

Project LEAP: Lightweight, Empirical, Anti-measurement dysfunction, and Portable Software Developer Improvement

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Project LEAP investigates the use of lightweight, empirical, anti-measurement dysfunction, and portable approaches to software developer improvement. A lightweight method involves a minimum of process constraints, is relatively easy to learn, is amenable to integration with existing methods and tools, and requires only minimal management investment and commitment. An empirical method supports measurements that can lead to improvements in software developer skill. Measurement dysfunction refers to the possibility of measurements being used against the programmer, so the method must take care to collect and manipulate measurements in a “safe” manner. A portable method is one that can be applied by the developer across projects, organizations, and companies during her career.

Project LEAP has thus far produced the publically available Leap toolkit (see <http://csdl.ics.hawaii.edu> and follow the links to “Leap”). This toolkit is in active use by software engineering students and professional software developers, who use it to collect, analyze, and archive their software engineering development data. Project LEAP has also produced LOCC, a modular, extensible, grammar-based tool for measuring work product size, which is similarly available at our web-site.

Current research involves an experimental assessment of the usability of the Leap toolkit, as well as an investigation into the relative merits of 14 different approaches to size estimation. Our future plans include incorporation of software agents for automated data collection, comprehensive training materials for distance education, and a public repository for Leap data definitions, extensions, and integrations with various development environments.