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The 7 C's for Creating Living Software: A Research Perspective for Quality-Oriented Software Engineering

Mehmet AKŞİT
University of Twente, Department of Computer Science,
Postbox 217, 7500 AE, Enschede, The Netherlands
e-mail: M.Aksit@ewi.utwente.nl

Abstract: This article proposes the 7 C's for realizing quality-oriented software engineering practices. All the desired qualities of this approach are expressed in short by the term living software. The 7 C's are: Concern-oriented processes, Canonical models, Composable models, Certifiable models, Constructible models, Closure property of models and Controllable models. Each C is explained by the help of a set of definitions, a short overview of the background work and the problems that software engineers may experience in realizing the corresponding C. Further, throughout the article, a software development example is presented for illustrating the realization of the 7 C's. Finally, this article concludes by infomally justifying the necessity of the 7 C's.