

# IIST Schedules and Outlines

December 20-21

**9:00 a.m. – 5:00 p.m.**

## **Software Test Planning and Design**

**Dr. Magdy Hanna**

This course is essential to every software professional involved in software testing: Programmers interested in performing effective unit testing, development or test managers wanting to gain a better control over the different test activities and the quality of the software product, test engineers and test analysts interested in performing effective planning, designing, and monitoring all test activities. This course offers a systematic approach to effective software testing.

Whether you are doing testing for a number of years or you have just started, you need this course. You will learn a number of testing practices that you might have not done before. The course will also cover the different types of testing performed at each phase of the software lifecycle and issues involved in these types of tests.

The course will also cover the test design phase of the testing lifecycle. It starts with in-depth coverage of test case design techniques both for black and glass box testing. This includes Equivalence Class Partitioning, Boundary Value Analysis, Cause-Effect Diagram, Decision Tables and Decision Trees. The last part of the course will cover test design activities and writing Test Design Specification including documenting test conditions, test cases, test scripts and procedures, and expected results.

Upon completing this course you should have all that you need to start doing testing in a more systematic manner.

### **1. Principles of Software Testing**

- Testing defined and terminology
- Requirements
- Test condition
- Test cases
- Test scripts/procedures
- Testware relationships
- Blackbox/Glass Testing

### **2. Disciplined Software Testing Practices**

- Requirements are crucial for effective testing
- Test Both functional and quality requirements
- Adopt Model-Based requirements
- Formally design your tests
- Perform both positive and negative testing
- Trace requirements to test components
- Trace test cases to database components
- Perform thorough regression testing
- Define your test process
- Select tools to support your process
- Perform both static and dynamic testing
- Continue formal education

### **3. Testing Levels**

- Unit testing

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- Integration testing
- System testing
- Major areas of systems testing
- Usability and GUI testing
- GUI Navigation Diagrams
- User acceptance
- Regression testing
- The structured testing Pyramid
- The object-oriented testing pyramid

## 4. Test Case Design Techniques

- Strategies for generating test cases
- Black Box testing
- Equivalence Class Partitioning
- Boundary Value Analysis
- Cause-Effect Diagram
- Decision Tables
- Glass Box testing
- Statement/decision/condition coverage
- Path coverage
- Program complexity and basis path coverage

## 5. System Test Planning

- Why plan
- Developing a test strategy
- Test documentation
- Components of a test plan
- A test plan template
- Creating a systems test plan
  - Identification of the test plan
  - Systems test environment
  - Systems test objectives and scope
  - Systems test approach
  - Systems test staffing and responsibilities
  - Hardware/software/network requirements
  - Testing tools
  - Systems test deliverables
  - Systems test tasks

## 6. Systems Test Design

- Test design basics
- Test design activities
- Deliverables of the test design phase
- Conditions and test cases
- Procedures and expected results
- Major areas of system testing
- Business requirement testing
- Preparing the Test Design Specification
  - Defining test conditions
  - Testing for missing business requirements
  - Defining test cases
  - Identifying data needed to execute tests
  - Defining baseline data
  - Determining expected results
  - Defining test cycles
- A Systems Test Specification template

# IIST Schedules and Outlines

**December 22**

**9:00 a.m. – 5:00 p.m.**  
**Dr. Magdy Hanna**  
**A Day of Mentoring**

The day will be spent reinforcing principles of the class. This can be done in the classroom, at individuals' desks, or in whatever capacity is deemed best to ensure retention and learning.

# IIST Schedules and Outlines

December 24-25

**9:00 a.m. – 5:00 p.m.**

**Dr. Magdy Hanna**

## **Writing Testable Requirements**

This two-day course is essential for test and quality professionals, requirement engineers, business and system analysts and everyone who is involved in writing, validating and testing requirements. It covers details on how to document different types of requirements in a form that is testable. The course adopts a model-driven requirement process. It is based on the instructor's philosophy of using models to assure completeness, correctness, testability, and precision of requirements. The course will also discuss the elements of requirement management process.

### **The course will address:**

- Requirements without models is simply waste of time and resources
- Learn how models can tremendously improve the testability of requirements
- Learn how to identify test scenarios for model-based requirements
- Learn the elements of a requirement management process and learn how to build your own process

### **Outline**

1. Requirement Validation
  - Types of requirements
    - Requirement traceability
    - Functional Vs quality requirements
    - Documenting quality requirements
    - Assessing the quality of software requirements
    - Forms of requirements
2. The Common Sense Model for Software Development and Testing
3. The Requirement Management Process
4. Models for Exploring and Refining Requirements
  - Data models
  - Process models
  - Use Cases
  - State Models
  - User Interface Models

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**December 26**

**9:00 a.m. – 5:00 p.m.**  
**Dr. Magdy Hanna**  
**A Day of Mentoring**

The day will be spent reinforcing principles of the class. This can be done in the classroom, at individuals' desks, or in whatever capacity is deemed best to ensure retention and learning.

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December 28-29

9:00 a.m. – 5:00 p.m.

Dr. Magdy Hanna

Software Inspections and Reviews

## Concepts

Software inspections have proved to be very effective in capturing more defects early enough to avoid the cost of rework. Also, many types of defects can only be found by inspection. Yet, many organizations are struggling to make the inspection process effective and to achieve the real benefits of inspections. This course will examine the different elements that make an effective inspection process and help you establish a process which is customized for your organization. This course is a must for all software persons involved in the software development and maintenance process including managers of all levels

## What You Will Learn

- What the real benefits of inspections are
- How to achieve the most value of your inspection effort
- The different factors affecting the inspection process
- The different forms of inspection and when to use each of them
- How to establish different process variations to fit different environment
- How to effectively monitor your inspection process to improve its effectiveness
- Most importantly, learn from instructor's real experience with inspections

## Course Outline

- Introduction
  - Why do we need to inspect
  - Benefits of inspection
  - Why do inspection programs fail
  - Inspection after or before unit testing
  - Different forms of inspection
  - Formal reviews
  - Internal review cycle
  - Walkthroughs
  - Formal inspections
  - Verification and validation
- Establishing the Process
  - Why do we need a process
  - Characteristics of effective process models
  - Steps to establish the process
- Gathering Relevant Information
  - Development process
  - Types of systems developed
- In-class Team Exercise
- Defining a Standard Inspection Process 6. Defining Process Variations
- Training
- Monitoring

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- Elements of An Inspection Process
- Planning
  - Planning the inspection
  - Selecting the moderator
  - Selecting the inspectors
- he Overview meeting
- Preparation
- The Inspection Meeting
  - How to detect lack of preparation
  - What happens during the inspection meeting
  - Rules of the inspection meeting
- Record Keeping and Recording
- Rework and Follow-up
- Causal Analysis

# IIST Schedules and Outlines

January 23-24

**9:00 a.m. – 5:00 p.m.**

**Tim Nelson**

## **Principles Architectures and Strategies of Test Automation**

### **Concepts covered:**

This course provides an introductory approach to test automation. The objective of this class is to provide the student with a general knowledge of how to incorporate test automation into current test practices. The student is provided knowledge on how to get started, develop successful test automation strategies for short and long term ROI, and manage the test automation expectations of testers, developers, managers and business clients. Items covered will include:

- Awareness of test automation stakeholder expectations
- Test automation doesn't just include automating test cases alone
- Importance of test automation constructs that are customized to your processes and development culture
- Learn how to modularize your test automation into reusable and maintainable components
- Learn through real life examples to demonstrate some of the concepts
- Learn how customized your test automation software development into time and cost saving solutions
- This class will build your confidence in dealing with the day-to-day decisions of test automation development.

This course is valuable to anyone considering test automation, in the process of implementing test automation, or who is looking to improve the test automation they have already implemented. Although prior experience and knowledge of automation scripting would be nice, it is not required. The audience is any stakeholder that would benefit from the investment of automation. This would include but is not limited to Business Analysts, Test Managers and Practitioners, Developers, Project Managers, CIOs, CTOs and Business Application Owners.

### **Course Outline:**

#### **Introduction**

- What is Software Testing?
- How does Test Automation Play a Role in testing?
- What skills sets are required for test automation?
- Who should be involved in tool selection?
- Different levels of expectations
- Planning & Communication
- Measurements of success

#### **Automation Framework**

- Test Requirements file creation
- Creating & maintaining test automation documentation
- Logging test results for easy analysis and reporting
- Keeping test automation useable in a high-change environment

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## Workflow Testing

- Simplify code maintenance
- Create reusable navigational, entry actions, and test data functions.
- Utilize Excel workbooks to document & drive tests

## Class project(s)

- Group Assignment #1 – Break into groups to generated test automation development requirements.
- Group Assignment #2 – Break into groups to identify stakeholders and how to best get test automation started within your organization

## Review Session

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January 25

**9:00 a.m. – 5:00 p.m.**

**Tim Nelson**

**A Day of Mentoring**

The day will be spent reinforcing principles of the class. This can be done in the classroom, at individuals' desks, or in whatever capacity is deemed best to ensure retention and learning.

# IIST Schedules and Outlines

February 13-14

9:00 a.m. – 5:00 p.m.

**Marnie Hutcheson**

## **Managing the Testing Process and Test Execution and Defect Tracking**

This two day seminar is based on the book "Software Testing Fundamentals," authored by the presenter (Published by Wiley, May 2003), and in part on the author's new book in progress. The Seminar is a field guide aimed squarely at testers and test managers. It contains practical solutions, to real life testing challenges. This flexible methodology can add value to your test effort whether you are involved in a traditional plan driven test effort or a bleeding edge Agile / eXtreme effort.

The seminar presents a "Best Practice" risk based methodology for planning, sizing, managing and executing the test effort that is both defensible and reproducible. Case studies illustrate how to tailor the methods to get the best results in traditional plan driven, RAD, Rapid Application Development, and Agile / eXtreme efforts. These test methods are applicable whether you are testing Internet/Intranet applications, traditional client server applications, mobile application environments, or closed systems and embedded firmware environments. The seminar is filled with real world examples of how testers successfully managed their test efforts and demonstrated the value of testing.

### Course Outline

- **Day 1: Risk Based Test Management**
  - Background and Concepts
    - Introduction
    - Fundamental methods and metrics for software and testing applied to the 3 major development types
      - Traditional Plan Driven Development
      - Rapid Application Development (RAD)
      - Agile / eXtreme Development
    - Test estimation and sizing
      - The Test Inventory
  - Tools and analysis techniques for test estimation and planning
    - Identify and Enumerate Tests, fill out the Inventory, prioritize the tests, identify the most important tests, estimate the effort, track the test effort and evaluate it
    - Analysis techniques for enumerating tests and test environments
    - Risk analysis
      - Establishing Test Priority
      - Relating risk to test coverage
      - Requirements
    - Finishing the Test Estimation Effort
      - Answering the question: How big is it?
      - Setting schedules, and goals
      - Estimating the resources and time required to test the most important tests
      - Negotiating for resources to conduct the test effort
    - Adding value beyond the test effort

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## Day 2: Identifying and Executing the Most Important Tests

- **Identifying the Most Important Tests**
- Introduction: Analytical Methods for Performing Risk Based Testing
- Analytical Methods for picking the Most Important Test
  - Path Analysis
  - Applied Path Analysis
  - Data Analysis
  - Test Selection
    - Applying Risk analysis and Ranking to Selected tests
- **Executing the Most Important Tests**
- Managing Test Execution and Reporting Test Progress
  - S-Curves – How they work
  - S-Curves in Practice
- Reporting and Tracking Bugs
  - Case Study: A Successful Agile Effort
  - Analyzing Bug Statistics
  - The time-to-fix versus risk “Z” index
- Measuring the performance of the test effort and demonstrating the value of testing

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February 15

**9:00 a.m. – 5:00 p.m.**  
**Marnie Hutcheson**  
**A Day of Mentoring**

The day will be spent reinforcing principles of the class. This can be done in the classroom, at individuals' desks, or in whatever capacity is deemed best to ensure retention and learning.

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## Magdy Hanna, Ph.D.

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### Skills/Experiences

Dr. Hanna is an internationally recognized educator, speaker and consultant in several related areas of software engineering. Dr. Hanna brings over twenty-five years of experience with building and maintaining software systems. Dr. Hanna is the Conference Chair for the International Conference on Practical Software Quality Techniques.

As a consultant, Dr. Hanna has helped many organizations define and improve their software processes using disciplined software engineering approaches.

As an associate professor at the University of St. Thomas, he teaches graduate courses on several software engineering topics with emphasis on practical software quality techniques. His distinguished seminars on various topics have been highly rated by software professionals.

Dr. Hanna developed new approaches and methods in software development including the Software Quality Engineering Methodology (SQEngineer), the Unified Data Model (UDM), and the Data-Driven Object Model (DOM).

### Education

Dr. Hanna holds a Ph.D. and a Masters degree in Computer and Information Sciences from the University of Minnesota.

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## Marnie Hutcheson

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### Work Experience

Current IIST (International Institute of Software Test)

**Faculty member and Member of Advisory board:**

Teach and consult on topics in database, software test.

Develop and present all courseware customized to customer needs

2000 - Current

Regular columnist for MSDN Magazine. Articles for [MSDN Magazine](#) and [TechNET Magazine](#) (HackerBasher and Tool Box). Also authored case studies on [StickyMinds.com](#) and [TickIT.org](#).

I served as a keynote speaker and instructor for the International Institute of Software Testing at Major conferences and as a regular instructor at public and private training sessions for Software Dimensions.

Various contracts managing agile development projects and teaching project management topics, especially using the Web to lead widely distributed project teams. Special articles on Microsoft SharePoint Team Services and the publication of my book, Software Testing Fundamentals.

2002 - Consultant, author for Microsoft Network Solution Providers, NSP, group. Researcher and author on Business Plan and White Papers for the Microsoft Unified Communications Project. This was a development project that used almost all of the Microsoft Server family and .NET Enterprise Edition, Architected Templates.

2001 - Consultant, author and project manager for the development of the Microsoft .NET Developers Training courseware.

2000 - Consultant, author and researcher for Microsoft on the ISV Guide publications.

1994 – 1997 GTE TSI, now TSI Telecommunications Services Inc.

**Consultant & Employee**

Build the Internet/Intranet Technology Department. Develop and implement Internet and Intranet strategy, process, standards, business cases, and products for GTE TSI. Project highlights in 1996: Developed an enterprise data mart for all corporate customer and product information and deployed it on the corporate Intranet with custom views for each department. The data mart combined the resources of 3 disparate data sources. Other projects include putting Internet capable front ends on legacy applications and developing a 'talking' voice response capable Internet kiosk application front end for a mainstay product. Also, developed and presented Web courseware to over 350 employees.

**Web Master Turnkey Operations** – Develop a strategy and proposal for migration of support documentation and automated monitoring activities into private Web Server domain. Develop home pages for internal groups, convert documents, integrate existing and new database applications into the Web via CGI style scripts. Develop and teach

introductory and advanced courses on the WWW, Home page creation and maintenance.

**Tool Smith** – Automate real time operations for telecommunications products.

**Technical Writer, Trainer and Courseware Developer** for

telecommunications products and technologies. Duties include research, design

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## Work Experience (Continued)

and production of all content; PC/Windows based Multimedia Computer Training and Video with digitized sound and video, art work, computer animation and script

1987 – 1993 Prodigy Services Company.

**Technical Project Lead /Operations Automation / Teacher** Apply automation techniques to real time operations activities for the Prodigy Service. Design and implement process optimization and automation for applications running in distributed computing architecture.

**Technical Project Lead / Staff Programmer / Teacher** Technical lead for the financial applications development team (1990-92). Research, design, implement and test the Gremlin™ automated test system (1991-92). Coding in C and assembler. Author proposals, requirements, user guides, case studies. Develop and teach software test education workshops.

**Technical Lead / Programmer** Design, development, and integration shopping and financial gateways (banking) and applications. Primary systems contact between Prodigy and client to develop and integrate new products. Develop test strategies for components and end to end testing. Author system and acceptance test plans, escalation procedures, migration plans and requirements documentation. Organize and coordinate implementation resources and activities, train project personnel, develop product certification and quality assurance criteria.

1984 – 1987

**Scientific Programmer** Responsible for documentation, design and coding in C for structural design and real time signal processing and display software. Design and test algorithms to enhance performance of new and existing software.

1978 – 1986

### **STRUCTURAL engineer**

Responsible for 1 to 8 persons. Design, detail and oversee construction of structures. Assist in bidding, specifications writing and documentation. Technical liaison to client and engineering groups.

Operating Systems and Servers: Microsoft .NET Framework, Windows 2000 Advanced Server, Windows 2003, IIS 4.0, 5.0, 6.0, some UNIX.

Network Environments: LANs (TCP/IP)

Development Environments: Microsoft Office XP Collaborative Services, SharePoint Team Services, Mobile Internet Server.

Programming Languages and APIs -Visual Studio.NET, .NET framework, .NET compact framework, Mobile Internet Toolkit

Languages: Dynamic HTML, Jscript, VBScript, ActiveX/Platform - ASP

Design: Currently designing multimedia applications and Internet/Intranet content and applications using Client Side and Server Side Scripting. Office 2002, Collaborative Web Sites and services, and E-Commerce solutions.

Publishing & Multimedia Software Used: FrontPage, Microsoft Word, Excel, Project, Corel, GIF Animator, Bryce, Flash,

### **Publications:**

Columnist writing the New Stuff column for MSDN Magazine

Columnist writing the Tool Box column for TechNET Magazine for Microsoft,

Additional articles: “Defeat Hackers With a HackerBasher Web Site”

November 2004 issue.

## Skills/Experience

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## Skills/Experience

Tickit International .Org Quarterly Publication ISSN 1354-5884 “Testing in the eXtreme (XP) Programming Paradigm”

## (Continued)

Software Quality Assurance on line magazine: Sticky Minds, “How to Manage a Project on Four Continents, Across Twelve Time Zones in Five Languages”  
Microsoft Corporation: The .NET Developers’ Training courseware and .NET Developers’ Training Tour  
John Wiley and Sons: “Software Testing Fundamentals” (Book)

June Issue of MSDN Magazine, Cover Story, FrontPage 2002, First Looks MSDN, Microsoft SharePoint Team Services, Administration and Authoring Guide MSDN, ISV Guide, Design Points for Service Providers

Duke Publications: Winn NT Magazine, Leveraging Host Headers to Set Up A Multi-Homed Server Using IIS 4.0, 3 part article, Monthly column since Oct 99. (and many more articles.)

Dynamic HTML for Developers, Microsoft Interactive Developer Series

IE4.0 Technical Seminar, Microsoft Corporation

IE4.0 Keep Them Coming Back Seminar, 32X Corporation.

The Fundamentals of Internet/Intranet Testing 1 day Tutorial, and Testing on the Web Keynote at 14th International Conference on Testing Computer Software, June 1997, Washington D.C.

Process Automation Using Web Technology Keynote at 13th International Conference on Testing Computer Software, June 1996, Washington D.C.

Using S-Curves To Measure Test Progress Eleventh International Conference on Testing Computer Software Proceedings, ITEA, ASQC, and STC. STAR International Proceedings, June 1994 and STC96 Proceedings 1996)

Using Risk to Size the Test Effort Tenth International Conference on Testing Computer Software Proceedings, ITEA and ASQC. (and STAR International Proceedings, May 1994.), 1995, Software Engineering Strategies, Publisher Warren Gorham Lamont .

The MITs Test Management Method Unicom Conference on Software Quality Proceedings, London, England, and SQE, USPDI, etc

The Evolution Of An Automated Software Test System, Ninth International Conference on Testing Computer Software Proceedings, ITEA and ASQC., Parts 1 & 2 Software Engineering Strategies (Journal) and Systems Development Management (Periodical), Publisher Warren Gorham Lamont. Software Quality World (Journal) Publisher ProQual Inc.

System Software Testing Methods & Metrics, Draft Edition and Course, ProSys

A Survey Of Production Problems In An Application On The PRODIGY Service, IEEE COMPASS90 Conference Proceedings.

Twelve "How To" articles: For Duke Communications, author and Tech Editor for articles on IIS Administration, web development, and management. For Microsoft Technet: [How to Administer FrontPage 2000 Server Extensions](#) .

Technical briefs and White Papers for Damgaard.

Develop and teach Internet Technologies Courses for Microsoft, Microsoft Active Developer Series, Active Server Core Concepts, DHTML, Visual Interdev 6.0, FrontPage98, FrontPage2000 (in process) for 32X Tech Corporation.

## Skills/Experience

Quality Assurance Consulting Design, plan, and manage independent software test efforts. Develop syllabus and training materials, including Computer Based Training and videos, for a variety of user guides, workshops and training

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(Continued)

seminars.

International Speaker and Trainer Speak and teach at conferences (USA, Europe, Middle East, Africa). Author articles for commercial publications on software development and testing.

**Most recent testing presentations:**

- Application and System Testing for Security Vulnerabilities
- What do Agile and Extreme Approaches Mean to Testers?
- Seminars
- Testing in Agile and eXtreme Projects
- How to Select the Most Important Tests
- Application and System Testing for Security Vulnerabilities
- Testing in an Agile Development Environment
- Project Management and Collaboration Techniques for Managing Distributed Projects

June 2004, IIST PSTQ Washington DC, Keynote Speaker. June 2000, International Conference on Software Testing, Washington D.C. Keynote and tutorial.

Most recent Microsoft tour: August - November 2001, train the trainers for the .NET Developer Training Tour in South America, Hong Kong, and Australia. Most memorable tour: October 1997, 30 days training tour for Microsoft, in the Middle East, Mediterranean Region, and South Africa teaching IE4.0, Dynamic HTML, Channels, NetShow, and FrontPage98. Dynamic HTML for Microsoft

Software Testing Method and Metrics, McGraw Hill Publishers, 97

Various syllabus, training materials and user's guides for clients of ProSys.

Fast Eddie User Guide ProSys distributed internationally by Objects Inc.

Gremlin User Guide, Prodigy Services Company.

Charting, A monthly how-to column published in OBJECT NOTES dealing with hypercard and CASE application development using LAYOUT development tools.

Articles for dressage and hunter jumper organizations. Topics: Rider Cross Training, Training Methods, and experiential. Reporting of events and workshops, interviews, and reviews.

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Tim Nelson

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## TECHNOLOGY PROFILE

<u>Operating Systems</u>	<u>Programming Languages, Tools and 4GL's</u>	<u>Databases</u>	<u>Communication &amp; Networking</u>
2200 EXEC	WinRunner	Oracle	Shiva
VSOS	Quick Test Pro (QTP)	Sybase	MQSeries
EOS	TestDirector / QualityCenter	SQL Anywhere	WebMethods
NOS	LoadRunner	Paradox	
AEGIS/DSEE	Rational Robot	MSSQL	
MCUOS	Rational Load Test	Access	
MS-DOS	PL/SQL		
UNIX	RadView WebLOAD		
Windows 3.1	RadView WebFT		
Windows 95/98	C, VBA and VBScript		
Windows NT, 2000, XP	JavaScript		
	Toad & SQL*Plus		
	Gognos Impromptu/Powerplay		
	Discover 3.0		
	(ECL,NOS JCL, VSOS JCL, FORTRAN, CYBAL, PLUS PASCAL, SSG, MASM Assemblers)		

## EXPERIENCE

**May2005 – Current**                      **Medtronic – Paceart Systems**                      Consulting

Worked with client in helping them assess the possibilities of using Quick Test Professional (QTP) on a newly developed .NET windows system. This included creating a test automation process that would adhere to the Agile development processes being applied.

**Jan2005 – Apr2005**                      **STAMP Technologies, LLC**                      Trainer

Created a training program to teach business and test resources the principles behind developing successful test automation. This training has been given to Del Computer, Travelocity, ABN AMRO Services Corporation, ING, etc.

**Aug2004 – Jan2005**                      **GMAC-MHF (Virginia)**                      Consulting

Assisted the GMAC-MHF Lawyers and Project Manager in the development of a new software development contract. The purpose of this contract was to hold an outsourced

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contracting firm accountable to the quality of the business application being delivered. This included penalties if the deliveries were late or deemed unacceptable. The initial project (fixed bid \$700,000 nine month project) was already nearly one year late and \$350,000 over budget. The outsourced consulting firm wanted another \$450,000 to complete the project. It took us nearly 5 weeks to negotiate a new contract that included specific processes for acceptance testing and a list of twelve quality factors that had acceptance level metrics defined.

Conclusion – The outsourced consulting firm upper management felt the penalties and quality constraints to sever to continue. They canceled all future work on the project. With our recommendation the client agreed to finish the project by managing it internally with development and testing resources using independent contractors. My responsibilities now changed to building test team. This also included creating a test plan that would

1. adhere to the quality factor metrics already defined
2. rapidly produce test processes and test cases to support a great deal of code that was already written (consulting firm delivered no usable test cases and processes)
3. implement a defect and change tracking system usable by the developers, testers and business (PVCS Tracker)
4. define and implement an automated process for tracking and collecting test results for every test build. This included the tool use of VSS, Excel, and Word along with the us VBA programming.

Once the test system was in place and proven to effectively support the development schedule (1 test lead and 3 testers) I was replaced by two more testers with the test management duties taken over by the Project Lead.

**July2004 –  
Aug2004**

**GMAC-RFC**

**Consulting**

Helped establish a release management process for project called BRM (Business Resiliency Management). They wanted this process to integrate into the ITIL Framework they were developing. The first phase of this project was to build a dual data center in another country or state. My objective was to help define a release management process that would help in the management of the changes (hardware and Software) as they occurred in the implementation of the new data center. This was scheduled as a six month projects that we cut short to two months based on my recommendations of the clients readiness to work with a release management process. The client also was looking to transfer me to a more critical project in Virginia.

**Oct2003 –  
July2004**

**GMAC-RFC**

**Consulting**

Loan Number Expansion (LNE) Project. RFC was reaching its technical limit on generating unique loan numbers (7 digits present – needed to expand to 10). Hired as the Remediation Plan Coordinator. Requirement was to development ground up processes that would collect information and manage communication in building applications inventories across the RFC Enterprise (28 separate business segments and over 500 applications) and provide real time measurement of remediation progress through the complete remediation development life cycle of all applications. The process was created then automated to simplify project management communication and reporting, yet gain real time updates for management risk assessment and progress reporting. This was a very complex project that used very simple solutions and process controls. My role on the LNE Coordination team required many different skills such as: project management, Process strategist and implementer, communicator, communication coordination, software engineer / software developer, Implementation coordination, QA Analyst, Test Analyst, Process Change Management, Report Programmer, and overall general leadership.

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Project completed 4 weeks early, with no down time incurred by any of the businesses. This is not to imply I did this alone. We had a very qualified and experienced coordination team.

**Sep2003 – Oct2003**                      **GMAC-RFC**    Consulting

RMS Batch testing --- Develop strategy for testing new feature (generation of an Amend Release file for Wells Fargo. Data Schema knowledge and SQL development required to setup data, generate expected results and perform file verification. Improve documentation and processes related to RMS Batch regression testing (on going)

2004 HMDA system test strategy --- presently developing a system test strategy and test scenarios for verifying compliance to the 2004 HMDA reporting rules

**Oct2002-Jul2003**      **Microsoft Business Solutions**    Consulting

Worked as a QA / Test Lead consultant to help consolidate multiple testing organizations into a single team to support a variety of different ecommerce applications and help manage the test release process.

There were over 30 developers and business analysts involved with the release testing process. My focus was to assess and then recommend process improvements in the areas of release and configuration management; test build processes; manage regression and new functionality testing; track and manage defect reports; define, gather, analyze and report test coverage metrics to feed the risk analysis process. A key requirement was to maximize test coverage and minimize increases in test costs.

Helped design and build a test automation system with the requirements that scripts were reliable and maintainable. The automation system included both load and functional regression test suites. The test automation system played a testing role in the last 7 release cycles (18 months).

**Apr2002-Sep2002**                      **STAMP Technologies, LLC**    Consulting

Developed two technical papers and two presentations with a colleague on the subject of adding technology to the testing process. The papers and presentations were presented at two national conferences (QualityWeek2002 conference in San Francisco (9/3 – 9/6) and the PSQT/PSTT North American Conference in St. Paul (9/10 – 9/11).

Provided Test Automation Training for the system test team at Plato Learning Systems Inc.

**Aug2001-Mar2002**      **GMAC-RFC**    Consulting

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## Senior QA/Test Specialist Lead

### Asset delivery

Oversaw the Asset delivery test automation design and development. Successfully incorporated the reuse of test automation code and methods from a similar web based business (Assetwise Direct) application where STAMP Technologies had previously developed a test automation framework.

(Tools – Win Runner, Visio, PVCS Tracker, Access, MS VSS and Implementation of Custom Automation Framework)

### Automated Pooling

Test lead strategist responsible for designing and implementing a test strategy to verify the data conversion and migration to a new system and to keep the data synchronized between three databases (2 Oracle, and 1 IMS database) using XML, MQSeries, WebMethods, and Oracle Trigger technologies. Coordinated the testing activities and schedules of everyone on my team.

(Tools: SQL Plus, MS Access, Visio, MS VSS, PVCS Tracker, MS Project)

### AssetWise Direct

Helped train and lead another STAMP consultant on the continuation of the test automation development effort.

(Tools – Win Runner, Test Director, Visio, MS VSS, PVCS Tracker, and Implementation of Custom Automation Framework)

**Apr2001 – Jun2001**      **GMAC Residential Funding**      Consulting

## Senior Test Automation Specialist

Was responsible for designing and developing a test automation method that created 17 new loans using the applications new loan generation process. Test data sharing and unattended execution were two key requirements for this suite of tests. Incorporated the following into the design requirements:

- Reusability to recover design and development costs on other projects requiring heavy amounts of data entry.
- Usability so non-technical staff can execute the tests and evaluate test results.
- Maintainability so technical and non-technical staff can maintain, enhance, and create new test scenarios and manage the test data.

(Tools – Win Runner, Test Director, MS VSS, Visio, PVCS Tracker)

**Jan2001 – Apr2001**      **Visa Corporation**      Consulting

## QA Project Lead

Responsible for replacing a legacy Back Office Adjustment System (BOAS) with a web based thin client BOAS. The Web based BOAS system was being ported to Windows 2000 from NT 4.0. My responsibility was to develop the test plan and strategy that would meet the very tight development schedule, but through our testing provide a high level of confidence that the port was successful in both functionality and performance.

(Tools – Custom VISA Corp Simulators used to generate formatted

# IIST Schedules and Outlines

transactions, Silk Test, Win Runner, MS Access, MS VSS)

2000 - 2001

Target Corporation

Consulting

## QA Project Lead & Senior Test Automation Specialist

The overall objective of this engagement was to build and document a foundation of test processes, techniques, strategies, plans and test scripts (manual and automated) that will support increased test coverage and shorter test cycles within Target Financial Services (TFS). My responsibilities included:

### Project Lead Tasks

- Worked with the appropriate development and client management teams in documenting a common test process
- Provided progress status reports
- Overseen test strategies, test script development, and analysis of existing test scripts for loading into Test Director
- Worked closely with clients to analyze their current testing techniques, processes, problems and issues through two scheduled releases
- Served as a focal point for development and client management staff on any technical issues related to test

### Senior Automation Specialist Tasks

- Investigated Win Runner's effectiveness with each application and provided test scripting methodology
- Trained one other test automator.
- Developed common functions between different credit application that are shareable and reusable
- Designed the automation test suite to be usable and maintainable at the same time following Target Corporations Standard Automation Development Guidelines
- Place the automated scripts and libraries under source control (PVCS Source Manager – Target Corporate Standard)
- Designed a daily test automation solution that provided early detection of possible credit system problems before credit employees started work each morning. This solution produced four automated test scripts (4 credit systems) that were scheduled and executed unattended in half hour increments from 4:00 AM until 6:30 AM every morning. These tests would automatically send an electronic message to the on-line support staff when the tests were successful or problems were detected. Early detection gives the support staff time to fix the problems before employees arrive at work, eliminating costly down time

(Tools – Win Runner, Test Director, PVCS Source Control, Visio, CoolGen, MS Project)

# IIST Schedules and Outlines

**1999 - 2000**

**IT-radar.com**

**Consulting**

**Senior QA & Test Automation Specialist**

New BtoB startup Dot.com Company. Responsibilities included development and execution of test plan, strategies and test cases for validating initial and future deployments of the web site. Incorporated strategies for promoting software through the test cycles, test data creation and setup, load tuning, and defect tracking. All processes had to be flexible because of fast paced implementation of Marketing requirement changes.

(Tools – SQL Server, MS Access, Win Runner, WebLoad, PVCS Tracker, MS VSS)

**July1999 – Sept1999**

**Harmonic Corporation**

**Consulting**

**Senior Test Specialist**

Lead Test Engineer for Y2K compliance testing of 24 independent “Personal Internet Point-of-Sale Systems”.

**Apr1999 – Jun1999**

**CyberOptics**

**Consulting**

**Senior Test Automation Specialist**

Created and presented a four-session seminar on the fundamentals of a test automation framework.

**Jan1999 – Apr1999**

**United States Postal  
Service (USPS)**

**Consulting**

**Senior Independent Test Consultant**

Worked as a lead Y2K Independent Verification (IV) Specialist assigned to review and monitor the test plan, test approach, documentation, coverage and test execution of 5 out of 57 Y2K critically assessed financial systems.

**Nov1997 – Dec1998**

**Shamrock Consulting**

**Consulting**

**Senior Test Automation & QA Specialist**

**CyberOptics**

Test automation Specialist. Designed and implements test automation solutions using the WinRunner from Mercury Interactive. (WinRunner, MS VSS)

**Cardiac Pace Maker**

Developed an automation solution for improving the clinical study build process. This automated solution was executing unattended builds during the day and overnight. This approach cut the build process time down by  $\frac{3}{4}$  and removed many costly human errors out of the process. (Tools – Win Runner, Load Runner, PVCS Tracker)

**July1996 – Oct1997**

**Shamrock Consulting**

**Consulting**

**Senior Test Consultant**

**Residential Funding Corporation (RFC)**

QC and Test Automation Engineer Café Product lines. (Tools - WinRunner, AutoTest)

**Carlson Wagonlit Travel IT Group**

Test Lead for the ActOne suite of Travel Management products. (Tools - WinRunner,

# IIST Schedules and Outlines

Cognos, PVCS Tracker)

**Jun1989 – July1996**

**Unisys Corporation**

**Test Engineer / Test Automation Specialist / Team Lead – Unisys**

Was involved in the SEI CMM initiatives (Tools – Win Runner, AutoTester, Custom Built Many of my own tools)

**1982 – 1989**

**ETA Systems, Inc.**

**On-line Diagnostic and Design Verification Team Leader – ETA Systems, Inc.**

**1977 – 1982**

**Control Data  
Corporation**

Software Engineer – Control Data Corporation

# IIST Schedules and Outlines

## EDUCATION

**B.S., Electrical engineering, University of Minnesota Institute of Technology,  
1980**

### Training

Load Runner Web test training

C Programming for Experienced Programmers

Total Quality Management

Project Management

Time Management

Leadership Training

### Certifications

Win Runner / Test Director CPS

RadView WebLOAD

RadView WebFT

### Associations

**TCQAA Member / TCQAA Marketing Committee Member**

Presenter at PSQT International National Conference