# UI5 has entered the chat

AI, MCP Apps and UI5



**Marian Zeiss**

IT Consulting Marian Zeis
Independent SAP Developer
and Open Source Enthusiast



**Mike Zaschka**

Independent SAP Solution
Architect, Developer and
Consultant

UI5con

# AI and UI/UX

Patterns to wire LLMs and UIs together



UI5con

# AI‘s big impact on UI/UX

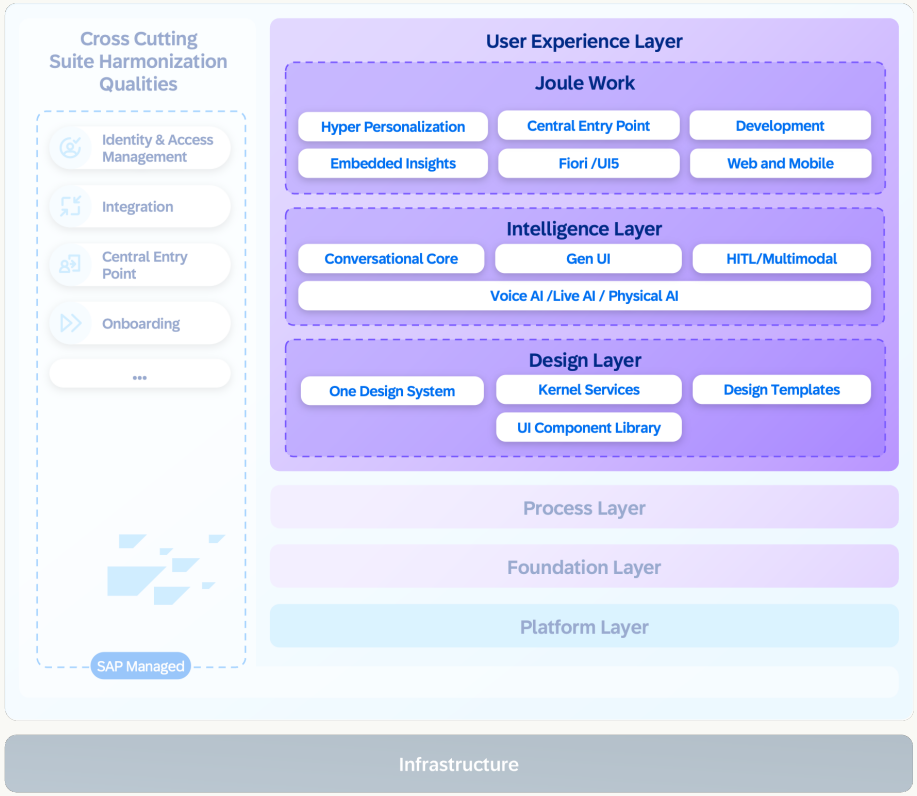
| Traditional UI | AI-Augmented UI | AI-First UI | Full Generative AI |
| --- | --- | --- | --- |
| Direct manipulation of data via buttons, menus, and forms. No AI in the loop. | AI features embedded in traditional apps (e.g., auto-complete, summarization, predictive text). | LLMs as the primary driver of intent; UI shifts to a peripheral or supportive role. | UIs are fully and dynamically generated by the LLM. |

# AI‘s big impact on UI/UX (SAP-style)

**SAP‘s North Star Vision**

- Announced at Saphire 2026
- Defines a major impact on UI/UX
  - Technology will change (embrace other frameworks like React)
  - UI integration patterns will change
  - Design system will change
- Joule Work at the center of the Autonomous Enterprise
- The vision is communicated, the details missing

*It will be out-of-scope for this talk ☺*




https://architecture.learning.sap.com/docs/ai-native-north-star-architecture/user-experience-layer

# Apps with AI features

**Frame**: the app owns it end to end

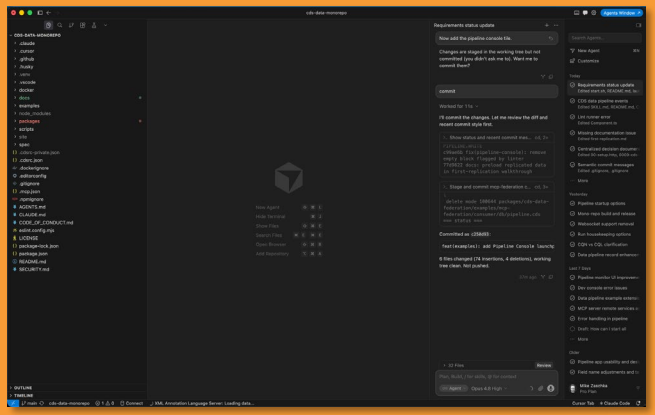
**AI's role:** on-demand assistant inline or via chat

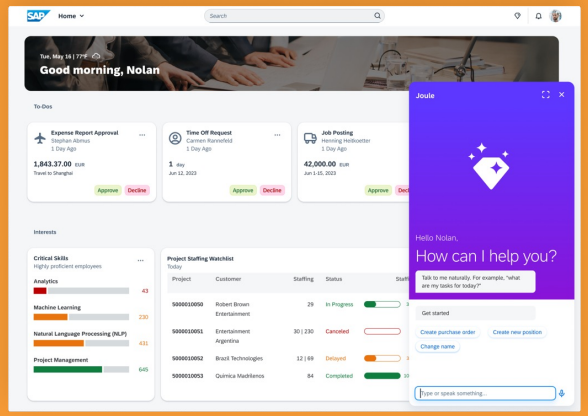
**You:** fully in control; the AI rides along in a supporting role

## Examples

- Fiori Launchpad shell with integrated Joule
- Gmail / Google Docs "Help me write"
- Microsoft Copilot in Word & Outlook
- Visual Studio Code
- Cursor

## AI-Augmented UI





# AI Chat Interfaces

**Frame**: the AI host owns it

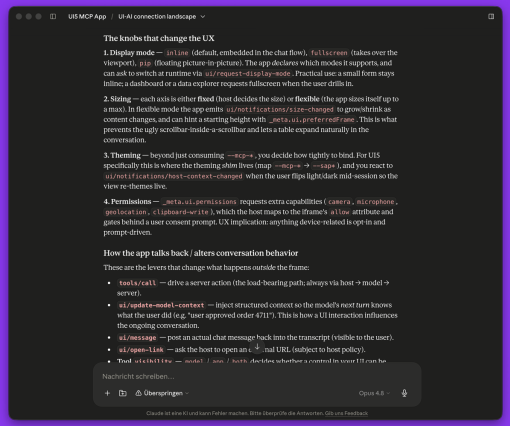
**AI's role:** the primary driver deciding what to show

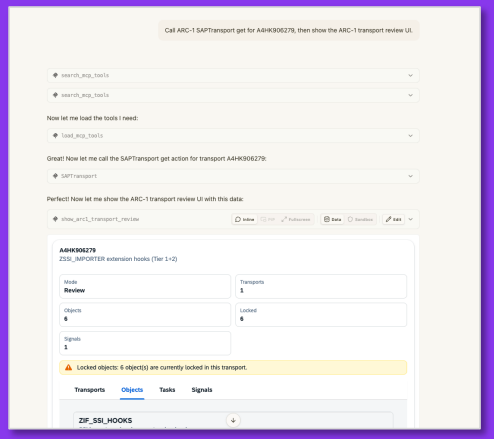
**You:** express intent in natural language, structured UI is secondary and host-provided

## Examples

- Joule (as a full standalone chat surface)
- Claude
- ChatGPT
- VS Code Agent Mode
- Cursor Agent Mode

## AI-First UI



# AI Chat Interfaces

**Frame**: the **AI** host **owns** it

**AI's role:** the **primary driver deciding** what to show

**You:** express intent in natural language, structured **UI is** secondary and **host-provided**

How can I then provide a UI
to visualize complex data or processes?

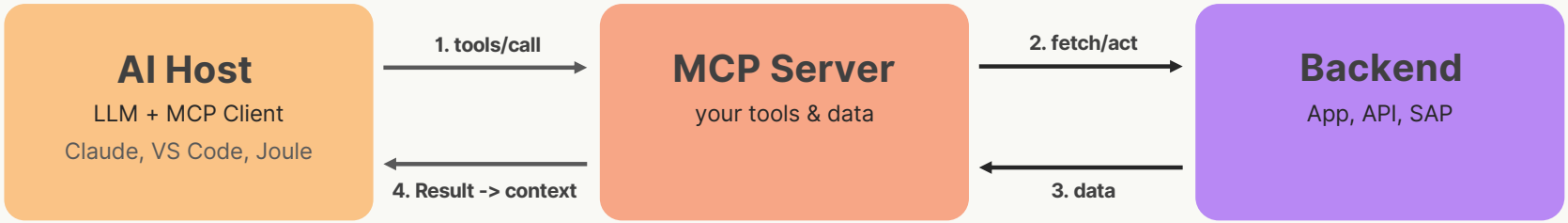
With **MCP Apps!**

# MCP Apps



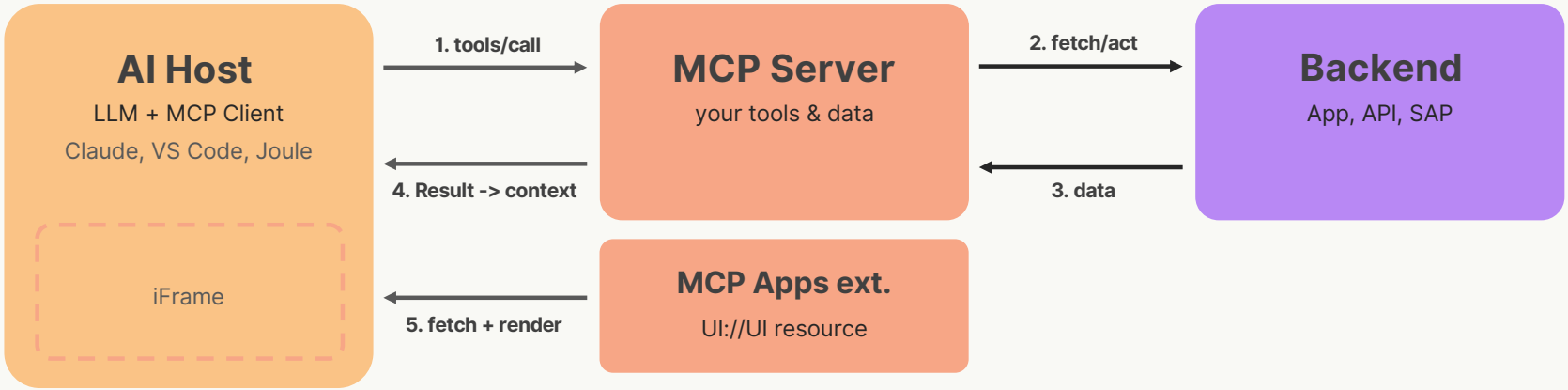
# Model Context Protocol (MCP)

- **MCP is an open standard to let AI hosts talk to external systems**
  **https://modelcontextprotocol.io/**
- **Enriches limited LLM model capabilities with private and/or live data and app access**
- **MCP server exposes tools, resources and prompts**



# MCP Apps

- **Official extension to the MCP protocol to add interactive UIs inside the AI host/chat interface https://modelcontextprotocol.io/extensions/apps/overview**
- **A tool call can carry a *ui://* resource that the AI host renders in a sandboxed iFrame**
- **The MCP Apps specification is not in the final state**



# MCP Apps development

## Libraries, skills and tooling

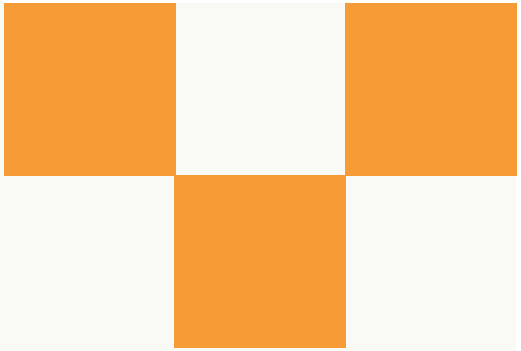
- Typescript SDK https://github.com/modelcontextprotocol/typescript-sdk
- MCP Apps https://github.com/modelcontextprotocol/ext-apps)
- MCP UI https://github.com/MCP-UI-Org/mcp-ui

## Supported LLM clients

- Claude
- ChatGPT
- VS Code Copilot
- Cursor
- Microsoft Copilot
- MCPJam



# SAP and MCP Apps



## Developer Tooling

- SAP provides many MCP servers
  - UI5
  - CAP
  - ABAP
  - …
- Additionally many open source servers
  - ADT-based (e.g. ARC-1)
  - BW-bridge
  - …

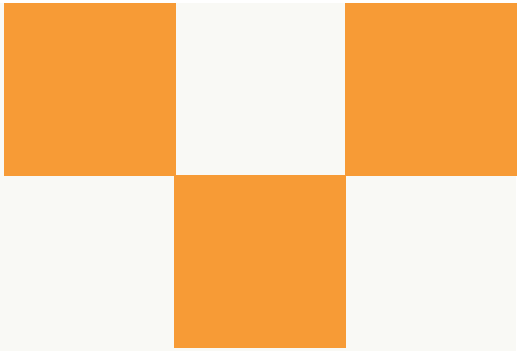
## Business Data and Processes

- SAP announced to provide 100+ MCP Servers at Saphire
- Use Integration Suite to provide MCP server capabilties to iFlows
- Use CAP‘s MCP plugin to provide MCP servers based on CAP services

## Joule

- Integrate custom MCP servers into Joule Agents
- Consume external MCP servers through BTP destinations

# SAP and MCP ~~Apps~~



## Developer Tooling

- SAP provides many MCP servers
  - UI5
  - CAP
  - ABAP
  - …
- Additionally many open source servers
  - ADT-based (e.g. ARC-1)
  - BW-bridge
  - …

## Business Data and Processes

- SAP announced to provide 100+ MCP Servers at Saphire
- Use Integration Suite to provide MCP server capabilties to iFlows
- Use CAP‘s MCP plugin to provide MCP servers based on CAP services

## Joule

- Integrate custom MCP servers into Joule Agents
- Consume external MCP servers through BTP destinations

*No* MCP server provides and*
*Joule has no support for MCP Apps!*

**At least none we know of ☺*

# MCP Apps and UI5



UI5con

# MCP Apps – UX considerations

## Display Mode

- App requests a mode — host may allow or deny
- Modes: `inline` / `fullscreen` / `pip`

## Theming

- `light` and `dark` themes selectable
- Adopt host look via CSS variables:
  `--mcp-*` (e.g. `--mcp-bg-primary`)

## Sizing

- Each axis is fixed (host-sized) or flexible (app-sized, up to a max)

## Refresh

- State resets on every tool call (iFrame re-renders)



# SAPUI5 / Fiori Elements and MCP Apps

It is possible to use SAPUI5/OpenUI5 inside an MCP App, but…

| | | | |
|---|---|---|---|
| Fiori UX is not (yet) tailored for LLM chat integration | Fiori Elements hard to get to work | Issues with strict Content Security Policy (e.g. *unsafe-eval* and *sap.viz*) | Large bundle size as iframe reloads on every tool call |
| Must ship as one self-contained HTML file | No direct OData from the iFrame as data must go through tools | Theme mismatch for SAPUI5 vars vs host *--mcp-** CSS vars | Many framework parts unusable (router, dialogs, icons…) |

*Therefore we should consider UI5 Web Components*

# UI5 MCP Apps – Demos

- Example showcase with some running demos to integrate UI5 into an MCP App
- The repository:

  https://github.com/marianfoo/UI5con_2026_MCPApps
- Learning guide to follow this step-by-step:

  https://github.com/marianfoo/UI5con_2026_MCPApps /blob/main/LEARNING.md



# Technical Details: Defining an MCP App

**1** **Register the UI resource**

```
{
  "uri": "ui://ui5-orders/worklist.html",
  "mimeType": "text/html;profile=mcp-app",
  "text": "<!doctype html><html>… your UI bundle …</html>",
  "_meta": { "ui": {
    "csp": { "connectDomains": ["https://my-btp-dest"] },
  }}
}
```

**2** **Link from a tool**

```
{
  "name": "show_orders",
  "_meta": { "ui": {
    "resourceUri": "ui://ui5-orders/worklist.html",
    "visibility": ["model", "app"]
  }}
}
```

**3** **The tool result**

```
{
  "content": [{ "type": "text", "text": "42 orders (12 overdue)" }],
  "structuredContent": { "orders": [ ... ] },
  "_meta": { "ui": { "preferredFrame": {"height":480} }}
}
```

# Technical Details: Running an MCP App

**A simplified code example:**

```
import { App } from "@modelcontextprotocol/ext-apps";
const app = new App();

// 1. handshake — get theme, locale, capabilities from the host
const ctx = await app.initialize();           // → ui/initialize

// 2. receive data the host pushes and render it
app.onToolResult(({ structuredContent }) => renderTable(structuredContent.orders));

// 3. user acts → call a tool back through the host
approveBtn.onclick = () => app.callTool("update_order", { id, status: "approved" });

// 4. tell the model what happened (so its next turn knows)
app.updateModelContext({ lastAction: "approved 4711" });   // → ui/update-model-context
```

# Showtime



UI5con

# Summary: MCP Apps and UI5

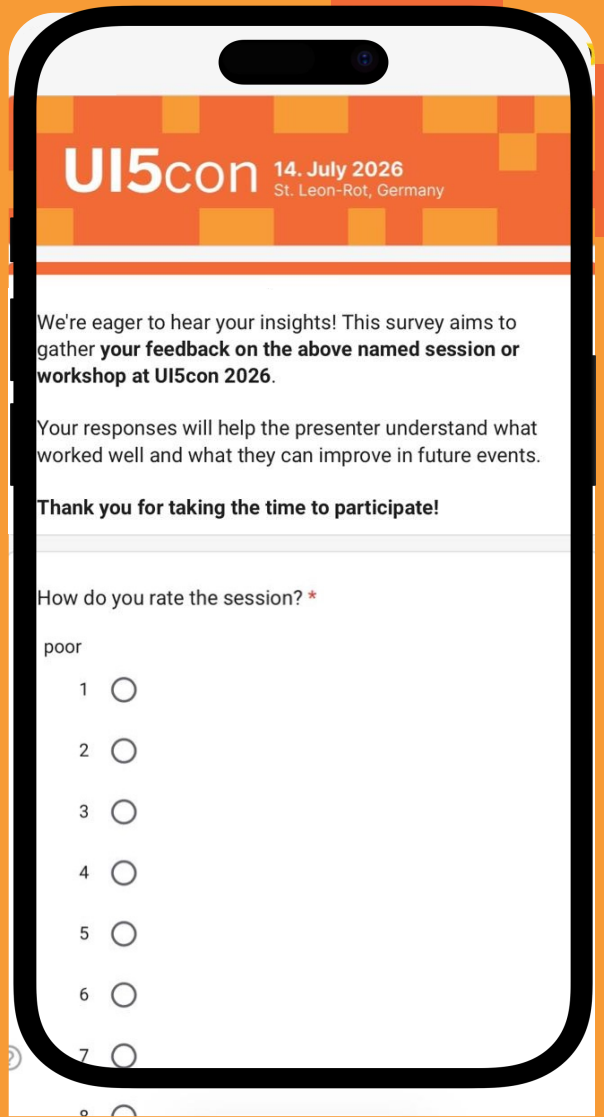
- are a powerful way to **integrate your UI into an AI host**
- provide **control** how to render **your data** and provide **interactions**
- have **UX** and **technical limitations** to consider compared to traditional apps
- are **not** (yet ?) **a thing** in the **SAP ecosystem**
- is **challenging current state of Fiori/UI5** as those are not designed/built for it

# Questions?

UI5con

# Scan and share your thoughts!

UI5 has entered the chat – AI, MCP Apps and UI5




UI5con