


## Search Path Visualization and Session Performance Evaluation with Log Files from The European Library (TEL)

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1



## Definition of Performance

- Success
  - available\_at, see\_online, etc.
- Failure
  - none of the actions above
- Strong failure
  - none of the actions above and no view\_full


2/10



## Methods

- Qualitative approach
  - Interactive data visualization
  - Enable visual data mining
- Quantitative approach
  - Relative frequencies of performance levels
  - Three different aspects (e.g. number of interactions)


3/10



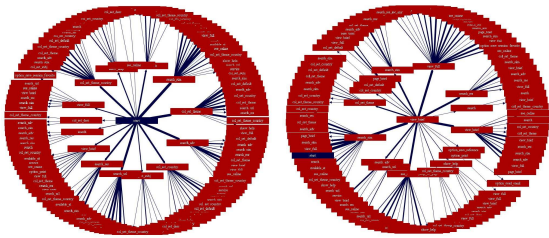
## Search Path Visualization

- Aspects
  - Frequency
  - Three levels of performance
- Sample
  - All TEL users
  - Eight countries (de, es, fr, gb, it, nl, pl, us)


4/10



## Example – Success



5/10



## Results – Qualitative Analysis

Most frequently used search path

| action | pattern A  | pattern B  |
|--------|------------|------------|
| 1      | search_sim | search_sim |
| 2      | view_full  | view_full  |
| 3      | view_full  | view_full  |
| 4      | view_full  | search_sim |
| 5      | view_full  | view_full  |
| 6      | view_full  | view_full  |
| 7      | view_full  | search_sim |
| 8      | view_full  | view_full  |
| 9      | view_full  | view_full  |
| 10     | view_full  | search_sim |

- Pattern A
  - gb, nl, it, es and pl
- Pattern B
  - de, fr and us

6/10

## Relative Frequencies



- Levels of performance in relation to ...
  - Number of interactions
  - Usage of advanced search
  - Session duration
- Calculation
$$\frac{\text{number of sessions}}{\text{total number of sessions}}$$

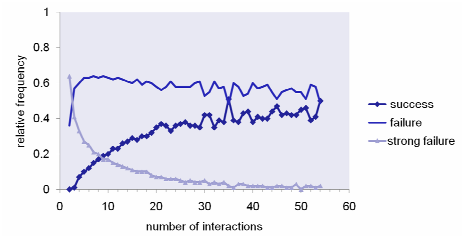


7/10

## Results – Quantitative Analysis



Performance levels in relation to number of interactions  
(all TEL users)

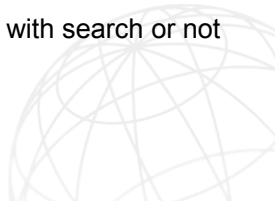


8/10

## Conclusion and Outlook



- Evaluating user performance is possible
- Further research on search patterns
- Further research on 60% failure
- Include if session ends with search or not



9/10