A Novel Approach towards Integration of Semantic Web Mining with Link Analysis to Improve the Effectiveness of the Personalized Web

Abstract

During the past few years World Wide Web has become a main source of information acquisition. The existence of such abundance of information, in combination with the dynamic and heterogeneous nature of the web, makes web site exploration a difficult process for the user. Websites personalization is the effective way to meet the requirement of efficient web navigation. This paper proposed novel technique that uses the content semantics and the structural properties of a web site in order to improve the effectiveness of web personalization. This paper presents a personalization framework CUMPW (Content & Web Usage Mining for Personalized Web) that integrates web content and web usage data with the user’s navigational patterns and represents the correlation between contents and the usage of the website. In the second part of proposed method, this paper presents a novel approach for enhancing the quality of recommendations based on the underlying structure of a web site. This paper proposed Navigational PageRank (NPR) Algorithm that suggests link analysis in effective manner for web personalization. NPR is applied to navigational graph of user session in order to determine the importance of a web page. The proposed hybrid (CUMPW + NPR) framework
provides more representative predictions results than existing techniques that rely solely on usage data.

References


Index Terms

Computer Science
Information Sciences
Keywords

Web usage mining, navigational pattern, link analysis, personalized web