Abstract

E-learning offers great benefits over the conventional learning process. However, the huge unstructured information, which is freely available on the Web poses significant challenges in accessing the desired information in a timely manner. To tackle this problem different information retrieval (IR) approaches have been proposed in literature. These approaches are predominantly influenced by classical keyword-based IR techniques. However, with recent technological advances and a flood of information on the Web, the performance of keyword-based IR techniques has greatly suffered. Therefore, recently some more intelligent IR techniques have been proposed to enhance the utility of e-learning systems. In this study, a semantically oriented ontology-based personalized framework is proposed for effective e-learning. The proposed framework is implemented and its effectiveness is thoroughly assessed as a case study to learn Java programming language. The proposed system is evaluated on an indigenous medium-sized corpus ((2600 documents) in terms of standard accuracy measures for IR. The findings in this paper reveal that semantic based IR for
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e-learning is a robust methodology and it can advance the field of e-learning in an elegant manner.

References

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Index Terms

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Information retrieval, Semantic similarity, Semantic annotation, Keywords-based retrieval, Ontology, Query expansion