Searching or conversating?

Insights for media archivists from a web search engine study

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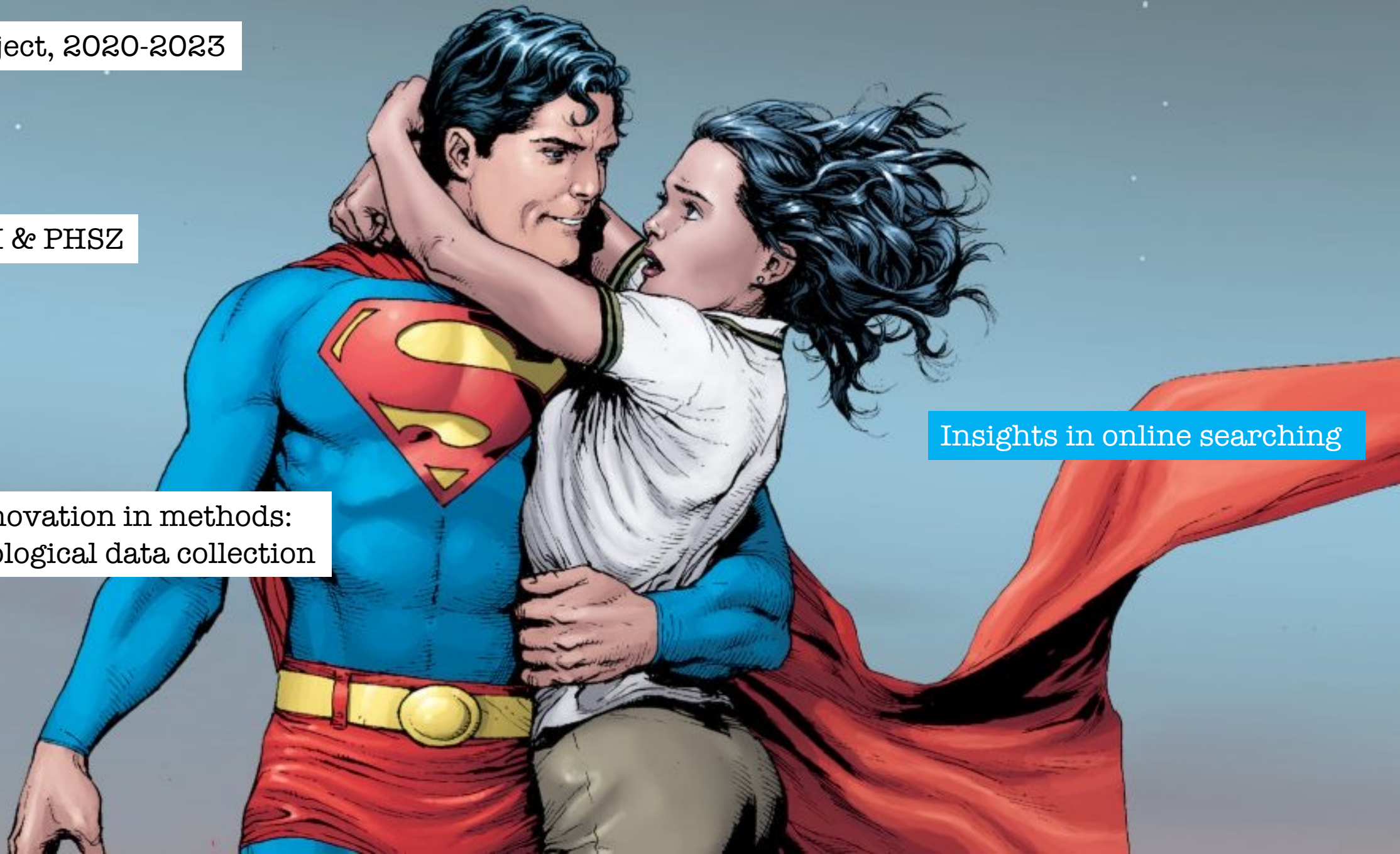
SUPSI & PHSZ

Insights in online searching

Innovation in methods:
ecological data collection



DON'T YOU DARE PUNCH OUT CHARLIE! HE'S THE REASON WE KNEW ABOUT THE UNDERWORLDERS' SCHEMES!
WE DID?
SURE! YOU'RE HERE, AREN'T YOU? WELL, CHARLIE'S OUR INFORMANT!

magic

easy

commodity

fast

opaque

ubiquitous

necessary

a new form
of power

Search Engines & Archives

The ability to
recognize when information is needed
and to locate, evaluate and use effectively
the needed information

(ALA, 1989)

The ability to
think critically and make balanced judgements
about any information
we find and use

(CILIP 2018)

GROUND ZERO OF CIVIC ENGAGEMENT

The LOIS Project

Late-teenagers Online Information Search

Research on online search

Eye-tracking

URL Time-stamping

Self-efficacy

Interviews

LAB SETTING

Academic tasks

SELF-REPORT

Academic tasks

Simulated web

Small sample

Questionnaires

Think-aloud

Lab devices

The LOIS idea

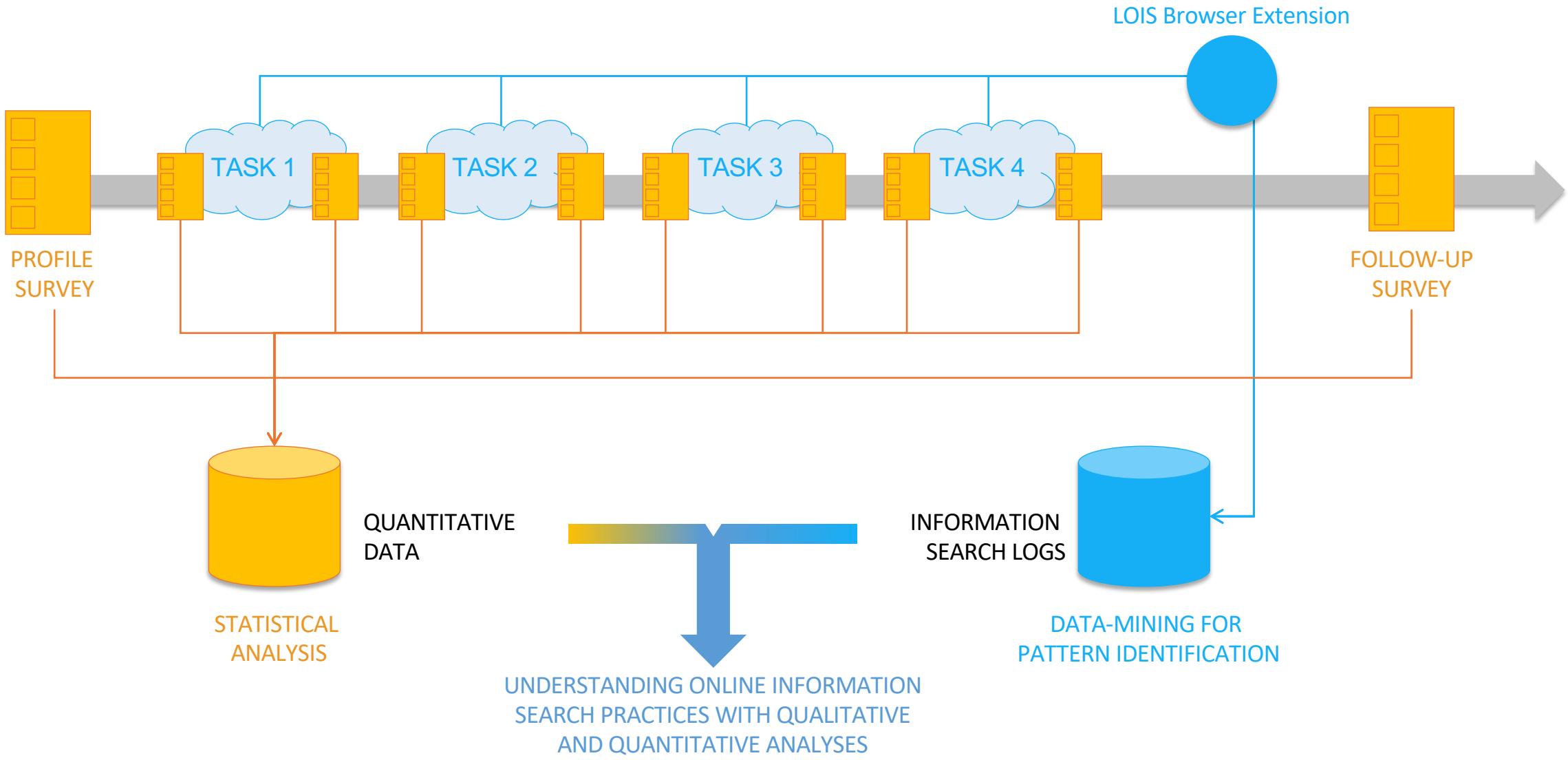
PARTICIPANTS SEARCH FROM HOME
AT THE TIME THEY PREFER
USING THEIR OWN
DEVICES AND ACCOUNTS

Search task scenario (sample)

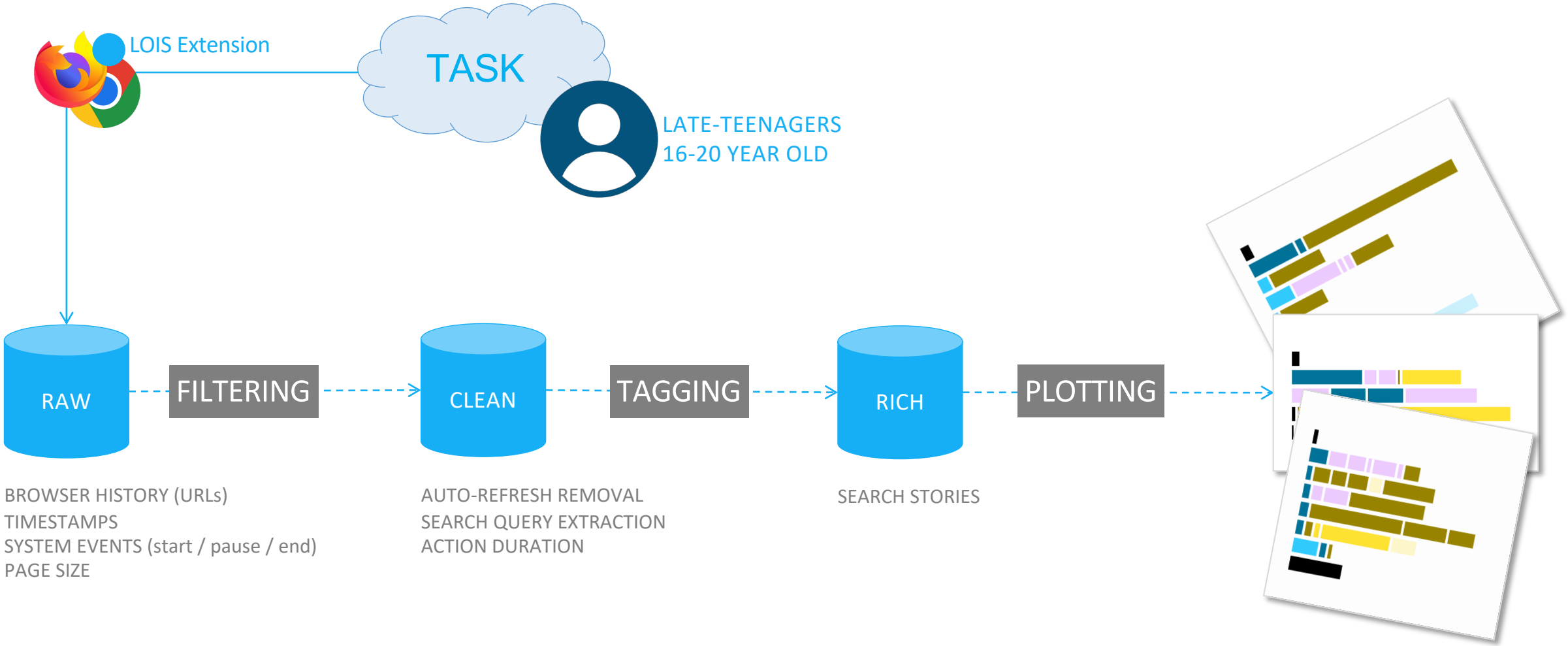
Your friend Anna is worried because her younger sister has decided to become a vegan. Anna thinks that this could be a good choice from an ethical point of view, both for the body and the environment – but her sister is only 13! Isn't it too soon? Besides, her sister suffers from asthma and this health condition makes her weaker.

Opinions are divided: some argue that vegan food is healthy, others do not. What is the truth? Would a vegetarian diet be healthy for a 13-year-old girl? What advice would you give Anna? And on what would you relay?

The LOIS system



From clicks to visuals



The final data sample

MAIN DATA
152 participants
595 search stories

BENCHMARK
6 experts
21 search stories

CLASS SESSIONS
535 students
981 search stories

4 insights in online searching

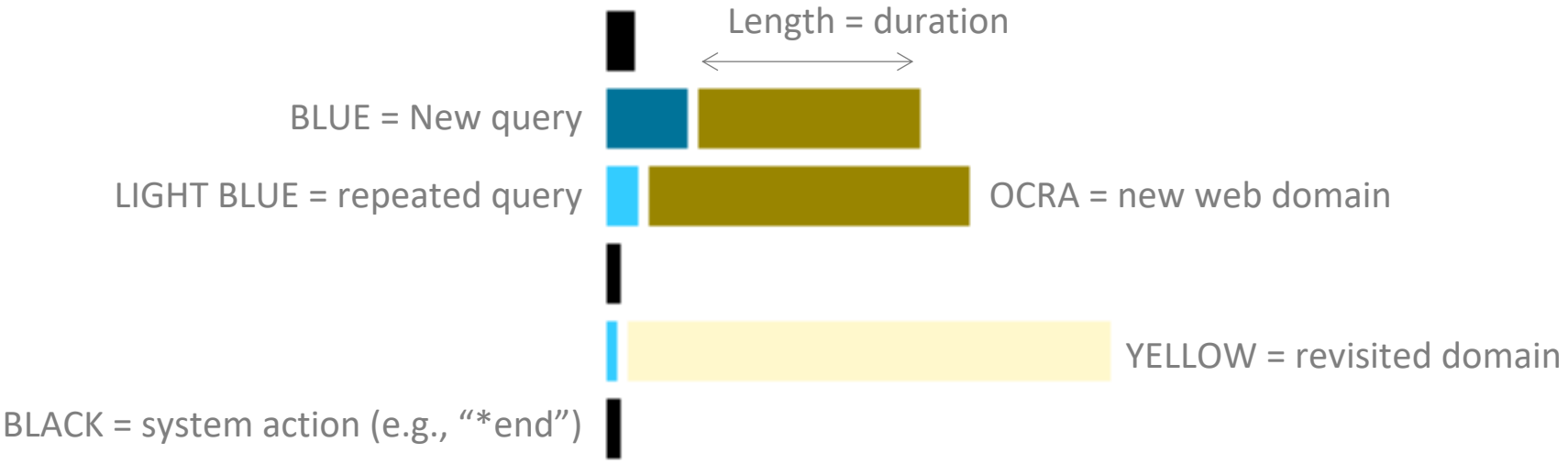
How young people make up their minds

Visual search story plots

- We developed an algorhytm to generate visual plots of search stories in order to allow human inspection.

1 SEARCH STORY = 1 USER SOLVING TASK

1 block = 1 action = 1 click

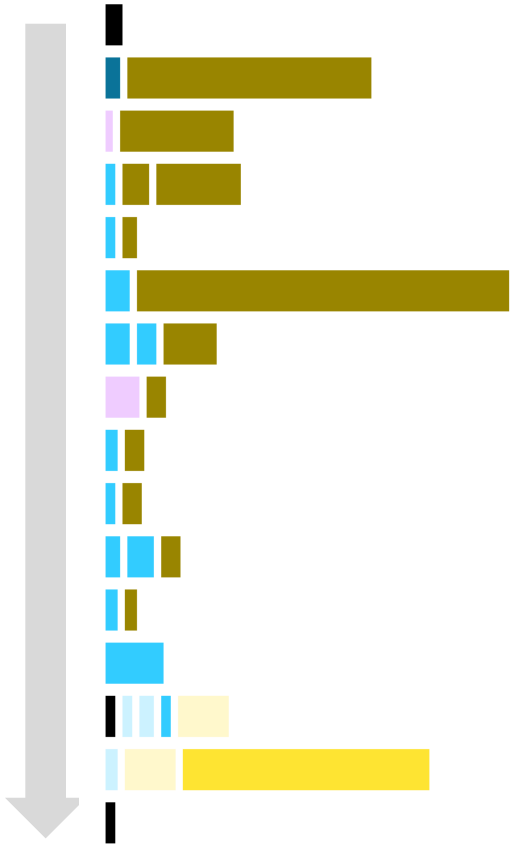


Minimal search

task_1_user_195
Net duration: 182 | Episodes: 4 | Episodes avg: 91

!!
About 50% of all search stories are minimal, indicating high trust in search engine selection and ranking algorythms

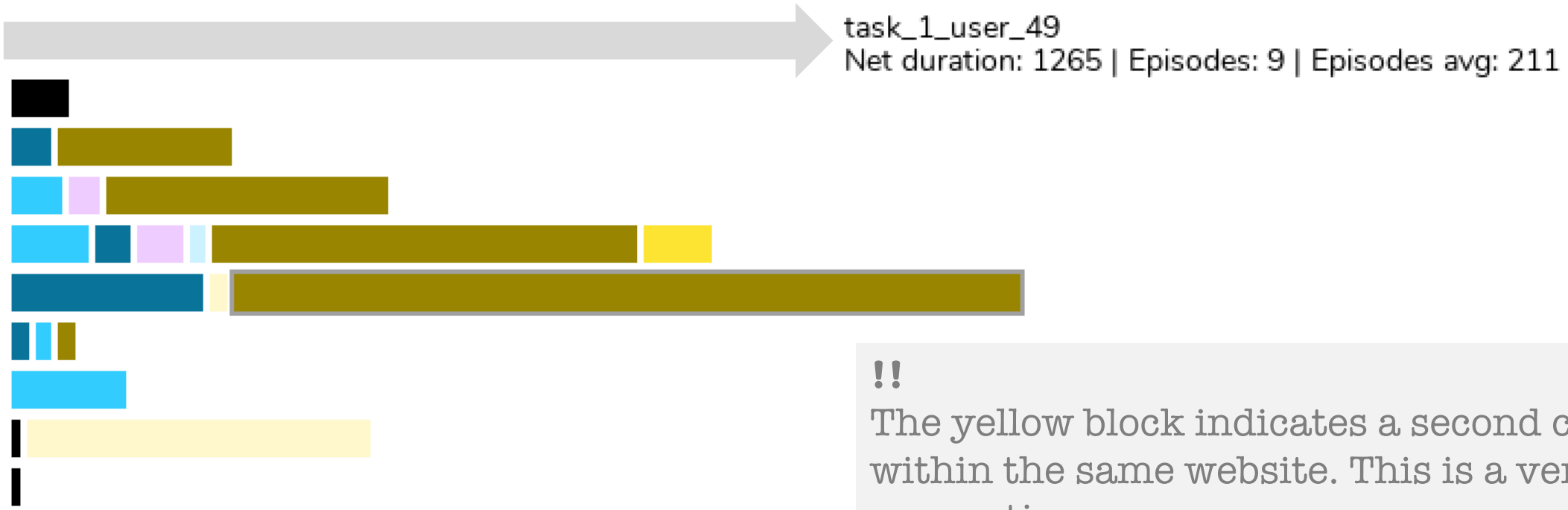
Extensive search



task_1_user_208
Net duration: 657 | Episodes: 16 | Episodes avg: 51

!!
This user makes 14 searches with 3 different queries.
Also, reading times changes in the second half of the story.

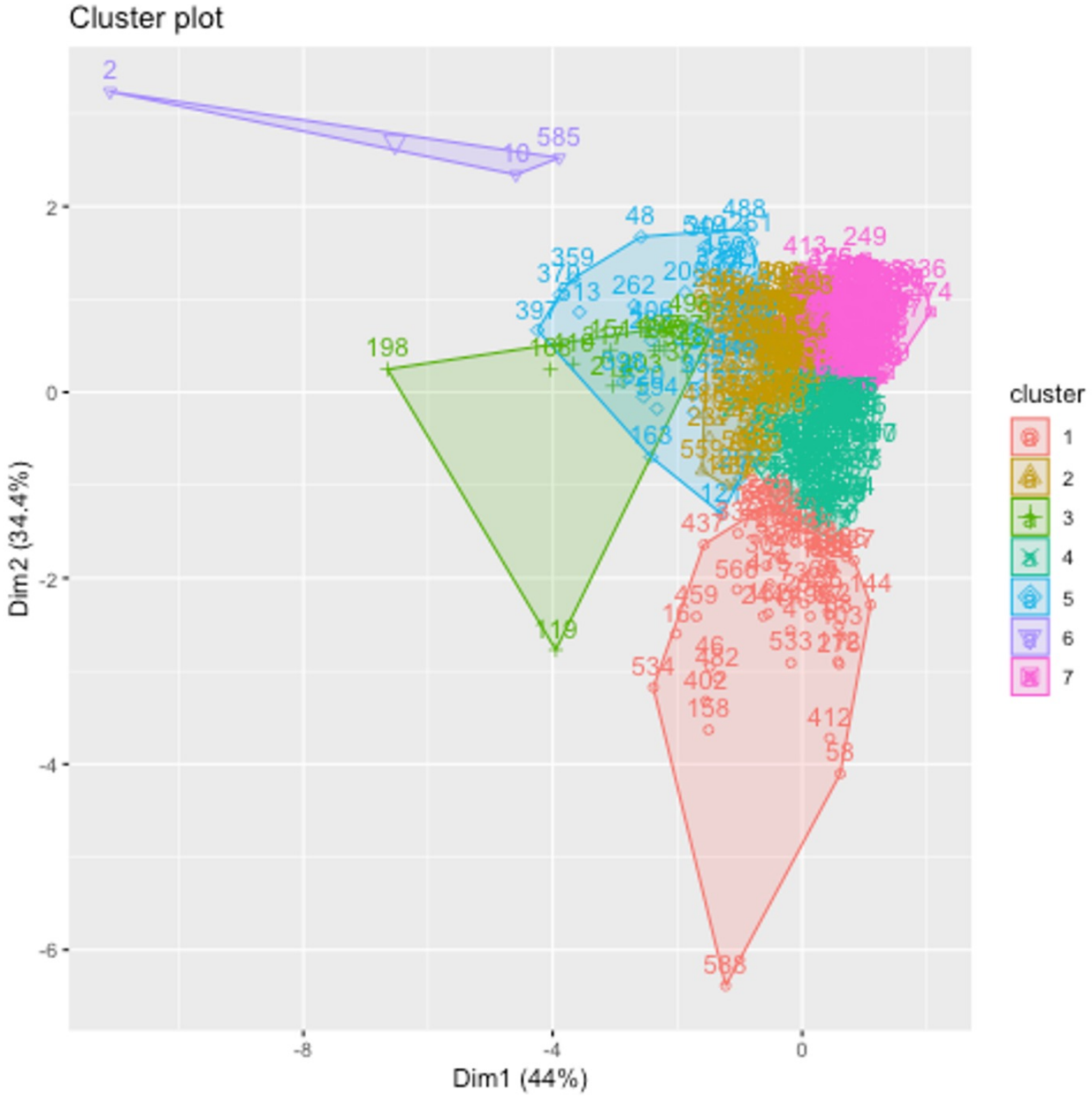
Intensive search



!!
The yellow block indicates a second click within the same website. This is a very rare action.

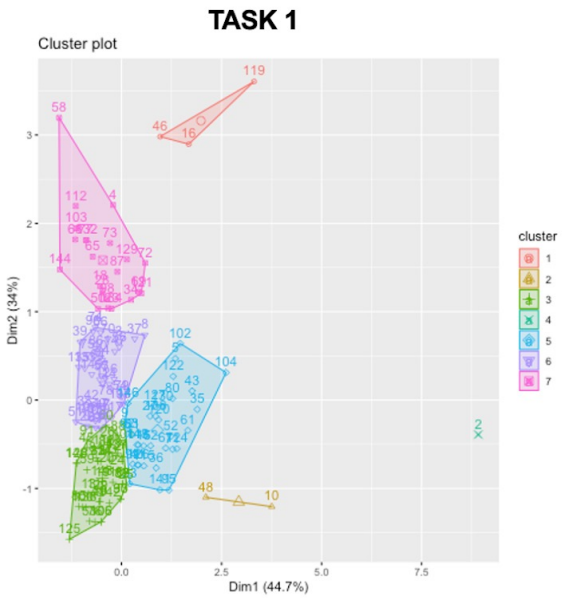
[1] Task matters

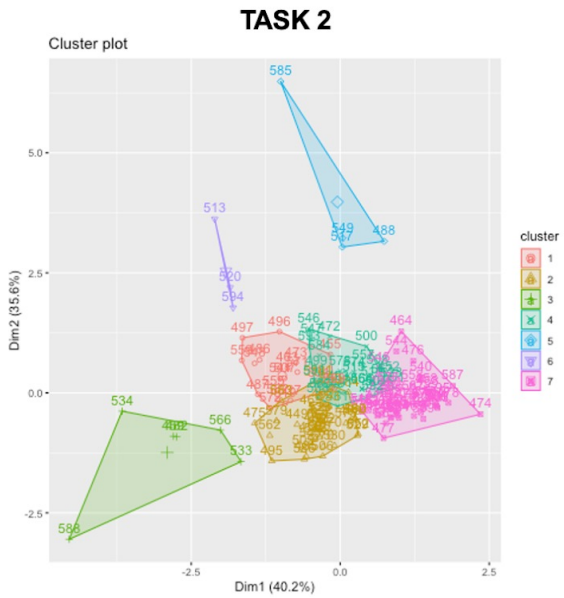
FULL SAMPLE

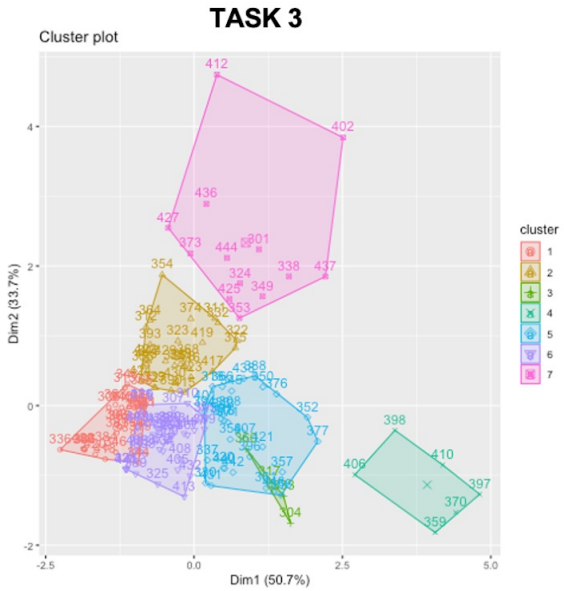


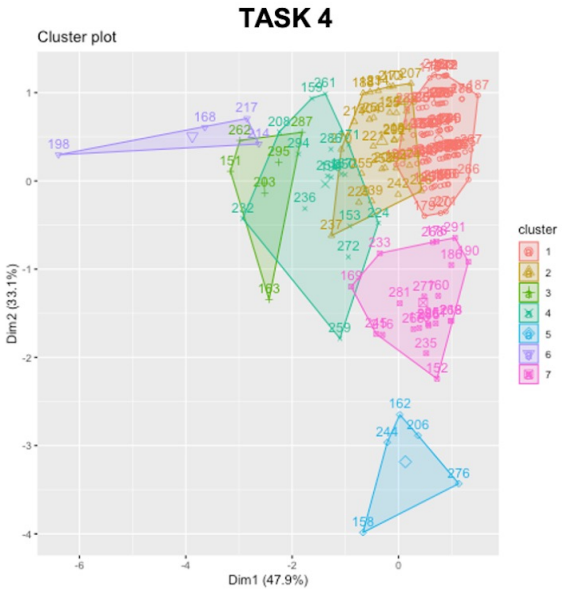
K-means clustering
N = 7 (elbow method)
Iterations: 25

[1] Task matters





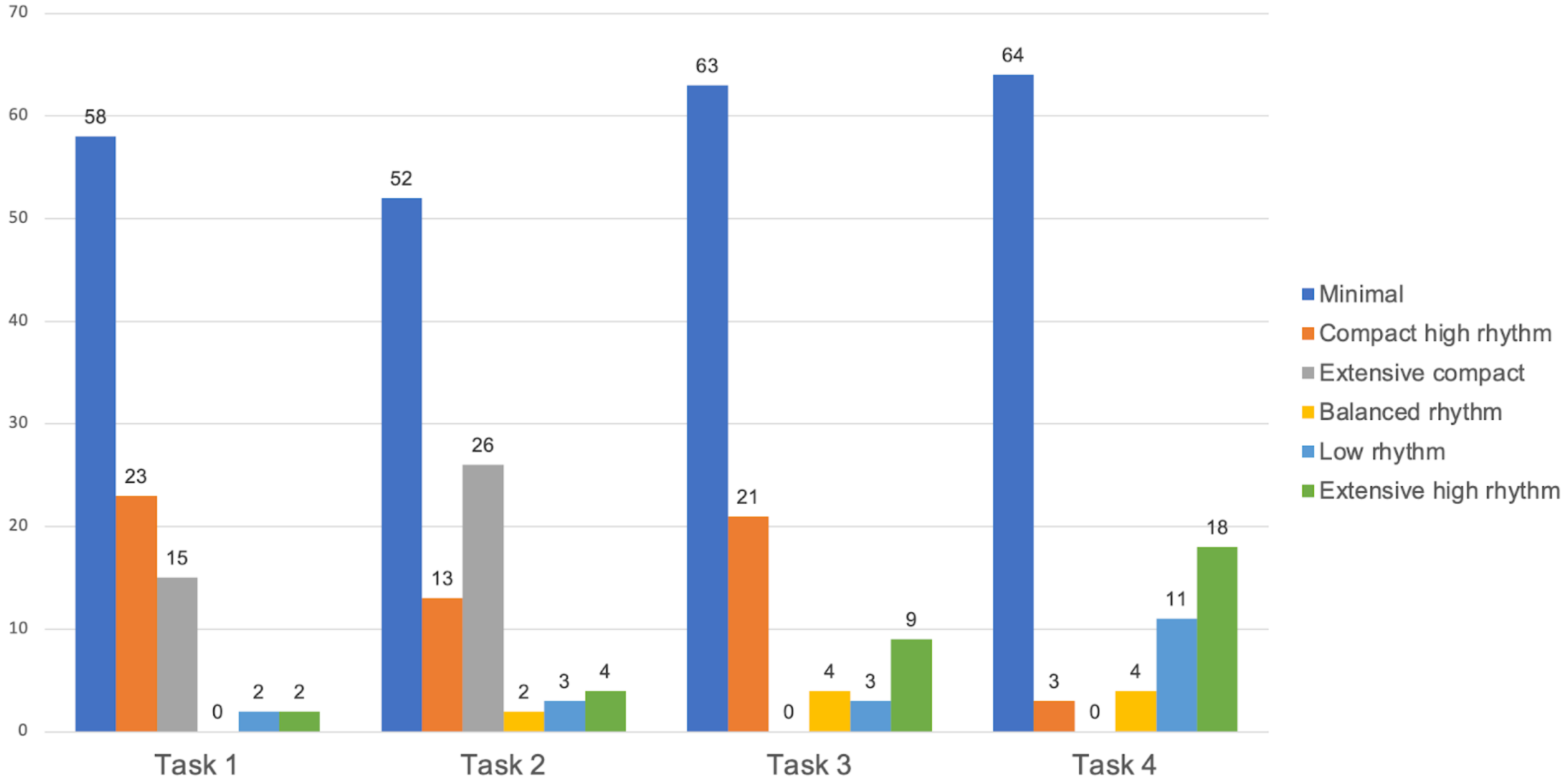




[2] Minimal searches

Label	Description	*Extension*	*Int_Time*	*Int_Act*
Minimal	All values below average: few episodes composed of few short actions.	LOW	LOW	LOW
Low rhythm	Stories with few episodes of high duration but with few actions	LOW	HIGH	LOW
Compact high rhythm	Stories with few episodes mostly composed by many short actions	LOW	LOW	HIGH
Balanced rhythm	Stories with few episodes composed of many long actions.	LOW	HIGH	HIGH
Extensive compact	Stories with many short episodes, both as duration and number of actions	HIGH	LOW	LOW
Extensive high rhythm	Stories with many episodes mostly composed of many short actions	HIGH	LOW	HIGH

[2] Minimal searches

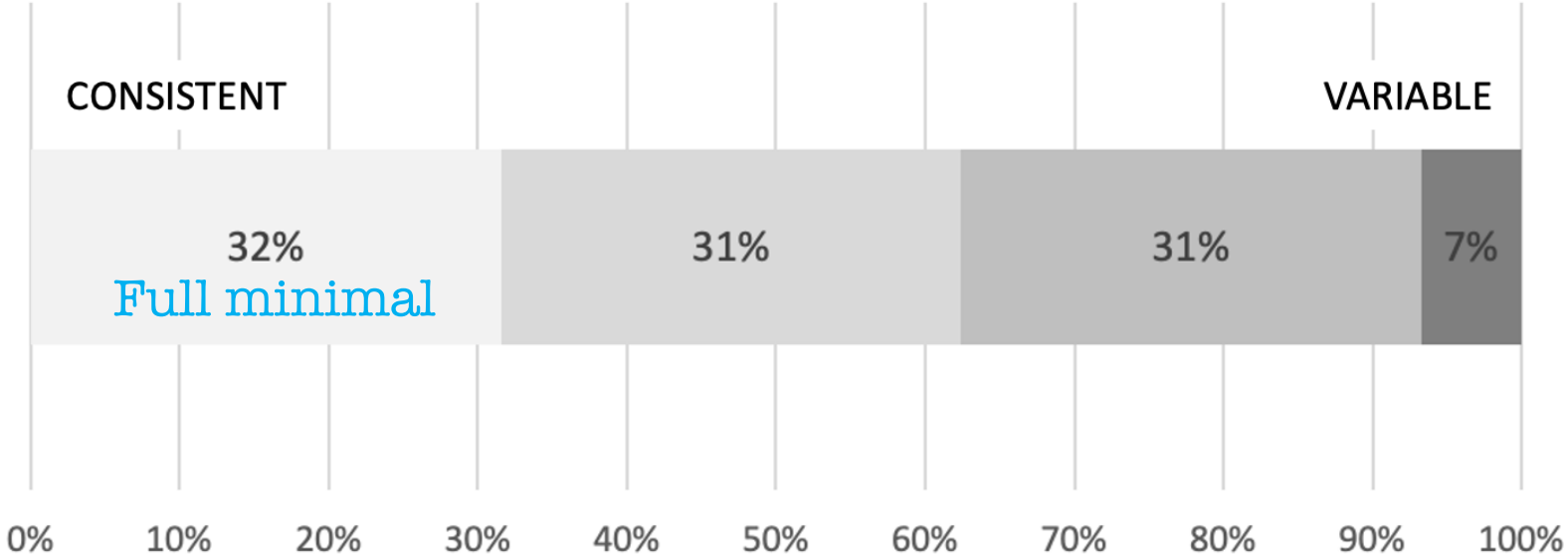


[2] Minimal searches: more Q&A than searching

60% of all search stories

[3] Flexible vs. consistent searchers

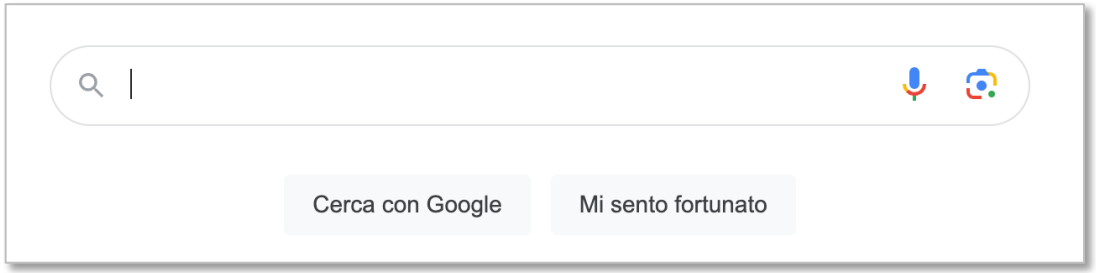
- Do participants have an individual “search style” or do they adapt to the task or situation?
  - 32% of the sample always exhibit minimal behavior
  - 62% switch across 2 or 3 behaviors, depending on the task
  - Only 7% of the sample seem highly adaptable (a different behavior for each task)

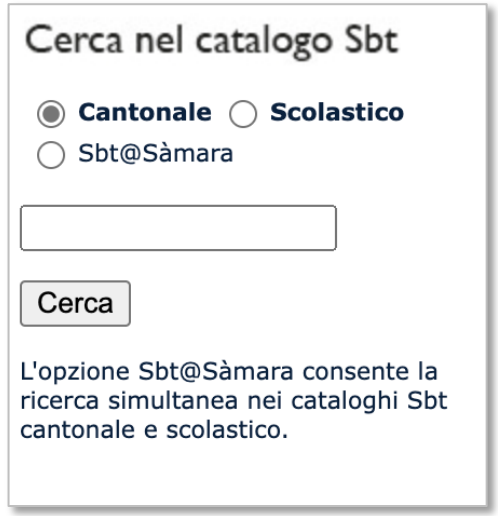


[4] Search Engine(s)

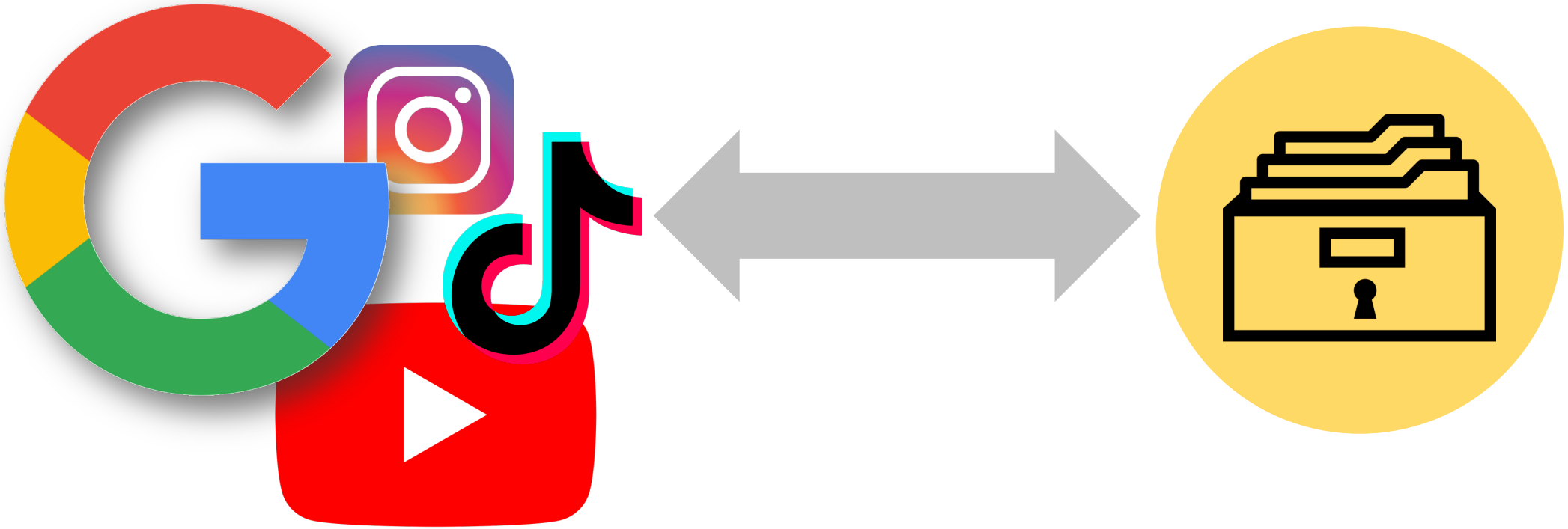
Implications for archives

[1] Google is benchmark





[2] Make yourself visible



[3] Searching is a conversation

- Minimal searchers (aka *fast surfers,* about 60% of young people) interpret searching as Q&A

- Identify them
- Make room for this approach
- Invite them to enter more complex and rewarding conversations

[4] Task matters

- Users change their behavior based on the task they are performing?
  - Exploring a new domain
  - Adding details to a known domain
  - Find a specific item they already met before
  - Confirming an hypothesis
  - Comparing items
  - Etc…

- Try and detect the tasks users are working at
- Useful for analytics!
- Provide hints for support

Q&A

www.loisresearch.org

Contact

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