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Content-based image access with enhanced features for query refinement and relevance feedback

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LEARNING OBJECTIVES

To assess the impact to radiological diagnostics, training, and teaching using content-based access to medical images and to emphasize the importance of query refinement and relevance feedback to such a system.

ABSTRACT

The IRMA system (<http://irma-project.org>) provides novel means to access large databases of medical images. Instead of indexing lingual descriptions, retrieval is based directly on the pixel patterns. Application-specific user interfaces are generated from modular components. They integrate functionality for initializing a query, visualizing the answered images and their relevance facts, evaluating the answered images and resubmitting a query, accessing previously obtained results, and combining intermediate results. A query logging mechanism was developed to track the user's interaction with the IRMA system. Every action that is performed by the user is stored in a database with a corresponding session identifier and a unique timestamp. Transaction modules allow the user to step back and forward (UNDO/REDO) and to restore any steady state the system had before the current state (HISTORY). Furthermore, it is possible to restore session states of already closed sessions.

Disclosures:

No Disclosure: Thomas Lehmann, Henning Schubert, Mark Oliver Güld, Benedikt Fischer, Thomas Deselaers, Bastian Ott, Christian Thies

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