

MobiCASE 2010
Workshop on Mobile Software Engineering
Position Paper Template

Event: October 28, 2010.
Mail paper to wmse@sv.cmu.edu by July 15, 2010.
No more than 2 pages, 11 point font.

Paper title: New patterns, components and approaches for Mobile SE

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Please state your point of view on the issues of Mobile Software Engineering. Please specifically address the following 5 questions:

1. **Your experience as a software engineer?** Programming in multiple languages (micro-code, assembly, C, Fortran, LISP, Java, Python) since 1960; was on UML technical committee; ran reuse and software engineering projects at HP and U of Utah; director of HP software technology lab; wrote book and papers with Ivar Jacobson and others on Software Reuse, Software Engineering.
2. **Your experience with mobile software development?** Wrote Python and JAVA code for Nokia S60 series mobile phones; directed multiple student projects; ran a course on mobile application development.
3. **How does traditional software engineering relate to the engineering of mobile applications and systems?** In principle the SE process and techniques are same, especially for embedded systems; patterns, architecture and [reusable] components are different; UI design is significantly different; multiple system fragmentation encourages closer look at portable frameworks.
4. **What are the distinguishing features of mobile software specification, architecture, development and testing that need special attention, skills, or innovation?** The use of app stores as a primary distribution mechanism encourages rapid cycle development of smaller applications, with goal of viral adoption and “continuous” or frequent update. The importance of intermittent connection between device-based and cloud based services; UI design approach is similar, but design center is quite different from desktop/web apps- sensor rich, users whose attention might be elsewhere.
5. **What is the suggested focus and agenda for mobile software engineering research and education?**

Education: Teach student that same SE principle should apply; teach patterns and best practices targeted to major mobile platforms, and interaction between device and cloud services. Teach both traditional compiled language development (cross develop) and rapid interpretive development; increased emphasis on testing.

Research: How to design, build and test context-aware systems, integrating multiple hard- and soft- sensors information; also new “considerate system” design and UI models.

