

The Colorado State University Computer Science Department presents:

User-Based Testing of GUI Systems

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Abstract

Testing Graphical User Interfaces (GUIs) is difficult, involving many states, inputs, and events. Another serious problem is that in testing GUIs, not all effects created by the testing are observable. There has been little systematic study of this problem yielding a resulting strategy which is effective and scalable. We have developed a new method for testing GUIs that is scalable and concentrates on user sequences of GUI objects and selections that collaborate, called *complete interaction sequences (CIS)* that produce the response for the user called the *responsibility*. A systematic method to test each CIS utilizes a finite-state model to generate tests. This method is considerably extended by the user of memory tools in detecting missing effects, investigating interactions between CIS sequences and providing empirical studies of four different large commercial GUI systems.

Biography

Lee White is currently a Professor Emeritus of Computer Science in the EECS Department at Case Western Reserve University, which he joined in 1988. He received his BSEE in 1962 from the University of Cincinnati, and the MSc and PhD in Electrical and Computer Engineering from the University of Michigan in 1963 and 1967. He has served as chair of computing departments at the Ohio State University, at the University of Alberta, and at CWRU. He has consulted for a number of industrial firms, including IBM, General Electric Research Laboratory, Parker-Hannifin, Monsanto Research Laboratory, North American Rockwell and United States Steel. His research interests are primarily in software testing, most recently in GUI testing and regression testing.