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### **RESEARCH ARTICLE**

# Clustering with Efficient Web Usage Mining

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#### **ABSTRACT**

*Web usage mining attempts to discover useful knowledge from the secondary data obtained from the interactions of the users with the Web. Web usage mining has become very critical for effective Web site management, creating adaptive Web sites, business and support services, personalization; network traffic flow analysis etc., Web site under study is part of a nonprofit organization that does not sell any products. It was crucial to understand who the users were, what they looked at, and how their interests changed with time. To achieve this, one of the promising approaches is web usage mining, which mines web logs for user models and recommendations. Web usage mining algorithms have been widely utilized for modeling user web navigation behavior. In this study we advance a model for mining of user's navigation pattern.*

*The proposal of our work proceeds in the direction of building a robust web usage knowledge discovery system, which extracts the web user profiles at the web server, application server and core application level. The proposal optimizes the usage mining framework with fuzzy C means clustering algorithm (to discover web data clusters) and compare with Expected Maximization cluster system to analyze the Web site visitor trends. The evolutionary clustering algorithm is proposed to optimally segregate similar user interests. The clustered data is then used to analyze the trends using inference system. By linking the Web logs with cookies and forms, it is further possible to analyze the visitor behavior and profiles which could help an e-commerce site to address several business questions. Experimentation conducted with CFuzzy means and Expected Maximization clusters in Syskill Webert data set from UCI, shows that EM shows 5% to 8% better performance than CFuzzy means in terms of cluster number.*

**KEYWORDS:** *Clustering, algorithm; Fuzzy clustering algorithm, web content mining, pattern discovery, pattern analysis.*

Full Text: <http://www.ijcsmc.com/docs/papers/March2014/V3I3201461.pdf>