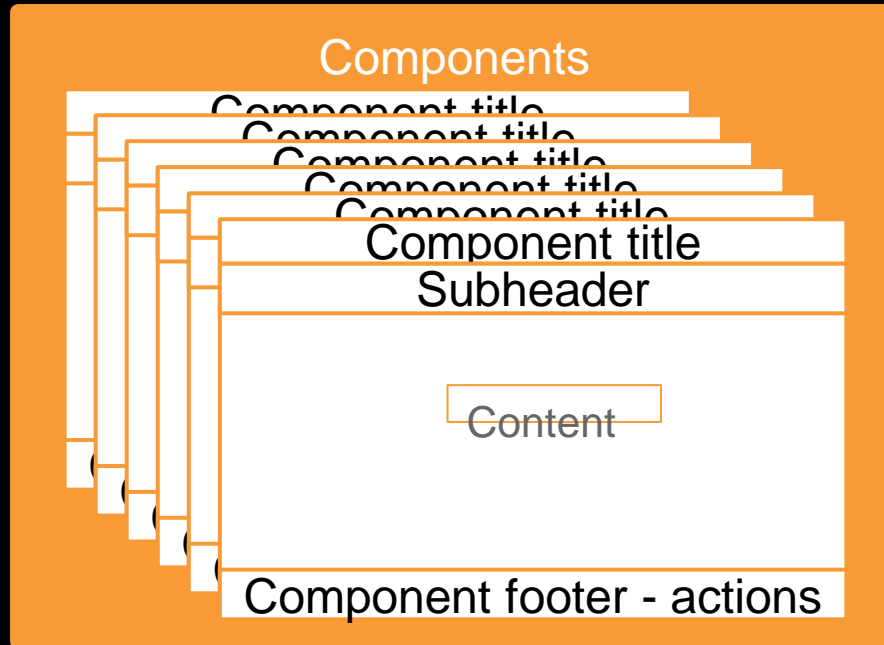


View = aggregation

Level = sequence level

Layout = Flexible Column Layout type

Component Loader Library



Component Loader Library

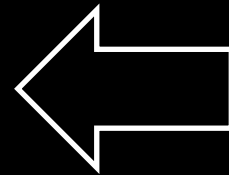
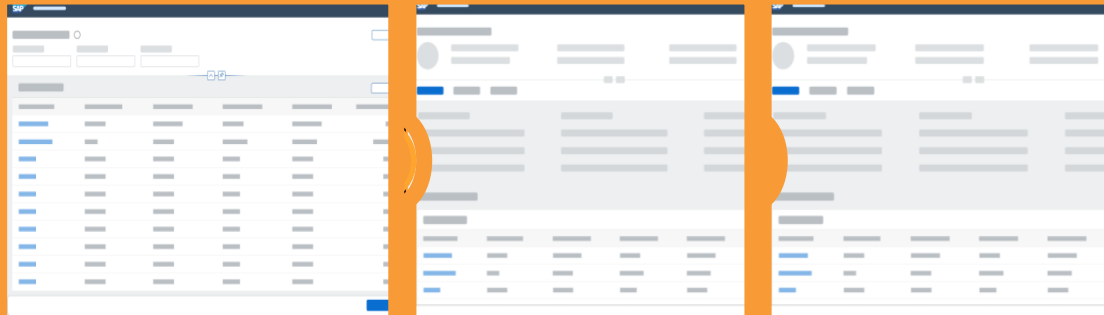
CL/Types (enum)

CL/UIComponent.js

CL/BaseController.js

Action types

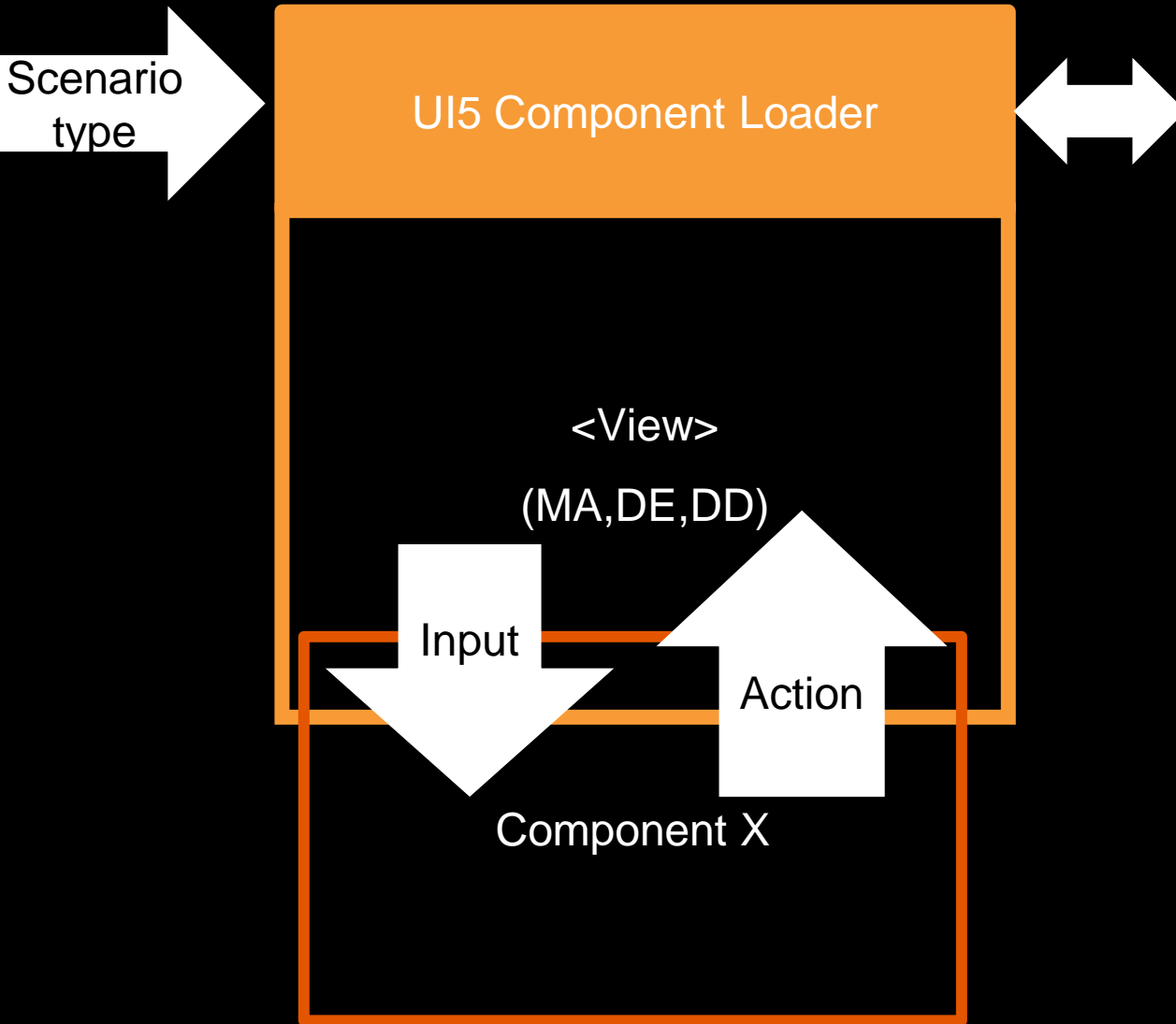
UI5 Component Loader



Component Loader Library

- CL action types (enum)
 - Navigate: Show or update next component
 - Back: close current component
 - Refresh: reload all components
 - RefreshPrevious: reload previous components
 - None: do nothing

Communication



ZCL_CONFIG - ZCL_PARAM

Type	Scenario	Level	View	Component	Fiori Elements	Layout
Type1	Scenario1	1	MA	ListComponent1	X	
Type1	Scenario1	2	DE	DetailComponent1		TwoColumnsBeginExpanded
Type1	Scenario2	1	MA	ListComponent1	X	
Type1	Scenario2	2	DE	DetailComponent2		
Type1	Scenario2	3	DD	DetailComponent1		

- **Input**

- data: result from action of previous component
- config: values from param table
- level: current level
- scenario: full config from CL tables

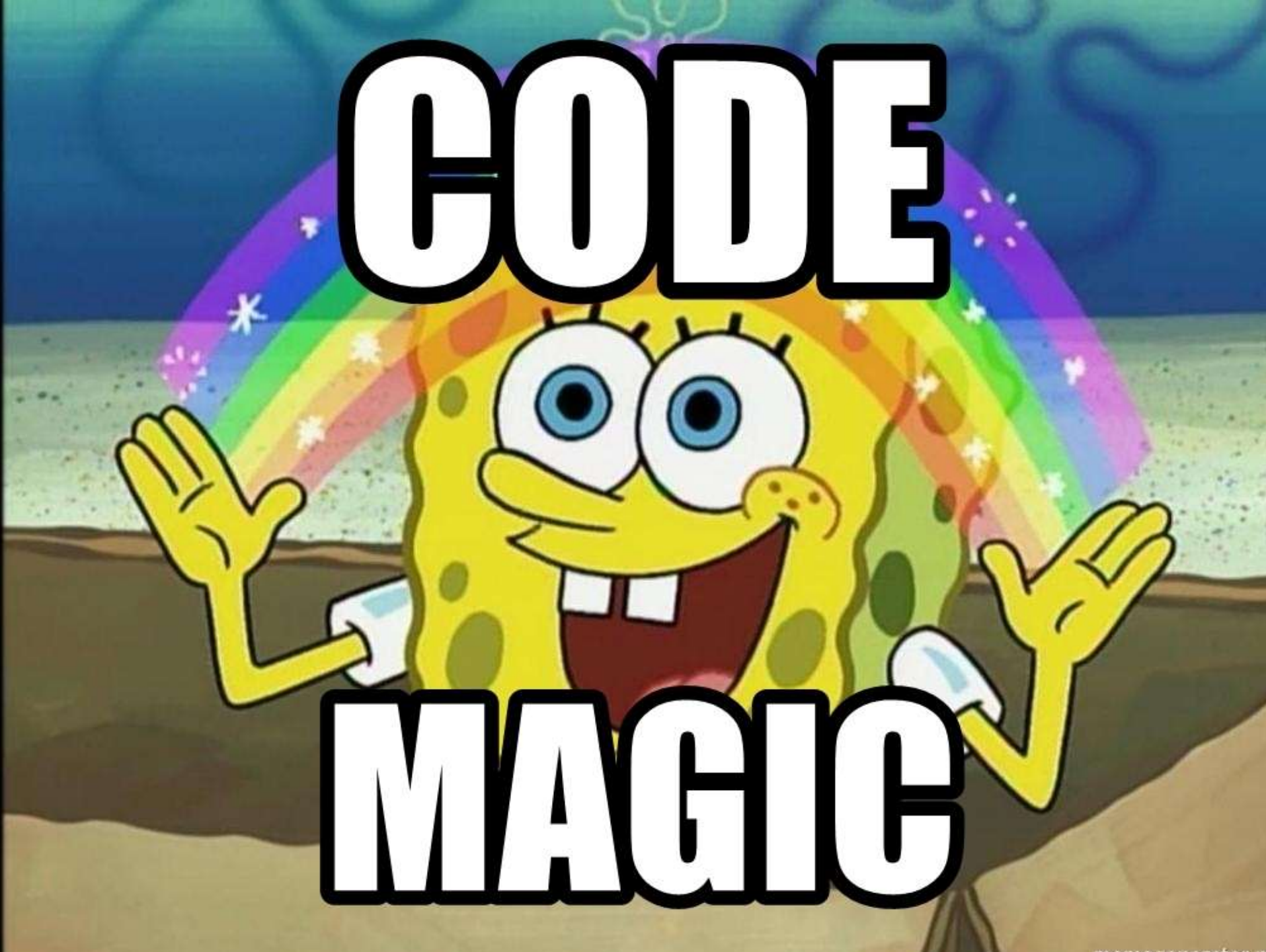
- **Action**

- type: what should the CL do next?
- data from previous component

Behind the
Scenes

CODE

MAGIC



Hacks



Fiori elements

```
var startupParameters = {};  
if (this.isFioriElements()) {  
    sap.ui.loader._.declareModule(this.componentid.replace(/\.\/g, "/") + "/changes/changes-bundle.json");  
    var startupParametersConfig = params.config;  
    startupParameters = params.startupParameters || {};  
}
```

- Always re-create component
- “Hacks” for Fiori Elements
 - Changed-bundles.json
 - ResourceModels
- Version specific implementations
- startupParameters as Input

```
//load i18n for fiori elements manually.  
if (this.isFioriElements()) {  
    var compModels = this.UIComponent.getManifestEntry("sap.ui5").models;  
    for (var modelName in compModels) {  
        if (compModels[modelName].type === "sap.ui.model.resource.ResourceModel")  
            var bundleName = (compModels[modelName].uri && this.UIComponent.getMet  
                /\//gi, ".")) || (compModels[modelName].settings && compModels[moc  
        var i18nModel = new ResourceModel({  
            bundleName: bundleName  
        });  
        this.UIComponent.setModel(i18nModel, modelName);  
    }  
}
```

```
startupParameters : {  
    Parameter: ["Value1"]  
}
```

Cloud



Fiori Cloud



Component Loader



Library

Internet

Internal



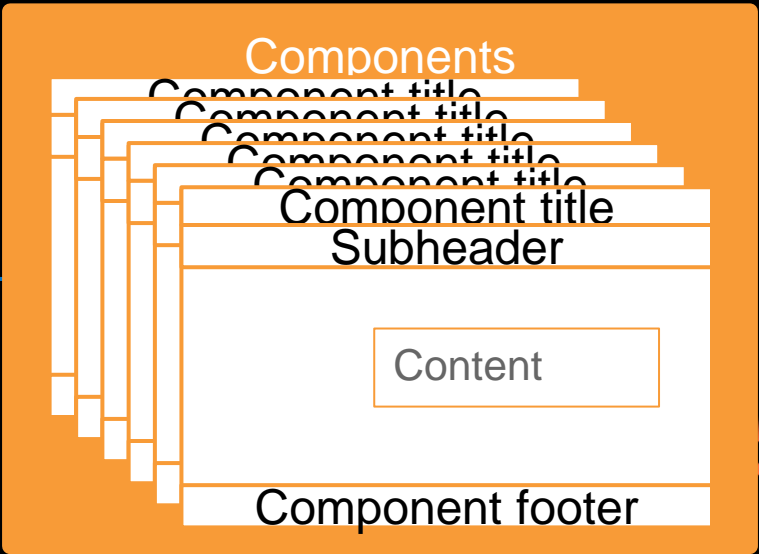
Fiori On-Premise



Component Loader



Library



Components

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Support & Caching

- **Tested and used in:**
 - 1.60.xx
 - 1.71.xx
 - 1.84.xx
- **Caching**
 - App indexing (required component definition anyway...)

```
"componentUsages": {  
  "Component1": {  
    "name": "be.wl.Component1",  
    "lazy": true  
  }  
},
```

What's **Next**



What's next

- **Cloud Foundry support**
- **Unique routes**
- **Generic List Component**

GitHub repositories

ABAP Backend Resources (ABAPGIT):

<https://github.com/lemaiwo/UI5ComponentLoaderBackend>

UI5 Component Loader: <https://github.com/lemaiwo/UI5ComponentLoader>

UI5 Component Loader Library: <https://github.com/lemaiwo/UI5ComponentLoaderLib>

Example List Component: <https://github.com/lemaiwo/listcomponent>

Example Detail Component: <https://github.com/lemaiwo/detailcomponent>

Generic Detail Component: <https://github.com/lemaiwo/generic-detail-component>

Thank you !

Wouter Lemaire

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