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SERVER BASED CONTENT ADAPTATION ARCHITECTURE USING CONTENT SWITCHING

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ABSTRACT

Currently there are limited web based environment that is capable of adapting to mobile device user agents such as mobile phone, PDA or automobile Internet devices. This is because most web content has been designed with personal computers in mind, with large colour screen and broadband internet access and the content often contain rich media while the mobile devices are subject to many limitations such as processing power, screen size, screen resolution, storage size, application supported, and network connection. Ensuring these devices getting the same information as good as and as reliable as personal computers is very challenging. Most of the existing server based adaptation architectures do not exploit the issues of availability, scalability and reliability. In this thesis we propose a novel server based content adaptation architecture using content switching technique suitable for handling a huge number of concurrent requests for uploading, transcoding and downloading video files. The proposed architecture has three main components - the web server, database and content switching device. A large amount of testing was conducted to prove that the network architecture is workable and able to achieve high computing performance with good network reliability and service availability. Through our experiment, we can conclude that using content switching technique, the amount of time for data to travel from mobile device to server is smaller for the process of uploading, transcoding and downloading video files. In addition, we have also proved that implementing content adaptation architecture using content switching technique can increase the number of concurrent client connections.

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