CACM Reports: Performing Surgery with Touchless Technology

January 2014 Issue Reports on Failing to Scale Research Conferences; Ballmer’s Legacy at Microsoft; and Tales of a Software Architect Caught in the Inferno

A team of surgeons and scientists assesses the benefits and constraints of using touchless technology to let surgeons maintain sterility during surgical procedures that involve imaging applications. Citing their experience developing a touchless system for use in vascular surgery, they conclude that system developers can drive the design of this technology. By combining knowledge of what imaging practices achieve with an understanding of the technical properties of touchless systems, these developers can change the practice of the surgical team as members interpret images, communicate information, and coordinate procedures.

Top Stories

- *Communications* Editor-in-Chief Moshe Y. Vardi cites the adverse effects of “conference inflation” that produces a growth in numbers of events rather than the size of individual gatherings. Finding this failure to scale “extremely ironic,” he points to a bold proposal by Microsoft Research’s Doug Terry, published in this month’s issue. The article advocates a significant change in the publication culture.

- Technology writer Michael Cusumano paints a mixed picture as he reflects on the legacy of Microsoft’s Steve Ballmer and how he has positioned Microsoft for the future. He proved to be an able steward of the Windows platform, Cusumano reports, and presided over the establishment of a new home entertainment platform and an extension of Windows and Office to “the cloud.” But he was unable to rein in warring factions, and never managed to make Microsoft’s online business prosper.

- In “The Software Inferno,” Boeing’s Alex Bell parallels Dante’s tale from *The Divine Comedy* in the early 1300s as experienced by a software architect. He describes a journey where “sinners against software” are encountered amidst their torment, capturing some of the spirit and prose of the originally translated text. Braving limbo, lust, gluttony, greed, anger, heresy, violence, fraud and treachery, he pronounces himself wiser for having restored his trajectory onto the true path.

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