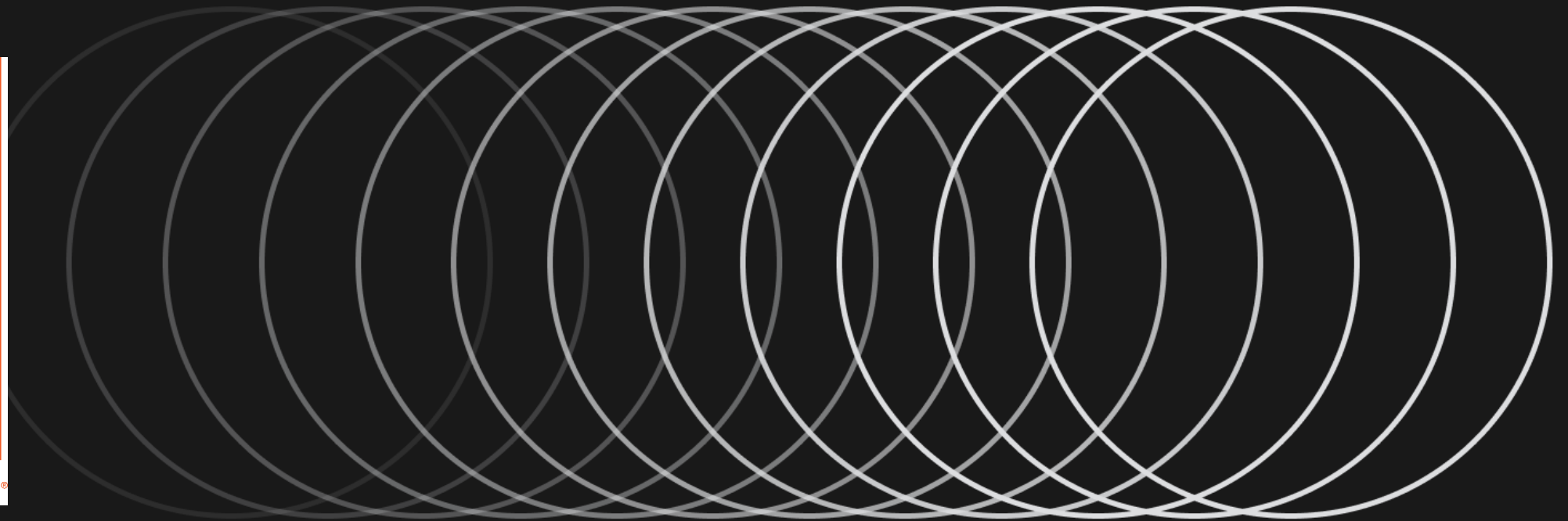


How to predict software reliability

Before the software is even written



Contents

01. Predicting Defects

Core foundation of availability and reliability through early defect detection

02. RAM Metrics

System availability forecasting, error budgets, and integrated system modeling

03. Early Detection

SRE methods for identifying system issues and inter-dependencies early

04. Target Audience

Who benefits from this training, and what are the next steps forward



Core Value Proposition



Eliminate Reliability Issues

Eliminate massive site reliability issues caused by minor, repeated software failures. Learn to build an integrated and reliable system from the start, rather than fixing problems after deployment.



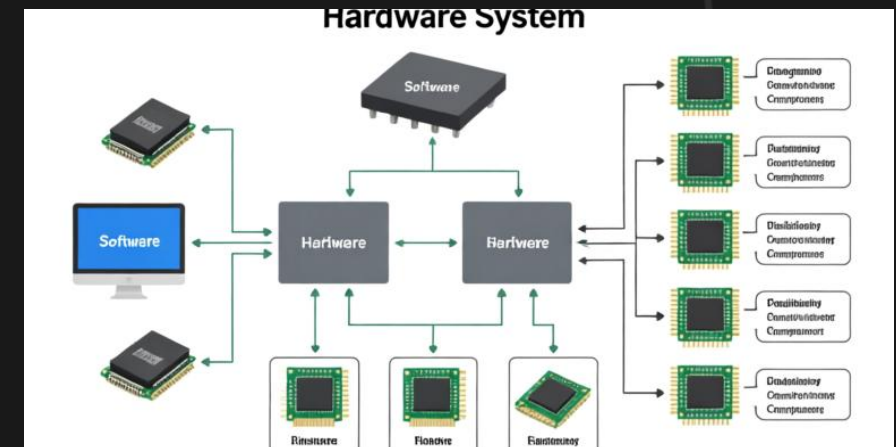
Predictable Uptime

Master techniques to forecast system downtime, availability, failure rates, and mean time to failure for software intensive systems.



Integrated Systems

Learn to model hardware and software as a combined system to ensure designs are synchronized and error budgets align.



Predict RAM Class Outline

5

Module Structure

Downtime Forecasting

Predict the timing and duration of potential system downtime with confidence scoring.

- Accurate AI-driven system availability forecasting capabilities
- Confidence ranking that improves with project data
- Integration with existing monitoring and alerting systems

AI

Driven Forecasts

Failure Rate Prediction

Predict software failure rates and MTTF to merge with hardware predictions

- Software failure rate forecasting and trend analysis
- Mean Time To Failure calculations for components
- Hardware and software failure correlation modeling techniques

40+

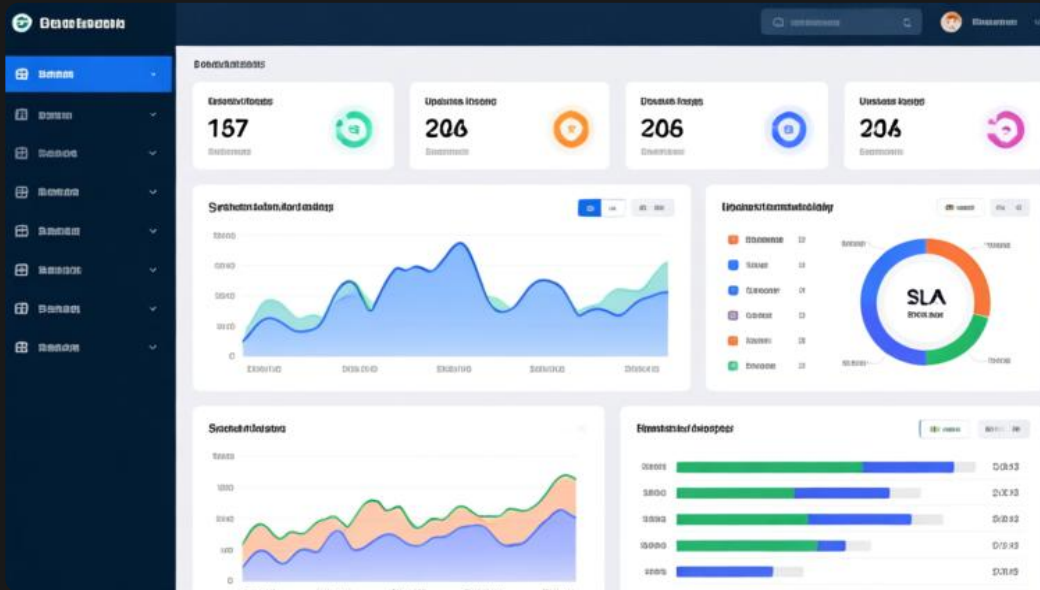
Years Experience

System Availability

Receive accurate predictions accompanied by confidence scores for reliability planning.

- Comprehensive system availability metrics and monitoring dashboards
- Real-time confidence scoring based on data quality
- Predictive analytics improves with historical project information

System Availability and Error Budgets



Error Budget Mastery

- Master the concept of allowable failure rates calculation.
- Calculate error budgets for individual system components effectively.
- Align error budgets across integrated hardware and software systems

Feasible Availability Objectives

- Learn to determine realistic availability objectives for products.
- Set an achievable target uptime based on business requirements.
- Balance reliability goals with cost and complexity constraints

SRE Early Detection Methodology

Early Issue Detection

Find software issues during the system design phase where they originate, preventing costly redesigns.

Failure Cascading Prevention

Learn how software can cause hardware damage and prevent failures from cascading into bigger outages.



Inter-dependency Analysis

Identify how hardware changes inadvertently affect software design and vice versa, for integrated planning.

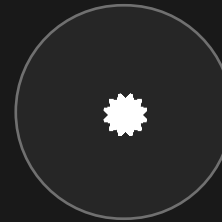
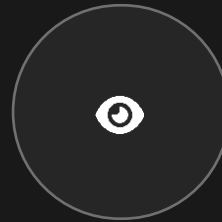
Error Handling Optimization

Improve software error handling to prevent hardware failures from escalating into system-wide problems.

Mission Ready Software Advantage

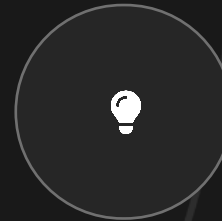
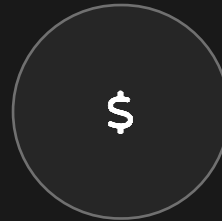
Integrated View Approach

Solves the problem of designing in silos,
which is the source of many system
availability issues



Cost-Effective Simplicity

Learn a cost-effective approach focusing on
the little things that lead to big reliability
problems



IEEE 1633 Compliance

Methods taught are recommended by the
IEEE 1633 Recommended Practices for
Software Reliability standards

Four Decades of Expertise

Leverage forty years of experience in
modeling software and hardware design to
successfully.

Who Should Take This Class

Site Reliability Teams

- Gain insights needed to meet SLAs effectively.
- Optimize capacity planning with predictive analytics tools.
- Improve system uptime and reliability metrics.

RAM Reliability Engineers

- Proactively manage system stability and lifecycle planning.
- Integrate hardware and software reliability modeling techniques to enhance overall system reliability.
- Prevent costly late-stage system redesigns effectively.



Prerequisites and Getting Started

Recommended Preparation Course

Reliable Software 101 provides an excellent overview for individuals new to Site Reliability Engineering. The first two modules are available for free on our training portal.



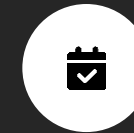
Virtual Self-Guided

Complete the training at your own pace with comprehensive online materials and interactive exercises



Virtual Instructor Guided

Join live sessions with expert instructors for hands-on learning and real-time Q&A support



Schedule a Call

Contact
sales@missionreadysoftware.com today to discuss your training needs and get started



Ready to enroll?

Ready to predict and prevent reliability issues? Contact sales@missionreadysoftware.com today.