

FP10: Context-sensitive, personalized search at Point of Care

Objective

Develop a medical search engine for medical practitioners that takes into account case context and personalization by incorporating the users' interests and knowledge levels into the retrieval process.

Document

It is important to identify the most important documents for medical doctors and researchers. This research project started by considering indexing **medical research articles** and **clinical trials** because of the availability of data and because it is easier to use when it comes to ethics and privacy. Later, we will consider integrating **electronic health records** into the search engine.

Melanoma Risk Assessment & Tailored Intervention (PennSCAPE)

Study Details Tabular View No Results Posted Disclaimer How

Study Description

Brief Summary:

The investigators are conducting a study to provide evidence about the comparative effects, behavioral outcomes. The investigators will send out three (3) tailored mailings for participant eligibility screening, the investigators will be assessing the relative yield and functioning of individual's level of risk for skin cancer.

Condition or disease	Intervention/treatment
Melanoma Skin Cancer	Other: Surveys & Mailed Material

Detailed Description:

This study aims to evaluate the impact of a mailed, tailored intervention, on the skin cancer screening results in the diagnosis of thinner melanomas, but there is no evidence that

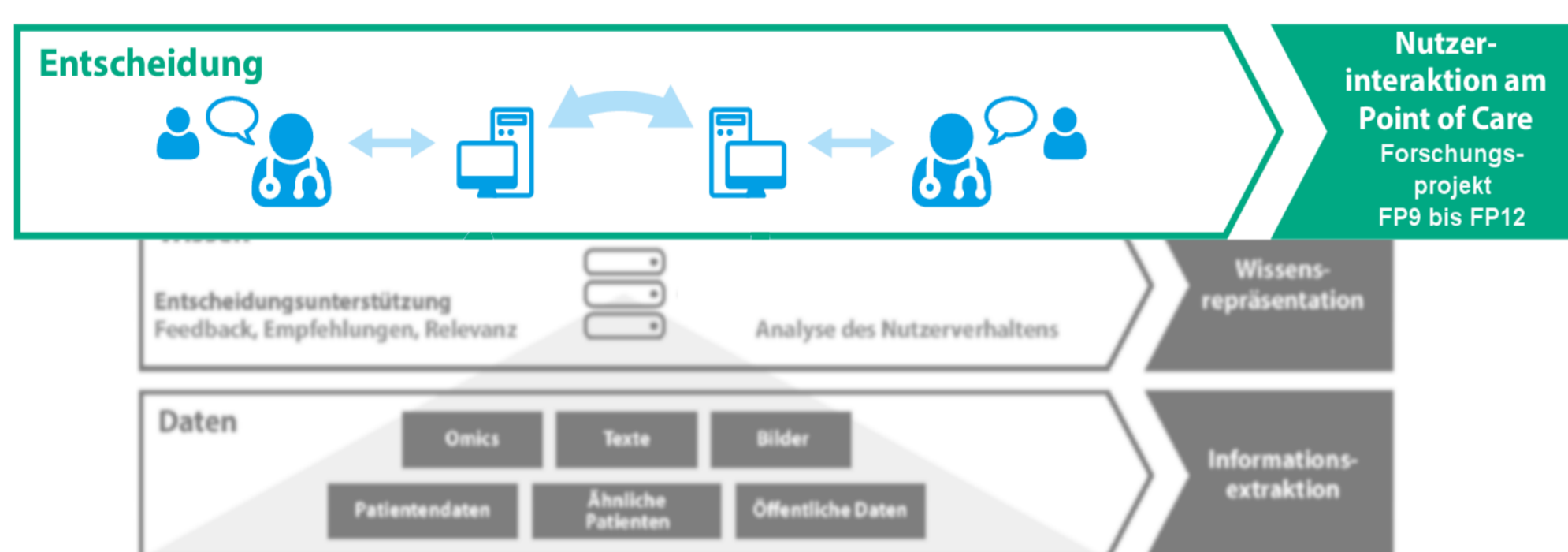
Cutaneous melanoma: update on prevention, screening, diagnosis, and treatment

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Abstract

Melanoma is an increasingly common malignancy, and it affects a younger population of patients. Risk factors for melanoma include white race, sun sensitivity, family history of melanocytic nevi. Sunburn and intermittent sun exposure appear to increase the risk of melanoma. The role of population-based screening for skin cancer remains unclear. The results of population-based screening in the diagnosis of thinner melanomas, but there is no evidence that

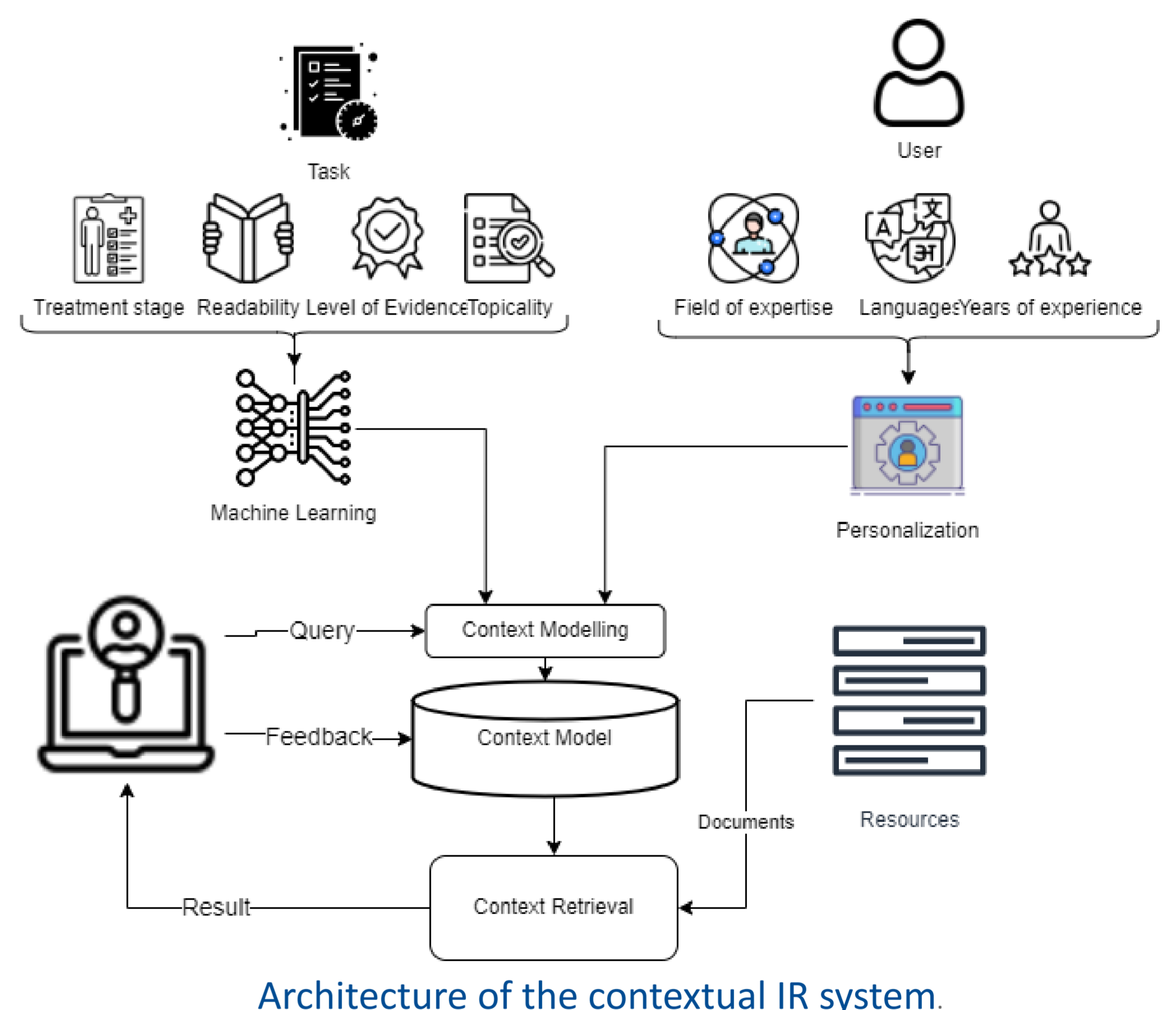
Example of Medical documents



Research Question

- What contextual aspects with regard to context and personalization of information retrieval in the medical domain?
- How to extract context-feature values at the document and query levels, and what personalization features could be automatically extracted or manually configured?
- How can these features be integrated into the retrieval process to consider these factors during retrieval?
- How to include these features in the interactive retrieval process?

Solution



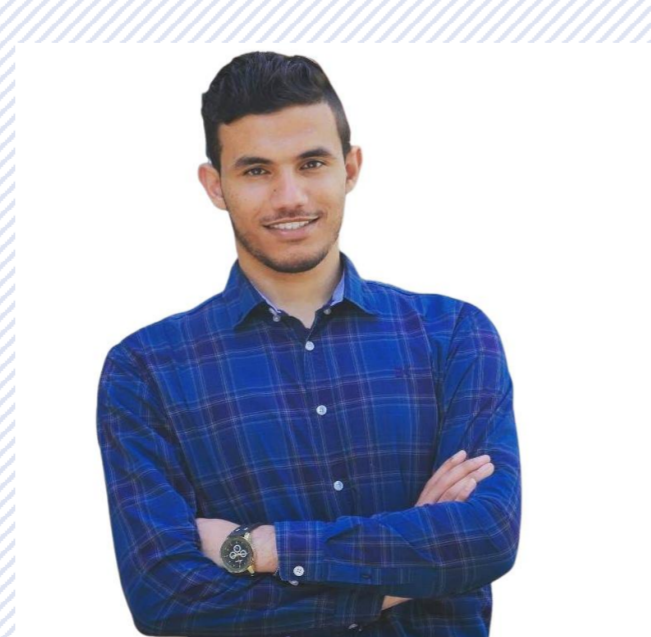
Architecture of the contextual IR system.

- After implementing this search engine, we will determine interaction elements that aim to improve the retrieval process by placing the user at the center of the process.



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Literatur

- Fuhr, Norbert, et al. "An information nutritional label for online documents." ACM SIGIR Forum. Vol. 51. No. 3. New York, NY, USA: ACM, 2018.
- Aswani N., Fuhr N. et. al., Khresmoj, Professional: Multilingual Semantic Search for Medical Professionals, ACM SIGIR Workshop on Health Search and Discovery: Helping Users and Advancing Medicine, 2013.
- Fuhr N., Jordan M., Frommholz I., *Combining Cognitive and System-Oriented Approaches for Designing IR User Interfaces*, Proceedings of the 2nd International Workshop on Adaptive Information Retrieval, AIR, 2008.
- Fuhr, N., *A Probability Ranking Principle for Interactive Information Retrieval*. Information Retrieval 11(3), 2008.
- Kriewel S., Fuhr N., *An evaluation of an adaptive search suggestion system*, 32nd European Conference on Information Retrieval Research, Springer, ECIR, 2010.