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Special Issue of the Journal of Systems and Software on

“Mobile Applications: Status and Trends”

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Scope:

The packing of new technology into handsets becomes increasingly dense, turning traditional resource-constrained cell-phones into advanced audiovisual devices operating on fast, high-capacity wireless networks. Mobile software advances just as quickly with researchers and practitioners migrating from desktop-centric to smartphone-centric applications. Research in this area is driven by the all-mobile lifestyle, consumer demand and advances in hardware design and communication networks. The steady decrease of mobile data communication charges and the proliferation of devices with large screens, rich-multimedia support and built-in GPS, WiFi, sensors and compass give rise to novel mobile and nomadic applications. Mobile application developers face numerous challenges related with location and context awareness, personalization, mobile data management, porting over multiple platforms, devices’ fragmentation, etc. Service providers are responsible for application management, deployment models and middleware support.

The goal of this special issue is to explore application-layer research and development in mobile computing and solicit high-quality research works outlining application development and industry status and trends. All articles should consider the practical application of the idea advanced through case studies, experiments, or systematic comparisons with other approaches already in practice. Research areas of relevance include, but not only limited to, the following topics:

- Middleware and distributed systems in support of mobile applications
- Middleware and supports for context- and location-aware applications
- Adaptive personalization
- Mobile application and smartphone platforms: Java ME, Windows Mobile, .NET Compact Framework, Android, iPhone, Symbian, Blackberry, Flash Lite, etc
- Supporting toolkits, programming languages and libraries
- Application porting and device fragmentation issues
- Use of novel hardware features such as accelerometers, compasses, touch sensing, GPS/A-GPS
- Application lifecycle management and deployment models
- Mobile applications accessibility issues
- Security and privacy issues in mobile applications
- Mobile applications for social networking, healthcare, culture, tourism, commerce, targeted advertising, etc
- Mobile applications for smart environments (smart homes, smart cars, smart cities, etc)
- Advances in mobile navigator applications
- Advances in mobile gaming
- Innovative location-based and context-aware mobile services
- Mobile Web 2.0 and mobile web application frameworks (Mobile Ajax, Mobile Flash, mobile web widgets, etc)
- Mobile web and mobile applications authoring tools and programming platforms
- Mobile web design
- Mobile HCI, smart mobile interfaces