Workshop on Software Engineering in Health Care (SEHC)

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The Software Engineering in Health Care Workshop aims to explore the relevance and applicability of the techniques, approaches, and technologies of software engineering to problems in the domain of health care. Health care is emerging as one of the largest industries in the global economy of the 21\textsuperscript{st} century, and thus accounts for an enormous amount of capital expenditure, while also being responsible for assuring the health and comfort for all members of society. These twin drivers of cost and criticality have given rise to a great deal of interest in creating devices that provide support for the superior performance of key health care processes. These devices are now incorporating increasing amounts of software in order to help them provide increasingly better service. In addition there is also growing interest in support systems, such as Electronic Health Records (EHRs) that are entirely software.

For these and other reasons, it seems clear that software is becoming increasingly critical to the effective delivery of high quality health care. Certainly software engineering approaches and technologies are needed to assure the quality of software that is embedded in medical devices and systems such as EHRs. But at the overall system architectural level there are still more considerable challenges in assuring that the various devices, support systems, and the medical professionals who use them, synergize their efforts successfully. Software engineers have attacked the problem of interoperating “stovepiped” systems in other domains, and now these problems must also be addressed in the domain of health care. These challenges are increasingly attracting the attention of software engineers to the health care domain. Interestingly this comes at approximately the same time that medical professionals are becoming increasingly interested in looking to information technology for solutions to their problems. Thus, the vigorous interest of software engineers and health care professionals in each other makes this Workshop particularly timely.

The papers presented in this workshop span a broad range, attesting to the vitality and reach of this area. Among the software engineering technologies that are applied to health care issues are software architecture, quality requirements specification, model-driven engineering, discrete event simulation, empirical methods, security analysis, and risk analysis. Each of these papers indicates that software engineering has much to offer to the improvement of health care. Conversely the papers also make it clear that the challenges of the health care domain suggest the need for software engineering to develop deeper understandings and more comprehensive technologies in order to meet new and more difficult challenges.

The workshop also features panel and discussion sessions aimed at identifying and exploring these new challenges. It is expected that the papers and discussions of this workshop will help to define a roadmap for research that will enhance both the quality of health care, and the power of software engineering.