Manipulating data

Technology, Information Technology

Manipulating Data Introduction A programming paradigm is a form of computer programming in which the elements and structureof computer programs are built. The programming languages are determined by the programming paradigms that they support. In the past 60 years, there have been many different ways through which programming has evolved in collective grouping and manipulating data by spaghetti code, structured programming, modular programming, and object-oriented programming. Spaghetti code is a particular programming code which was initially used in programming. It uses branching from one code to another. It is the result of an old code that is modified over the years plenty of times. Another aspect is that changing one part of the code would have unpredictable effects on all the other parts of the program, just as a bowl of spaghetti where pulling one can affect all the other strands. Thus the complex structure is named after spaghetti. Spaghetti code is caused mainly by inexperienced programmers following their mandates and creating a complex program which is being modified by several other people previously. Structured programming however decreases the chance of spaghetti code (Dixit, 2007, p. 92).

The structured programming was a method formed in 1966 as a logical programming method which is a precursor to the object-oriented programming. This programming method is aimed to improve the quality, clarity, and development time of computer programs through the extensive use of block structures and subroutines instead of simple tests such as GOTO statements resulting in spaghetti code which makes it difficult to maintain and follow (Agarwal, 2009, p. 253).

Modular programming has been functioning since the 1970s as a technique

which subdivides a computer program in various other sub-programs. It separates the computer programs into individual and independent modules. It is a separate software component which is used with many other applications and functions in the system. The functions which are similar are grouped together while the separate functions are grouped as separate units. Object-oriented programming can be used with modular programming as it allows multiple programmers to work on divided programs independently (Mitchell, 2003, p. 239).

Object-oriented programming is the method which is most commonly used today. It provides a programming model based on objects as it integrates the code and data by using objects. An object can be the abstract data type which has a state and behavior both. These objects can also be like real world things such as circles or squares or a shopping cart on a shopping website. These objects can also be designed in hierarchies through classes and subclasses (Seed, 2001, p. 32).

Programming models have developed throughout the years and they have advanced as per the development of the computer programs. These programs have developed as per the needs of the customers and programmers. Hence, the evolution of the programming models has taken place over the years as programming language is defined by the programming modules. Some of the programming languages use multiple paradigms and the programmers have to decide whether how to use these paradigms. Programming uses these modules of collective grouping and manipulative data.

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