

# Uncovering the hidden gem - UI5 Developer Tools

Vivek Gowda & Nitish Mehta, INTEGRTR  
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# Speakers



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# Agenda



The evolution of front-end debugging

Debugging basics with Chrome Developer Tools



Debugging in UI5

- UI5 Diagnostic Tools
- UI5 Inspector



Debugging in action | Live Demo

Recapping our learnings

# The evolution of front-end debugging



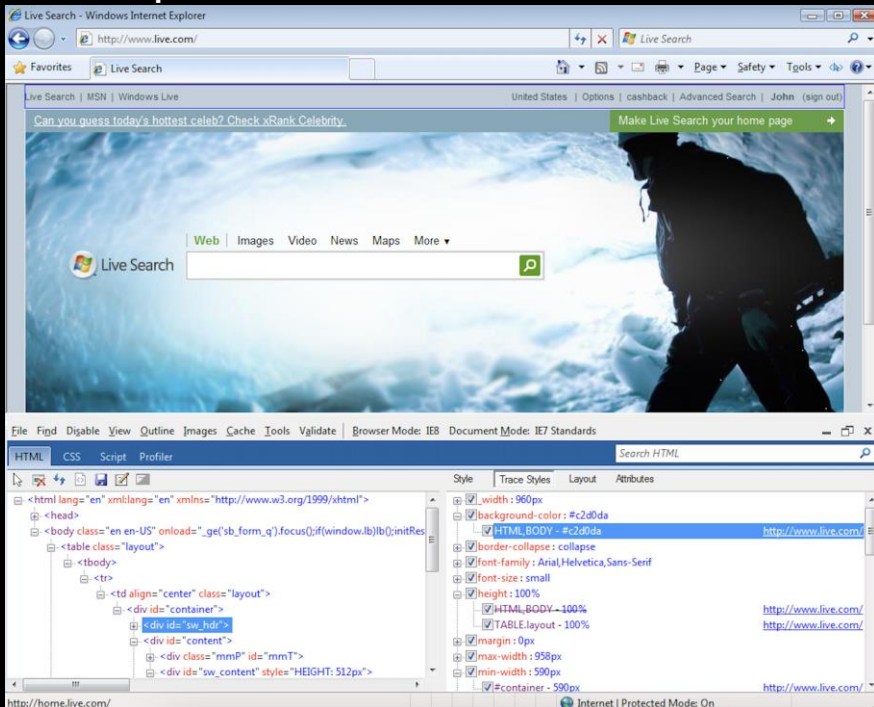
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# “Developer friendly browsers”

#10YearChallenge

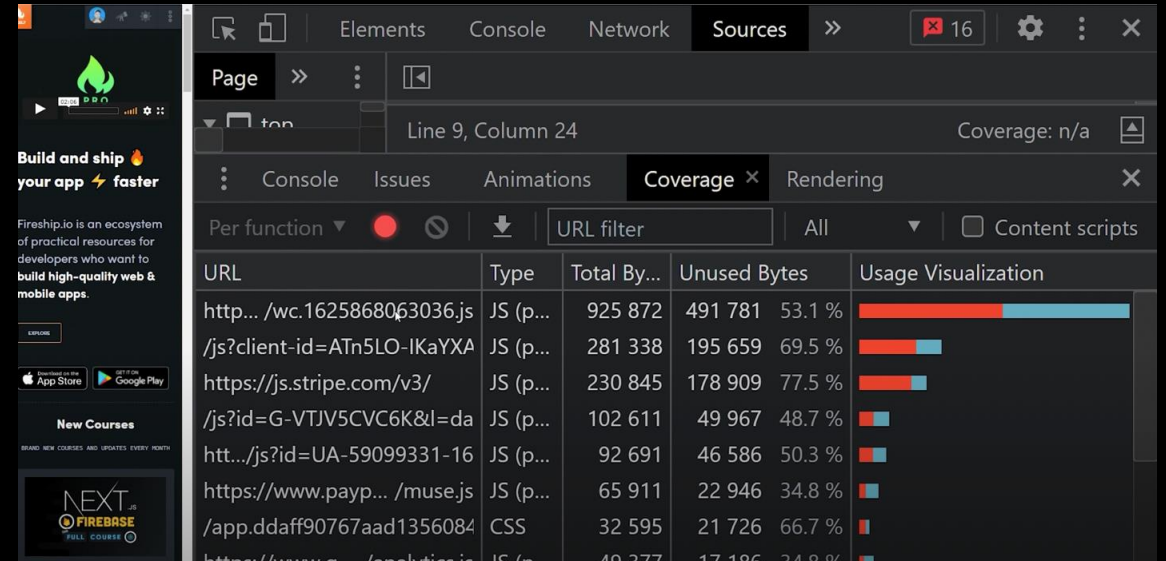
2012

The only hope were “console.log”, “debugger,” & a lot of patience :D



2022

“Inspect animations”, “visual coverage”, “memory analysis”, and more – all possible with built-in browser developer tools!



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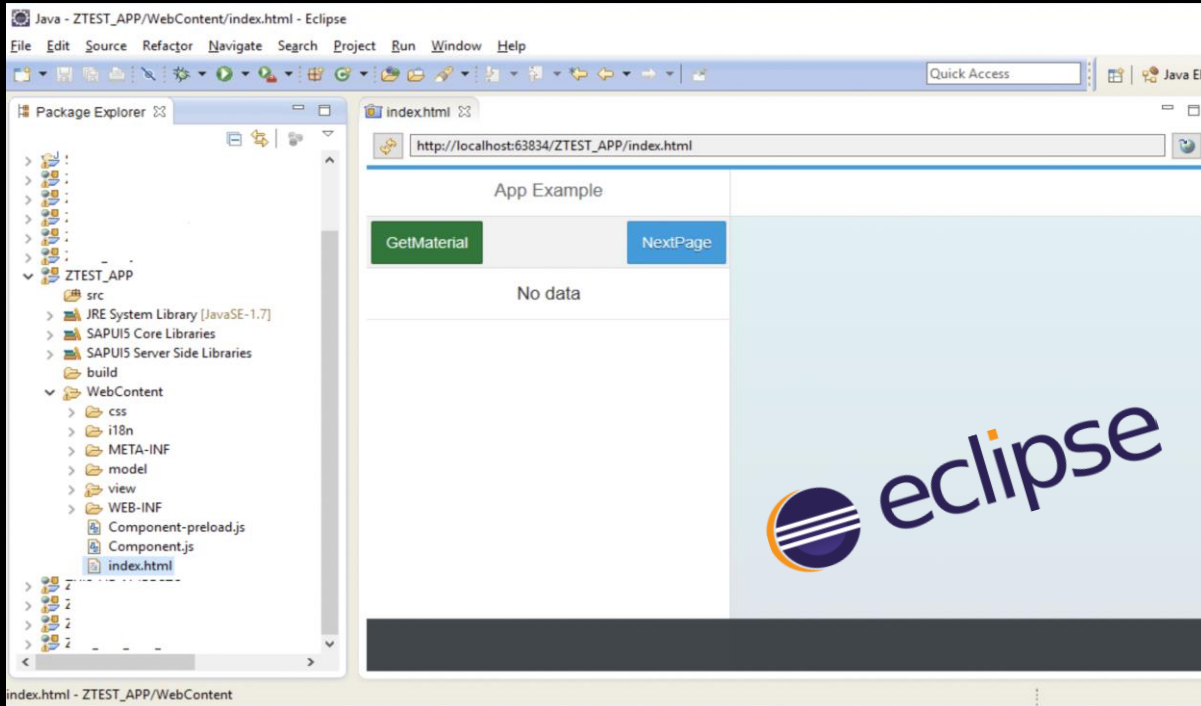
Image credits: Fireship (YouTube)

# “Developer Tools”

## #10YearChallenge

2012

Remember when your coffee got cold before the build was complete & Tomcat server ran it?



2022

Live-reload? Code suggestions? Cloud IDEs?

There's a buffet of tools and plugins to chose from!



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# Framework advancements

## #10YearChallenge

2012

jQuery in UI5 | \$.onceUponATime()

```
$.ajax({  
  url: "https://YOUR_SYSTEM/sap/byd/odata/cust/v1/your_service/Collection..",  
  type: 'GET', /* or POST or DELETE or PUT or PATCH or MERGE */  
  datatype: 'json',  
  data: { amount: '12.34' },  
  success: function(oResult) { /* do something */ }  
  error: function(oResult) { /* do something */ }  
});
```



2022

The frameworks are leaner and meaner ! 😊

- Enhanced native frameworks
- Minified files,
- Tree-shaking
- Optimized builds and more..



Don't believe us? See this blog by Andreas Kunz on the [UI5 loading evolution](#)

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# Code Quality & Testing

## #10YearChallenge

2012

Syntax errors were discovered mainly after running things on the browser.

If you were too adventures, then an elaborate Jenkins + Maven setup might have helped you.



**Maven**<sup>TM</sup>

2022

- Automated tests and static code checks : part of standard lifecycle!
- Community driven solutions like [wdi5](#) : making testing easier !
- Cloud solutions like “Sentry” : track + analyse error trends across users.



ESLint



SENTRY



# Debugging Front-end apps

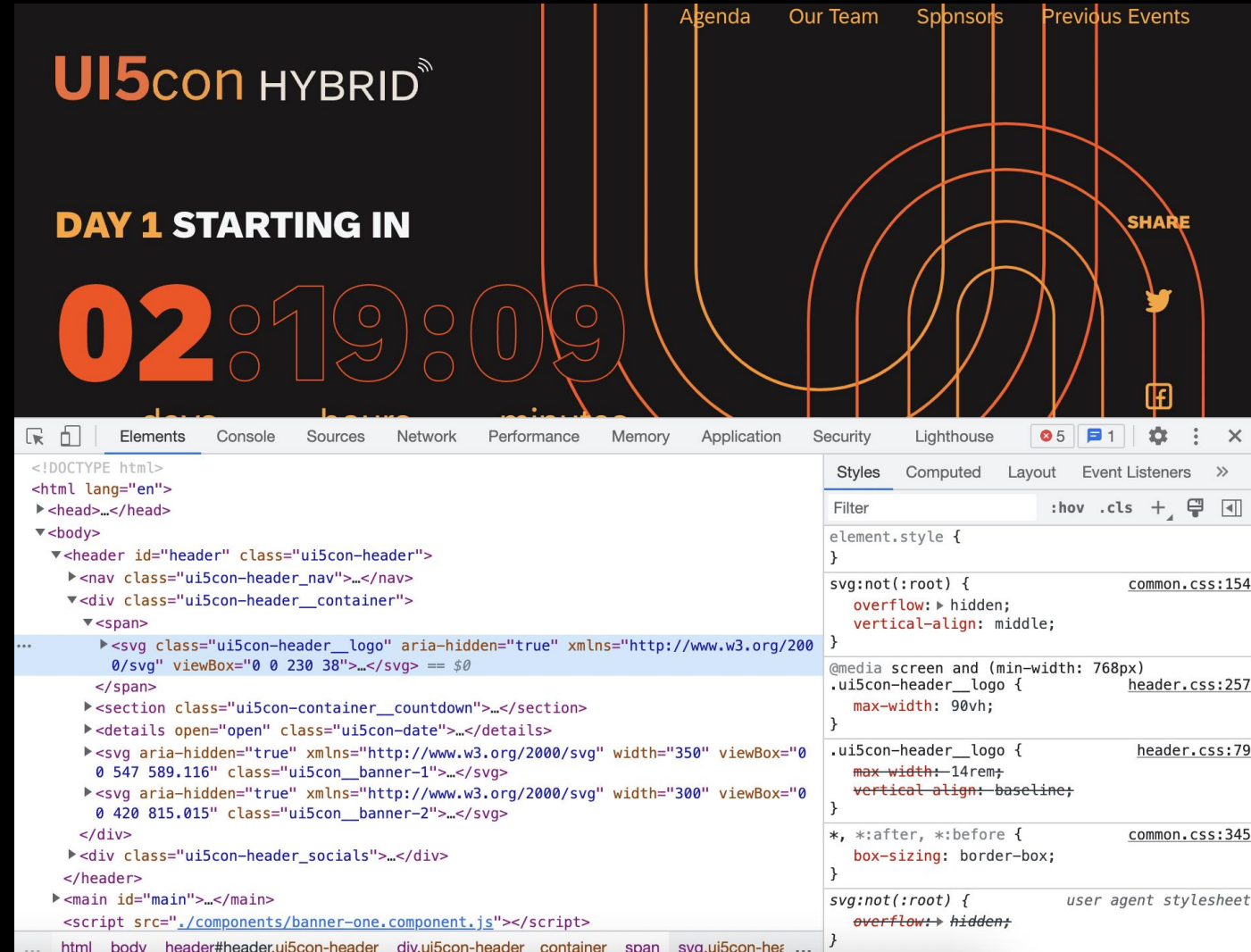


# Basics of front-end debugging

## Using Chrome Developer tools

### Tools of trade

- Elements
- Console
- Sources
- Network tools
- Performance insights
- Cache & Memory



# Debugging UI5 Applications

## AOP Based tools



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# UI5 Diagnostic Tool

An inbuilt support tool that runs as part of the UI5 framework itself !

- ✓ Press Ctrl+Shift+Alt+S and start diagnostics!
- ✓ Analyse control tree, properties , binding info and more.
- ✓ Debug with breakpoints on UI5 control specific classes

The screenshot displays the UI5 Diagnostic Tool interface. On the left, a sample application is shown with a header "Discover New Enterprise" and a "Get Started with" button. Below the header, there's a section titled "Key Features" with a list of features and a "Get Started" button. The diagnostic tool overlay is on the right, showing the "Diagnostics" tab. It includes a "Control Tree" section with a tree view of the application's controls. The tree view shows a hierarchy starting from "UIArea - content" down to "Page - \_\_page0", "ComponentContainer - \_\_container0", "Component - sdk", "XMLView - sdk---app", "Page - \_\_page1", "VBox - \_\_vbox1", "ToolHeader - sdk---app--headerToolbar", "CustomData - \_\_data11", "OverflowToolbarAssociativePopover - sdk---app--headerToolbar-popover", "ToggleButton - \_\_button0", "OverflowToolbarLayoutData - \_\_data0", "Image - sdk---app--sap\_logo", "Select - sdk---app--selectHeader", "Popover - \_\_popover0", "SimpleFixFlex - sdk---app--selectHeader-valueStateText", "Text - \_\_text1", "SelectList - \_\_list0", and "Item - item0". The "Properties" tab is also visible, showing a table of properties for the selected control, including "title", "titleLevel", "showNavButton", "showHeader", "showSubHeader", "navButtonText", "navButtonTooltip", "enableScrolling", "icon", "backgroundDesign", "navButtonType", "showFooter", and "contentOnlyBusy".

Discover New Enterprise

Get Started with

Key Features

UI5 Diagnostic Tool

Diagnostics

Technical Information

Control Tree

You can find a control in this tree by clicking it in the application UI while pressing the Ctrl+Alt+Shift keys.

Properties Binding Infos Breakpoints Export

BaseType sap.m.Page

Property	Value	G	S
title		<input type="checkbox"/>	<input type="checkbox"/>
titleLevel	Auto	<input type="checkbox"/>	<input type="checkbox"/>
showNavButton	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
showHeader	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
showSubHeader	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
navButtonText		<input type="checkbox"/>	<input type="checkbox"/>
navButtonTooltip		<input type="checkbox"/>	<input type="checkbox"/>
enableScrolling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
icon		<input type="checkbox"/>	<input type="checkbox"/>
backgroundDesign	Standard	<input type="checkbox"/>	<input type="checkbox"/>
navButtonType	Back	<input type="checkbox"/>	<input type="checkbox"/>
showFooter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
contentOnlyBusy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Debugging

JavaScript Trace

XML View and Templating Support Tools

Interaction

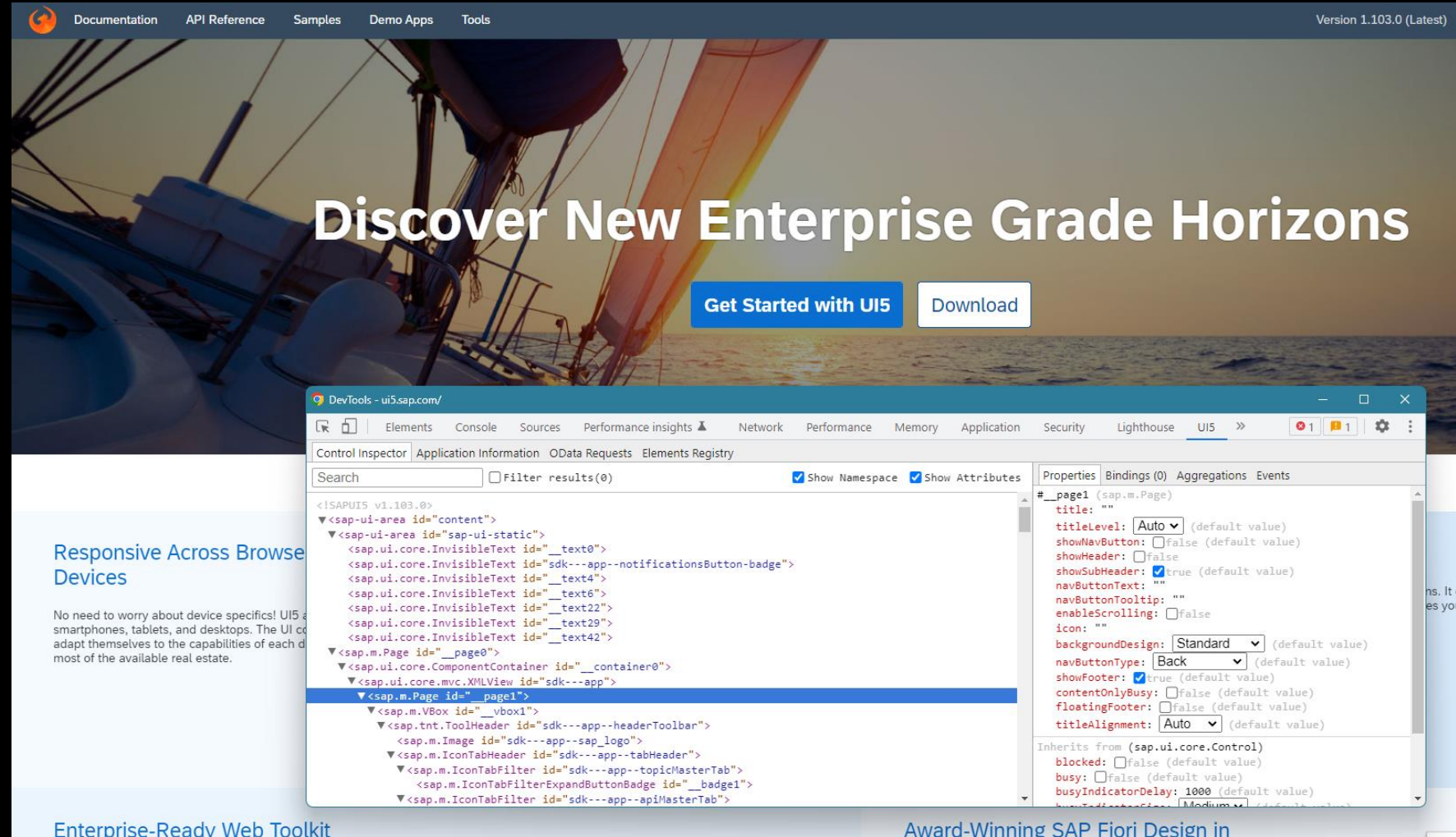
Performance



# UI5 Inspector

**A chrome extension to power up your browser developer-tools with UI5 relevant capabilities!**

- ✓ Inspect controls and review their properties, bindings, and data model
- ✓ Modify control properties on the fly and see how this affects rendering and behaviour
- ✓ Find relevant framework information for your UI5 app



# Seeing it in Action

Most live demos run into issues. We curated some for ours ;)

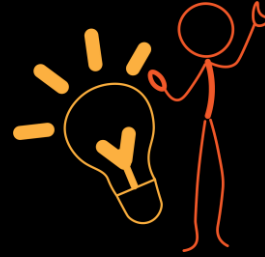


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# What we Learnt!

Debugging is an art – do it your way !



## Browser Developer Tools

- ❑ The first-aid solution for almost all problems
- ❑ Explore beyond the “Inspect elements” to fully leverage its capabilities

## UI5 Diagnostics

- ❑ Part of the UI5 framework | Ctrl+Shift+Alt+S and fire-away!
- ❑ Allows UI5 specific diagnostic of control tree, data binding, control debugging and more.

## UI5 Inspector

- ❑ Easily installable Chrome extension to analyse OData requests and controls
- ❑ Under active enhancements & recommendation for future

Download from   
[Chrome Web Store](#)

# What if you need more help?

Google is always a good friend, but you'll find many more in the UI5 community!

- OpenUI5 on GitHub : <https://github.com/SAP/openui5/issues>
  - ❑ Tip: Raising Issues here might get your bugs good attention
  - ❑ *P.S. You can always contribute with your code for good karma ;)*
  
- SAP Community Forums
  - ❑ [SAPUI5 on SAP Answers](#)
  - ❑ SAP Blogs: <https://blogs.sap.com/>
  
- 💡 Ask your questions with details to get faster help
  - ❑ Issue with Network Request? Share your SAML trace alongside.
  - ❑ Facing styling issues? Don't forget to share the UI5 & browser version

# Thank You!

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