

Software Engineering Risk Management

Finding Your Path through the Jungle

with Dale Karolak

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Description

Welcome to Software Engineering Risk Management (SERIM). As a professional associated with the development of software, you are well aware that the software development process can truly be a jungle, filled with hazards that lie in wait to sabotage your projects. These hazards (risks) are numerous and often complex. The purpose of this application is to help you find a safer path through this jungle by assessing risk factors, analyzing risks from several different perspectives, and developing focused action plans to manage risks before they sabotage your projects. I have used the mathematics of probability to design the formulas to help you assess and manage risks in the complex software development environment (Complete information on the SERIM Model's equations is included in this application.)

You can use the SERIM application to monitor risks at any point in the development cycle. You can perform your SERIM assessments on a regular schedule for each project, or as indicated by your own observations. Or you can combine these two strategies to manage risks as your projects develop. Whatever strategy you choose, the SERIM approach will help you find a safer path through the jungle! I wish you success in using this application to manage risks for your software projects. With best regards from a fellow explorer, Dale Karolak.

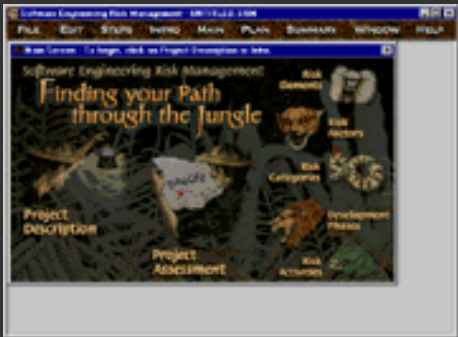
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Content

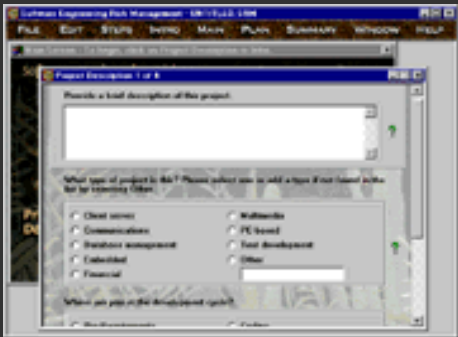
This interactive, easy-to-use Windows 95 application gives you an automated way to determine the risks of your software project. This unique software tool lets you determine within minutes how risky your software project is during all stages of development. The product is based on the SERIM model in the best selling book Software Engineering Risk Management. Its design is based on proven software risk management processes and uses metrics that measure software risks for your project.

The software package:

- Identifies different risks for technical implementation, cost and schedule
- Predicts risks by software development phases
- Provides a means for corrective action to reduce risks
- Identifies the effectiveness of your software risk management activities
- Measures the risk associated with your software product and



Main Screen



Description



Assessment Organization



Analytical Perspective:
Development Phases - Screen 1

process

- Is user friendly and comes with example projects
- Handles multiple projects for analyzing software risks The SERIM software application contains three modules:

1. **Project Description** Within this module, you will enter some basic identifying information about your project. When you have completed the Project Description, return to the main screen and click on the picture of the explorer holding the map to go to the next module, Project Assessment.

2. **Project Assessment** Within the Project Assessment, you will assign ratings on a scale of 0 to 10 ("*" for not applicable) to a series of metric questions within ten categories of risk factors. You will need to complete the Project Description and Project Assessment modules before proceeding to the Analytical Perspectives, so that the application can use your assessment ratings to calculate your project's risk scores. When your Project Assessment is complete, analyze your project's risk by choosing any of the five Analytical Perspectives.

3. **Analytical Perspectives** Choosing an Analytical Perspective provides you with a way to look at your project's risks from one of five different points of view. Analyzing your project's risks from five different points of view will enable you to focus on problem areas, and create action plans to improve your project's potential for success. To choose an Analytical Perspective, click on the picture of the animal representing the desired perspective. You can work through any or all of the perspectives, in any order you choose. As you work through each analytical perspective, you will be able to create an action plan to raise the score of any individual metric question.

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The five perspectives listed below.

1. **Risk Factors** This perspective helps you to analyze how each of the ten risk factors impacts your project.
2. **Risk Elements** This perspective helps you analyze the data from your assessment of the 10 risk factors as they impact Technical Risks, Cost Risks, Schedule Risks.
3. **Risk Categories** This perspective helps you analyze the data from your assessment of the 10 risk factors as they impact Process and Product.
4. **Risk Activities** This perspective helps you analyze the data from your assessment of the 10 risk factors as they impact Risk Identification, Risk Strategy and Planning, Risk Assessment, Risk Mitigation and Avoidance, Risk Reporting, and Risk Prediction. (Within each activity, risks are considered from the operational, strategic, technical, business, industry, and practitioner points of view.)



Analytical Perspective
Development Phases - Screen 2



Analytical Perspective:
Development Phases - Screen 3

Analytical Perspective:
Development Phases - Screen 4



Summary Screen

5. Development Phases This perspective helps you analyze the data from your assessment of the 10 risk factors as they impact each phase of software development cycle Pre-Requirements, Requirements, Design, Coding, Testing, and Delivery and Maintenance.

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Expert

Dr. Dale Walter Karolak is currently an Engineering Director at TRW Automotive Electronics. His previous positions include Software and System Engineering Manager at ITT Aerospace / Communications, and Software Engineer at GTE Communications Systems R&D Labs. He received his Ph.D. in Software Engineering from The Union Institute in Cincinnati, Ohio, his MBA from the University of Phoenix, and his BS in Computer Science from Central Michigan University.

Dr. Karolak is the author of the IEEE's best selling book, Software Engineering Risk Management. He has presented and published over 10 papers in the areas of software management, metrics, reliability, quality, testing and architecture at IEEE, ACM, NSIA, Association of Management, Applied Software Measurement, International Software Engineering Research Forum and Medical Device conferences and journals. He also holds a patent on "Communication Management System Architecture," and has three other software architecture and communication patents pending. He is a member of the IEEE, ACM and SAE societies.

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Pricing and How to Order

IEEE Members \$180.00
Non-members \$210.00

Visit IEEE's website for ordering information.
Refer to Catalog # SW07970 when ordering.
Includes CD-Rom and Reference Guide November 1997.
ISBN 0-8186-7970-0.

System Requirements

- DOS 6.0 or higher
- Microsoft Windows 95
- An IBM-compatible computer with a Pentium 66 or higher processor
- Windows-compatible mouse or other pointing device
- A standard VGA monitor (SVGA is preferred)

- Hard disk with at least 30 MB of free storage
- 16 MB RAM
- CD-ROM drive for installation

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