UNIVERSITI TEKNOLOGI MARA

FACULTY OF INFORMATION TECHNOLOGY AND QUANTITATIVE SCIENCES

THE DEVELOPMENT AND IMPLEMENTATION OF WEB CONTENT ADAPTATION AND NEGOTIATION BASED ON USER, DEVICE AND NETWORK PROFILES

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ABSTRACT

The ability to access learning materials anywhere, anytime on any device is a defining feature of today modern learning environment. However, the differences in processing power, storage and display resolution of mobile terminals will lead to some problems that the same content is sent to heterogeneous terminals. Although content adaptation techniques have been extensively studied for mobile computing systems in last decades, most of the previous work focused on adaptation with respect to terminal capabilities. Since the personalized learning pattern has received tremendous interests in recent years, it is unsuitable to send the same media type of content to the different learners. With respect to the problems, it is needed to adapt content to characteristics of terminals and preferences of learners. In this project, we propose a page and video adaptation algorithms employing a mechanism to extract the semantic structure of an existing web page and a modular page splitting scheme to partition the web page into smaller and logically related content blocks or reduce the size of the distributed content. Based on the experiment results, it is proved that content adaptation under e-learning environment can be achieved by the algorithms effectively.