**Joule Extensibility : Design Thinking Workshop – Pre read Document**

**Objective:**

This collaborative workshop aims to co-create and shape the extensibility vision for SAP’s Joule AI assistant by engaging directly with customers and partners. Through structured discussions, ideation, and feedback, we’ll uncover real-world needs, identify extensibility use cases, and define priorities for developer tooling and lifecycle support.

**Expected Outcomes:**

* Documented list of top extensibility use cases and business needs.
* Prioritized features for the developer tooling roadmap.
* Design concepts for lifecycle management of custom content.
* Co-created vision statement for Joule extensibility.

**Focus Topics for pre-read:**

**Business Goals, Usecase Identification**

**Understanding Business Objectives/Goals:**

* What business problems are you trying to solve with SAP Joule?
* What are your main goals in using Joule? (e.g., automation, insights, decision-making support, productivity)

**Use Case Identification**

* Are there current tasks or use cases where you feel Joule's default capabilities are not enough?
* Can you walk us through a typical process where a Joule custom skill could help?
* What are the top 3 pain points or inefficiencies you would like to address with custom capabilities?

**Integration & Data Needs**

* What systems or data sources do you need Joule to integrate with? SAP or non-SAP?

**. Integration with Non-SAP Systems / Use Outside SAP UI**

* Are you integrating Joule capabilities into existing tools like Microsoft Teams, Slack, custom portals, or mobile apps?

**Intelligence & Behavior Expectations**

* What kind of intelligence do you expect from a custom Joule skill? (e.g., predictive, conversational, summarization, recommendation)
* Should your custom skills handle decision-making or only provide insights?
* How autonomous should these capabilities be (suggestions vs. actions)?

**Custom Skill Development Needs - Building New Content from Scratch or Customization**

**Custom Content Creation (From Scratch)**

* Do you plan to create new skills completely from scratch?
* Will the skill need to use structured data (APIs, databases) or unstructured content (documents, emails)?

**Customization of SAP-Delivered Content**

* Are the pre-delivered Joule skills meeting your business needs out of the box?
* Would you prefer to enhance, remove, or override specific behaviors in SAP-delivered content?
* Which elements are you most interested in customizing? (input data, backend actions, response formats)
* Do you want to localize or personalize Joule’s responses for specific departments or geographies?
* Are there any industry-specific scenarios or compliance needs requiring customization?

**Development personas/Preferences – Feature Expectations (MosCow Method for Prioritzation)**

**User Persona-Based Expectations**

* Who will build or customize Joule content? (Business users, IT developers, partners?)
* What roles exist in your organization today: **key users**, **citizen developers**, **pro developers**?

**Low-Code / No-Code Development**

Ideal for citizen developers and key users who want guided, visual, or templated approaches.

**🔹 Use Cases to Explore:**

* Building new skills (e.g., forms, workflows, guided chat) without writing code.
* Extending existing SAP skills with custom logic using drag-and-drop tools.
* Connecting to SAP APIs with configuration, not code.
* Simple content localization or parameterization.

**🔹 Feature Expectations to Check:**

* Visual skill builder / prompt flow designer.
* Pre-built templates or skill wizards for common business tasks.
* Drag-and-drop connectors to SAP modules and third-party systems.

**Pro-Code Development**

For technical developers building deeply customized or highly integrated capabilities.

**🔹 Use Cases to Explore:**

* Creating advanced skills that perform business logic or complex reasoning.
* Integration with external APIs and services.

**🔹 Feature Expectations to Check:**

* SDKs/APIs to define custom actions, or agents.
* CLI tools or SAP Build code tools, Git integration, CI/CD pipeline compatibility.
* Logging, debugging, and testing support in dev tools

**Key-User Extensibility / Customization of Pre-Delivered Content**

Focused on tailoring SAP-delivered skills for department- or process-specific needs.

**🔹 Use Cases to Explore:**

* Adjusting responses, business logic for localization or brand tone.
* Adding or removing steps in a pre-delivered skill flow.
* Enabling/disabling certain SAP Joule skills based on business roles.

**🔹 Feature Expectations to Check:**

* UI-based configuration of existing skills.
* Role-based visibility/customization of Joule skills.
* Documentation of what can and cannot be overridden.

**Inter-operability b/n low code/no code, pro-code:**

* Imagine low-code and pro-code are on a spectrum. Where do you see yourself most of the time? And do you want to move along that spectrum or stay where you are?
* How often do you think you’d actually need pro-code help if low-code were slightly more powerful?
* How do you imagine collaboration between someone using the visual editor (low code, no code) and someone writing code(pro-code)? What would an ideal workflow look like?
* Where would you expect to start building, in low-code or pro-code?
* If you started building a skill in low-code and hit a blocker, how would you expect to extend it in a pro-code manner?
  + Follow-up: how do you expect these tools to interact? are they in the same place or separate?
* In your ideal setup, how much visibility should low-code users have into what pro-code contributors are doing — and vice versa?

**Developer tooling, Development Life Cycle (MosCow Method for Prioritization)**

**1. Development Environment & Tooling Needs**

* What kind of development environment do your developers prefer? Visual editors (drag and drop/low code, no code) or build coding with traditional dev. Tooling? (e.g., SAP Build Apps, SAP Build Code, VS Code, CLI tools)
* Would you prefer low-code/no-code options, or do you require full-code extensibility?
* Would you benefit from access to pre-built Joule capabilities for reuse or extension?
* **AI Assistance**: Would you benefit from AI-powered code generation, refactoring, and documentation features? ​

**2. Testing & Validation**

* **CI/CD Integration**: Is integration with Continuous Integration/Continuous Deployment pipelines a priority?
* How do you expect to test your custom Joule skills? (unit tests, simulated conversations, mock data?)
* Do you need test automation or CI/CD integration?

**3. Deployment & Release Management**

* How would you like to package and deploy custom Joule skills? (manual, CI/CD, transport management, Git integration?)
* Do you need support for multi-environment deployment (dev/test/prod)?
* What kind of versioning and rollback mechanisms would you expect?
* Do you require governance workflows (approvals, reviews) before releasing content?

**4. Monitoring, Logging & Debugging**

* What level of observability do you expect for your custom skills? (logs, metrics, traces?)
  + **Real-Time Monitoring**: Is real-time monitoring of custom skills essential for your operations?
  + **Logging Capabilities**: What logging levels and formats are required?
  + Should developers have access to real-time logs or only aggregated usage data?
* **Error Handling**: How should errors be reported and handled within custom skills?
  + Do you need error alerts or performance monitoring dashboards?
* **Debugging Tools**: Would integrated debugging tools within the development environment enhance your team's efficiency? ​
  + How do you expect to debug failed or misbehaving interactions?

**5. Lifecycle & Maintenance**

* **Update Mechanisms**: How should updates to custom skills be managed and deployed?
  + How do you plan to manage updates and deprecations for your custom content?
  + Would you prefer automatic updates or manual control over lifecycle management?
* **Deprecation Policies**: Is there a need for policies around deprecating outdated skills?
* **Usage Analytics**: Would analytics on skill usage and performance inform your maintenance strategies?
  + What kind of tooling would help you track usage and decommission unused skills?
* **Feedback Loops**: How should user feedback be collected and incorporated into skill improvements? ​

**Cross Topics - Development Experience**

**Security & Access Control**

* **Data Privacy**: Are there specific data privacy regulations that must be adhered to?
* **Audit Trails**: Is maintaining detailed audit logs a compliance requirement? ​

**Documentation, Support & Discoverability**

* **In-Tool Documentation**: Would integrated documentation within the development environment be helpful?
* **Skill Discoverability**: Do you require a marketplace or registry for discovering and sharing custom skills?
* **Training Resources**: What types of training materials would support your team's development efforts? ​
* Do you need an in-tool API explorer, skill registry, or metadata browser?
* Would you find developer community forums, FAQs, or SAP support channels useful?

**Extensibility – Vision, Wishlist and Success Metrics**

**Vision for the Future**

* What would your ideal extensibility framework look like?
* How should extensibility evolve as your business needs grow?
* Are there capabilities you'd like in the future that may not be critical today?

**Success Metrics & Expectations**

* How will you measure the success of a custom Joule skill?
* What kind of user feedback or analytics would you expect to track skill effectiveness?
* What are your expectations around performance, latency, and reliability?

**Barriers, Concerns & Wishlist**

* What challenges do you foresee in adopting or developing custom Joule skills?
* Have you used extensibility features in other SAP products? What worked well or didn’t?
* If you had a “wishlist” of features or experiences for customizing Joule, what would be on it?

**Outcome-Driven Questions:**

* What specific outcomes or improvements do you expect from custom Joule skills?
* What’s the ideal time-to-value for building or customizing a skill?
* How do you envision maintaining and scaling this content across your enterprise?