

## **XML PARSING AND FILTERING FOR PUBLISH/SUBSCRIBE NOTIFICATION SYSTEM IN A MOBILE ENVIRONMENT**

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The development of the Internet and networking technologies made it possible to access increasing volumes of data in a convenient way. As a consequence of these advances, information dissemination applications are gaining popularity in distributing data to the end users. Extensible Markup Language (XML) filtering systems constitute a critical component of modern information-seeking applications. The advent of XML as a de facto standard for information exchange and the development of query languages for XML data enable the development of more sophisticated filtering mechanisms. Emerging distributed information systems such as Web services, personalized content delivery, and event monitoring require increasingly flexible and adaptive infrastructures. Recently, publish/subscribe systems are increasingly often used as a communication paradigm for loosely-coupled systems. As the number of applications using XML data representation is growing rapidly, the process of XML filtering is becoming an essential need of publish/subscribe system. The publish/subscribe systems also enable selective dissemination of information (SDI) to mobile clients. The inherent limitations of mobile devices necessitate information to be delivered to mobile clients to be highly personalized according to user profiles.

This paper attempts to develop an efficient and scalable Selective Dissemination of Information (SDI) system for mobile clients. SDI systems distribute the right information to the right users based upon their profiles. This paper proposes an approach that integrates publish/subscribe system and XML filtering to deliver notifications with personalized information from XML resources to mobile clients. In such a system it is vital to filter the XML document towards all user profiles in one pass to save time and avoid complexity. However, the main purpose of an XML filtering system is to find all the user profiles that have a match with a specific XML document. Finally, the proposed architecture describes an efficient indexing mechanism by enhancing XFilter algorithm based on a modified Finite State Machine (FSM) approach to achieve good scalability.