

## Internationalization & Localization Testing

### ■ Overview

Do you want to create a multilingual testing capacity in your organization? Do you want to offer multilingual testing services to your customers? Do you want to globalize your existing monolingual test organization? Do you want to outsource language testing and get the most out of it?

This workshop teaches the fundamentals of internationalization and localization testing. Both management and technical aspects are covered in a practical, pragmatic manner. Numerous examples and actual sample test strategies, test plans, and test cases are provided.

This workshop will show you how to set up a global testing organization along with associated workflow, planning and management structures. You will learn how to leverage industry best practices, methods, tools and techniques.

Build a global testing effort on top of your existing test procedures, test documents and test data. You will learn how to decide what to test and what not to test. This knowledge will be ready-to-use the very next day!

### ■ Target Audience

This course is intended for testers, test leads, test managers, as well as developers, product managers, project managers and team leaders.

### ■ Benefits

This workshop provides quality assurance and other software professionals with a complete picture of internationalization and localization testing. The course describes how to move from a monolingual testing organization towards a fully functional global testing organization.

### ■ Duration

The agenda described below is for a two-day session.

### ■ Attendee Required Materials

For best teaching flexibility, it is recommended that attendees bring portable computers (one computer for each two attendees is sufficient). Nevertheless, this workshop does not require attendees to bring portable computers. If there are not enough computers, a different set of exercises will be used.

## ■ Pre-requisites

Prior attendance to the "All About Internationalization" workshop is recommended, either the onsite or the self-paced eLearning version.

## ■ Agenda

### 1. Concepts: Testing and Globalization

- Testing principles, types, phases, deliverables, roles, standards
- Testing vs. the generic internationalization model

### 2. Character Sets and Unicode (from a testing point of view)

- A brief history of character sets: ASCII, Shift-JIS, GBK, and Unicode
- Pros and cons of the basic Unicode encodings: UTF-8, UTF-16, UTF-32
- Unicode equivalent sequences and the need for normalization
- Databases: multilingual schema design and migration to Unicode

### 3. Testing Economics

- Budgeting and staffing for the multilingual test organization
- Estimating testing efforts
- Configuration and change management for multilingual software

### 4. Testing Workflow

- Requirements management for global software
- Configuration management for global software
- Test suite management for global software

### 5. Test Lab and Platform Coverage

- Setting up a multilingual test lab
- Testing tools
- Scheduling in the multilingual test lab
- Pattern Approach and All Pairs Approach
- Resource allocation to maximize test coverage with minimal time

## 6. Globalization Test Strategy

- Building a globalization test strategy
- Requirements analysis, Quality factors, Technical risks and Failure modes
- What not to test

## 7. Test Plans and Test Cases

- Building a globalization test plan
- Test plan guidelines
- Functional testing and linguistic validation
- Multilingual GUI testing
- Cultural concerns
- Install/uninstall on multilingual platforms
- Test case design
- Equivalence classes
- Classifying test cases

## 8. Bug Triage

- Bug definition and bug isolation
- Decision making in a global organization
- Multilingual bug workflow and state diagrams
- Process improvement

## 9. Testing Steps and Wrap-up

- Documentation validation
- Pseudo translation
- Source code reviews
- Localization testing steps
- Multilingual text and numeric data
- Establish testing goals
- Define a team model
- Organize workflow
- Staff the team
- Setup a testing lab

## ■ Handouts

Each attendee will receive:

- A 300+ page booklet with ample room for notes, complete with table of contents and glossary. The booklet is designed to serve as a practical easy-to-use reference “book” for regular use during an internationalization project.
- Samples: internationalization test plan, test case form, test strategy and status report (included in the booklet).

### About our Instructor – Matta Saikali

Matta has more than 25 years' experience in internationalization and localization testing. His testing experience covers more than 30 languages including European, Asian, Arabic, Hindi, etc.

Formerly Director of Software Quality Assurance at Gemplus, Matta built up and managed a team of 50+ SQA professionals responsible for testing globalized Windows applications and mobile devices in European and Asian languages.

As Director of SQA at Purkinje, Matta managed the testing team for a multilingual multi-user client-server application for clinical data entry.

Matta was also SQA team leader at ALIS where he was involved in testing all ALIS products, notably their Arabic/Farsi product line.

Additionally, Matta holds a B. Sc. and M. Sc. in Electrical Engineering.