UNDERSTANDING USER BEHAVIOR IN DIGITAL LIBRARIES USING THE MAGUS SESSION VISUALIZATION TOOL

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CWI

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Theory and Practice
TPDL
of Digital Libraries

- Digital library with a modern faceted search interface, supporting researchers from different domains

- Professionally curated collections described with (bibliographic) metadata

- Frequently long sessions within the collection: understanding user behavior can help to improve the search system, or prioritize collection management

National Library of the Netherlands

Time   Query   Info (facets, doc id)   Url

Date	Query	Info	URL
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"Sat Oct 3 00:37:29 2015"	↳	'click_id=ddd:011015858:mpeg21:a0221'	https://resolver.kb.nl/resolve?urn=ddd:0 ...
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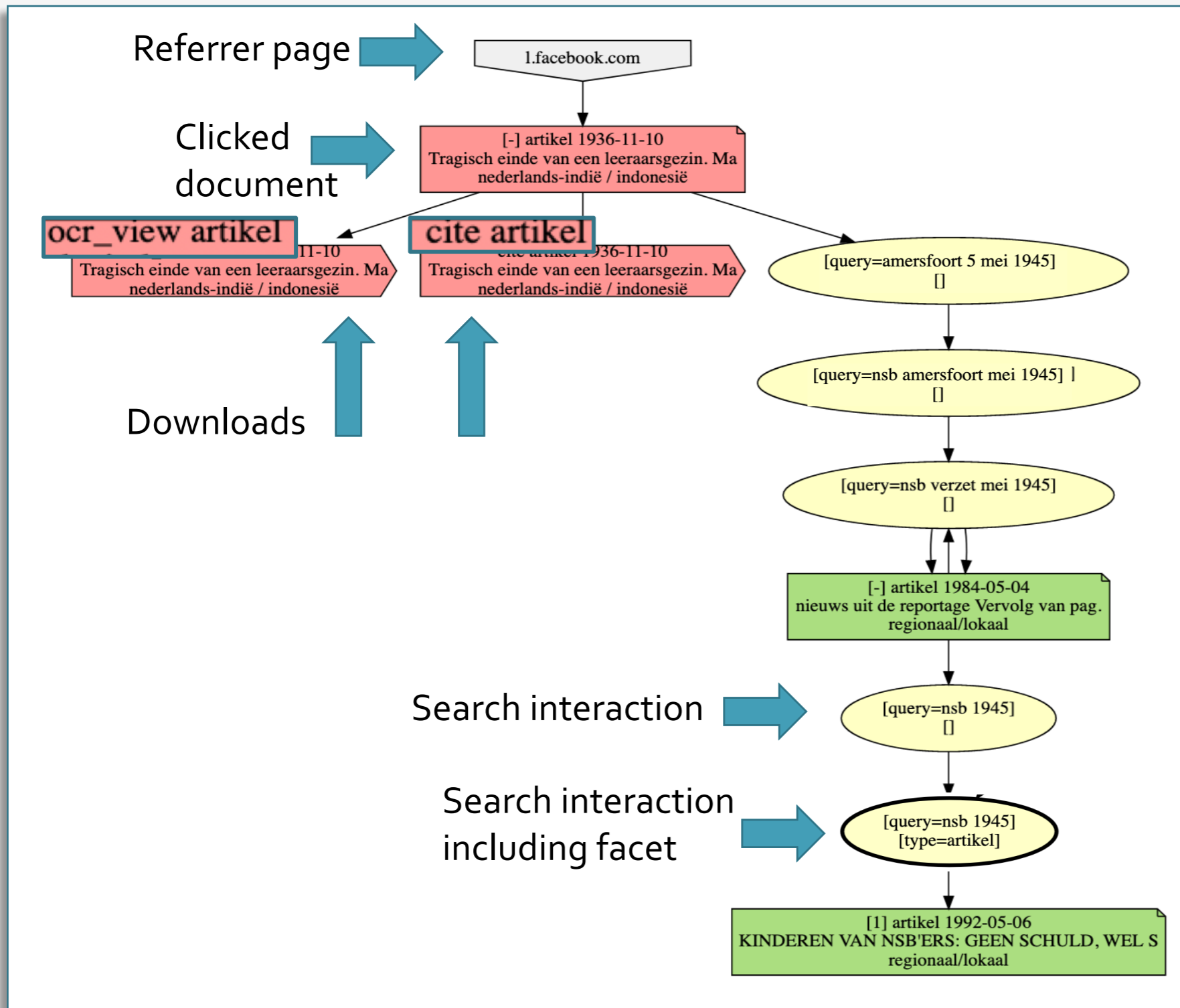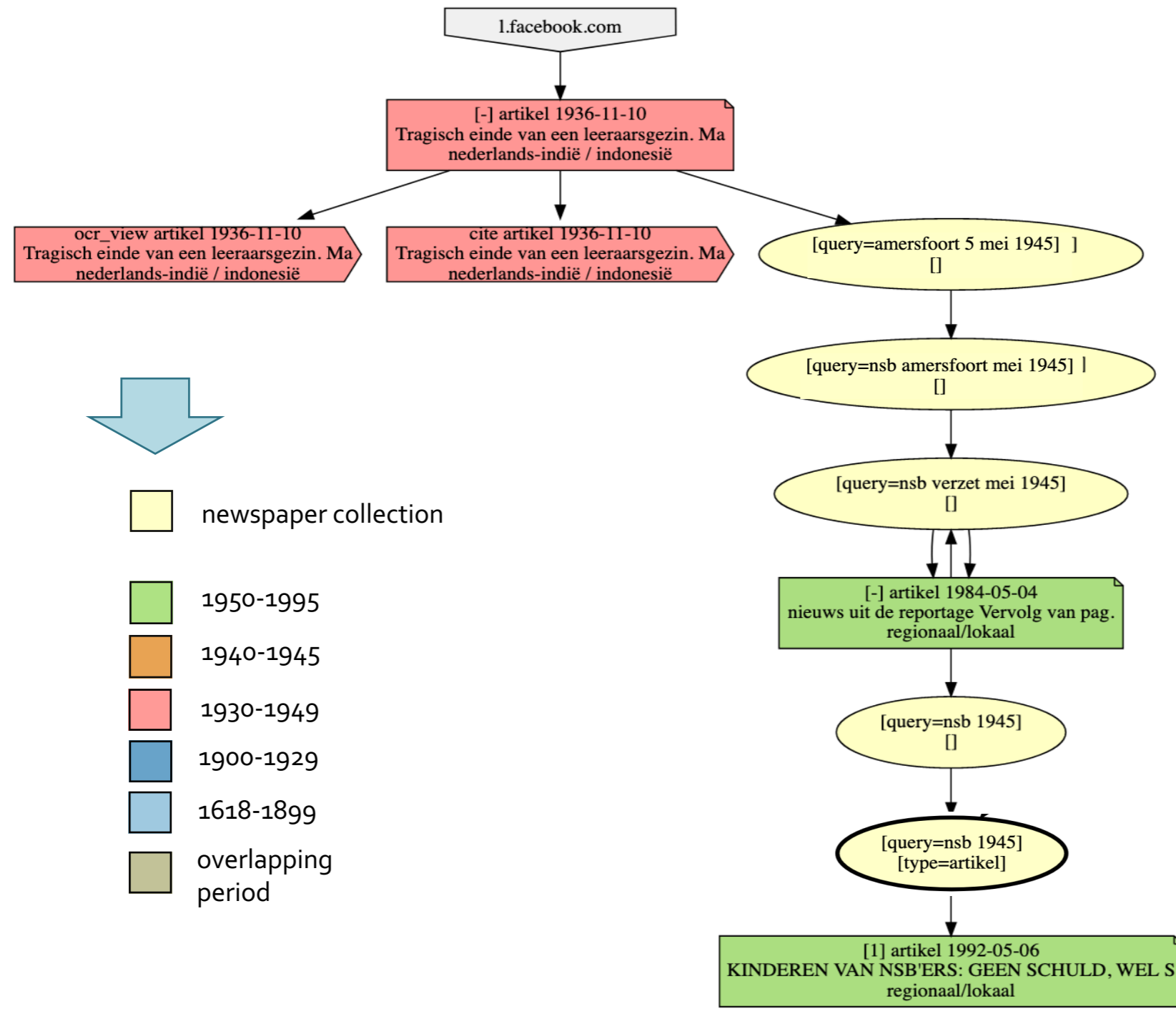*Visualization of a user session in table format*
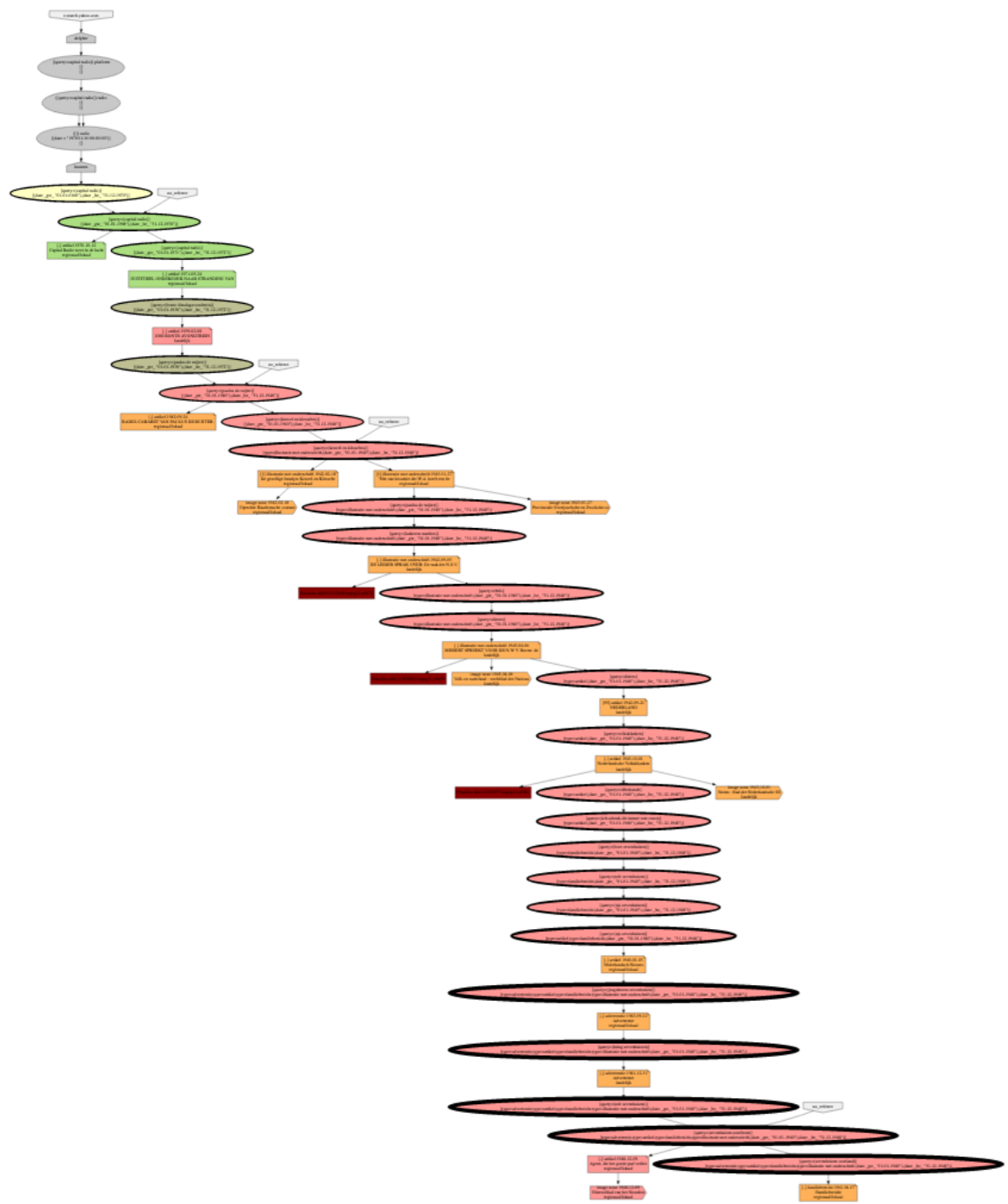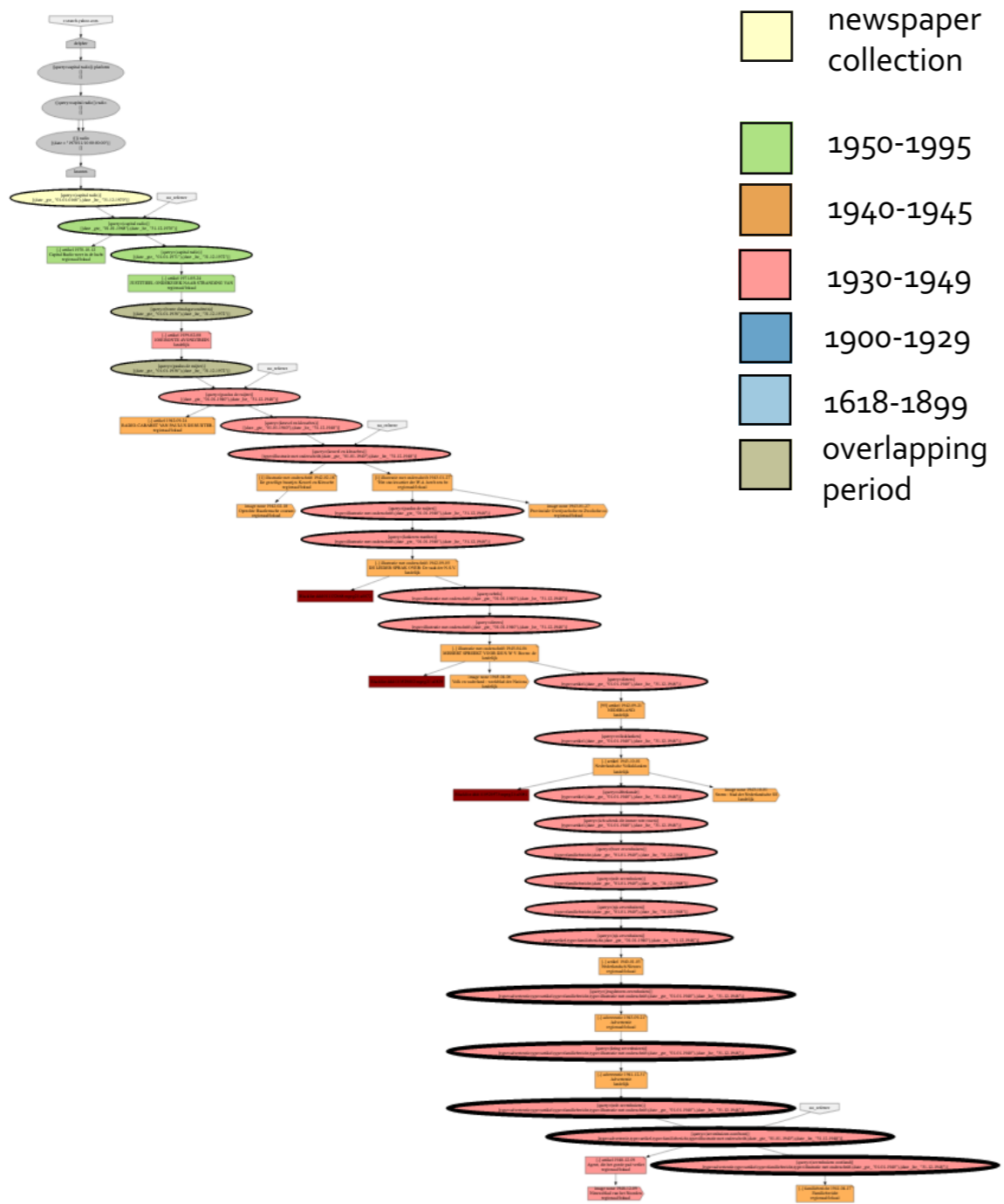
Visualization of the same session with MAGUS

Session visualization with MAGUS

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[-] artikel 1936-11-10
Tragisch einde van een leeraarsgezin. Ma
nederlands-indië / indonesië

11-10
Tragisch einde van een leeraarsgezin. Ma
nederlands-indië / indonesië

cite artikel 1936-11-10
Tragisch einde van een leeraarsgezin. Ma
nederlands-indië / indonesië

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regionaal/lokaal

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KINDEREN VAN NSB'ERS: GEEN SCHULD, WEL S
regionaal/lokaal

Session visualization with MAGUS

Session visualization with MAGUS

newspaper collection

1950-1995

1940-1945

1930-1949

1900-1929

1618-1899

overlapping period

Session inspection at a glance with MAGUS

Time   Query   Info (facets, doc id)   Url

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Session inspection using a table
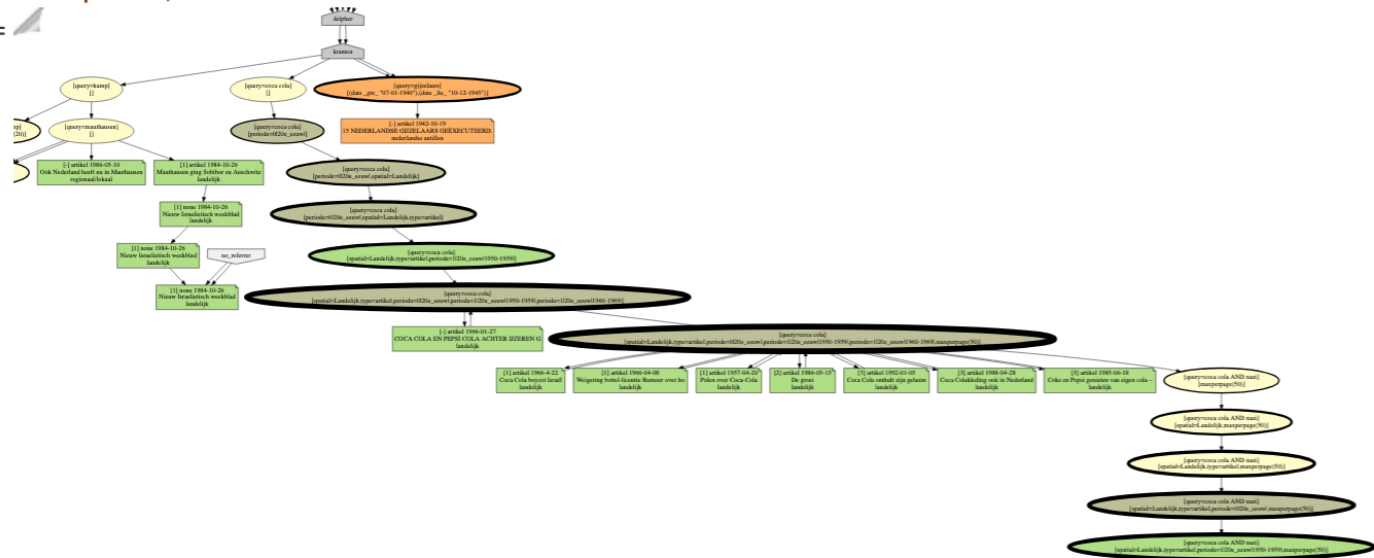
Online demo of MAGUS

Evaluating MAGUS

1. Identify information needs
   assess if one of the information needs of the user is to find documents about a topic directly related to WWII

2. Distinguish between struggling or exploring search
   assess whether the user was struggling or exploring

3. Describe a clustering of sessions
   provide fitting labels and descriptions for four clusters of sessions, by inspecting four sessions per cluster

Three research tasks

- Comparison with the table representation
- 12 Participants with professional backgrounds: humanities scholars, library professionals, media professionals
- Activity logging, standard questionnaires, manual annotation of free-text answers

- How easy is the session inspection using MAGUS?
- Are the answers better?

User study

MAGUS:

- More arguments when using MAGUS

- More focus on the (bibliographic) metadata and use of search techniques

Table:

- More focus on user query

Argument analysis free-text participants
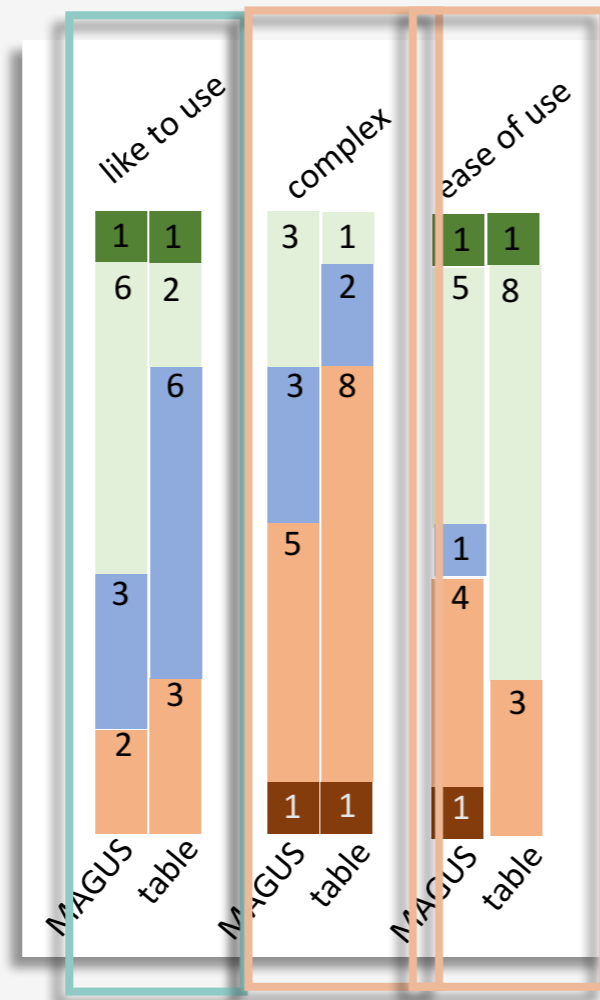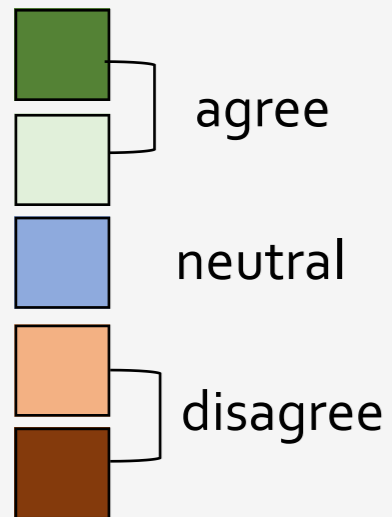
Usability testing of MAGUS vs table format

- MAGUS enabled participants to identify the part of the collection a user is interested in

- MAGUS helps to distinguish different types of search behavior

- MAGUS is a bit more difficult to use than the table, even though the participants do like the tool

In the words of one of the participants, **MAGUS**
"offers the possibility of a clear overview, but also a way to zoom in to details."

Conclusions

Acknowledgements

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by Tessel Bogaard, Jan Wielemaker, Laura Hollink, Lynda Hardman, Jacco van Ossenbruggen