

Applied Classification of the Functions of the Intelligent Software Agents and Adapting Them to Characteristics of the Digital Libraries Websites

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Received: 26th May, 2010; Accepted: 16th April, 2011

Abstract

Purpose: Web services are presently considered as technologies with highest number of applications for the purpose of providing the automatic, high-quality, and fast information interactions. The aim of this paper is therefore to provide a comprehensive framework for a collection of significant services offered by Farsi websites in libraries to be used in future designs. It also aims to classify the intelligent software agents in order to be used in the services with highest number of applications offered by Persian websites to promote the quality of these services.

Methodology: The essential key services for creating a website were extracted after investigating the 100 most visited Iranian websites as well as 100 top non-Iranian websites. These services were then studied and analyzed using statistical tests, content validity value, and Shannon's entropy. Afterwards, the literature related to intelligent software agents was comprehensively reviewed and these agents were classified with regard to their applications and their adaptation to the services with highest number of applications offered by websites of digital libraries.

Findings: Employing the concepts of semantic webs and web services under the title of semantic web services leads to intelligent web services and qualitatively results in websites' promotion. One of the approaches taken for improvement of websites is to utilize web services that employ intelligent software agents, which assists the website administrators in processing information and identifying the needs of visitors of websites and increases websites' ability to meet their demands at proper time with high quality and safely. Findings of the present study can be used in design of websites of electronic libraries. Providing the identified key services is the first step for creating these websites for electronic libraries. The results of the research also indicated that due to their various characteristics and functions as well as their potential use in cyberspace, intelligent software agents can help in providing the main services in websites of electronic libraries and have value added.

Originality/Value: The suggested framework is useful for designers and administrators of the websites of digital libraries and enables them efficiently design web pages and meets the demands of clients effectively.

Keywords: Website; Classification; Intelligent software agents; Content validity ratio; Shannon's entropy