Software Localization

Professor: Romina L Marazzato de Sparano

Course ID: GSTI 606

Semester: Spring 2005

Time: Tuesdays 2:00 – 3:50 PM

Room: B105

Office hours: Wednesdays 3:00 – 5:00 PM

Course prerequisites:

Students must have access to a personal laptop computer that conforms to MIIS specifications, with a wireless card for Internet connection. Students must have basic computer literacy and familiarity with PC computers and MS Windows environments, including: word processing (preferably MS Word for Windows); file management (i.e., create, store, and retrieve files of different extensions in both fixed and movable media); email clients (such as MS Outlook, Netscape Navigator, etc.); Internet interaction via browsers (such as MS Internet Explorer, Netscape Navigator, etc.). Note that Macs are not used for CAT/L10n applications in this class.

Also note that because of the nature of this class it is strongly recommended to have excellent proficiency in electronic communication. Exchange of assignments, questions, instructions, and suggestions will take place primarily in electronic format, such as email, web and ftp exchanges.

Course Description:

The term Localization (l10n) refers to the adaptation of software, web sites, and related documentation to suit the different technical, cultural, and linguistic needs of foreign regional audiences and markets. Localization requires the combined efforts of multidisciplinary experts in order to successfully complete a localization project. Among such experts, translators and programmers have crucial roles: only the mutual understanding of each other's needs and goals will ensure the appropriate adaptation of the products and services at hand.

This course is designed as a conceptual and selective hands-on introduction to the technical knowledge translators need to successfully operate in the localization industry. We will define industry-specific concepts such as globalization,

internationalization, localization, translation, testing, and locale. We will outline the milestones of the localization process --including engineering, translation, testing, and publishing-- and explore them within the framework of a localization project. Roles and activities of localization professionals, such as project management, software engineering, terminology management, translation, testing, desktop publishing, and quality control, will also be discussed.

We will cover essential computer programming and web site engineering concepts essential for efficient localization. Key topics include: programming notions and instructions; numeral systems; bits and bytes; character sets and code pages; text, encoding, and markup; file management; locale specific instructions; and internationalization of HTML and URLs. Using state-of-the-art technology, students will apply this knowledge to the localization of Windows-based application components and/or XML-based web site components.

Course Objectives:

The main goal of this course is to introduce GSTI students of the translation track with no special localization training prior to this course to some of the basic skills required to work in the localization industry in the following areas: technical translation, localization project management, language engineering, QA, and testing. Upon successful course completion, students will be able to:

1. Understand, identify, and describe the fundamental milestones of the **localization process**.
2. Understand and describe the role of the different **professionals** involved in the localization process.
3. Understand and identify basic concepts and issues of **computer programming and web site engineering** of utmost relevance in the success of a localization project.
4. Understand the functions, purpose, and mechanisms of state-of-the-art **localization tools** and apply them in the successful localization of application and web site components.

Course Structure:

One two-hour class per week

Office hours for personalized discussions and explanations

One homework assignment and/or one reading assignment per week

One semester project

One midterm exam

One final exam

Course Outline:

Module 1. Introductory concepts and definitions: Globalization, Internationalization, Localization, Translation, and Locale. Differences between global-aware and locale-ready applications and web sites.

Module 2. The business of Localization. Why go global. Introduction to the Localization Process: engineering, translation, testing, and publishing. Localization players: project managers, software engineers, language engineers, translators, testers, and desktop publishers.

Module 3. Software Engineering and Localization. Software components. Coding, encoding, markup, and text. Application, help, and documentation. Ingredients to building a computer program. Introductory programming notions: QuickBasic instructions leading to Visual Basic. Introduction to Alchemy Catalyst and Passolo: how they help in the localization process.

Module 4. Ingredients to build a computer program. Introductory programming notions: QuickBasic instructions leading to Visual Basic. How programming notions help the translator in the use of Localization Tools. Review of Localization Tools available in the market.

Module 5. Why Localization came to be. How computers work, how computers think. Typical PC architecture. Numeral systems: how they affect the localization process. Bits and bytes. Introduction to text in digital form: text encoding. Character sets and code pages: from low-ASCII to Unicode.

Module 6. Localization of software components. Dialog boxes. Menus. String tables, including: status messages, questions, tool tips, error messages. Version information. Comments. Resource files and compiling. Deconstructing a Visual Basic application. Using Alchemy Catalyst and Passolo.

Module 7. Web Site Engineering and Localization. Overview of web site development. Localization of HTML and XML files. Tools and resources for web analysis and localization. Introduction to WebBudget. Comparison between a CAT tool and L10n tool: Trados vs. Alchemy Catalyst. Global web site structures.

Module 8. A Localization Project: the localization process at work. Project Management concepts. Project Stages: initiation, planning, production, monitoring,

completion. Project Variables: cost, quality, time, scope, risk. File management within the project and across projects. Archiving. Introduction to Content Management solutions.

Module 9. Internationalization issues. Character encoding revisited. User interface text and user interface design: how to determine cultural suitability. Dimensions of cultural differences. Locale-specific standards: measuring systems, date/time formats, currencies, address/phone formats, sorting rules.

Module 10. Quality control and testing. Types of testing. Source and target program testing: functionality test; patch and fix verification; internationalization test**;** regression and acceptance test; usability test; performance and load test; linguistic review; localized version functionality test; localized version regression, acceptance, and usability tests.

Suggested Reading Materials:

1. Lingo Systems (compiler). **Customer's Guide to Translation and Localization**. Lingo Systems. USA. 1998.
2. Esselink, Bert. **A Practical Guide to Software Localization**. John Benjamins. Philadelphia. 2000. ***Chapter 4: Software Engineering***.
3. Kano, Nadine. **Developing International Software for Windows 95 and Windows NT. A Handbook for International Software Design**. Microsoft Press. Redmond. 1995. ***Chapter 2: Designing a Global Program***.
4. NCSA. **A Beginner's Guide to HTML**. National Center for Supercomputing Applications & University of Illinois. Online. 2003. http://archive.ncsa.uiuc.edu/General/Internet/WWW/HTMLPrimerAll.html
5. W3Schools. ***Introduction to XML & XML in Real Life.*** Refsnes Data. Online. 2005. http://www.w3schools.com/xml/xml_whatis.asp *&* http://www.w3schools.com/xml/xml_real_life.asp.
6. Additional articles and chapters from current publications will be identified and supplied during the course as required reading materials.

Other Recommended Reference Materials:

Castro, Elizabeth. **XML for the World Wide Web: Visual Quickstart Guide**. Peachpit Press. Berkeley. 2001.

Esselink, Bert. **A Practical Guide to Software Localization**. John Benjamins. Philadelphia. 2000.

Graham, Tony. **Unicode: A Primer**. M&T Books. Foster City. 2000.

Kano, Nadine. **Developing International Software for Windows 95 and Windows NT. A Handbook for International Software Design**. Microsoft Press. Redmond. 1995.

Savourel, Yves. **XML Internationalization and Localization**. Sams Publishing. Indianapolis. 2001.

Verzuh, Eric. **The Fast Forward MBA in Project Management: Quick Tips, Speedy Solutions, and Cutting-Edge Ideas**. John Wiley & Sons. 1999.

Evaluation Policy

Grading will be based upon Class Participation, Midterm, Semester Project, and Final.

Class Participation consists of homework and reading assignments, quizzes, and class attendance.

The Midterm exam evaluates the students' understanding of general localization concepts and building blocks developed in class and through reading assignments.

The Semester Project consists of a localization assignment where students demonstrate their ability to apply all concepts developed in class and through assignments to a simple localization project, including a localization report.

The Final exam evaluates the students' understanding of specific localization concepts relevant to translators as developed in class and through various assignments.

Each category will receive a score consisting of 25% of the total grade for the class. Course grades are assigned as follows:

A = Demonstrates excellent professional-level performance. Meets expectations with outstanding accomplishment in identifying, understanding and describing basic concepts, roles, and stages of the localization process. Meets expectations with outstanding accomplishment in understanding and applying the functional concepts underlying localization tools. Completes all assignments on time. Participates in class discussions, contributing with relevant questions and creativity. Scores 90% or higher in quizzes and exams.

B = Demonstrates superior performance. Meets expectations in identifying, understanding and describing basic concepts, roles, and stages of the localization process. Meets expectations in understanding and applying the functional concepts underlying localization tools. Completes all assignments on time. Participates in class discussions, contributing with relevant questions. Scores between 80% and 90% in quizzes and exams.

C = Demonstrates acceptable performance. Meets expectations with some errors in identifying, understanding and describing basic concepts, roles, and stages of the localization process. Meets expectations with some errors in understanding and applying the functional concepts underlying localization tools. Completes all assignments on time. Participates in class discussions. Scores between 70% and 80% in quizzes and exams.

D or lower = Does not meet above criteria regarding theoretical and applied concepts. Fails to complete assignments. Does not participate or attend class. Scores below 69% in quizzes and exams.