

Training Program

**EFFECTIVE SOFTWARE
MEASUREMENT & ANALYSIS**



Introduction

Overview

This Software Measurement and Analysis course provides knowledge and the professional skills needed to define, capture and analyze software process and product measurement in support of management information needs. This course will be coached and guided with theory, industry best practices and practical exercises to help you learn effectively from experienced and passionate trainers.

Duration

5 – days workshop

Program Objectives

Learning Objectives

By the end of the course participants should be able to:

- ❖ Describe the importance of measurement for software projects
- ❖ Select the appropriate chart type to present data most effectively
- ❖ Define a good Software measurement and analysis process
- ❖ Specifying objectives of measurement which aligned with identified information needs and project, organizational, or business objectives
- ❖ Define key process, product and project metrics related to Schedule, Resources, Productivity, Budget, Quality, Risk, Change, Customer, Team morale, Earned Value
- ❖ Apply data analysis techniques to effectively analyze collected data
- ❖ Providing objective results that can be used in making informed decisions and taking appropriate corrective action
- ❖ Use analyzed data to manage and control project execution according to the project plan
- ❖ Manage project change and project risk using data fact
- ❖ Capture and use historical data
- ❖ Describe and avoid typical software measurement pitfall

Target Audience

This course is intended for those as below:

- ❖ IT/Software Manager
- ❖ IT/Project Manager
- ❖ Quality Assurance Manager
- ❖ Quality Assurance Engineer
- ❖ IT/Software Engineer
- ❖ Anyone who interested in Measurement and Analysis

Training Content

Module 1: Introduction to Software Measurement and Analysis

- ❖ Value of software to business
- ❖ Role of the software engineer
- ❖ Why, what, how we measure?
- ❖ Key stakeholder perspectives
- ❖ What is measurement?
- ❖ Direct and indirect measures
- ❖ Subjective measures
- ❖ What is data?
- ❖ Data presentation

Module 2: Software Metrics and Process & Methodology

- ❖ What is a software measurement plan?
- ❖ Steps for implementing a software measurement program
- ❖ Goal-question-metric (GQM)
- ❖ Measurement principles
- ❖ Processes and methodologies
- ❖ Methodology differences
- ❖ Measuring methodologies

Module 3: Scheduling Measurement and Analysis

- ❖ What is a schedule (traditional projects)?
- ❖ How to check for schedule errors
- ❖ Why create a baseline?
- ❖ Agile differences

Module 4: Productivity Measurement and Analysis

- ❖ Productivity goals
- ❖ Productivity defined
- ❖ Measuring productivity is difficult
- ❖ Recommendations
- ❖ Software productivity drivers
- ❖ Laws of software productivity

Module 5: Budget and Earned Value Measurement and Analysis

- ❖ What is a budget?
- ❖ What are resources?
- ❖ Budgeting functions
- ❖ Budget types and budgeting approaches
- ❖ Additional financial tools
- ❖ What is earned value
- ❖ Earned value steps
- ❖ Earned value terminology

Module 6: Quality Measurement and Analysis

- ❖ Defining software quality
- ❖ Stakeholder perspectives
- ❖ Traditional software requirements measures
- ❖ Quality dimensions
- ❖ S.m.a.r.t quality goals
- ❖ Software quality management process

Module 7: Risk Management

- ❖ What is a risk?
- ❖ Levels of risk management
- ❖ Types of risks
- ❖ Element of risk management
- ❖ How to document a risk?
- ❖ Reporting project risks
- ❖ Communicating risks

Module 10: Estimation and Historical data

- ❖ Estimating goals
- ❖ Estimation methods
- ❖ Estimation using historical data Agile estimation

Module 8: Change Management

- ❖ Why manage change?
- ❖ What do we mean by change?
- ❖ Change alternatives
- ❖ How to manage change?
- ❖ Avoiding common problems

Module 11: Communicating with Stakeholders

- ❖ Stakeholders
- ❖ Develop a project communication plan
- ❖ Status reporting
- ❖ Dashboards
- ❖ Negotiating with stakeholders
- ❖ Estimates versus commitments

Module 9: Customer Satisfaction

- ❖ What is 'Done', 'Quality', and 'Success'?
- ❖ Cost to attract new customers
- ❖ Agile versus traditional
- ❖ Measuring satisfaction and goals
- ❖ Responsibilities
- ❖ Best practices

Module 12: Experimenting and Pitfalls

- ❖ What is the experimenting?
- ❖ Data collection
- ❖ Measurement process
- ❖ What is good data
- ❖ Obstacles
- ❖ Benchmarking
- ❖ Common measurement pitfalls

Key Features

- 40 Hours of high quality learning
- Course completion exams
- Quizzes in the end of each chapter
- Apply the knowledge and technique to handle the role
- 5 Real life exercises and case study
- Invited to our professional community
- Learn from experience and passionate trainers
- Certificate of Completion
- Quick reference card, toolkits

