Exposing cultural heritage through computer screens:

The role of user-centered design in the DH

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“You look at where you're going and where you are and it never makes sense, but then you look back at where you've been and a pattern seems to emerge.”

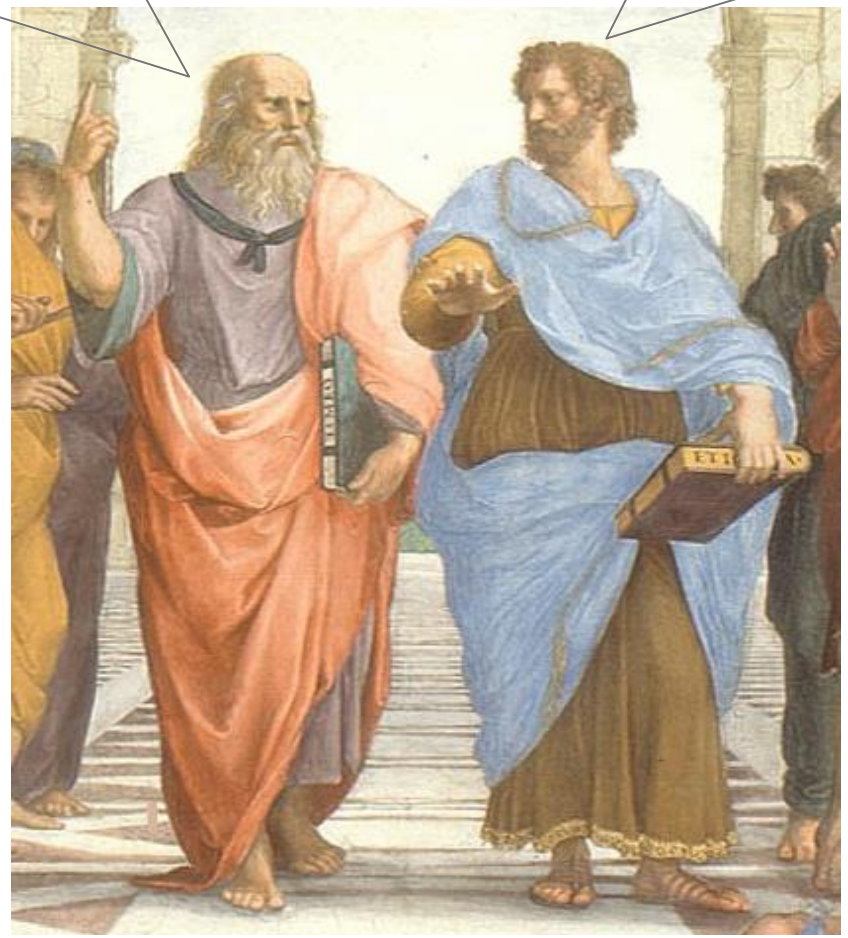
— Robert M. Pirsig, Zen and the Art of Motorcycle Maintenance: An Inquiry Into Values

Digital Humanities nowadays

- Humanity became digital only a few years ago.
  - Digital Humanities changes continously.
  - Students are forced to choose: you are not supposed to be both!
    - Unfortunately official educational planning confirms this idea.
  - Our duty is to understand what a digital humanist is.
    - Future education will be based on these assumptions.

Algorithms, NLP, Graph Theory, SNA, Data Mining, Semantic Web, GIS, DataVis, Machine Learning...

Dialectology, Cultural Diversity, Lexicography, Ethnology, Etymology, History, Disambiguation...



Mighty Computational Powers

Computer Scientist

Humanists

Digital Humanities is a dialogue

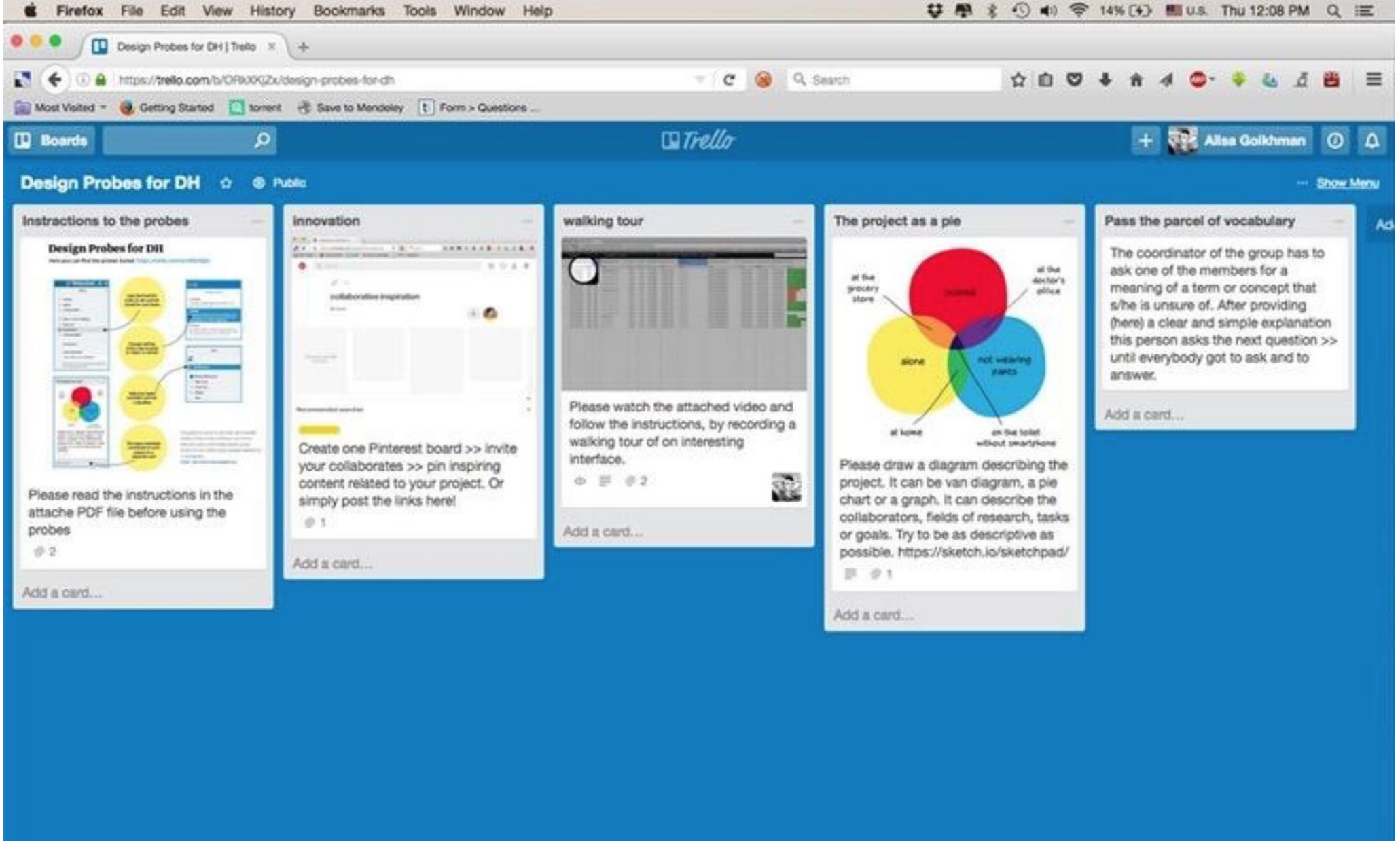
- We have to pay attention to the dynamics of the process.
- We must provide tools, workflows and methodologies that facilitate this dialogue.
- Also keep an open-minded, proactive attitude towards the other party.
- Enable channels to communicate needs, requirements and feedback.

Results related

- 2 COST-funded STSMs were awarded to:
  - A designer.
  - A computer scientist. (that's me!)
- Hosts: Centre for Digital Humanities (Austrian Academy of Sciences) and VisUSAL Group. (Universidad de Salamanca)
- Based on lexicographic data.
- Interdisciplinary approach.

Results in the fields of

- Design Theory. (User-centered design)
  - Design/Cultural Probes.
- Agile software methodologies.
  - User stories.
- Micro-prototyping.
- Citizen Science, Serious Games..
- Visual analysis and exploration.
  - Visualization is the communication channel!
  - Upward trend in difficulty and specificity of applied visual techniques.


Design Probes for DH | Trello
https://trello.com/b/OR9dXQZx/design-probes-for-dh
Boards
Trello
Alisa Goikhman
Design Probes for DH
Public
Show Menu
Instractions to the probes
Design Probes for DH
Please read the instructions in the attache PDF file before using the probes
Add a card...
innovation
Create one Pinterest board >> invite your collaborates >> pin inspiring content related to your project. Or simply post the links here!
Add a card...
walking tour
Please watch the attached video and follow the instructions, by recording a walking tour of on interesting interface.
Add a card...
The project as a pie
at the grocery store
at the doctor's office
alone
not wearing pants
at home
on the toilet without smartphone
Please draw a diagram describing the project. It can be van diagram, a pie chart or a graph. It can describe the collaborators, fields of research, tasks or goals. Try to be as descriptive as possible. https://sketch.io/sketchpad/
Add a card...
Pass the parcel of vocabulary
The coordinator of the group has to ask one of the members for a meaning of a term or concept that s/he is unsure of. After providing (here) a clear and simple explanation this person asks the next question >> until everybody got to ask and to answer.
Add a card...

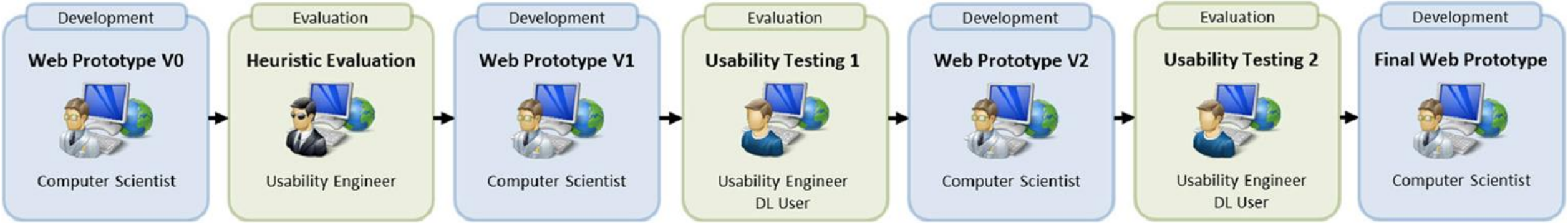
Visualization and prototyping

- Visual prototypes have been of major importance in the exchange of ideas.
- They have been one of the major research artifacts.
- They are the result of implementing in code the user stories and the materialisation of the design stage.

Evolution of prototypes (I)

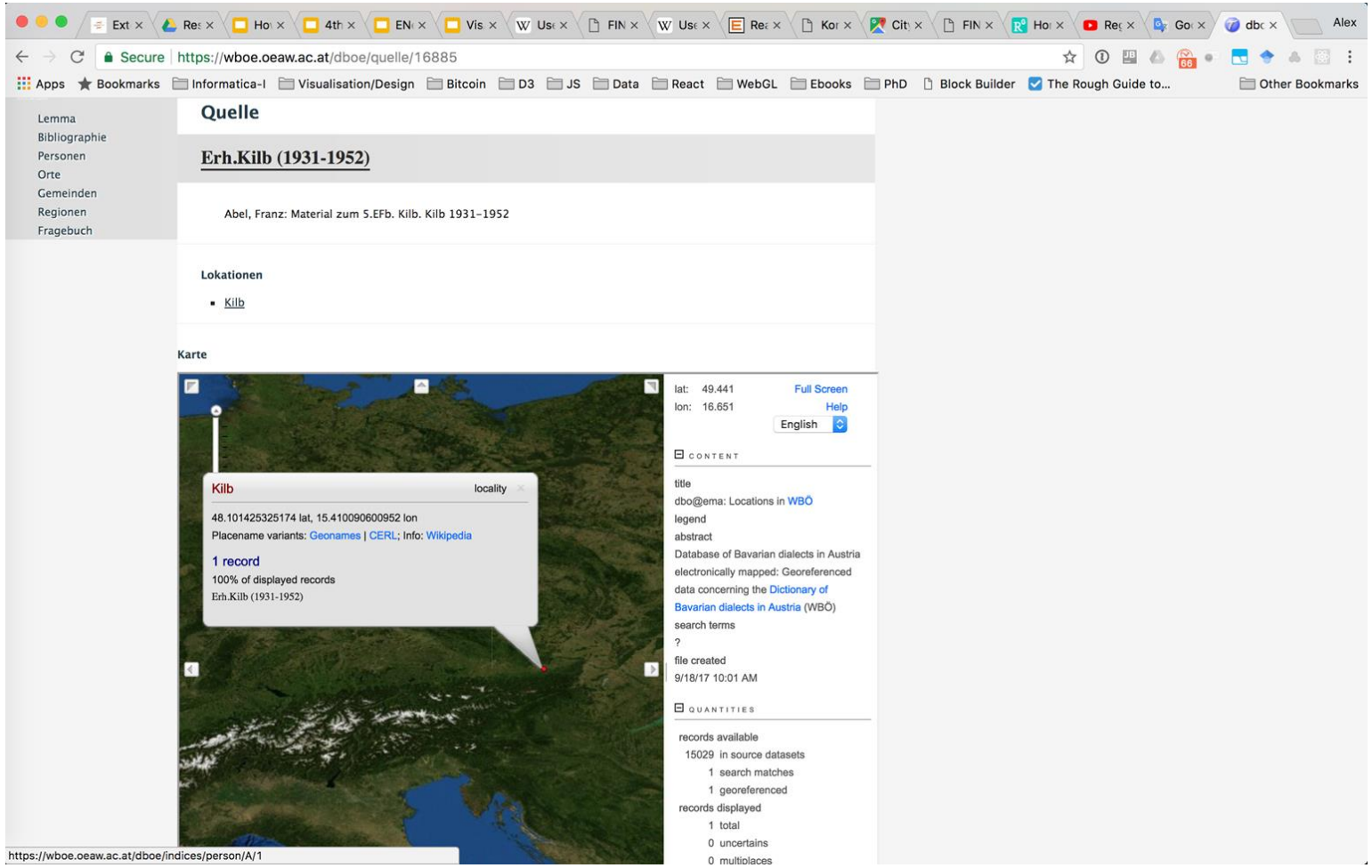
- First prototypes were naive.
- Functionality was very reduced.
- They provided snapshots of small parts of the data.
  - Therefore:
    - Sometimes they were not useful **AT ALL**.
    - We detected this was something unexpected by a majority of team members.
      - It was a tedious and necessary process.
- Often we had to build something only to know what was possible and what wasn't.

Software Design Methodology

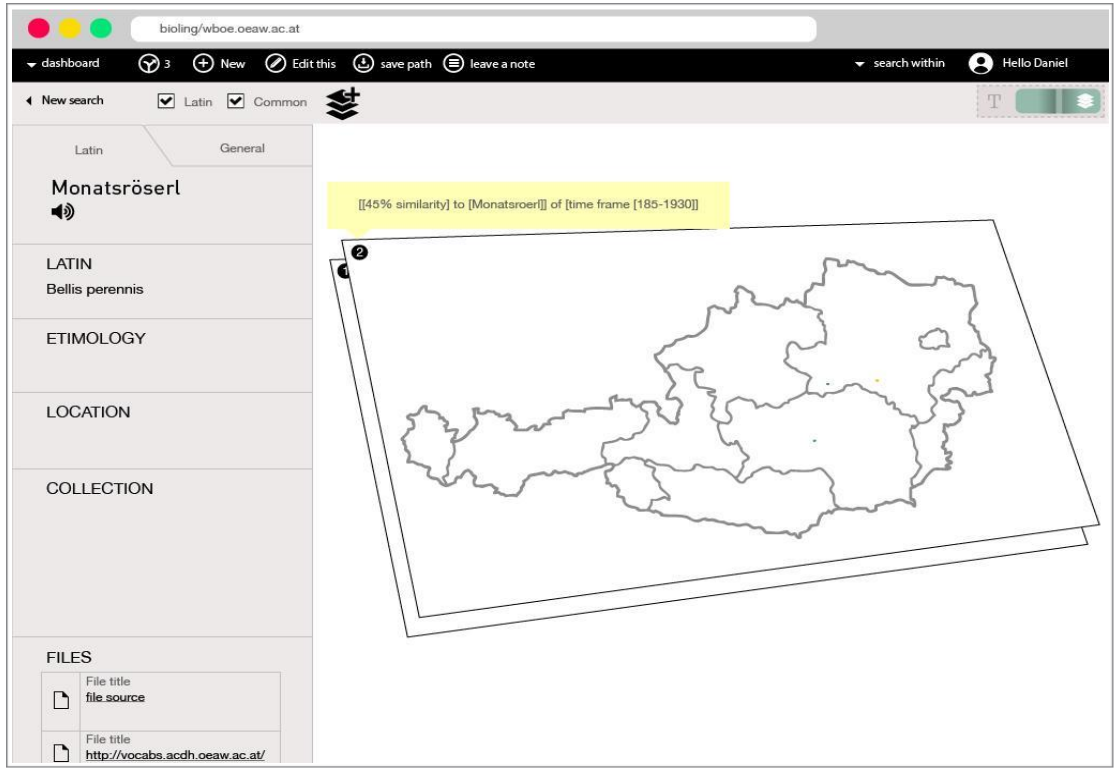


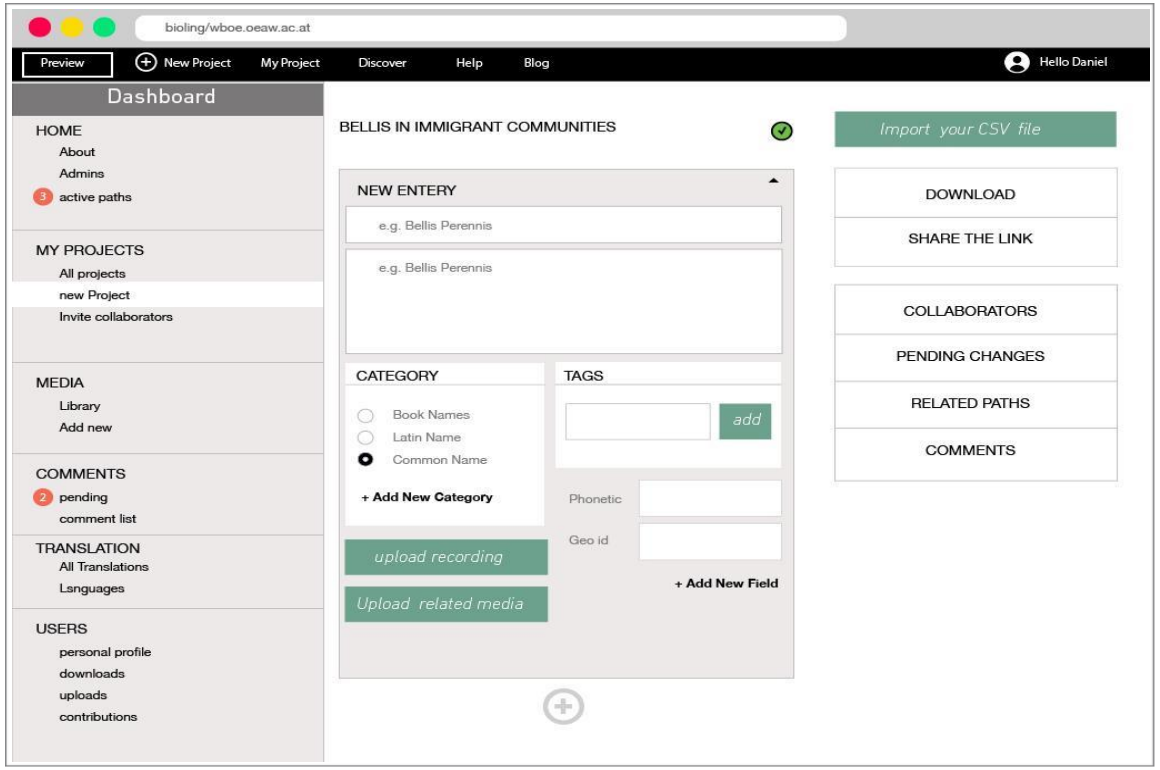
Bernard et al. (2015)

What we initially had

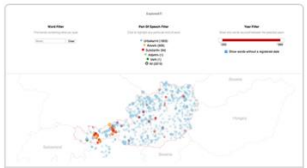


What we imagined we could have



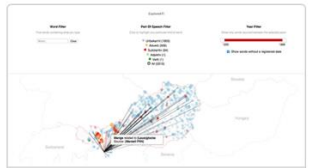


What we actually ended up having



Geographical Lemmas

Geographical exploration of Lemmas, with filtering options (text, part of speech and year) enabled to highlight only certain words in the map.



Word-Source Relations

Geographical exploration of Lemmas, including filtering and relations between words based on the source they appear in when clicking on any of them.

Lemma Context Navigation

Generate an image-aided treemap containing the most meaningful contexts where the searched lemma appears, and explore the occurences.

Raw Questionnaire Exploration

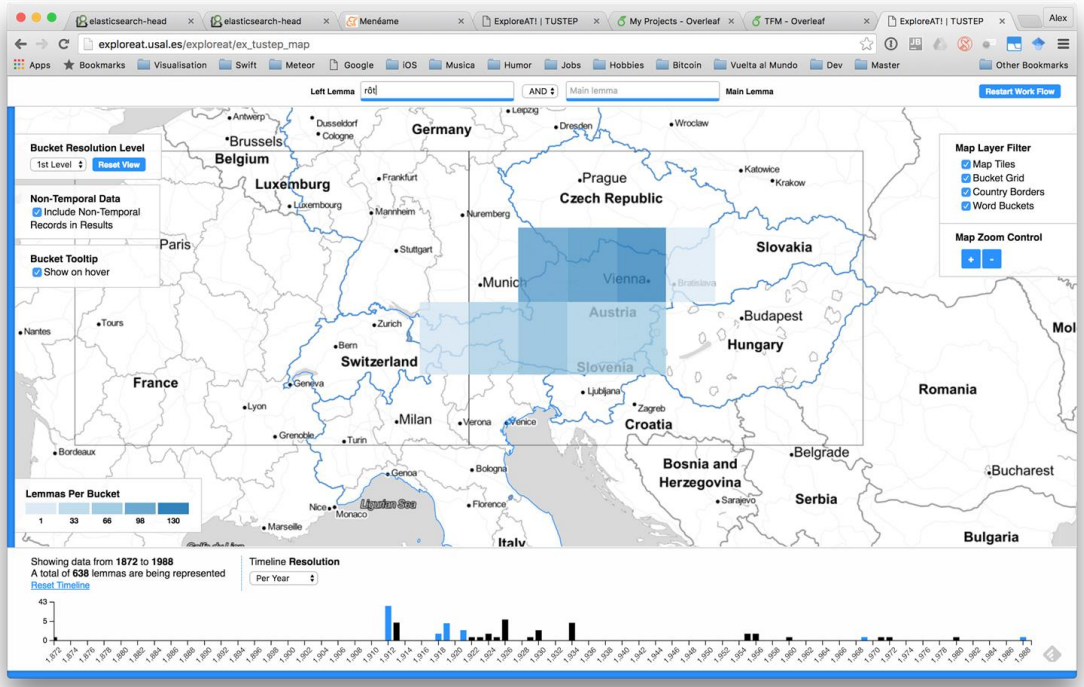
Generate dynamic HTML based hierarchies with Questionnaires that hold Questions that reference Lemmas.

Hierarchical Questionnaire Tree

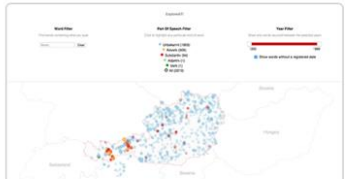
Dynamic tree generation of Questionnaire hierarchies based on the content matching searches.

Circle Packed Questionnaires

Questionnaire exploration through a hierarchy of packed circles which highlight relations between questions and lemmas.



Each micro-prototype explored one or more dimensions



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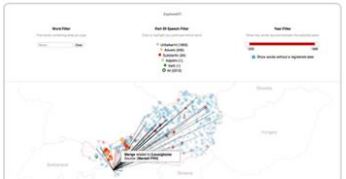
Geographical exploration of Lemmas, with filtering options (text, part of speech and year) enabled to highlight only certain words in the map.

1



Word-Source Relations

Geographical exploration of Lemmas, [illegible]ing filtering and relations between wor[illegible] based on the source they appear [illegible] when clicking on any of them.

2

Lemma Context Navigation

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3

Raw Questionnaire Exploration

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4

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5

Circle Packed Questionnaires

Questionnaire exploration through a [illegible]erarchy of packed circles which [illegible]ight relations between questions and lemmas.

6

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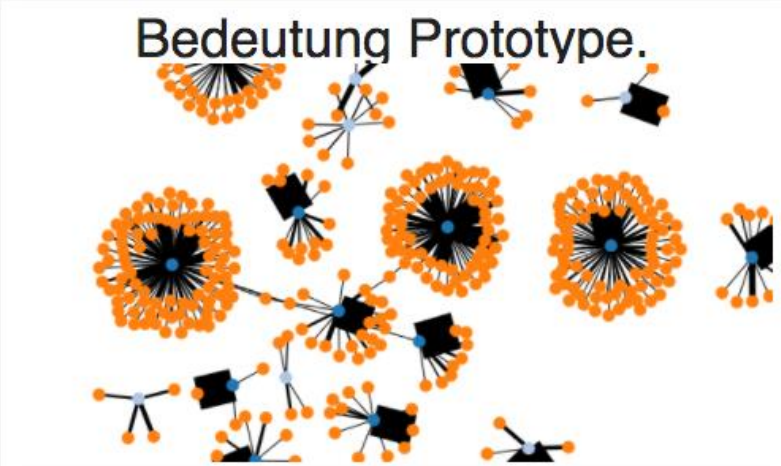
“A dictionary is a lexicographical product which shows inter-relationships among the data”

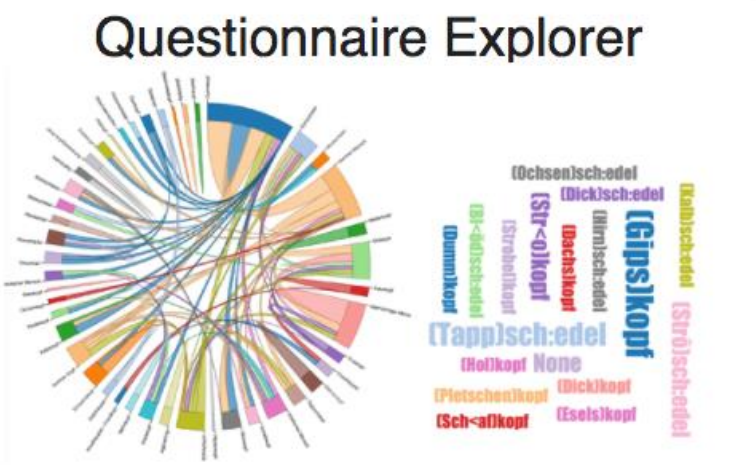
— Sandro Nielsen, The Effect of Lexicographical Information Costs on Dictionary Making

Each micro-prototype explored one or more dimensions



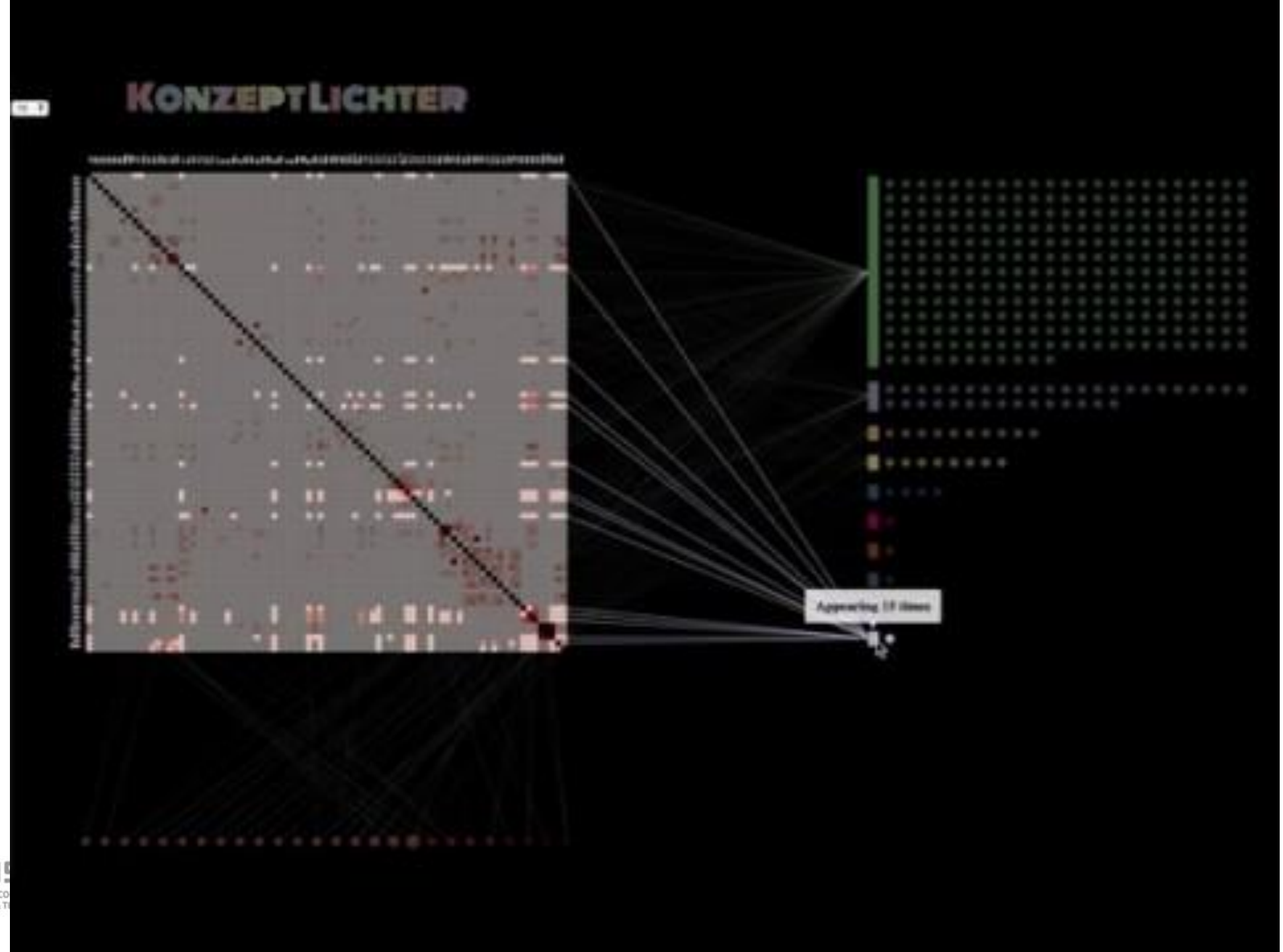
This is a prototype to explore the BD field

1



Multi-view Questioner Explorer.

2


KONZEPTLICHTER

Conclusions

- User-centered design fits well in the Digital Humanities and e-Lexicography in particular.
- Visualization promotes the exchange of ideas and serves as an extra (non-written) channel of communication between different teams.
- In the Digital Humanities, close collaboration may be more important than the technical complexity of proposed software solutions.
- That is why we need to pay attention to information flows.
- Identifying bottlenecks (amount) and miscommunication issues (quality) at early stages is vital for the success of a DH project.

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