Implementation of Model-view-view Architecture Patterns for Software Reusability in the Final Session Process of the Faculty of Informatics, Telkom University

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Abstrak

In the application development process time is an important factor. As the complexity continues to increase but the available time is limited [1], the time spent writing code is approximately 40% [2]. To shorten the time a common solution used is application recycling [3]. Application recycling is becoming important to build cheap and robust applications. Recycled applications also have a lower defect rate than those that are not [4] . Reusability is the ability of application assets to be recycled [5]. This study examines the impact of implementing model-view viewmodel (MVVM), dependency injection and template methods on aspects of CK metrics related to reusability aspects. There are 5 aspects related to reusability, namely Weight Method Class (WMC), Depth of Inheritance Tree (DIT), Number of Children (NOC), Coupling Between Object Classes (CBO), Lack of Cohesion of Methods (LCOM)[8][9]. The results showed that CBO, LCOM, WMC, DIT this aspect experienced a clear improvement in quality. In the NOC aspect there was an increase but only 0.1 from before the recycling process. It can be concluded that the application of these 3 methods has a good impact on reusability. 4 out of 5 CK metrics attributes related to reusability experienced a visible change. In addition, certain combinations of design patterns or methods may be the key in improving software quality

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