

ABSTRACT

Software risk management is still a new concept in software industry. In this research, existing approaches of software risk management are investigated. A survey for software risk management practices has been conducted, and its results are presented. Nevertheless, many inclinations have been determined in the existing approaches. In general, however, existing approaches tend to suffer from many shortcomings. For instance, they ignored or not covered well some important aspects like risk monitoring and documentation.

Since software risks increase with the growth of software developments. Therefore, seven risk items have been identified and proposed in this thesis to be added to the Top Ten risk items specified by Boehm. However, the work presented here introduces a new group of software risk management steps (technique), with emphasizes on risk documentation as an aspect could help to predict and avoid future risks. In addition, a mechanism to estimate software risks (probability and magnitude) has been presented.

Since many weaknesses have been detected in existing approaches prototype to tackle them was developed. This thesis describes the prototype, which is designed based on the proposed technique. Firstly, its requirement specification, analysis and design and implementation phases are discussed. The prototype has also been tested and validated.

The testing and validation results are discussed as well. The prototype comes out with many contributions and features (e.g. representing risk exposure with a line graph for monitoring purpose, risk documentation, probability and magnitude estimation, statistical data preparation) which are expanded in this thesis.