



## The Unsung Heroes of Testing and CM



Lack of configuration management (CM) processes can really hurt! I remember one experience from the days when my normal development cycle was iterations of hacking and then seeing if that function worked. I was developing software that interacted with a CM database, when the software suddenly stopped working. I went to my previous version to try to discover which change had caused the software to stop working, but my previous version wasn't working either. After two hours of searching and finding no clue why suddenly nothing worked, I checked the CM database. I discovered that all of the previous data had been dumped and replaced with different data. When I asked the project lead about the change, I was told that she had changed all the database contents. When I explained that not knowing this information had caused me to spend two hours searching for the cause of a non-existent software problem, the simple response was, "Better you than me."

The glory, fun, and excitement in software engineering are the design, development, and building of something tangible (software). Software engineers who design are the all-stars, heroes, and white-collar hotshots of the industry. However, behind all that glitz and glory, someone has to keep track of all the details (CM) and verify that product quality is sufficient for the client (testing).

Although these tasks require the same knowledge and experience as a designer, software engineers that work CM and testing are sometimes looked upon as less glamorous engineers. In reality, they act as the glue that holds best practices in place. Many problems that occur in software development can be traced back to poor CM and testing procedures. So they are necessary to get the software developed but akin to evil because the devil is in the details.

While developing code in a Level 5 organization, I found that CM processes and peer reviews caught more errors before testing than any other processes. Then I knew I could count on our test engineer to catch remaining errors. This month's article *Software Configuration Management: A Discipline with Added Value* shares the CM process used at Hill Air Force Base's Software Engineering Division. Hopefully, CROSSTALK readers will see that CM can do more than just provide a library for old code and documentation. Next Robert McCann discusses the tradeoffs in time and value for code inspection vs. testing in *How Much Code Inspection Is Enough?* In *The Problem with Testing*, Norman Hines reminds us that while testing is important, we need to rely on previous stages of the software development life cycle to ensure a quality end product.

The United States Air Force's (USAF's) Capability Maturity Model<sup>®</sup> support has resulted in many USAF organizations being at least Level 3. I have been very happy with my career since joining the USAF due to the atmosphere fostered by an organization focused on process improvement. CROSSTALK'S Publisher Tracy Stauder shares some additional advantages of working for the USAF in *A Smart Way to Begin a Civilian Engineering Career in the U.S. Air Force*.

In this month's other supporting articles, Dr. Randall Jensen offers ideas on improving the capabilities and dependability of estimation tools in *Software Estimating Model Calibration*. Lt. Col. Robert Lang shares software maturity information from the Defense Contract Management Agency in *Process Capability Data for the Asking*. Finally, Lawrence Bernstein and David Klappholz bring software development reality into the classroom with *Getting Software Engineering into Our Guts*.

My experience has proved that working with good CM and testing processes is much better than working in a CMM Level 1 environment. When working in a Level 5 organization, I had better work hours, a better collaborative environment, and better confidence in my work because of the better end product. The people performing the CM and testing functions are a critical part of the team committed to an end goal of outstanding quality that encompasses the spirit of a Level 5 organization.

*Elizabeth Starrett*

Elizabeth Starrett  
Associate Publisher