

A client-based customization framework for web applications using JNLP

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Abstract

Web personalization and customization are increasingly becoming important services for web users. The conventional approaches used in implementing these services often lead to poor responsiveness, lengthy network delays, client privacy violations, simple interfaces, and so on. This research addresses an improved model to implement customizable web applications running on the client machine. We use the Java Network Launching Protocol (JNLP) to implement the model, which employs pure client-side user interface-generation techniques to provide display and content customization and personalization services. We develop two versions of a billing application, one using the new approach and the other using the conventional one. We show through performance comparisons how the response time of web applications is improved through storing and processing personal data and settings on the client's own machine.

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1. Introduction

As users become more proficient in their use of the web, they get exposed to a wide range of sites that deliver similar services. As a result, they become more demanding and their definition of a good site and service turns out to be more refined. Users always prefer and are more comfortable with sites that present the right content in ways that commensurate with their likings and preferences [2]. Consequently, three aspects of a web site affect its utility in providing

the intended service to its users: The content provided on the web site, the layout of the individual pages, and the structure of the entire web site [16].

Customization and personalization are increasingly becoming important issues for web applications and it has been especially the case for news providers [3], e-commerce sites [9], and technical data suppliers [8]. The terms involve the process of gathering information about users and customers during their interaction with a web site, then storing the relevant information. The data is consequently managed, and analyzed in ways that lead to generating services, content, and interfaces tailored to individual users. Customization and personalization are considered new fields and many authors have provided various definitions of

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