

Software & Website Internationalization Methodology

GPI's Internationalization (I18N) Methodology may include 4 steps:

DISCOVERY

Includes:

- introductory education to I18N & L10N development issues
- information collection via Virtual or Onsite Meetings
- internationalization kit preparation
- review of client's current website, web application or software globalization readiness

Deliverable:

- assessment proposal including the time, costs, and exact deliverables resulting from the assessment step

ASSESSMENT

Includes:

- review and analysis of site or application
- review and analysis of global marketing plans and requirements
- review and analysis of source architecture, design development, and build processes
- review and analysis of current I18N and L10N strategies
- review and analysis of source code

Deliverable:

- globalization assessment report and implementation plan

IMPLEMENTATION

Includes:

- externalization of hardcoded strings for ease of localization
- currency/time/dates/numbers issue resolution
- double-byte and single-byte enabling
- I18N-friendly build methodology
- I18N test plan preparations
- localization kit preparation
- knowledge transfer I18N education
- recommended I18N tools and any required tool training
- other client-specific I18N issues resolution

Deliverable:

- internationalized code base
- documented development methodology
- I18N knowledge transfer and training

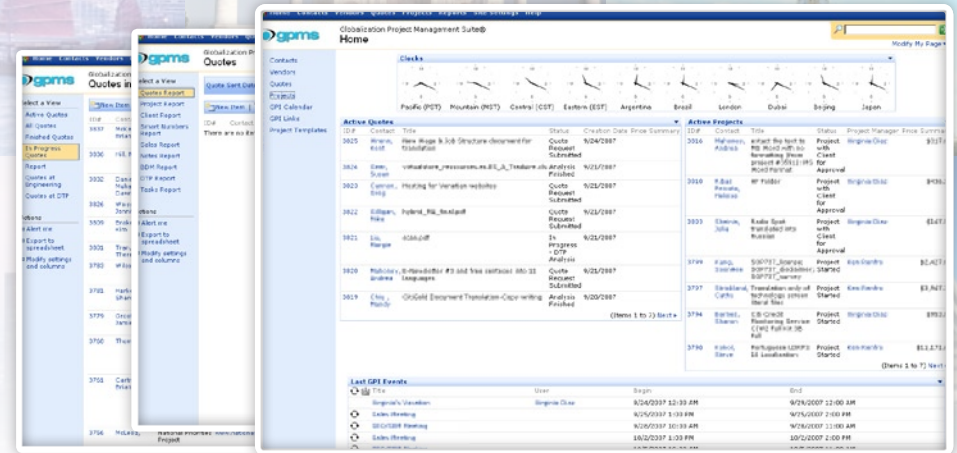
TESTING

Includes:

- testing methodology is client driven
- I18N and DBCS enablement testing
- bug reporting-fixing
- regression testing

Deliverable:

- fully functional internationalized site or application



Globalization Project Management Suite®

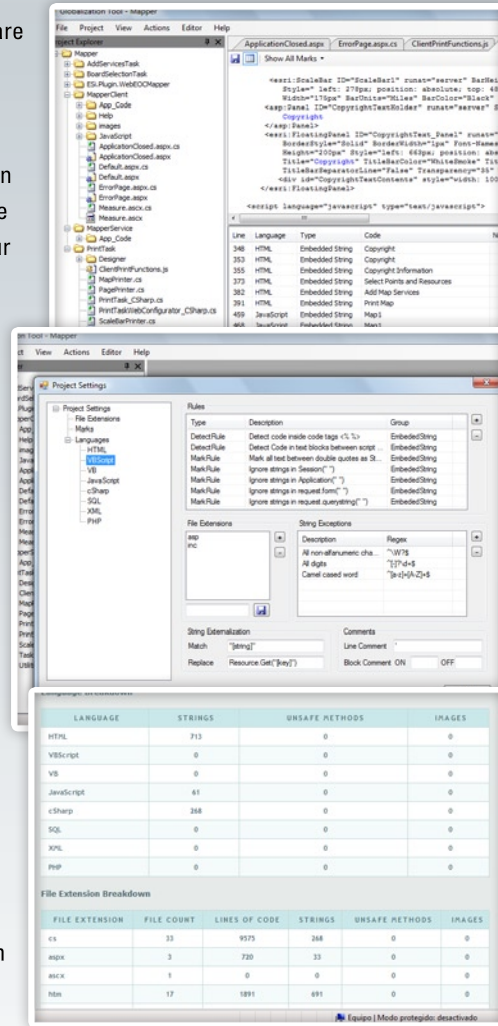
Each GPI client is assigned a Globalization Services Team (GST) based on the information collected through the Discovery process. The information collected in this first step is critical to ensure each GPI team member selected has the required expertise to not only complete the I18N work, but also to transfer the required knowledge and skills to your in-house development teams. All clients are given the opportunity to review their GST members credentials and interview them. To get started, GPI asks that you fill out the questions at the end of this guide, and provide us with a copy of your Internationalization Kit.

Your Internationalization Kit should consist of:

- Your site(s) URL
- Any passwords or login instructions
- Summary of site architecture
- Summary of any technologies and/or development tools used to develop your site
- Contact information for your development team who will participate in the globalization process
- Contact information for your marketing team who will participate in the globalization process
- Any source code for your site or web-driven application
- Completed Guide questions that follow in this document

GPI has developed a set of website and software globalization tools to help our globalization specialists and our clients perform a variety of localization and internationalization tasks and workflows. Through many years of globalization services experience we have created a feature rich tool suite which enables our teams and our client's development teams to:

- Scan source code in any programming language (ASP, JSP, PHP, c#, VB, HTML, JavaScript, Java, etc) based on a predefined set of rules in order to detect i18n issues including:
 - ✓ Embedded strings
 - ✓ Image references
 - ✓ Certain functions/method in each programming language that are candidates to be reviewed for i18n (dates/time/number manipulations, string concatenation, etc)
- After scanning, the tool allows engineers to list and manipulate all the results in a GUI environment
- Based on the results, a set of actions can be taken such as:
 - ✓ Global/partial search/replaces based on the results founds
 - ✓ Externalize strings into resource files (automatically creating resource files, and replacing strings with the exact method to retrieve them from resource files)



GPI's teams and tools have helped our clients save thousands of expensive engineering hours that would be necessary to enable their website and/or software to fully function for the world's markets!

Questions about your Project

To get started, GPI asks that you fill out the questions at the back of this guide, and provide us with a copy of your source files (Internationalization Kit).

1. Please describe your website's architecture?
2. Please describe which mark-up and/or scripting languages are utilized in your site.
3. Can you detail how the site/application files are organized?
4. Will the application source code be modified by your development team during the translation?
5. Has the application or site been reviewed for internationalization issues?
6. In which tiers would we find localizable (translatable) content (presentation, application, storage)?
7. Should the localizable content in presentation and/or application layers be translated within the source code files? (This will end in multiple instances of the application, one for each language)
8. Should the Database Structure be modified to handle multiple locales in the same instance? (This will end in a single Database, enabled to handle strings in multiple languages/locales). Note that Database Structure/Data modifications will need to be performed
9. What Encoding Scheme(s) is (are) being used?