The mobile Internet technology and its related applications and services have progressed greatly in the past few years, and now we see many tiny terminals with integrated multifunction chips in the market. However, at the same time we observe a kind of separation between the technology development and the common Internet applications customers usually use. This has led to underutilization of mobile device capabilities such as mobile video and mobile television that come as part of new mobile devices. While for many people using specific Internet applications would be more comfortable with large-screen desktops, the mobility freedom provided by cellular and noncellular mobile technologies suggest the development of closer connections to applications so that users can receive most of their communications needs from their mobile devices. The purpose of this Feature Topic is to bring together a collection of research and development on new applications for the mobile Internet that can make the technology more appealing for wider use.

For this Feature Topic we have selected three articles from the open call. In the first article, "On Effective Offloading Services for Resource-Constrained Mobile Devices Running Heavier Mobile Internet Applications" by Kun Yang, Shumao Ou, and Hsiao-Hwa Chen, a novel offloading service from a small mobile terminal to a nearby computer is presented. The proposed architecture thus enables mobile users to run their normally large applications on mobiles with the help of a temporary host whenever it is available. The prototype presented in the article and the simulation results show that this could be a step toward wider use of our mobile devices and possible extension of mobile Internet applications.

The second article, “Media Independent Handover for Seamless Service Provision in Heterogeneous Networks” by George Lampropoulos, Apostolis K. Salkintzis, and Nikos Passas, addresses the service continuity problem when a user moves from one network to another and, in particular, how the emerging IEEE 802.21 standard enables seamless intertechnology handover. The ability of the standard to support seamless mobility has been demonstrated with a WiMAX to GPRS handover case study.

In the third article, "Forward Error Correction Strategies for Media Streaming over Wireless Networks," Abdelhamid Nafaa, Tariq Taleb, and Liam Murphy present an adaptive packet-level forward error control (FEC) protocol to complement the existing error control mechanisms at the lower layers of the network. They have shown how network conditions could be better characterized by using packet loss patterns as feedback for FEC adaptation. The authors try to identify issues in designing a reliable media streaming system for wireless networks.

We hope that these three articles provide some understanding of challenges toward the mobile Internet of the future and its emerging applications. It is only a start to long-term research and development for mobile applications and services. We would like to thank Editor-in-Chief Tom Chen for his continuous support for this Feature Topic and the publication staff at ComSoc. We would like to thank all authors who submitted their articles for consideration in this issue. Unfortunately, due to space limitations, we could only accept three articles for this issue. We would also like to thank the reviewers for taking time to complete the reviews promptly.

BIographies

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