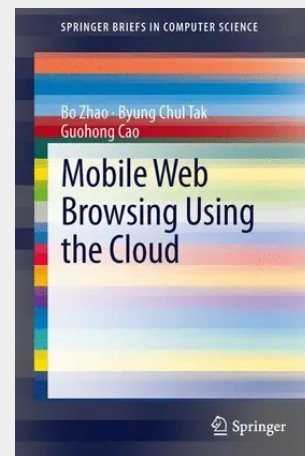


Mobile Web Browsing Using the Cloud

This brief surveys existing techniques to address the problem of long delays and high power consumption for web browsing on smartphones, which can be due to the local computational limitation at the smartphone (e.g., running java scripts or flash objects) level. To address this issue, an architecture called Virtual-Machine based Proxy (VMP) is introduced, shifting the computing from smartphones to the VMP which may reside in the cloud. Mobile Web Browsing Using the Cloud illustrates the feasibility of deploying the proposed VMP system in 3G networks through a prototype using Xen virtual machines (in cloud) and Android Phones with ATT UMTS network. Techniques to address scalability issues, resource management techniques to optimize the performance of the VMs on the proxy side, compression techniques to further reduce the bandwidth consumption, and adaptation techniques to address poor network conditions on the smartphone are also included.

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