

Measuring Class Importance in the Context of Design Evolution

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A measure of how a class is impacted during design evolution is presented. The history of design changes that involve a given class is the basis for the measure. Classes that are often impacted by design changes are branded as important to the design of the system. Identifying these important classes helps reveal what parts of the system are regularly evolved (e.g., specific features or cross-cutting concerns). The design importance of a class is measured as the number of commits that impact both the design and the class. This is also measured for sets of classes that collaborate to realize a feature or concept in the system. Collaborating classes are identified using itemset mining on commits that impact the design. A small study is presented on two open source projects to illustrate the approach.

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