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Towards measuring object-oriented class stability

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Abstract: Stable software, the capability of software to evolve while preserving its design, is an important software feature that software engineers strive for. Stable software tends to reduce maintenance cost and effort. Object-oriented (OO) classes form the basic components of the software systems; hence, stable OO classes may contribute to reducing the maintenance and effort cost. The authors identified factors that affect class stability and then used these factors to propose new class stability metric (CSM). Also, the authors theoretically and empirically validated CSM. The results show that the proposed CSM is negatively correlated with the maintenance effort.

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