

DataWiz II

Designing a research data management tool psychologists love to use

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What I'm Going to Talk About

1. DataWiz: Goals and History

2. From DataWiz I to DataWiz II: Redesign

- Lessons learned from first version (**DataWiz I**)
- Developing a new version (**DataWiz II**) employing user-centered methods:
 - Product Vision
 - Personas
 - User Stories
 - Prototype

3. Outlook: What's next for DataWiz II

1. DataWiz: Goals and History

- Research data management is hard. If it weren't, everyone would just do it. What to document? How? Where? Why?
- Growing need for a guide, an assistant, to make it easier for researching psychologists

Vision: Develop an online research data management tool for psychologists

- **DataWiz I:** 2015-2017 – <https://datawiz.leibniz-psychology.org>
- **DataWiz II:** 2020-2021 – *Redesign in progress*

2. From DataWiz I to DataWiz II: Redesign

Lessons learned from DataWiz I:

- Original Goal: *Guide* researchers and *assist* them **wizard**-like
 - However, focus shifted during development, adding
 - an abundance of metadata fields. *FAIR*, but burdens users with decisions
 - a data management planning feature
 - a pre-registration feature
 - full-fledged user management with detailed user roles
 - an expansive, but separate knowledge-base website to explain it all
- hard to maintain, no clear steps *guiding* through the process
- user experience suffers

2. From DataWiz I to DataWiz II: Redesign

Developing a Product Vision:

A product vision helps to focus on what really matters

- *For* [target user]
- *Who* [statement of the need]
- The [product name] *is a* [product category]
- *That* [key benefit, compelling reason to use]
- *Unlike* [primary competitive alternative], *Our product* [statement of primary differentiation]

See <https://www.joelonsoftware.com/2002/05/09/product-vision/> by Joel Spolsky

2. From DataWiz I to DataWiz II: Redesign

DataWiz II – Product Vision:

- *For* researching psychologists
- *Who* simply want to **manage their research data**
- **DataWiz II** is a **web-based assistance system**
- *that* supports them in data management **during the documentation phase.**
- *Unlike* **DataWiz I**, which provides many features for several different phases of research, **DataWiz II focuses on ease of use.**

Any new feature ideas need to stand the test against this product vision!

2. From DataWiz I to DataWiz II: Redesign

DataWiz II – Product Vision continued:

DataWiz II is the right app for researching psychologists who

- handle data management **alone or as part of a team**,
- wish to document the **research data collected in their studies** in one place,
- want to **archive and share research data** at the end of a project.

DataWiz II supports researching psychologists in documenting research data according to current documentation recommendations. It makes it easy to work together on projects and related studies in one place. It allows to upload additional materials. It provides interfaces for archiving in standardized formats and for transfer to research data centers and repositories.

2. From DataWiz I to DataWiz II: Redesign

Developing Personas:

Personas define the target users

- they're fictional characters
- with a background story
- and individual goals



“the user”



Leonie

Instead of saying “the user”, refer to them by name during development:

- “**Leonie** wants to show the data she has documented so far to her advisor”

2. From DataWiz I to DataWiz II: Redesign

Developing Personas:

We identified three personas:

- Leonie, the master student,
- Andrea, the doctoral candidate,
- and Thomas, the postdoc



Leonie



Andrea



Thomas

They work in different research areas and their **competence level in research methodology** and **data management** differs.

- We decided to focus on Leonie as our main persona. As a master student with little practical experience, she would benefit the most from an integrated guidance system and detailed examples
- Andrea and Thomas represent more advanced users

Leonie, Master Student



*“Research data management?
How does that work, exactly?”*

- Age: 24
- Student of Psychology
- Lives in: Erlangen

Profile

Leonie is a master student of psychology at FAU Erlangen who is about to graduate. For her master thesis “Properties and Implicit Motives of Voice”, she conducted an empirical study.

Goals & Needs

- I need to permanently archive my master thesis and all my research data and materials, because that’s what my advisor says I should do.



Frustrations & Challenges

- Research data management is completely new to me, nobody taught me about it in class.
- Metadata sound important, but which types do I need?
- How do I document my variables?
- Teaching myself research data management in addition to everything else feels like a chore. Isn’t there an easier way?

Skills

General

- Internet Affinity 
- Computer Experience 

Psychology

- Research & Methodology 
- Data Management 
- Research Funding 

Most used apps, services & websites



2. From DataWiz I to DataWiz II: Redesign

User Stories:

User stories are short, simple feature descriptions told from the perspective of your users.

“As a [type of user] I want [some goal] so that [some benefit].”

WHO

WHAT

WHY

They shift the focus from writing *about* features towards actually *discussing* them, which clarifies what users need and want and gets everybody on the same page.

Combined, all user stories describe the full journey a user takes through **DataWiz**.

2. From DataWiz I to DataWiz II: Redesign

Example user story “Check my input”

“As Leonie, before submitting, I need a final overview of all the information I entered to describe my study and data sets, to make sure I have not missed anything. It would be great if I could also show this summary to others.”

Subtasks:

- Browse content of completed forms on one page
- Jump to a specific form to correct errors
- View list of study materials I uploaded
- See any forms I may have skipped

2. From DataWiz I to DataWiz II: Redesign

Prototyping: Steps for Transforming User Stories into User Interfaces

- Prioritize user stories and subtasks to come up with an **MVPe** (Minimal Viable Product Experiment - a first, bare-bones version of the product fulfilling the most fundamental user needs)
- Implement MVPe
- Test-Drive with various research data sets
- Usability-Test with real users
-  Rinse and repeat, iteratively expanding the MVPe to eventually cover all user stories

3. Outlook: What's next for **DataWiz II**

- Transforming prototype into final, working product
- More Usability Testing
- Release at the end of 2021
- Open-Sourcing **DataWiz** and accepting contributions (that align with its product vision and personas)

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