Guglielmo.Faggioli@unipd.it

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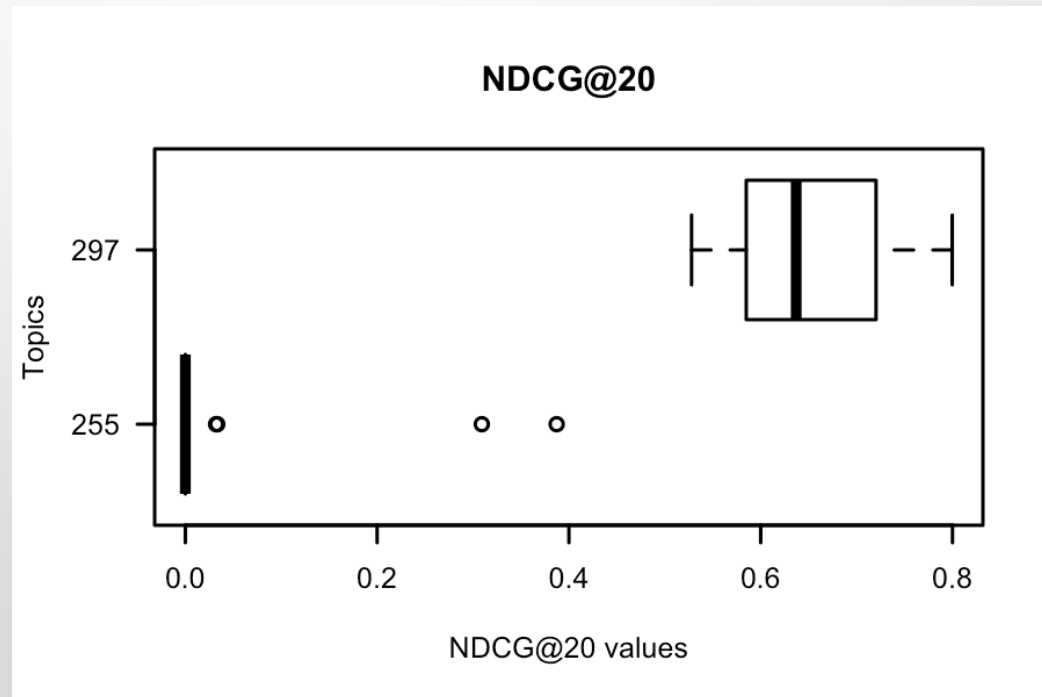
Josiane.Mothe@irit.fr

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QPP++

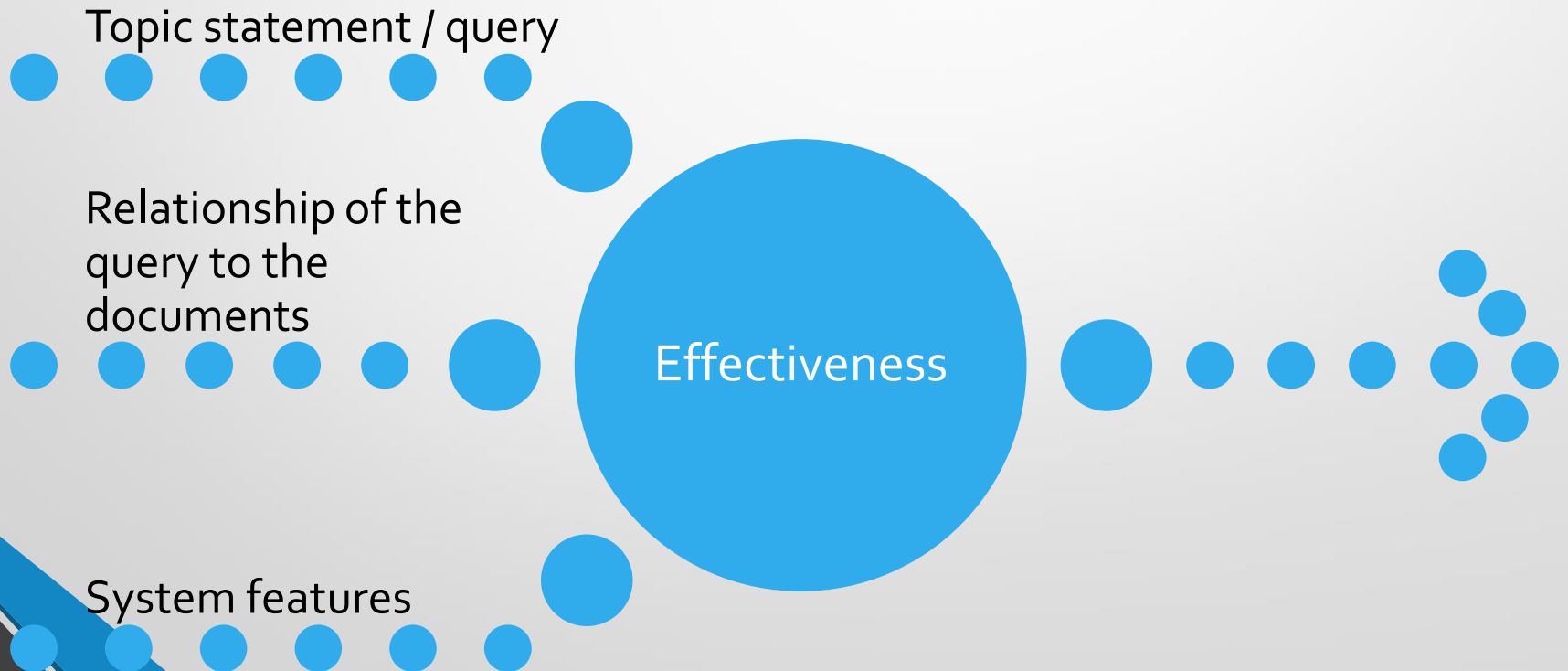ECIR 2023 Josiane.Mothe@irit.fr

Rationale

- IR engines have an answer whatever the query is
BUT

- Evaluation compaigns showed
Some queries are easier than others

NDCG@20

Query difficulty

- Back to the Reliable Information Access (RIA) Workshop (2004)

[Harman, 2009, IR journal]

Topic statement / query

Relationship of the query to the documents

Effectiveness

System features

Definition

◉ (Psy) Defined regarding human difficulty

Difficult task = hard for users (cognitive)

◉ (IR) Defined regarding system effectiveness

Difficult topic = Poor effectiveness

Estimating search effectiveness in the absence of human relevance judgment [Carmel, Yom-Tov, 2010]

Rationale

⦿ Predict the difficulty of the query
= poor/high efficiency of the system

⦿ Corrective processes

- Effective query processing if easy query
- Query reformulation or other advanced processing if difficult
- Query selection processing
- Engage an interaction with the user, ….

[Scholer et al. 2009] [Thomas et al., 2017] [Deveaud et al. 2018]

Main research directions

- Prediction types
  - Predict whether a query is difficult or not [classification]
  - Performance prediction: Predict the value of the effectiveness measure [Regression]
- Predictive models
  - Pre-retrieval vs post-retrieval features
  - Models that combine several features
- Tasks
  - Mostly on adhoc retrieval (TREC collections)
  - Also on images, …

6

QPP++ objectives

- Presentation of ongoing work

  - QPP in traditional scenarios (e.g. adhoc)

  - In new domains: QA, passage retrieval, conversational search, semanctic search

- Discussion – re-examine weaknesses and challenges

  - Evaluation

  - Guides for future directions

Today

- 7 presentations (9 submissions)
- Presentation of ongoing work
  - QPP in traditional scenarios (e.g. adhoc)
  - In new domains: QA, passage retrieval, conversational search, semanctic search
  - Considering current text representations (indexes vs embeddings)
- Discussions – re-examine weaknesses and challenges
  - Evaluation
  - Guides for future directions
- Possible other actions
  - SIGIR Forum paper
  - Special issue
  - Your slides on web site
  - ….

8