A Generic Power Management Framework for Location Aware Mobile Computing

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ABSTRACT

In the past serval years, mobile devices with wireless communication and location awareness capabilities have become increasingly popular. These advanced mobile devices together with their offering services create a new paradigm for mobile computing. People are able to access information on the Internet or get the location based services anytime and anywhere easily. However, the limited battery lifetime is one of the major issues limiting the usefulness of mobile devices. The more services mobile devices offer, the more power they need. Therefore, it is essential to have a power management software which can extend the battery lifetime effectively and efficeiently on mobile devices. This research integrates location information and power information to build a generic power management framework for location aware mobile computing. The proposed framework is modular, reusabile and extensible. Thus, it enables application developers to develop location aware application with power conservative for different mobile operating system rapidly and effectively. A simple location aware application based on the proposed framework is designed and implemented as a proof-of-concept example of this research.

Keywords : mobile computing, power management, location aware, UML

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