

Data Inspectors - Exploring Universally Configurable Cloud and Web Data Interfaces

Initial Situation:

Data Inspectors already exist as simple physical interfaces (displays, NFC tags, buttons). They allow access to data and the control of devices in a deliberately reduced form. Early prototypes demonstrate the potential: from confirming emails, showing weather forecasts, and stock updates, to controlling smart home devices and visualizing individual energy consumption.



Figure: "Data Inspectors" displaying energy readings (right).

Project Idea:

The project aims to **explore Data Inspectors as universally configurable interfaces for cloud and web data**. The focus is on experimenting with different application scenarios and critically reflecting on their potential in everyday life.

Exploration Framework:

- **Openness:** The project is deliberately exploratory. It is not about a finished product but about creative approaches, prototyping, and critical reflection.
- **Creativity:** New use cases, unconventional interfaces, and experimental hardware are explicitly encouraged.

Possible Focus Areas:

- **NFC tags** as simple interaction and linking elements.
- Development of a **server** to manage data, devices, and configurations.

- Creation of a **configuration app** (optionally with voice input via LLMs) to flexibly assign functions (e.g., “show weather forecast on Display 1”).

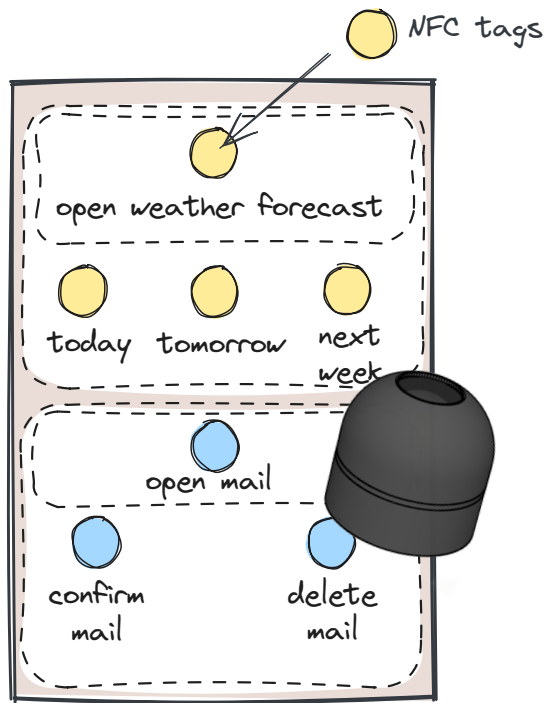


Figure: The Data Inspector has a RFID reader built into its bottom. Scanning different tags, opens different functions/views, e.g. displaying emails

- **Hardware exploration:** extending existing devices or developing entirely new ones (e.g., displays, buttons, e-paper, sensors).
- **Energy literacy:** making the energy consumption of individual household devices visible and understandable.

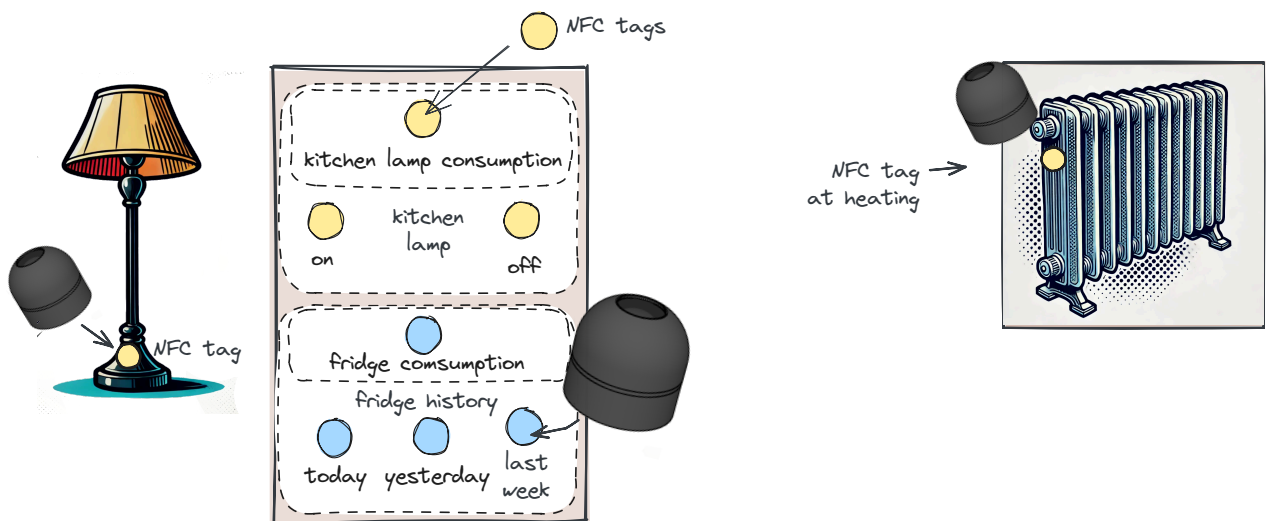


Image: Another use case: RFID tags at lamp/heating/fridge etc make the Data Inspector display current energy consumption

Target Groups:

- Laypersons/people who want simple and accessible interfaces.

Objectives:

- Exploration of Data Inspectors as a **universal interface** between people, devices, and the cloud.
- Critical analysis of **usability, everyday applicability, and societal relevance**.
- Open-ended and creative development of the concept without strict thematic limitations.