Establishing evaluation criteria for assessing novices" ability in applying object-oriented concept using delphi approach

Abstract

There are many approaches in assessing students' ability in object-oriented programming, but little research has been discussed concerning the evaluation of novices' ability in applying object-oriented fundamental concepts in their source code. The main purpose of this study is to construct and validate through expert consensus, a set of evaluation criteria for assessing novices' ability through evaluation of the application of object-oriented concepts in program source code. These evaluation criteria are derived based on the common fundamental object-oriented concepts based on Malaysian object-oriented programming syllabuses. A three-round Delphi approach has been chosen in establishing the consensus and participated by a number of OOP experts. Based on the Delphi study, sixteen evaluation criteria have been established for assessing novices' ability in applying fundamental object-oriented concepts. The proposed evaluation criteria were then validated by associating them with established related object-oriented design heuristics and object-oriented design principles.