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Informing NLP Learning Tasks by Tracking User Features: An ASRS Use Case using Kaona

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Context

Organizations have millions of records of text data, yet the available search mechanisms are often limited to keyword search. This means that the comprehensive retrieval of information of these collections is constrained by the knowledge of keywords of the user. We propose a deep learning search mechanism that allows users to retrieve sought records that are semantically related even with a small set of keywords. Search results can also be curated to facilitate text exploration.

Method

We propose a tool, Kaona, which bridges users, researchers, and developers. Kaona facilitates evaluating novel information retrieval models by exposing them to users and capturing their interaction. The users, in turn, have novel search methods to conduct informational retrieval tasks, creating a mutual benefit system that can improve over time.

Result

Kaona is a lightweight interface which enables the prototyping of alternative search retrieval tasks by tracking user experience both explicitly (user-specified feedback), or implicitly (user navigation through interface affordances).

Domain Experts

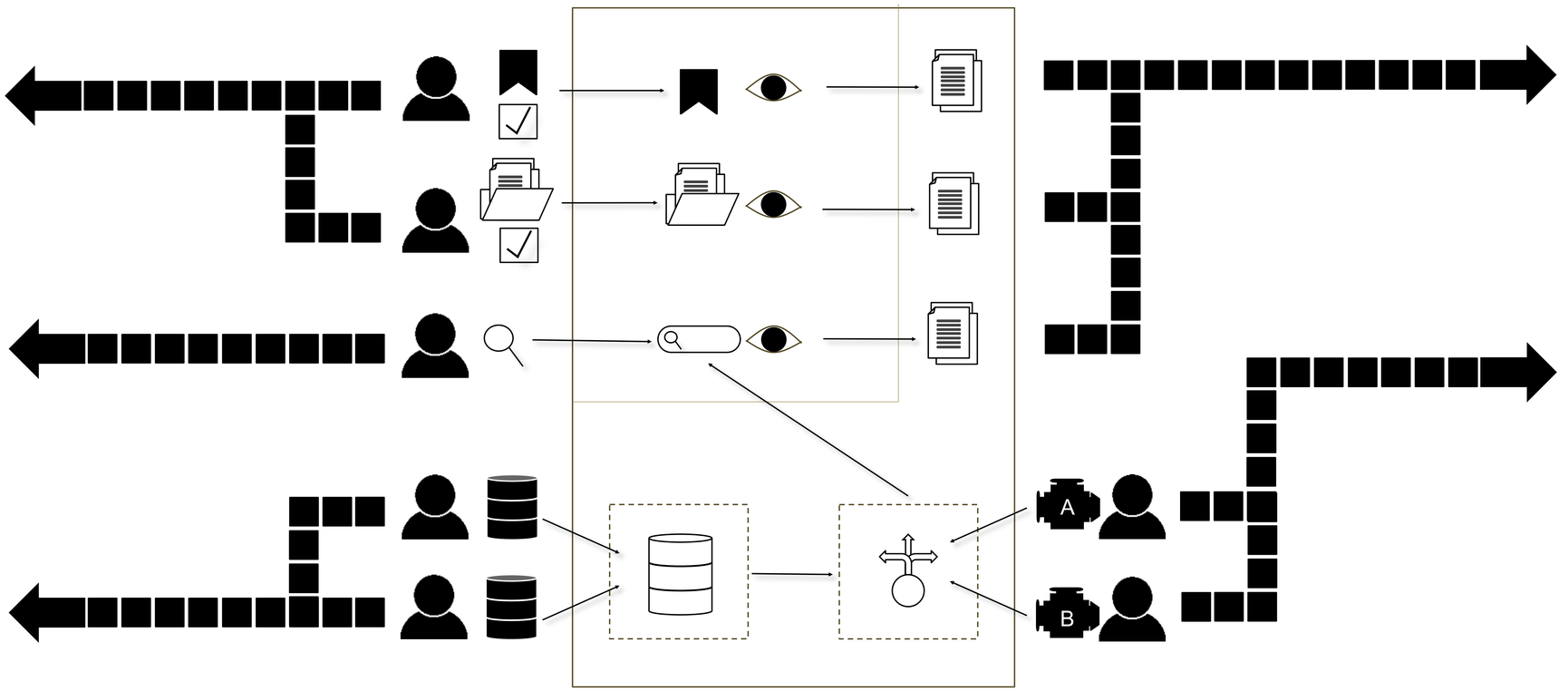
Domain experts create requirement sets that drive meaningful features that help a user's search workflow.

Users

Users are now able to use various search mechanisms to retrieve search data based on their needs. From users' manually curated search results and through their navigation history, the search mechanism can also be improved.

Dataset

Interested parties can utilize their own narrative text datasets. This modularity allows dataset owners to benefit from the logging capabilities, user interface, and retrieval mechanisms.



Kaona

Implicit Logging Data

Logging data captures implicit feedback from users as they interact with search results returned from their search queries.

Information Retrieval Models

Researchers are able to perform live tests of their information retrieval models by integrating their models with the application. Ground truth can be derived by reviewing logging data related to their model.

Acknowledgements

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