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Eligibility Checker

Combating Non-Take-Up of Social Benefits by Simplifying Access

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1. Why? - Background

Long List of Potentially Relevant Services
Cities currently attempt to support citizens by displaying all potentially relevant services (see Figure 2). These lists can be overwhelming, since the citizen has to check for which services he is eligible and for which not.

Citizens do not claim services
The uncertainty of eligibility combined with the frustration of manual verification creates a psychological barrier and leads to resignation. The result is a high *Non-Take-Up rate*: governmental benefits do exist, but do not reach the people.

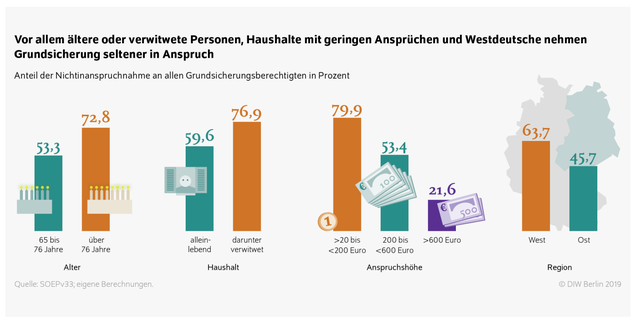

Figure 1 Statistik: Non-Take-Up (Placeholder)

The Hidden Complexity
The administrative challenge is not just displaying information, but managing the vast web of dependencies (e.g., a student needs different fields than a pensioner). Currently, this complexity is exposed to the user, who must navigate unrelated questions and redundant data entry ("Input without Memory").

2. Status Quo

The current "Lebenslagen"-system displays a static list of 30 potential services (see Figure 2). This results in information overload and false positives.

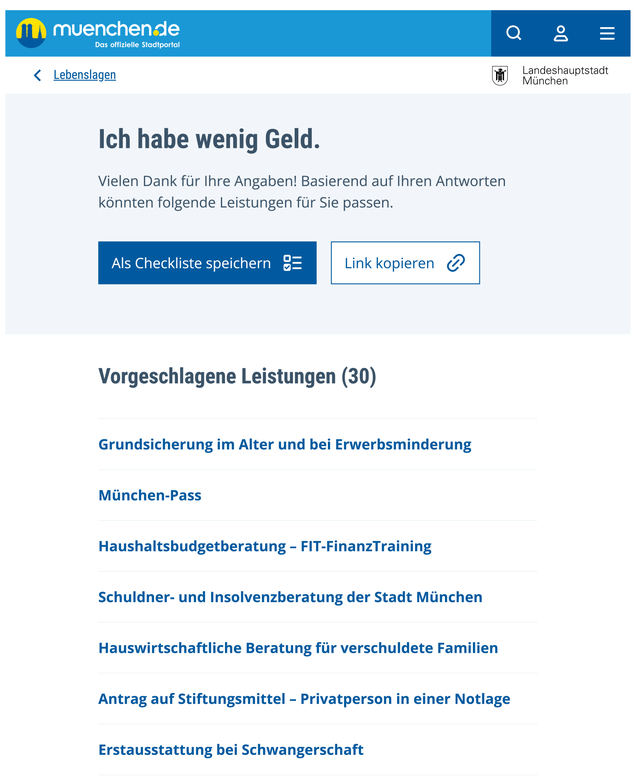

Figure 2 Status Quo: Static list of suggestions

3. Strategy Pattern

- Implemented a Strategy Pattern to encapsulate question-selection algorithms, allowing for dynamic interchangeability at runtime.
- Decoupled the decision logic from the core application context, facilitating modular testing and independent deployment of new algorithms.
- Enabled A/B testing capabilities to empirically evaluate different traversal strategies on live data.
- Optimized the inquiry process to minimize the distinct number of questions required from citizens, effectively reducing the decision tree depth.

4. The Conditional Engine

We transformed static *Förderfunke SHACL shapes* into executable code. This engine calculates missing data points in real-time to dynamically render the form.

- **Hides Complexity:** Irrelevant questions are never shown; the user only sees input fields actually required based on previous entries.
- **Smart Feedback:** The system provides custom explanation messages if a user is found ineligible for a specific service.
- **Scalable:** Manages multiple funding services in a single flow, adapting instantly to new inputs.

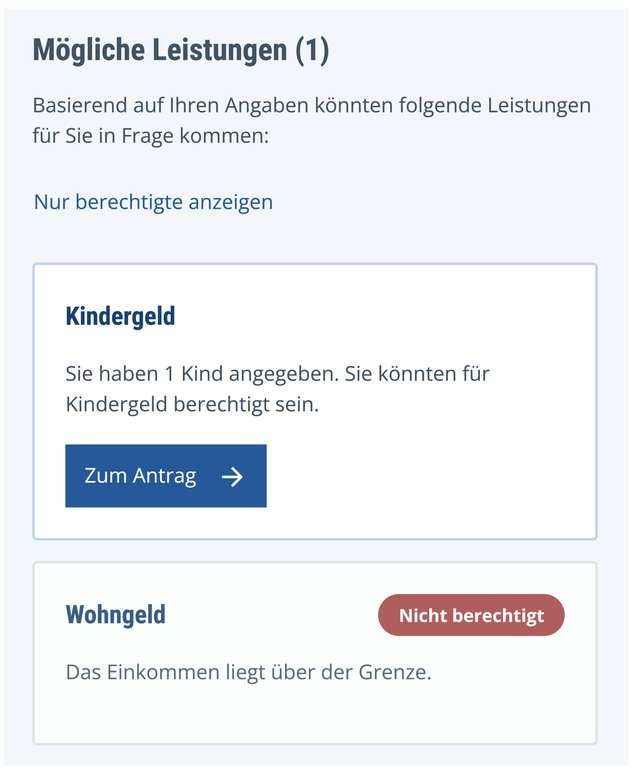

Figure 3 Detailed User Feedback

5. Solid Pod Integration

We built a *Solid Pod* integration to enable citizens to securely persist their data:

- **Decentralized:** A Solid Pod is a decentralized data storage unit that decouples data from applications, serving as a secure personal server for a digital identity.
- **Across services:** The city could extend this integration to all services, leveraging interoperability to access data stored by other entities (e.g., companies). Ideally, this establishes a pattern applicable beyond the local level, allowing municipalities, states, and the federal government to automate form-filling across Germany without redundance.
- **Privacy:** The architecture ensures digital sovereignty, as the user retains full ownership and control over access rights:
  - The user decides *who hosts* the Pod
  - The city only queries data; it does not store it.

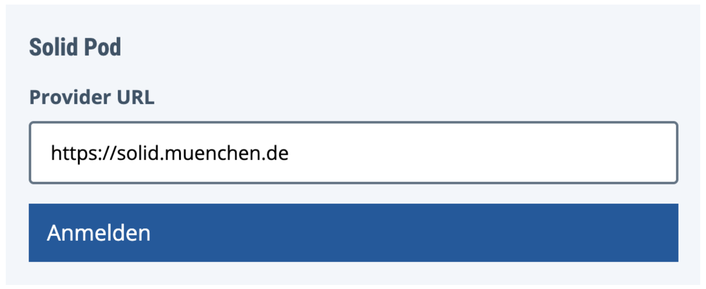

Figure 4 Solid Pod Connector

We implemented "M-Pod", a Solid Pod instance designed to serve as a default storage location based on an open source implementation of the Solid specifications. This provides the City of Munich with the option to offer its own self-hosted infrastructure for citizen data.

Figure 5 M-Pod

6. Technologies

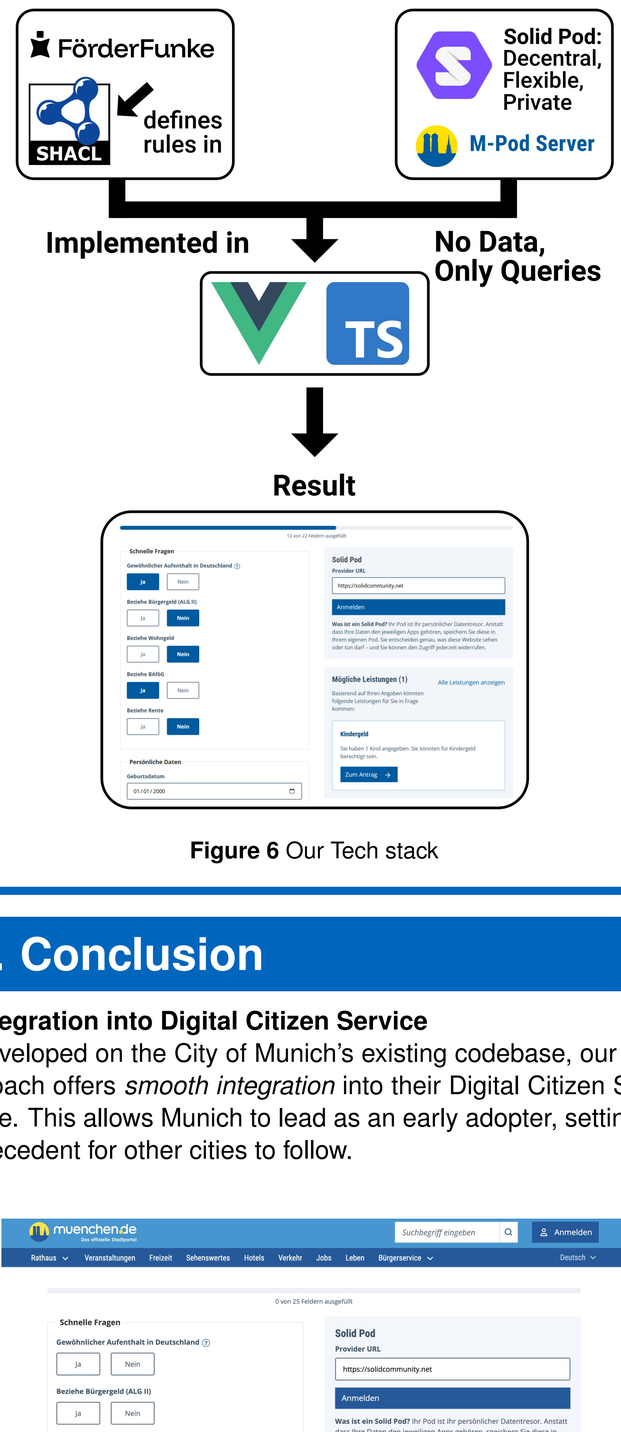

Figure 6 Our Tech stack

7. Conclusion

Integration into Digital Citizen Service
Developed on the City of Munich's existing codebase, our approach offers *smooth integration* into their Digital Citizen Service. This allows Munich to lead as an early adopter, setting a precedent for other cities to follow.

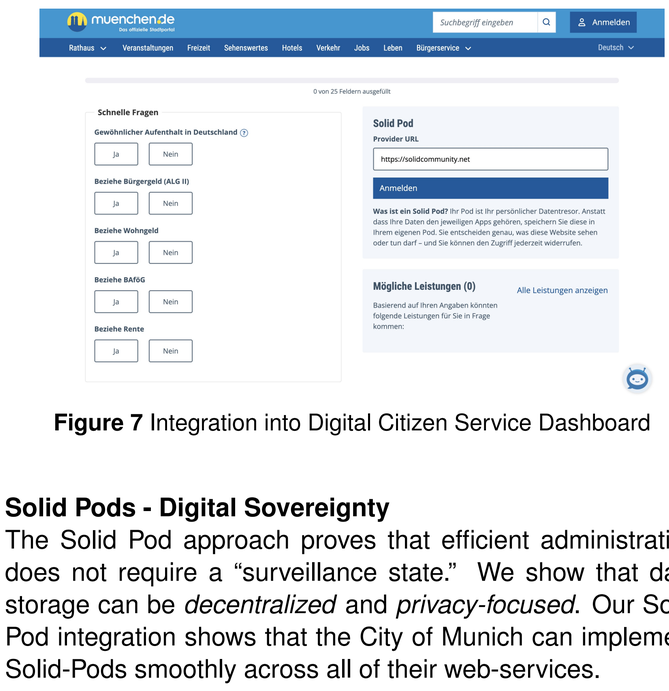

Figure 7 Integration into Digital Citizen Service Dashboard

Solid Pods - Digital Sovereignty
The Solid Pod approach proves that efficient administration does not require a "surveillance state." We show that data storage can be *decentralized* and *privacy-focused*. Our Solid Pod integration shows that the City of Munich can implement Solid-Pods smoothly across all of their web-services.

Modular Question Algorithm
Our implementation utilizes a *Strategy-Pattern* to decouple question-selection logic, enabling the use of different algorithms. This architecture allows the City to conduct *A/B testing* to identify the optimal approach. By deploying the most efficient strategy, the system minimizes the number of required interactions, reducing the effort required from the citizen.

8. Try it out!

Eligibility-Checker | M-Pod | GitHub