A Comparison of Code Maintainability in Agile Environment

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The demand for quick delivery of quality software is becoming high among software clients due to the fast changing technology in the dynamic world. Agile software development meets this demand and has gained appropriate and wide acceptance among software practitioners. However, the quality of such software is greatly impacted by its maintainability. Unfortunately, existing works focused only on the flexibility aspect of maintainability without paying attention to timely delivery. In this work, maintainability as a function of time to correct codes was examined among various categories of software developers. Deliberate errors, ranging from two to nine, were introduced into sets of agile codes written in python programming language and given to 100 programmers, each in the groups of individual junior, individual expert, random, expert pairs, junior pairs and junior expert pairs. The results revealed that random pair programmers spent the highest time of 21.88 min/bug on the average, while individual experts spent the least time of 16.26 min/bug.

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Introduction

The issue of how software development should be organized with a view to delivering faster, better and cheaper solutions has been discussed in software engineering circles. There have been lots of suggestions for improvement. This varies from standardization and measurement of the software process to a multitude of concrete tools, techniques and practices (Kaushal and Anju, 2013). Most of the suggestions for improvement have come from experienced software professionals who have individually developed methods and practices to respond to the expected change.

In order to tackle the challenges faced in the software industry, a group of 17 software experts met in Utah in February 2001 to discuss and came up with the agile manifesto. A collection of the different techniques and practices that share the same values and basic principles is called the agile methods. These methods for the agile

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