

Models and Software Metrics

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A model metrics of some original system S is in some aspects similar to S . Therefore, under certain circumstances, metrics may replace S , thus allowing to perform experiments which cannot be performed with S . A model of a building, e.g. may be modified in order to learn the effects of some extensions planned for the real house.

Software metrics are special models used for describing properties of software, or of the process of software development. A metric consists of a mapping $S \rightarrow f_M(S) = v$ and an interpretation of v , where S is the software (-component), and v the value.

Metrics can be classified in several ways, e.g.: simple metrics. (direct results from counting or measuring) versus derived metrics (calculated from simple metrics); descriptive versus prognostic metrics; scalar metrics versus vectorial metrics, etc.

To date, derived metrics are not widely used, because there is no really useful, or relevant, interpretation for them. Simple metrics, like DLOC (delivered lines of code), are just as useful, and widely accepted.

Project SESAM (*Software Engineering Simulation by Animated Models*) at Stuttgart University aims at experimenting with metrics, mainly for the development process.