

Editorial

Miscellaneous Service Delivery to Modern Mobile Devices

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This special issue comprises some selected and specific peer-reviewed research papers on miscellaneous service delivery to modern mobile devices. Within the framework of wireless telecommunications technology convergence issues, the ability of current mobile devices to support new services is practically limitless. The philosophy in this case is to provide to the users the option for supporting total service continuity based on seamless transfer mode from one network to another. The new era in modern service provision from the user's point of view is to offer the "always connected option" in indoor and outdoor environments. The new communication services will be based on specific communication platforms, by taking into account input information from embedded sensors (i.e., accelerometers, proximity, GPS, etc.). The hardware and software complexity of these devices is estimated to be very high. This led us to devise utilization issues, not only from communication point of view but also for device smartness purposes. Modern mobile devices can be used in the health care sector (e.g., home care service) and in the transportation sector (e.g., vehicle telemetry services). Multimedia services form very interesting segment of the services.

A variety of wireless telecommunication services need the position information for real-time service operation; for this reason either almost all modern devices are equipped with GPS sensor or alternative positioning solutions can be implemented if GPS signal is not presented or its corresponding received signal strength level is too low. Hostile wireless mobile environment impacts on the delivering of the services. Each service is sensitive to the immediate status of radio channel in different ways. The limitation of the facts as well as the services design is very important. Each service should be

characterized by specific Quality of Service (QoS) levels. The specific QoS parameters like localization accuracy, delay, and so forth define corresponding QoS levels. For some services, those parameters are not well defined.

This special issue is addressed to researchers and engineers in both academia and industry sectors to take advantage of ideas, shared experiences, and reported original works about all aspects of the above-stated philosophy, which is covered in five selected papers for this special issue.

The paper entitled "*Real-time communications in autonomous networks: system implementation and performance evaluation*" by C. Tselios et al. focuses on the design and prototype implementation of a communication platform aiming to provide voice and video communication in a distributed networking environment. Performance considerations and network characteristics have also been taken into account in order to provide the set of properties dictated by the sensitive nature and the real-time characteristics of the targeted application scenarios. The achieved results show that the proposed platform operates seamlessly in two hops, while in the four hops scenario, audio and video are delivered with marginal distortion.

The paper entitled "*Impact of used communication technology on the navigation system for hybrid environment*" by J. Machaj et al. deals with navigation of mobile device in outdoor and indoor environments by only navigation system or application. The navigation system is proposed in the light of seamless navigation service. Main parts of the system from the positioning point of view are based on GPS and WifiLOC system. WifiLOC is an indoor positioning system based on Wi-Fi technology. The system is implemented at the

University of Zilina as a pilot noncommercial project; therefore it is called University Mobile Navigation System (UMNS). The navigation system can be characterized as a real-time system; that is, the system operations cannot be significantly delayed, since delay of the system depends significantly on communication platform used for map information downloading or communication with the localization server. We decided to investigate an impact of the used communication platform on the time needs for some of the functions implemented in the navigation system. Measurements were performed in the real-world application.

The paper entitled “*The concept of the remote devices content management*” by M. Behan and O. Krejcar presents a concept of customizable interface of remote device management which takes into account mobile devices and their content. The concept is suitable not only for Apple iOS or Google Android, but also it covers all mobile platforms as well as the sensors capabilities of mobile devices which can turn such mobile smart device to smart and mobile sensor concentrator.

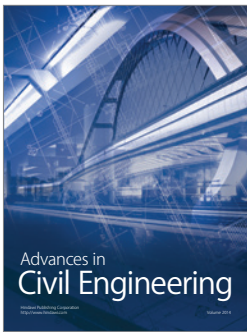
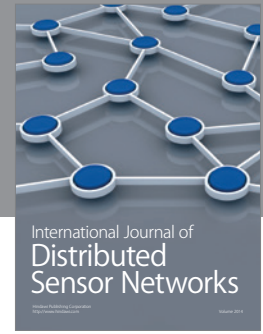
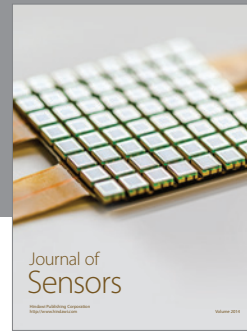
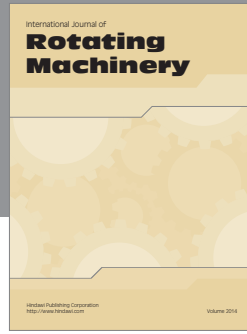
The paper entitled “*Open personal identity as a service*” by M. Behan focuses on Open Personal Identity as an independent service which is gathering available identity resources and provides unified person identities. The service enables to resolve current mobile device problematic around multiplicities, backup or change management of person identification where multiple devices replication is an option.

The paper entitled “*Troubleshooting assistance services in community wireless networks*” by P. Kriz and F. Maly proposes troubleshooting assistance services which will assist the users during solution of communication problems, gathering data for expert analysis, informing the user about the state of the network (including outages), and so forth. Network administrators will be provided with a unique tool supporting the network analysis, operation, and development. We have mainly focused on the use cases and prerequisites—the problem of topology discovery.

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