Abstract

Software risk management, as one of the fields in software engineering discipline, has been gaining more and more attention in software developer community. However, literature on software risk management is meager. More studies are needed so that software organizations will have better understanding on software risks and will be able to deal with risks more effectively.

This dissertation addresses the current software project problems, with a detailed discussion on the current software development approaches and the available risk management techniques, as well as a comparative look at the available automated risk management tools. It is followed by the development of a Windows-based risk management tool named 'Risk Management Tool: A Statistical Manager'. The objectives of this tool are to aid software developers to capture and analyze various types of project data statistically. Statistical Manager has two main parts: the Database and the Statistic. The Database deals with the gathering and retention of project and risk information. The goal of this database is to create a body of information/knowledge and make it available to the software organization. The Statistic deals with the subsequent manipulation of the project data. Basic statistics, regression and correlation are included here. It can help users to resolve a number of key software engineering decisions, such as to answer question like, " Is there a relatively high correlation between risk level and project size?" New projects can review the organization's risk factors and methods of handling specific risks.

The tool is well accepted by evaluators. They have commented that this is a very interesting tool. The ideas of regression and correlation based on concrete data sources are much commented. Many evaluators are happy with the statistical part and the simple and friendly interface. The tool is also easy to learn and use.