ABSTRACT

Program comprehension is important in order to enable us to use a program effectively. It is also important in order to perform software maintenance such as fixing bugs, refactoring code, and porting code to different platforms. Open source programs are developed by a wide range of programmers and they are being developed by using many different languages and have different levels of complexity and diversity. Thus, one of the problems faced by many programmers is the difficulty in understanding open sources programs. In order to solve the problem, many software understanding tools have been developed. However, most of these tools support only one language and they do not facilitate source code understanding. This research aims to propose a new software understanding technique that helps to facilitate source code comprehension by adding multimedia and extra comment to the source code as well as supporting multiple languages. In order to achieve the aim of this study, the research is carried out in five stages. Firstly, available tools and techniques in software understanding are examined to identify their strengths and weaknesses. Secondly, based on the study, a new technique is proposed. Thirdly, a tool is designed and implemented by using .Net framework with C# programming language and MySQL as a database. The software tool is then evaluated by using a survey. A group of students and programmers are invited to use the system and then to give their feedbacks. The feedbacks received shows that users are satisfied with the developed multi language software understanding tool.