

Mobile Text Entry for Touchscreen Devices

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A new wave of touchscreen devices, led by the iPhone, is rapidly changing the way people interact with information. In the absence of a full sized physical keyboard's rich feedback, text input presents a difficult user interface challenge to touchscreen devices. In this talk I will summarize the key ideas from a decade-long project on mobile text entry. The project culminated in the ShapeWriter input method for touch screen devices. For each word in a large lexicon, ShapeWriter defines a word pattern by connecting the word's letters on a soft keyboard. For example the word "fun" is entered by a single stroke approximating the trajectory f-u-n on the keyboard. ShapeWriter recognizes these patterns with error tolerance. A new user can look at the keyboard and trace the word from letter to letter. Over time, users are able to recall patterns and shape write rapidly. Being a form of shorthand (one word per stroke), shape writing is many times more efficient than letter based writing. ShapeWriter has been enthusiastically received by users and reviewers. Indeed, one user went so far as to write: "Revolutionized typing" is the understatement of the year. This technology should be part of every keyboard on all touchscreens. Someone nominate these software developers for a Nobel. No Joke."The work presented in this talk has been contributed by many, particularly Per Ola Kristensson, Barton Smith and the engineers from ShapeWriter Inc.

Speaker's bio: Shumin Zhai is a Research Staff Member at the IBM Almaden Research Center where he works on both the fundamentals of user interfaces (e.g., laws of action) and practical product and service innovations (e.g. FonePal). He has published over 100 research papers, received numerous patents, and contributed to three IBM Research Division Accomplishments. His work has been broadly reported in the news media including the New York Times and the BBC. He is on the editorial boards of Human-Computer Interaction, ACM Transactions on Computer-Human Interaction, and other journals. He has been a visiting professor and lectured at various universities in the US, Europe and China. He earned his Ph.D. degree in Industrial Engineering at the University of Toronto in 1995. In 2006, he was named one of ACM's inaugural class of Distinguished Scientists. To find more about his work, go to <http://www.almaden.ibm.com/u/zhai>.

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