

NAVIGATING AN ONLINE BOOKSTORE:

User experience insights from eye-tracking and
think-aloud

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02

Context

PROJECT

Use of eye-tracking for evaluation and design of bibliographic information systems

- obtained data
- user behaviour
- evaluation and design
- comparison/complement to other research method

Context

PREVIOUS STUDY:

eye-tracking + UX questionnaires

digital libraries

delegated task



intuitiveness of the homepage, search box
& emotions, perception of hedonic qualities



04

Aims

EXPLORATORY SEARCH

FICTION LEISURE

READING

EYE-TRACKING +

THINK-ALOUD

How do users navigate an online bookstore and make a selection?

How do user interface elements in an online bookstore impact user experience?

What influences the user experience when browsing in an online bookstore?

Literature

Finding and selecting a "good book"

- poor support of exploratory & serendipitous discovery in online bookstores, library catalogues
- looking for: genre, mood, elicited emotions, interesting characters, literary style, setting, ...
- close examination of results and book metadata instead of query-based searching
- exploration of taxonomies for description, retrieval and organisation of fiction
- metadata to support searching and selection of novels

Eye-tracking & book searching

- eye-tracking potential: subconscious actions, difficult to notice and verbalize
- inconclusive findings: focus on titles and descriptions vs. covers and navigation
- quick judgement of uninteresting books, most time needed to evaluate somewhat (but not very) interesting books

User experience

What influences the UX during exploratory search for novels?

Potential connections between user experience (emotions, perceptions) and the organization of information in an online bookstore?

Lee & Koubek (2010): Content organisation, navigation system, and visual organisation influence user's preference of an online bookstores

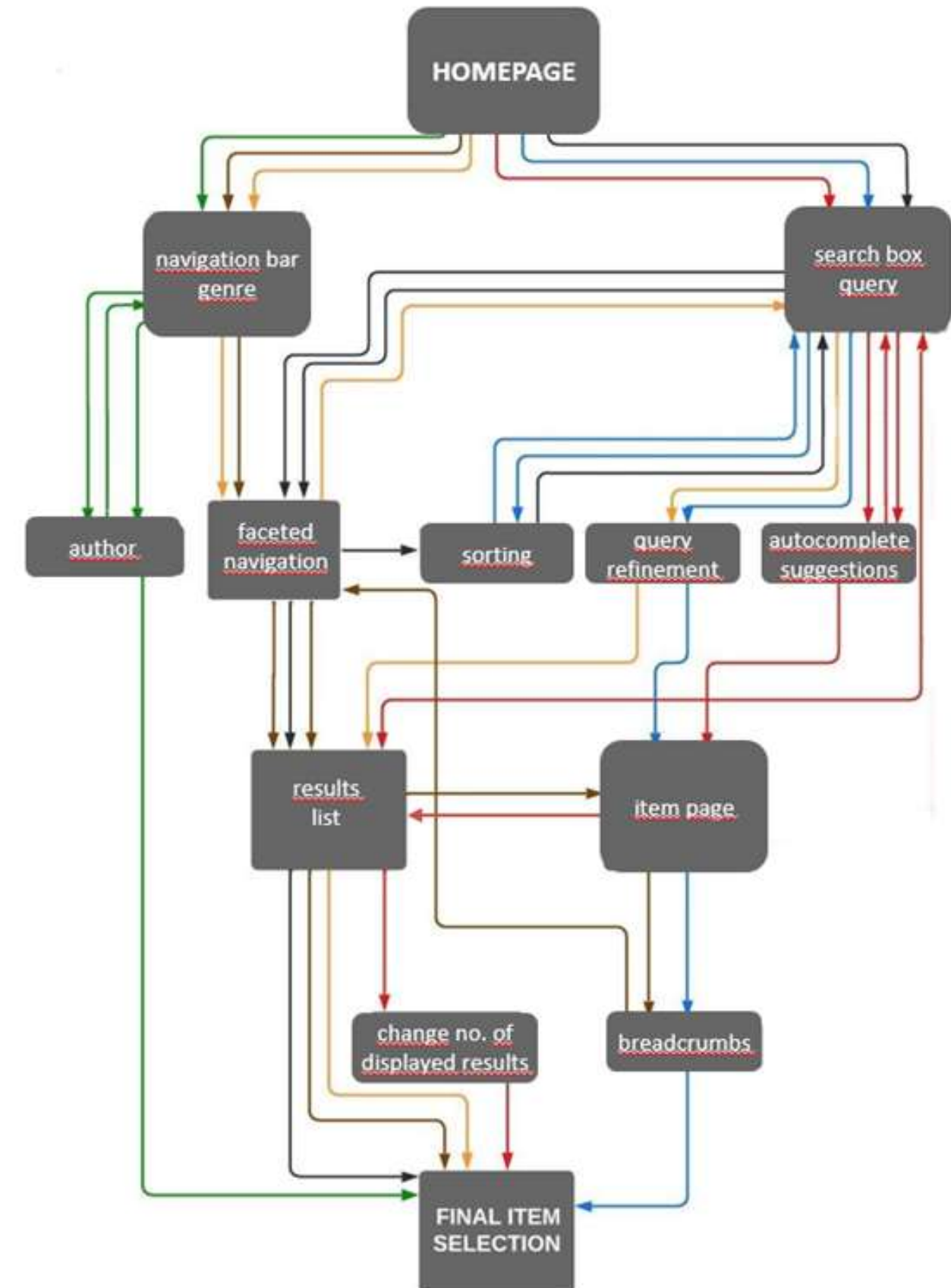
Methodology

Data collection	Analysis
<ul style="list-style-type: none">• autumn 2021• snowball sampling• 33 volunteers• Slovenian online bookstore• two open-ended tasks<ul style="list-style-type: none">◦ leisure book◦ search by analogy for a birthday gift• collected data:<ul style="list-style-type: none">◦ screen recording,◦ gaze,◦ concurrent think-aloud (CTA)• recordings, suitable for analysis:<ul style="list-style-type: none">◦ screen recording - 31◦ eye-tracking - 26◦ CTA - 20	<ul style="list-style-type: none">• user paths• gaze metrics• content analysis of CTA:<ul style="list-style-type: none">◦ open coding◦ refinement of codes◦ 4 main categories <div style="border: 2px solid orange; padding: 5px;"><ul style="list-style-type: none">● Code System> ● Interface features> ● Metadata> ● User experience> ● User tasks</div> <ul style="list-style-type: none">◦ MAXmaps:<ul style="list-style-type: none">■ visual representations of connections between the codes (> 5x)■ exploration of potential influences on UX

Results

Navigation & Selection

use of queries: despite the exploratory nature of the tasks, participants typically interacted with the search box multiple times (start search, change or refine query)



Results

Navigation & Selection

browsing: navigation bar

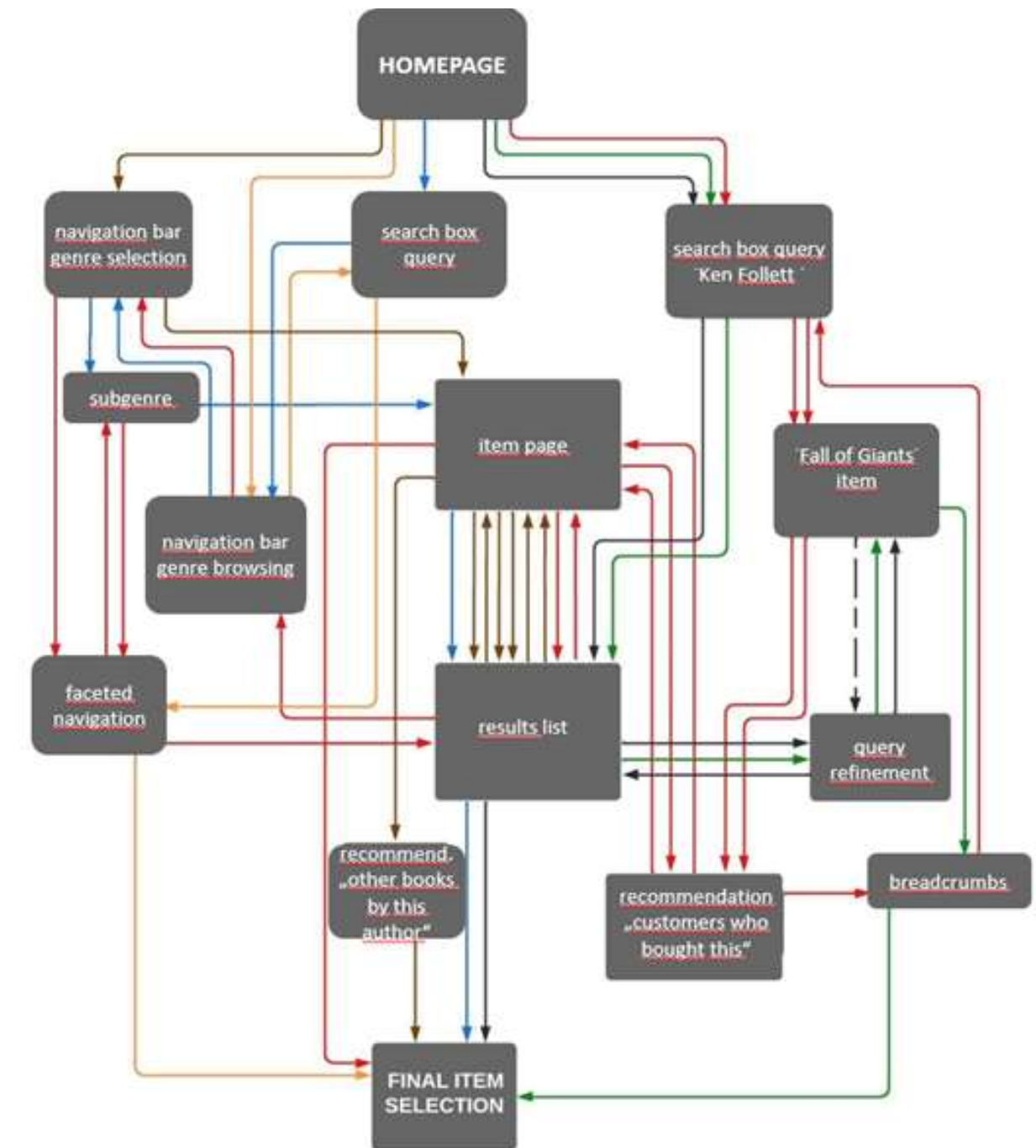
- categorization perceived as strange, inconsistent
- high time to first fixation, low visit duration

faceted navigation & recommendations

- seen as potentially useful, but received limited use - rarely led directly to an item selection
- poor implementation of the features

result:

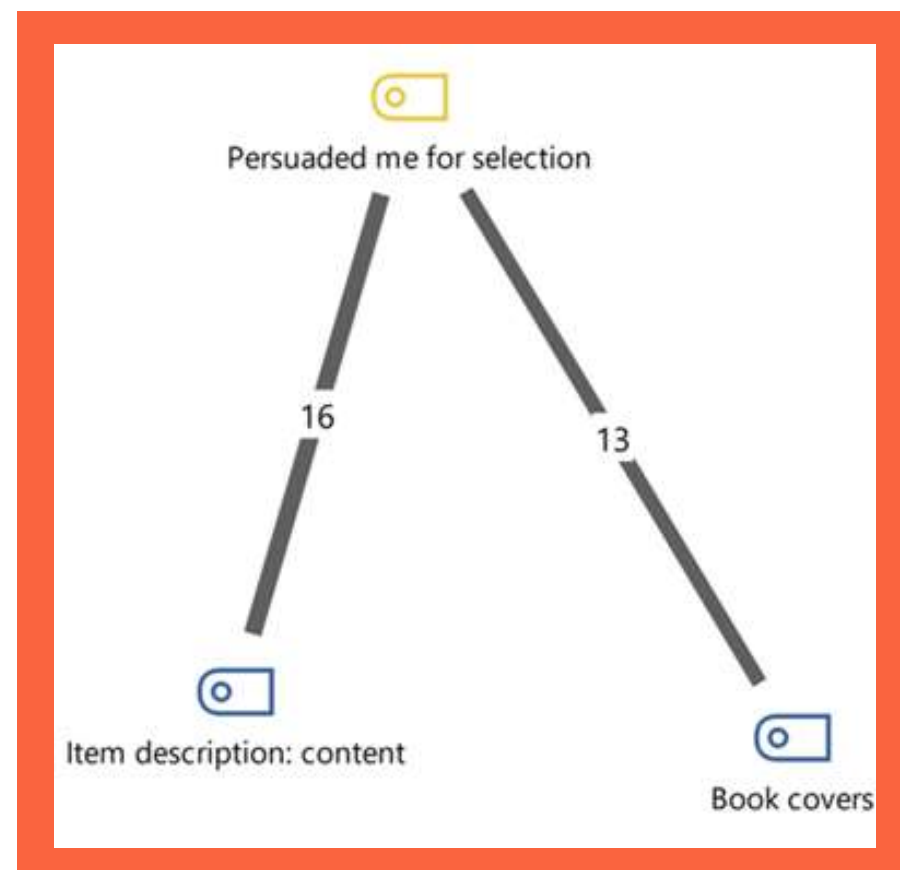
- difficult to find what they had in mind
- lower trust in the system
- search queries seen as more reliable



Results

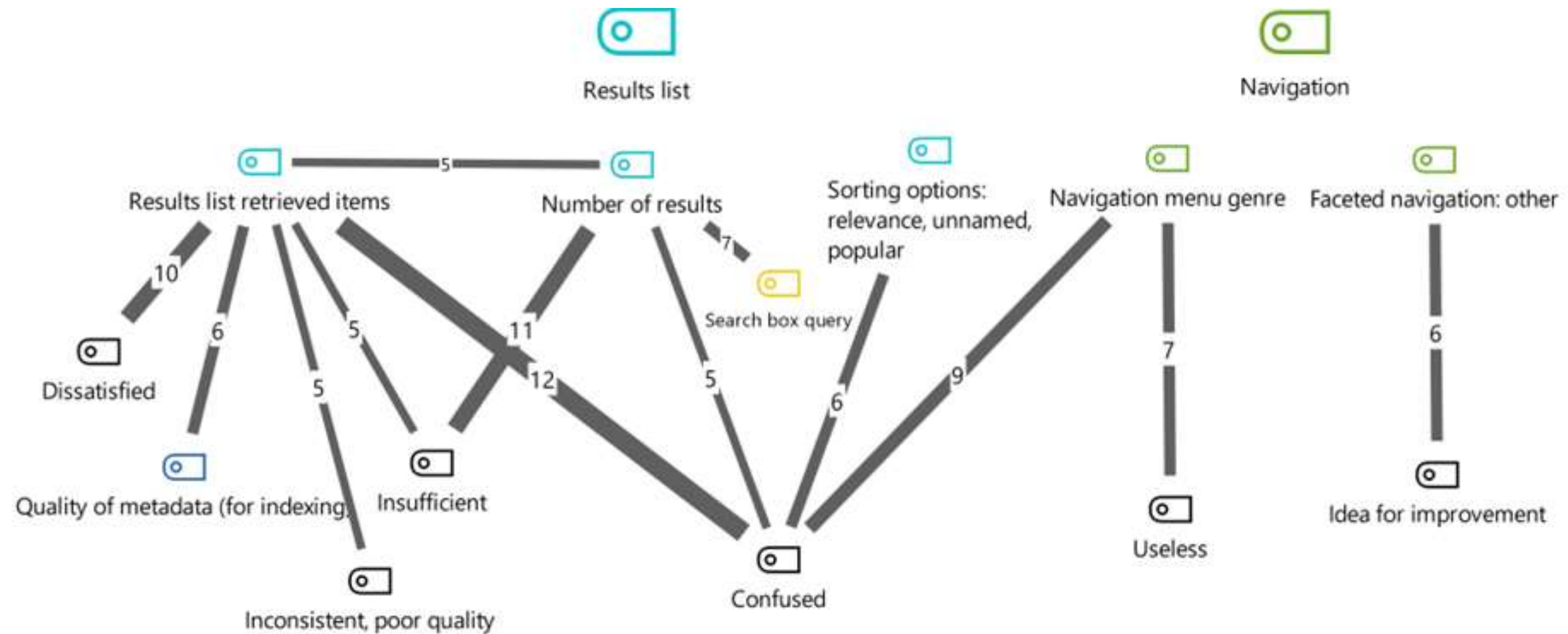
Navigation & Selection

metadata: results list - fixation duration:
cover images > title, price > star ratings



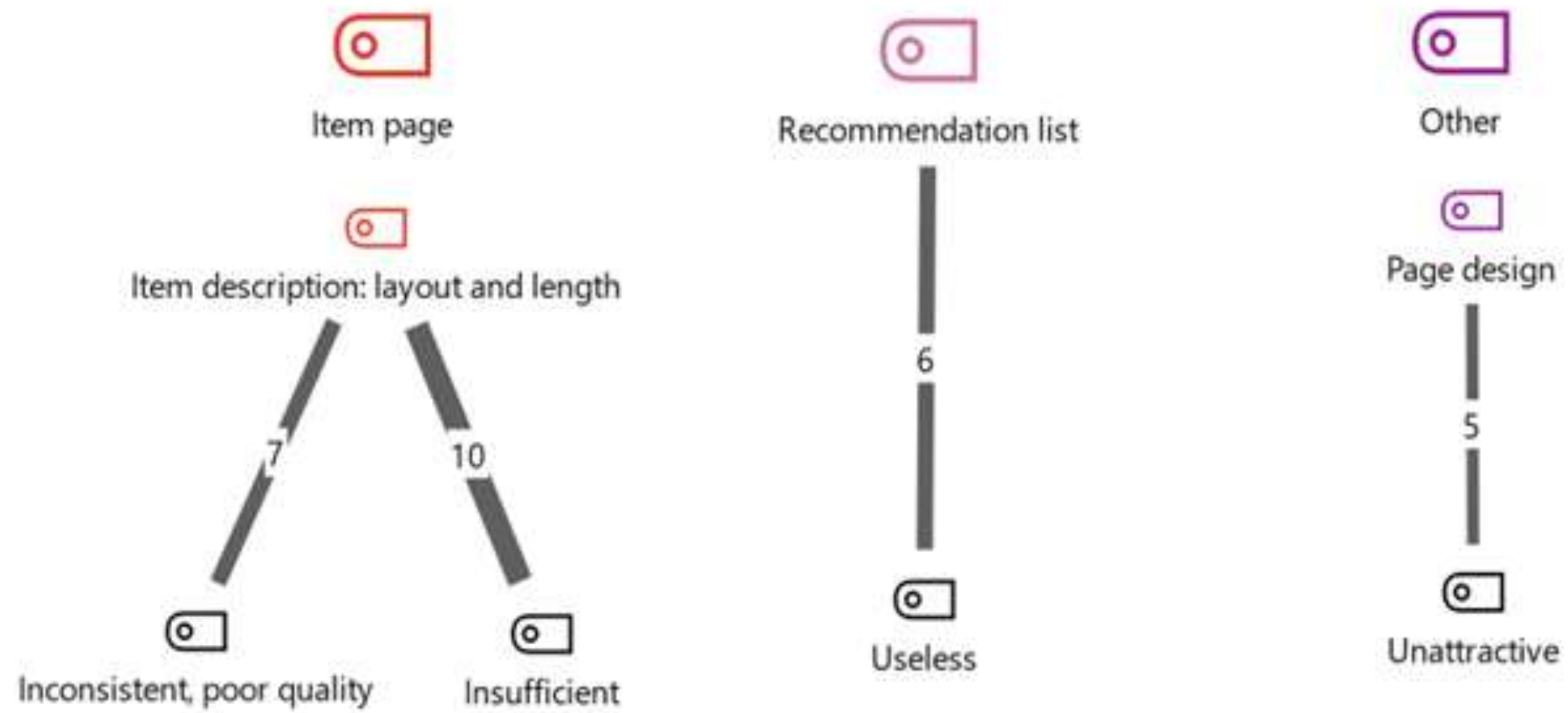
Results

User Experience: emotions & perceptions of **UI elements**



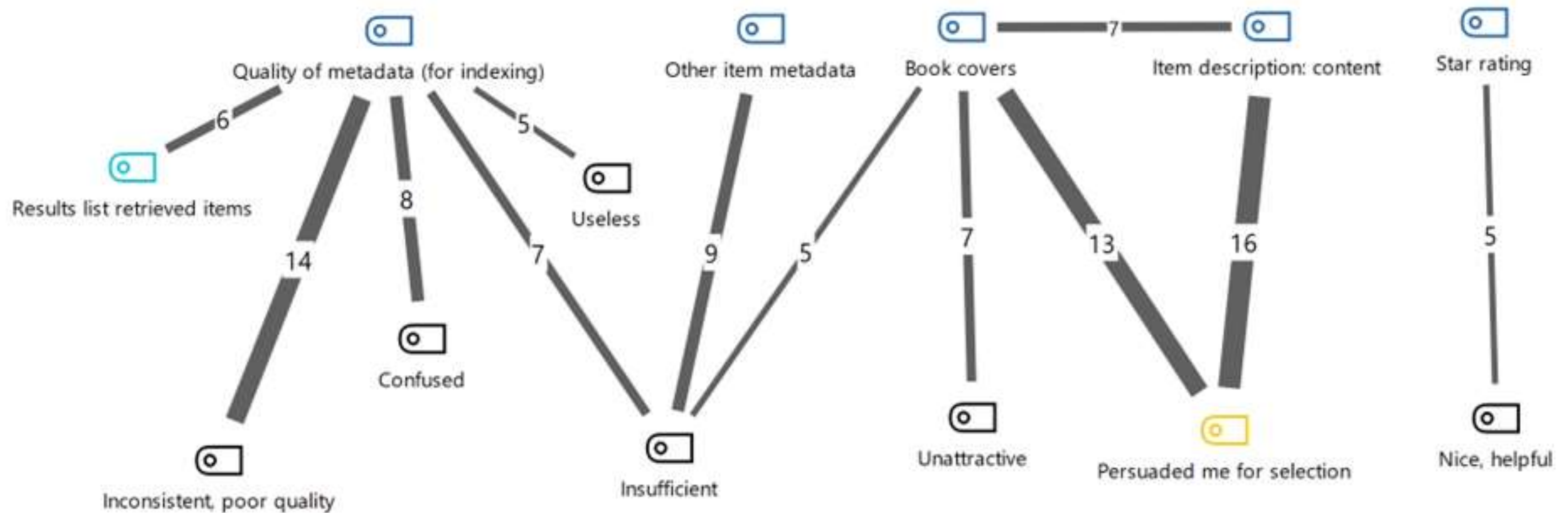
Results

User Experience: emotions & perceptions of **UI elements**



Results

User Experience: emotions & perceptions connected to metadata



Conclusion



findings limited by the constraints
(available metadata, functionalities) of
the tested online bookstore

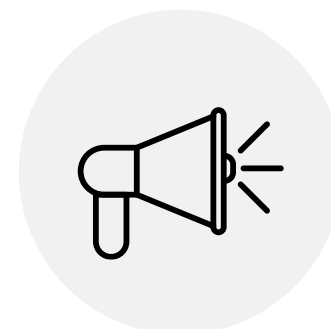


limited browsing possibilities

→ use of queries



difficulties analysing exploratory search
comments essential for interpreting
observations and understanding UX



key role of high-quality, rich metadata and good
taxonomy to support finding and selecting "a good
book" and create a positive user experience

Thank you!

Questions?

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