

Optimising RDM in Collaborative Engineering: A Self-Service, Template-Driven ELN Solution with SharePoint

Tim Opatz*, Kim Feldhoff* , Hajo Wiemer* , Martin Zinner* , Steffen Ihlenfeldt* 

*TUD Dresden University of Technology, Institute of Mechatronic Engineering (IMD),
Chair of Machine Tool Development and Adaptive Controls (LWM), 01062 Dresden, Germany

1. Motivation

- MS SharePoint (SP) widely used in research collaborations
- Adaptable as Electronic Lab Notebook (ELN)

2. Challenges

Manual adaptation: slow and error-prone, especially for large process chains

3. State of the Art

Open-source ELNs:
rarely plug & play
extendable



SP: usable for RDM,
but requires IT
expertise



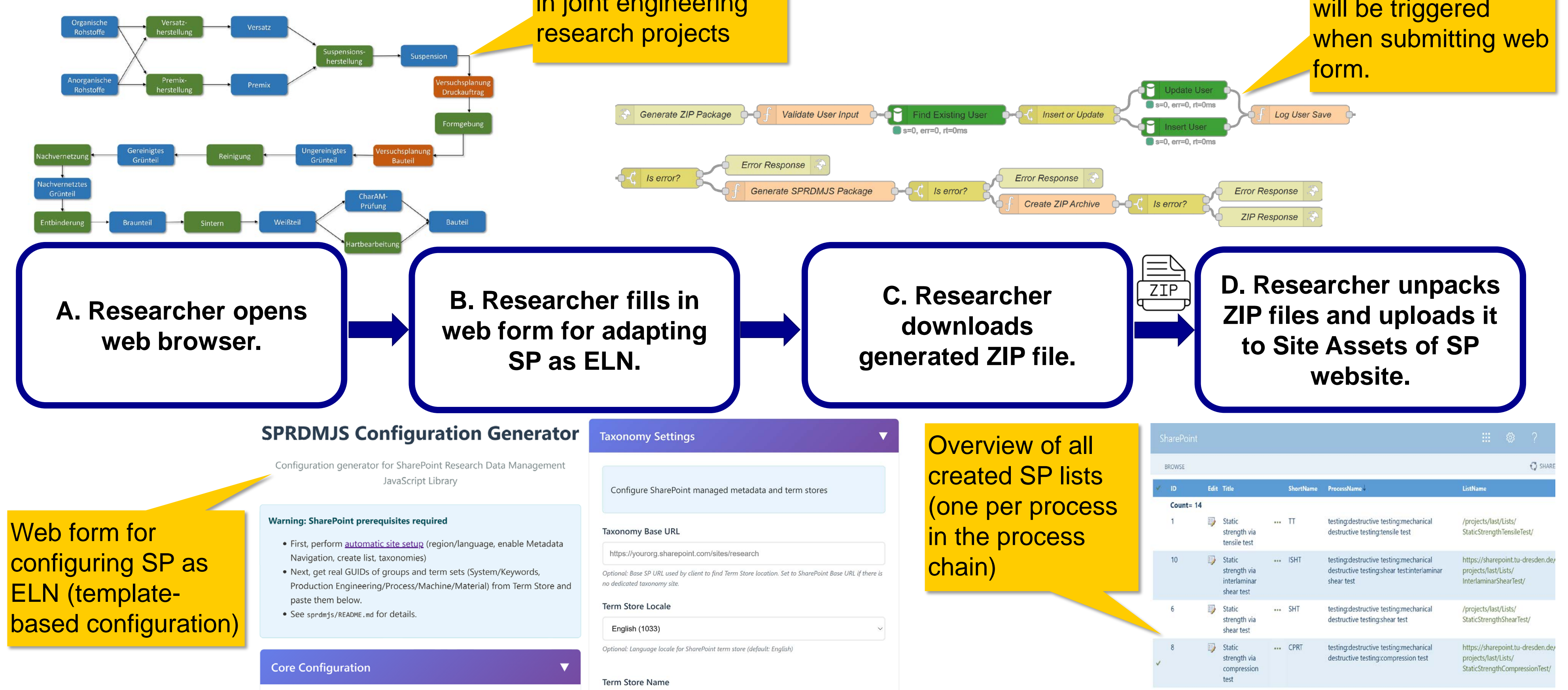
4. Aim

- Enable template-based creation of SP sites for RDM
- Usable without IT expertise (low-code/no-code)

5. Solution Concept

- Template-based configuration of SP as ELN using predefined SP forms
- Node-RED integration for automated setup workflows via user-friendly GUI

6. Workflow



7. Results

- Setup time for typical project:
 - Proposed method: 5-10 min.
 - Manually in SP: 60-120 min.
- Fully compliant with requirements
- Ready-to-use ELN for RDM

8. Benefits

- 12× faster setup
- Automated and scalable workflow
- Reduced error rate
- Requires only SP server, Node-RED, and SP site ownership (for taxonomy)
- Usable without IT expertise

9. Limitations

- SP license required
- Scalability limited by storage performance
- Manual web form input: slow and error-prone

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