



The software of your dreams

expectations and realities
in the use of technology
in music research

Frans Wiering, f.wiering@uu.nl
Charles Inskip, c.inskip@ucl.ac.uk

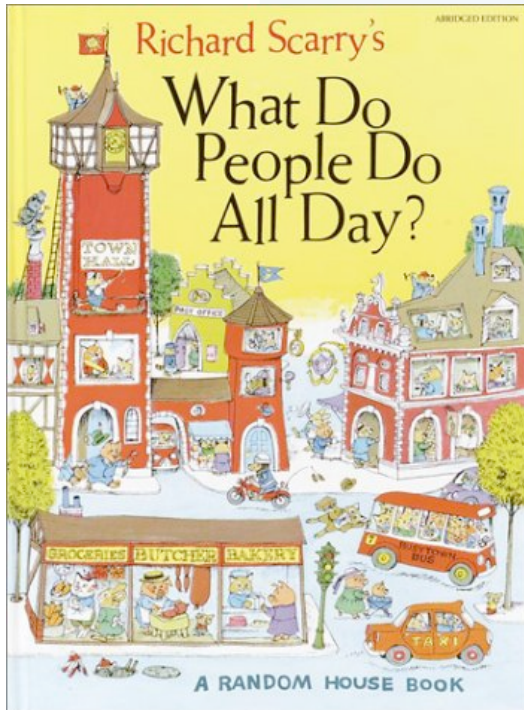


Universiteit Utrecht



UCL

What Do Musicologists Do All Day?



Joint work with Charles Inskip,
University College London

investigates technology adoption in music research

- experiences with technology
- attitudes towards technology
- design guidelines: *Musicology-centred design*



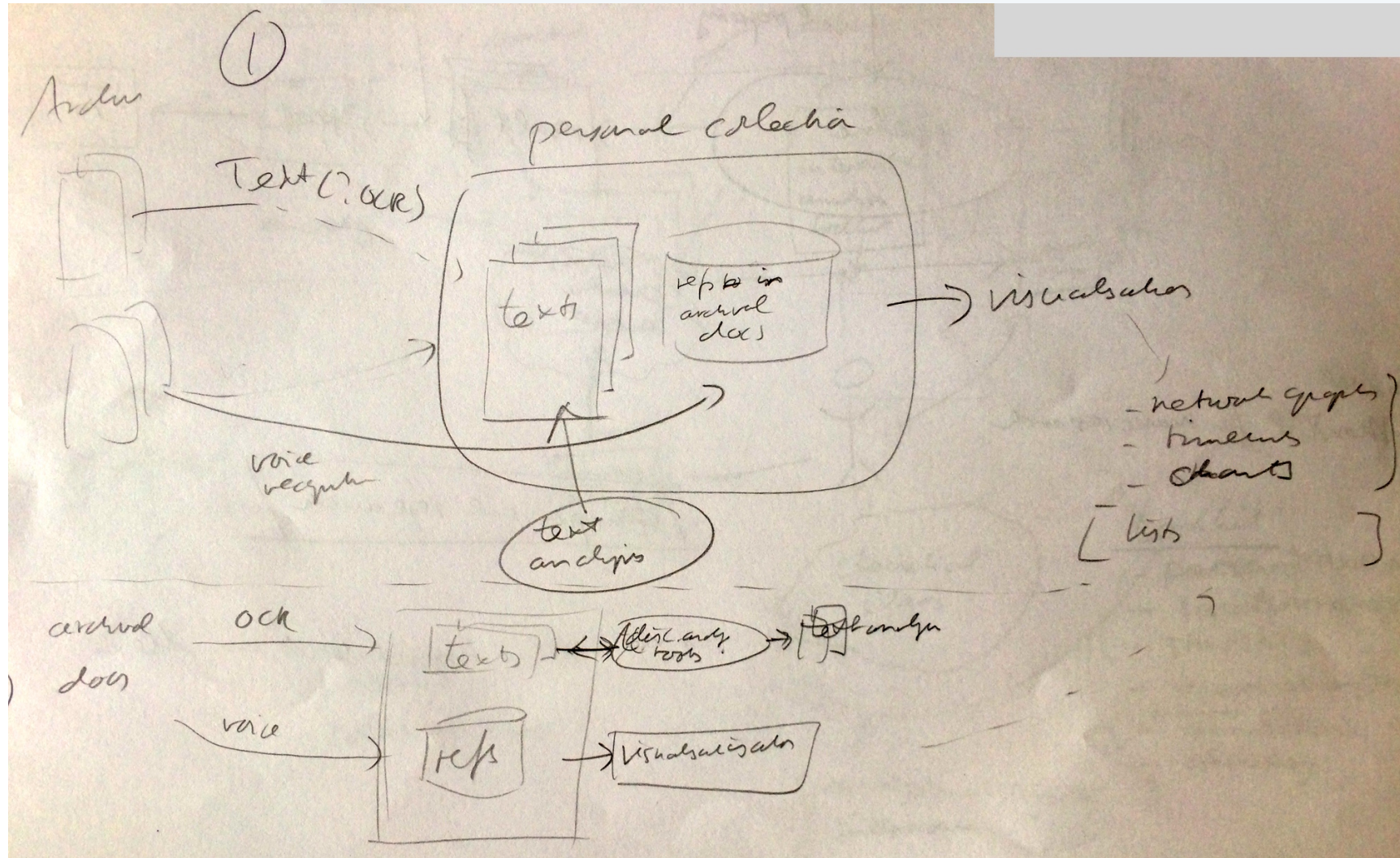
Interviews

- in-depth understanding of individual situations
 - opening question
 - what would the software of your dreams do for you?
 - 15 participants
 - only partial coverage of discipline
- history
 - ME-Ren: 4
 - 18-20th c: 7
 - unspecified: 1
 - library: 4
 - analysis
 - score: 2
 - audio: 1
 - editing: 1
 - ethnomusicology: 1

1-2 options / participant



Individual dream sketch



Dreamed systems

- Unified Deep Access (7)
 - dream: *access*
- Personal Research Cloud (2)
 - dream: *collect*
- Collaborative Source Study (3)
 - dream: *process*
- Empirical Music Research (3)
 - dream: *prove*

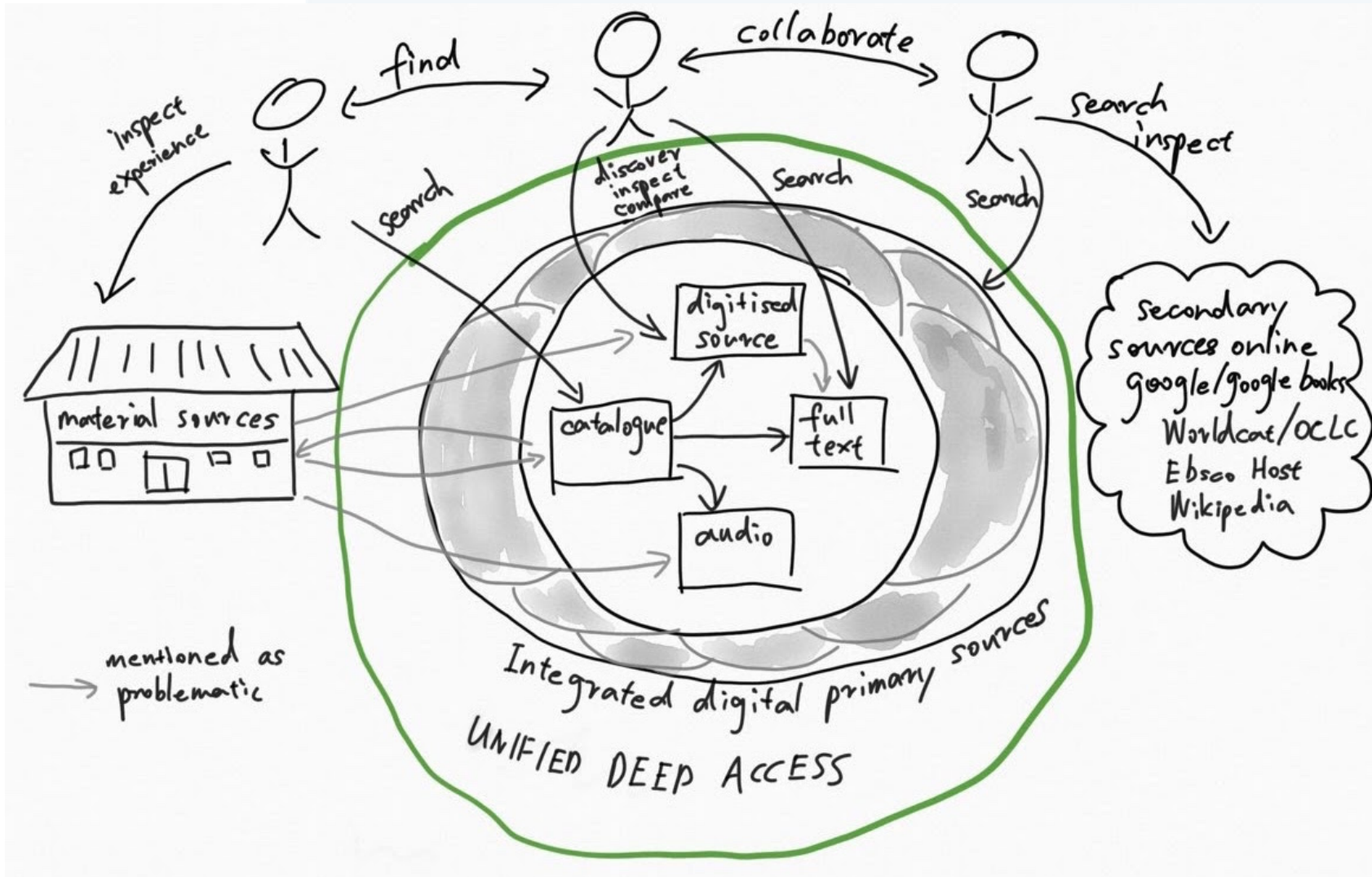


Unified Deep Access

'ok, I want Beethoven's 9th Symphony' and it would immediately find the places, digitally, on the network, that would actually have digital images of that (10)

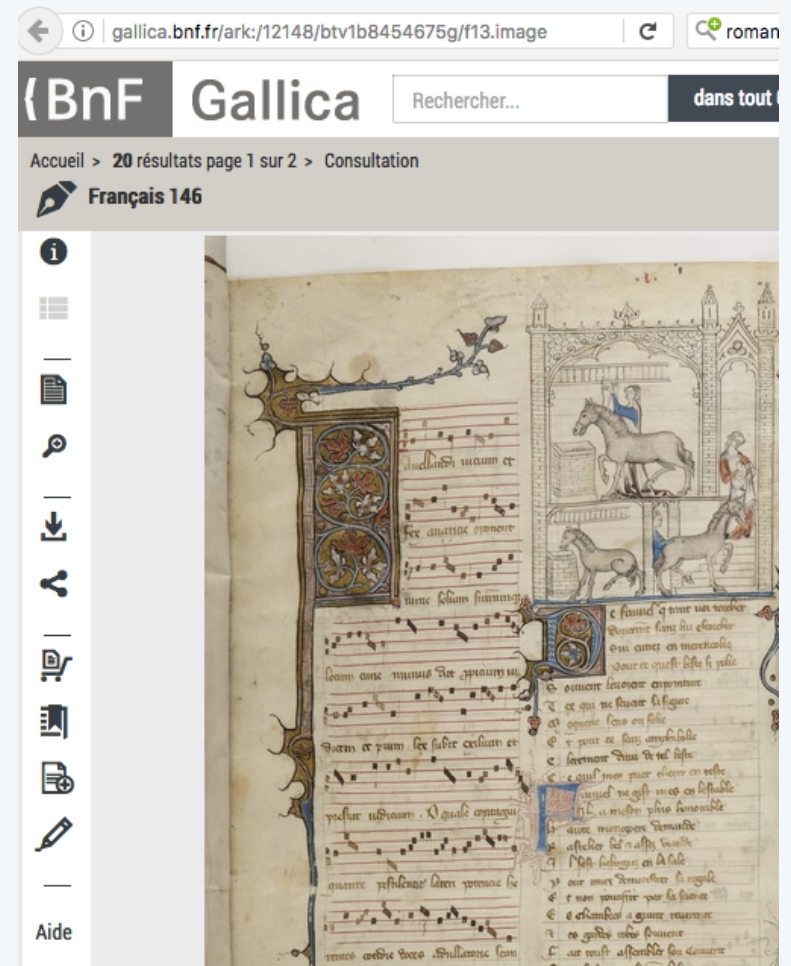


Unified Deep Access: visualisation



Unified Deep Access

- essence
 - discover sources
 - retrieve, inspect, compare
- model: Gallica
- bottlenecks
 - incompleteness
 - deep access to content
 - different tools for each collection
- important properties
 - interoperability, unification
 - relevance
 - invite collaboration
- music-specific features rarely mentioned

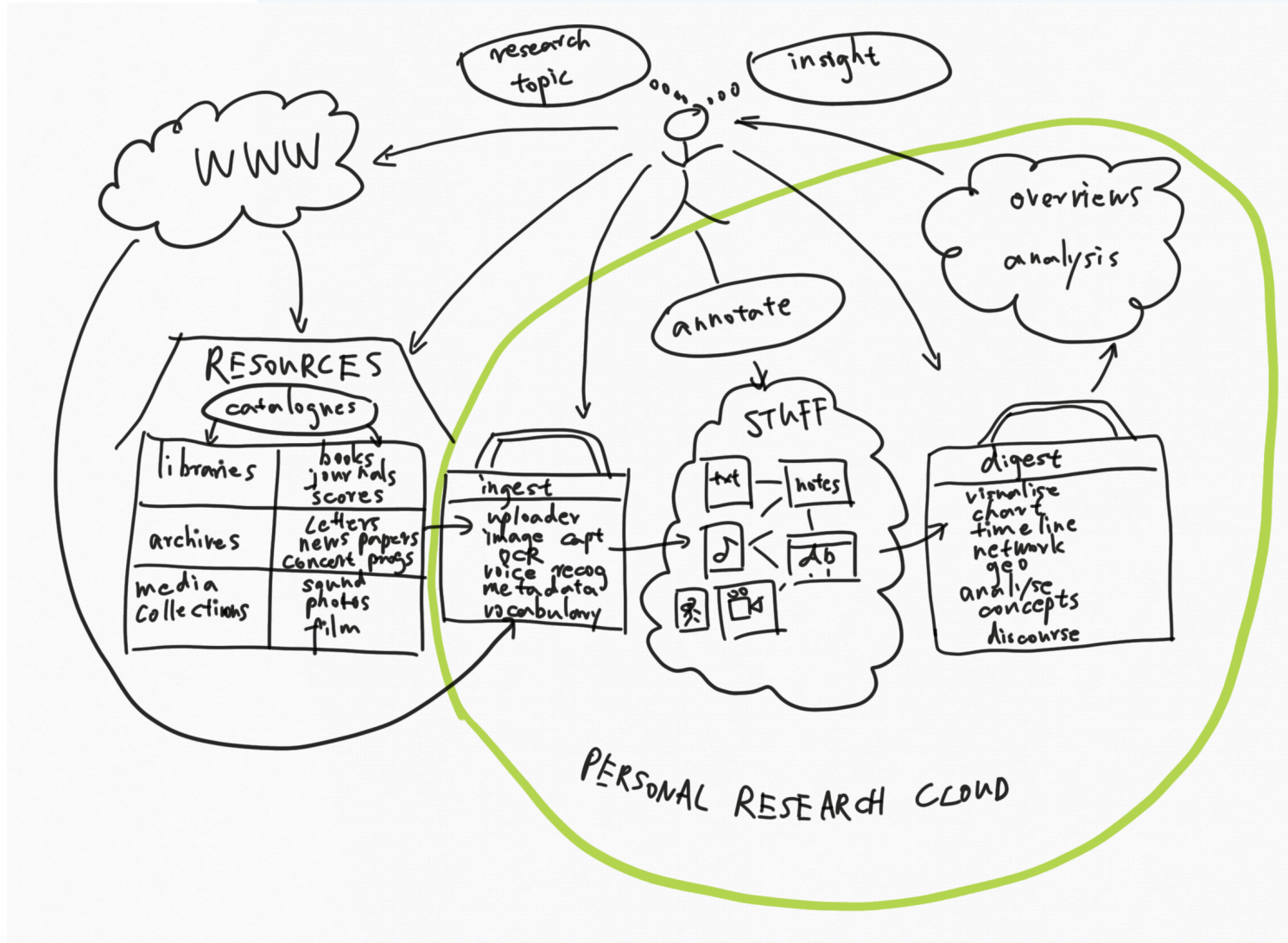


Personal Research Cloud

some kind of suite of applications that were fully integrated... to capture images, but also be able to enter some quick metadata tags... that would allow robust notes... you can easily move things into the cloud and then keep working (12)

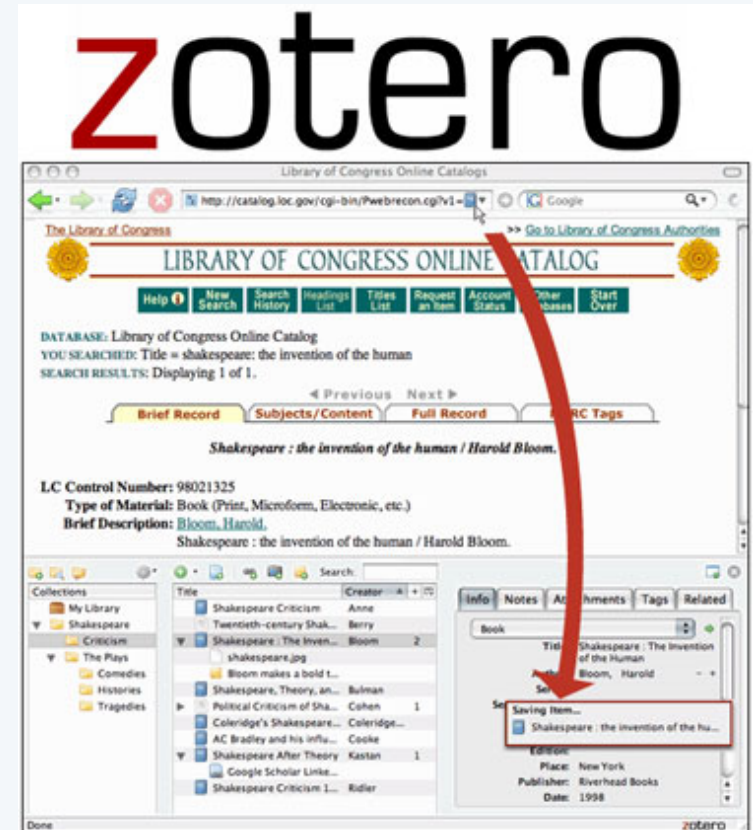


Personal Research Cloud: visualisation



Personal Research Cloud

- essence
 - capture research materials
 - annotate
 - basic analysis
- model: Zotero
- bottlenecks
 - data entry process
 - overview
- important properties
 - lightweight
 - interoperable components
- music-specific features rarely mentioned

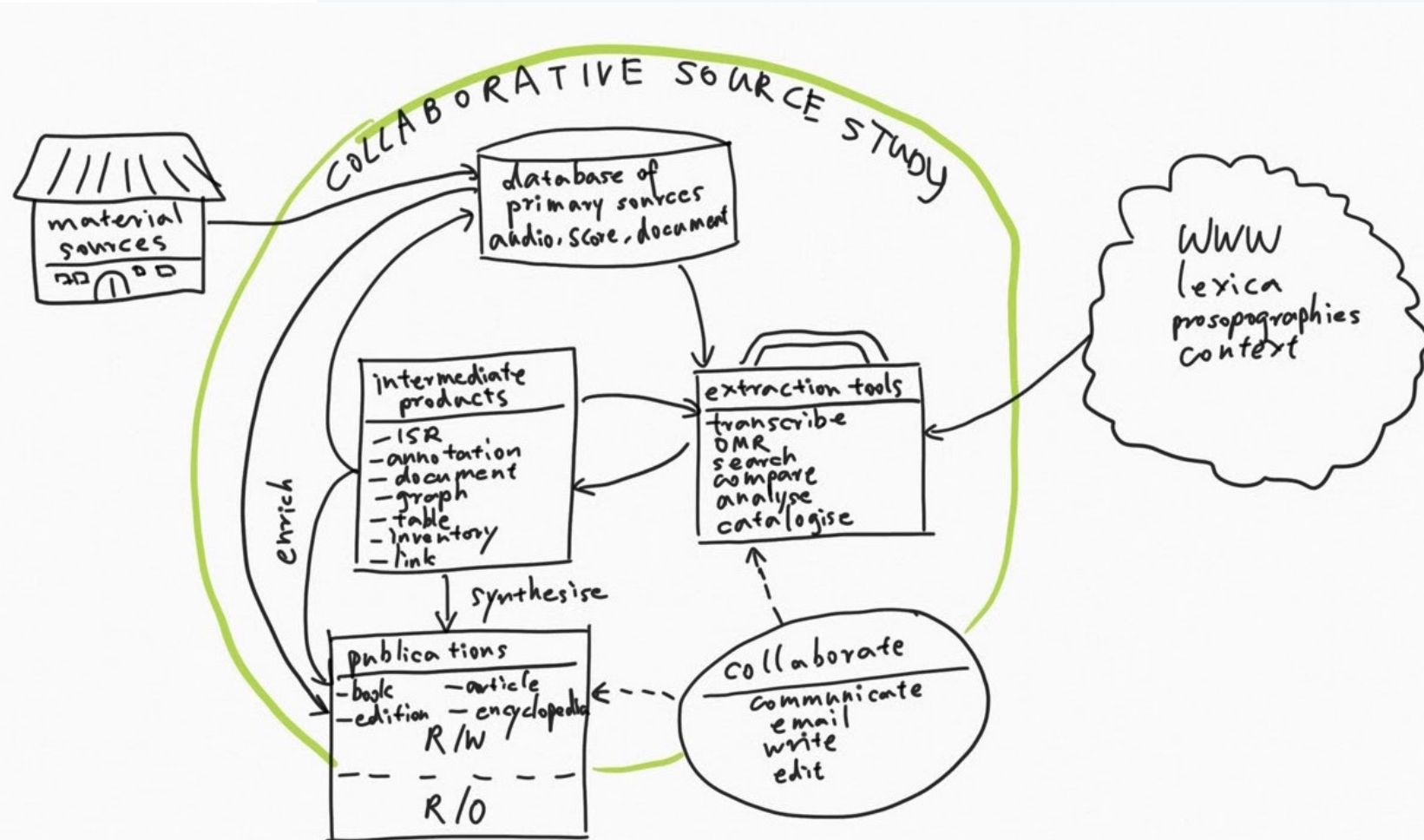


Collaborative Source Study

the ideal... tool where we could have the primary sources, where we could have our writing, where we could include sound and image, so that everything is really centralized. And which can travel with us and eventually parts of it be on line. And that is of course available for a team that doesn't necessarily work in the same space (7)



Collaborative Source Study: visualisation

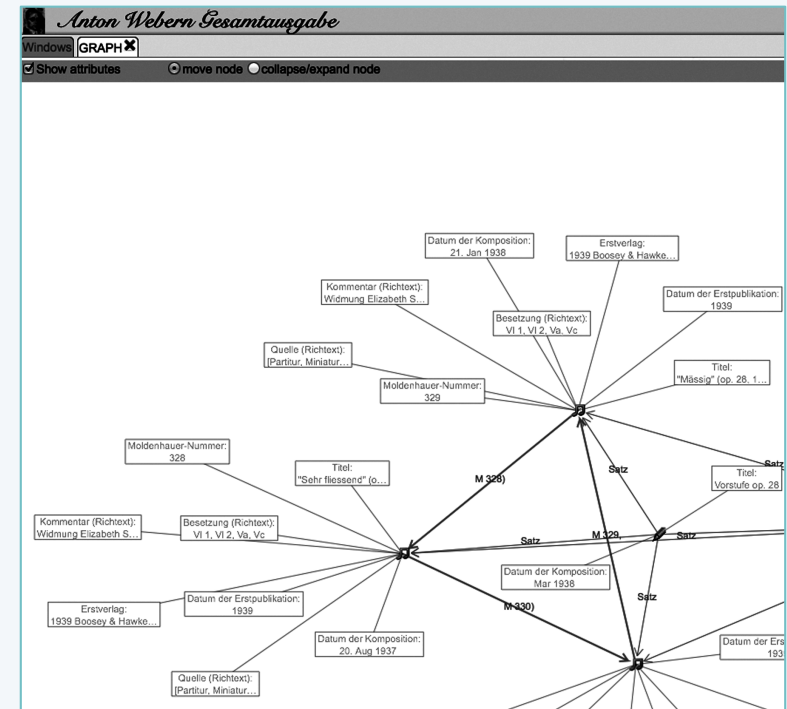


ISR = interoperable score representation



Collaborative source study

- essence
 - pipeline from source to publication
 - extract, annotate, synthesise
- model: Salsah (www.salsah.org)
- bottlenecks
 - multimedia access
 - Optical Music Recognition
 - interchange of musical data
 - workflow
- important properties
 - interoperability
 - freely accessible
 - supports collaboration

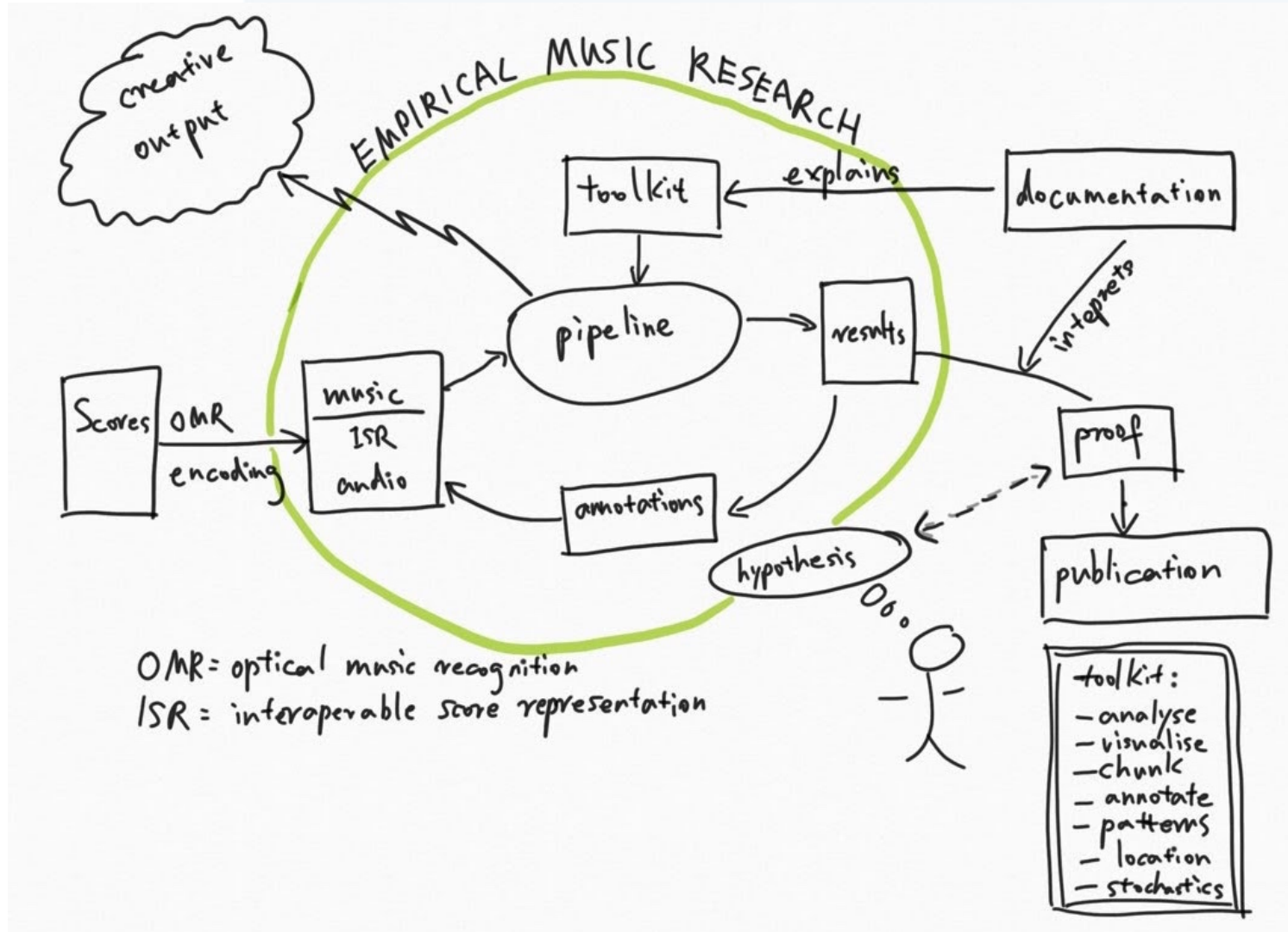


Empirical Music Research

a kind of modular setup where you have different tools but then you want to be able to connect them very easily. So you would have something that would search for repeated patterns patterns in here and then you would also have a visualizer of some kind. (5)

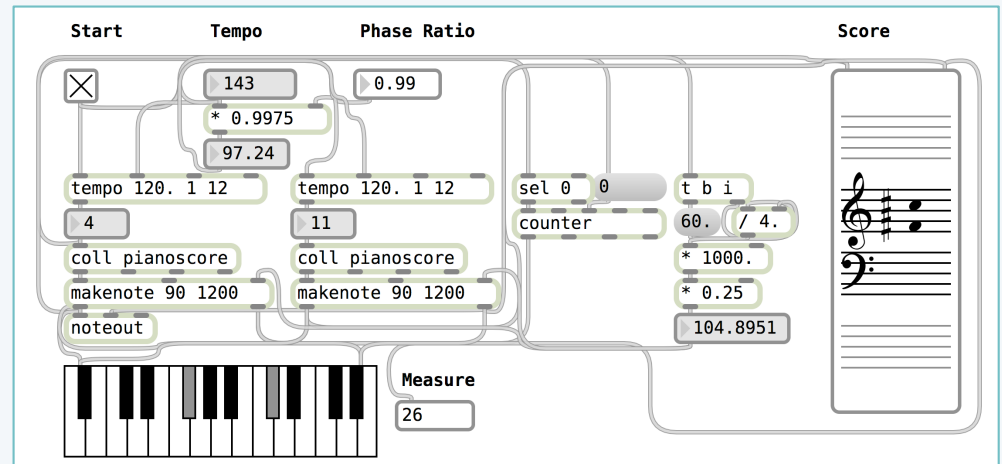


Empirical Music Research: visualisation



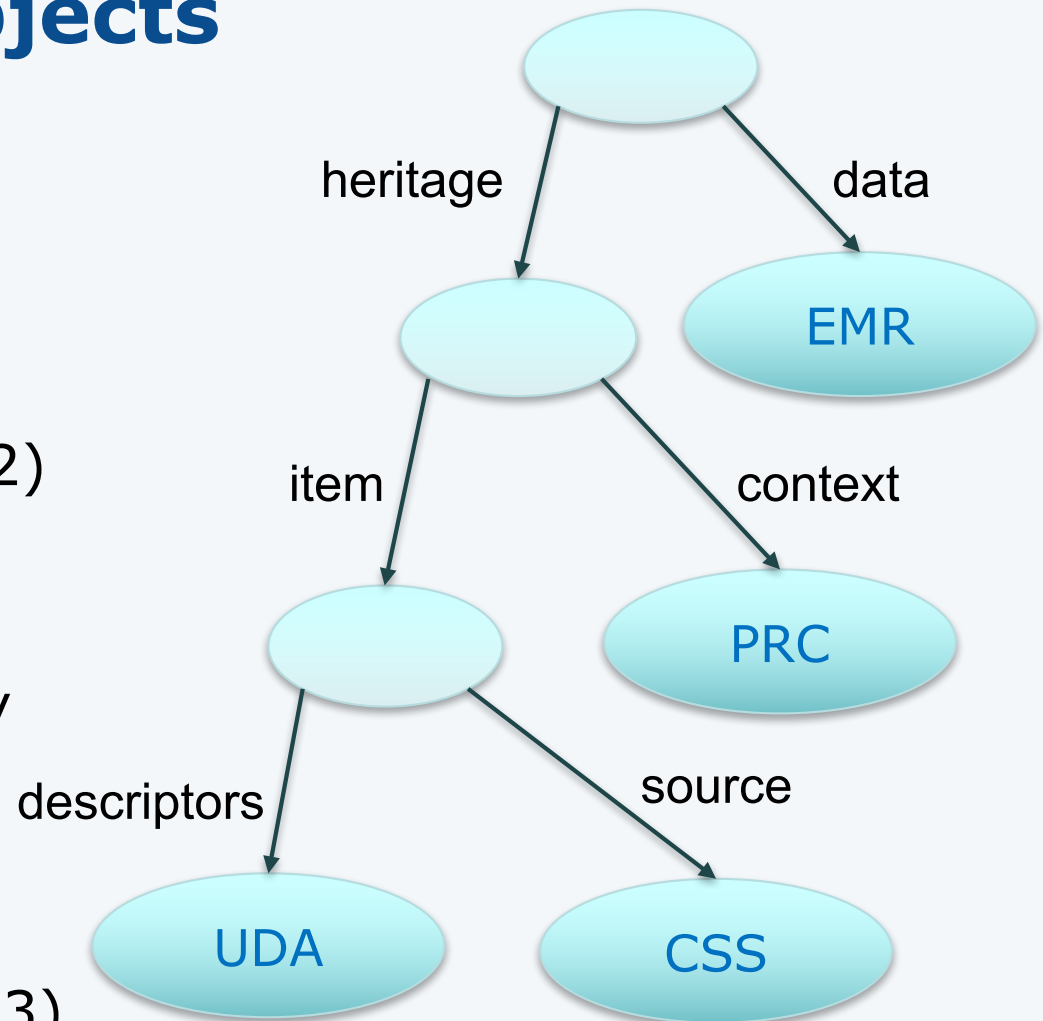
Empirical music research

- essence
 - toolkit for creating analytical pipelines
 - evidence and proof
- model: Max/MSP
- bottlenecks
 - lack of data
 - fit with domain knowledge
 - internal workings of tools
- important properties
 - intuitive
 - transparent
 - connects generic and specific
- closest to MIR research



Digital research objects

- Unified Deep Access (7)
 - dream: *access*
- Personal Research Cloud (2)
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- Empirical Music Research (3)
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Common traits

- respondents envision research environments
 - support considerable part of work process
 - mainly data-centric
- app store model (except in UDA)
 - interoperable tools
 - interoperable data
 - usability
 - transparency
- lack of (suitable) data nearly always mentioned as a problem
- collaboration is often appreciated but also problematic



Conclusions

- dreams reflect daily realities
 - no grand plans for rebuilding musicology
 - reflect experience (and frustration) with existing software
 - bottlenecks and incremental improvements
- four types of dreams
 - there are interrelations
 - more interviews might suggest different typology
- dreams types are abstractions
 - implementing them as they are → fallacy of grand design
 - component level better suited



Implications

- look beyond automatic processing of *musical data* only
 - immense role of contextualisation
 - interactive creation of insight
- tool creation should focus on component level
 - interactive processing, researcher is in control
 - many relevant initiatives already exist
 - adapt, reconsider assumptions?
- disentangle conundrum of interoperability (data, tools) and collaboration



Big data fantasies

- look beyond automatic processing of *musical data* only
 - immense role of contextualisation
 - interactive creation of insight
- the data you need is not going to be there; the data that is there doesn't satisfy your needs
 - the situation is probably best in J.S. Bach research
 - compromise? not necessarily bad
- our big data usually not by-product of other processes
 - we need to create/curate it ourself to a large extent
- funding is hard to get, especially for digitising musical content
 - generally data creation not allowed in research projects



Big data fantasies 2

- important social issues
 - publications not data create reputation
 - informal collaboration culture, optimal (?) for large number of related but separate research projects
- how can we find effective data creation mechanisms that don't presuppose changing the world first?

