



Presenters

- **Tex Texin**
 - Owner, **XenCraft**
 - Internationalization, Localization Consulting
 - Working with Progress since 1993
 - Invited expert to Unicode Consortium and W3C
 - Partner with **ABLE Innovations**, specializing in Localization of Progress Applications
- **Carl Pritchard**
 - Owner, **Franchise Technologies, Inc.**

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Objectives

- Localization can generate revenue
- However, Sticker shock often occurs
- Explain:
 - Causes
 - Ways to avoid
 - Alternative approaches that reduce cost.

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Agenda
Cutting Fat Out of Translation

- Why Applications are not Localized
- Preparing for Localization
- Localization with TranMan
- Localization with WizTOM for Progress
- Demonstrate WizTOM
- Q&A

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Domestic Opportunities by Adding Languages

- American Hispanic population
 - Fastest growing minority in U.S.
 - 37 Million (13%) July, 2001 Census
- American French-speaking population
 - 11 Million (4%) in U.S., 2000 Census
 - CA, LA, MA, MI, NY Biggest populations
 - 7 Million more in Canada, mostly Quebec
 - 25% Canada
 - Losing ground to Chinese

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Domestic Opportunities by Adding Languages

- 21 Million Americans “limited English”
 - 2000 Census
- Markets Important to Progress Space
 - Cost-sensitive, Productivity-Oriented
 - Blue-collar workers (e.g. manufacturing)
 - Direct to end-users (online retail, schools)
 - Legislation: (**Healthcare**, Financial, etc.)
- Localization = Customization
 - Give clients their own customized application

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International Opportunities by Adding Languages

- Potential for other opportunities!
 - 300M Spanish-speakers worldwide
 - Mexico, S. America, near and buy American
 - France 60 Million, Worldwide 100 Million
 - 300 Million (international) English speakers

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Why Applications Are Not Localized

- It's not that easy to go global!
 - Business Issues
 - Finding trustworthy partners
 - Unfamiliar waters
 - legal, business practices
 - Communications misunderstandings
 - “Table that issue”
 - Time zone and logistical difficulties
 - Shipping and delivery problems
 - Postal codes, expensive returns

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Why Applications Are Not Localized

- Cost!
 - Typical translation \$0.10-\$0.40/word
 - Applies to software, electronic and hardcopy documentation...
 - Verbose, repetitive writing is costly, multiplied by number of languages translated.
- However, engineering to enable translation is often the biggest factor.
 - Coding style can prevent quality translation.

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Reducing Localization Cost


- Reduce Unique Word Count
- Reuse text so translations can be reused
- Organize text for easy translation
 - provide context, sufficient space, and allow reordering of variables, etc
- Don't translate internal program text (keywords, api)
- Insure that translation doesn't require additional engineering or QA

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Localization Technology

Localization 101

Brief Introduction!



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Definitions

- **Internationalization (I18N)** – Engineering a product for worldwide use and efficient localization.
- **Localization (L10N)** – adapting a product for a specific language and culture or regional market.
- **Translation** – Rendering an application into another language

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Examples of Localization Changes

- Presentation of data (formats, styles)
- Organization of data (e.g. address)
- Compliance with local laws (advertising, privacy, lemon, accessibility, export...)
- Support native customs (workflow, authorization, reporting)
- Local business practices (rounding, radar charts, accounting)
- Symbolism of graphic elements
- Translation of all parts of the product – software, help, documentation.

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Typical localization issues

First Name:
 Last Name: 2004年6月15日
 Gender: Male Female

12\$34€

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Business practices

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Symbolism and imagery

- Avoid geocentric images, text
- Avoid body parts and positions (eyes, hands, feet)
- Avoid puns and word play (ini2reg, scale)
- Avoid metaphors (home, desktop, toolkit)
- Avoid sports references (homerun)
- Avoid animal symbols (owl, dog, cow,...)
- Avoid religious symbols (stars, crosses)
- Colors have different meanings

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Common Color Advice

(Best advice is to do assessments)

Color	China, Asia	U.S., Europe
Red	Celebration, Luck, Marriage	Danger, Stop
White	Mourning, Death	Purity, Marriage
Green	Bad for packaging, Green hats-infidelity	Go, Safety, Environment
Blue	Immortality	
Yellow	Sacred, Imperial	Joy, Happiness, Caution
Black		Mourning, Death
Pastels	Korea-trust	Blue-boys, Pink-girls

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Tip for graphics
Use generalization and abstraction

Use images of objects that are used globally.
 Very hard to do.

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Tip for Graphics
Avoid embedding text in images

- Graphics expensive to update
- Font difficult to create
- Background difficult to replace
- New text may interfere with image
- Solutions: Tooltips or text overlays
- Save background image separately

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Impact of font changes

- Font change can require new layout
 - Expand vertically as well as horizontally
 - Հայաստան (Armenia)
 - 中国 (China)
 - საქართველო (Georgia)
 - Ελλάδα (Greece)
 - 대한민국 (Korea)
 - Россия (Russia)
 - ประเทศไทย (Thailand)

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Localization Technology

Translation 101
Brief Introduction!

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Translation Objectives

- Goals
 - Robust
 - Text changes should not break software or require expensive software changes
 - Consistency
 - Accurate translations
 - exact meaning, nuanced
 - capture spirit if needed
 - High quality writing (grammatical, polite)

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Software Translation

- Translate all visible text
 - dialog boxes, menus, messages
 - reports
- **Avoid changing text used in program logic**
- Accommodate local formats
 - month names, day names, etc.
- Position, resize and reformat elements
 - expansion due to translation, font changes...
 - format expansion
 - number and currency precision, width, etc.
 - \$1.23 987.000

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Engineering cost factor

- Danger of divergent code lines
 - Separate compilations/builds
 - Wasteful, additional QA cycles
 - Language-specific code patches
 - Confusion in Customer Support

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Preparing for localization

Text extraction

- Text extraction
 - Translating text inside code is error-prone.
 - Translation might conflict with program syntax
 - Extracting text insulates translators and allows the use of specialized tools

Text embedded in code

```
/* The Hello World application */
Display "Hello World".
```

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Preparing for localization

Text extraction

Solution: Put text in separate files or DB

- Java- property files
- Microsoft resource files
- Unix- message catalogs
- Progress TranMan, Dynamics DB

- Translators then only edit text, no code
- They need visualization for context
- Specialized tools integrate glossaries, translation memory, progress tracking

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Preparing for localization

Text extraction

- Example: Java property files

```
/* The Hello World application with separated text*/
class HelloWorld {
public static void main(String[] args)
String msg1 = messages.getString("greetings");
{ System.out.println(msg1); //Display text} }
```

```
/* English Property file*/
Greeting = Hello World!
String2 = More text...
```

```
/* Spanish Property file*/
Greeting = Hola Mundo!
String2 = More text...
```

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Preparing for localization

Text expansion

- Translations are often longer than the original text

English: Speed Limit
 German: Geschwindigkeits-Begrenzung

English: Font: [] OK Cancel
 Swedish: Teckensnitt: [] OK Cancel

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Preparing for localization

Text expansion

- Solutions:
 - Leave spare room for expansion
 - More expansion room for shorter items
 - In Progress, use string attributes
 - Use "Drill downs" for more detail
 - Or have UI dynamically adjust layout

Use drill-downs for more detail:

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Preparing for localization

Text construction

- Text fragments are hard to translate
 - Fragments may not follow grammar rules
 - Translator does not know which parts go together
 - Parts can be reused in incompatible ways

String1 = "There are".
 String2 = "no".
 String3 = "tables in".
 String4 = "files."

S1 = String1 + String2 + String3 + String4.

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Preparing for localization

Text construction

- Agreement
 - Many languages require gender agreement
 - Grammar for counting varies
 - Japanese actually uses different words
 - Reusing parts causes problems**

English		French	
Printer	Enabled	Imprimante	Activée
Stacker	Enabled	Module de réception	Activé
Stapler options	Enabled	Options d'agrafage	Activées

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Preparing for localization

Text construction

- Text may need to be reordered.
 - Subject-verb-object vs. Subject-object-verb
 - Translators cannot reorder fragments
 - Use complete, reorderable sentences**

S1 = "There are" + i + "tables in" + j + "files."

Complete English Sentence

S1 = Substitute("There are &1 tables in &2 files.", i, j)

Translated, Reordered French Sentence

S1 = Substitute("Dans les fichiers &2, il y avait &1 tables", i, j)

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Translation Tip:

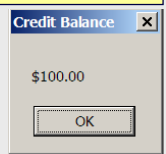
Use subject:predicate

- Minimize sentence building
- Minimize arguments per string
- Use subject:predicate wherever possible

Don't do this:
Your credit balance is \$100.00

Do this:
Credit balance: \$100.00

Or this:



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Preparing for localization

Text preparation

- Same letters, different usage or meaning
 - Should be separate entities in message catalog as they require different translations

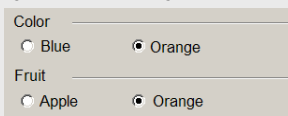
Display (verb):	visa
Display (noun):	bildskärm
Orange (color):	anaranjada
Orange (fruit):	naranja

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Preparing for localization

Semantic context

- Each text segment has a relationship to other displayed text
 - Translators need to know the relationships between text segments
 - How does the translator know to use anaranjada or naranja?



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Preparing for localization

Spatial Context

- Fitting translation to space available
 - OK for limited use
 - increases terminology inconsistency
 - increases learning difficulty and reduces usability
 - Necessary in some cases
 - e.g. column vs. side labels

Status:	active	Status	Start	End
Start date:	11/1/2002	active	11/1/2002	11/30/2002
End Date:	11/30/2002			

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Preparing for localization

Text preparation

- Don't forget text in schema and triggers

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Preparing for localization

Styles

- Styles
 - Must be adapted for different languages
 - Use Logical not Presentational naming conventions
 - E.g. Emphasis instead of Bold
 - Bolding, Italicization, Capitalization are not universal

Amikake

Wakiten

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Preparing for translation

Identify text that must not translate

- Don't use UI text in program logic
- Mark text used in logic as untranslatable (i.e. don't put in resource files)

Don't do this:
IF widget:label = "Do it" THEN RUN do-it.exe.

Do this:
IF widget:name = "Button-1":U THEN RUN do-it.exe.

Resource
"Do it"
"Cancel"

Do not translate
"Button-1"
"Button-2"

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Preparing for localization

Text preparation

- Accelerator keys
 - Keyboards vary around the world
 - Choose between mnemonic vs. consistent around the world
 - Ideographic characters don't have mnemonic hot keys
 - Input methods vary even for a single language

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Preparing for localization

Spanish Keyboard

Keys added, deleted, moved.
(Changes application fingering.)

Orange keys enable the input of accented characters

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Spanish Keyboard Continued...

Shift Key Pressed

AltGr Key Pressed

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Preparing for translation

- Text reuse
 - To reduce translation cost, be consistent
 - Reuse text, don't say it differently
 - Expect identical text with different semantics to translate differently.
 - Make sure documentation, help, error messages, and user interface agree.
 - Create and use a glossary to define (and manage) consistent usage.
 - Translation cost is for UNIQUE words.

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That's fine for new development

- Existing applications
 - Source must be scanned for problems
 - Modified to accommodate localization
 - Retested in all languages
 - Often this is very large cost
 - Doesn't address components where source is not available or modifiable (OCXs)

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Testing Costs

Engineering Costs multiplied by language:

- ✓ Functional/Regression Testing
- ✓ Linguistic Quality Testing
- ✓ Screen Metrics Testing
- ✓ Error Handling Testing
- ✓ Administration

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Preparing for translation

- Writing guidelines
 - Write simple, complete sentences.
 - Minimize abbreviations
 - There may not be equivalents.
 - It may expand significantly.
 - Avoid cultural references, idioms, slang
 - Avoid humor
 - Minimize use of pronouns. Be explicit.
 - Minimize the use of arguments in messages.

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Glossary

- Contains
 - Key terms and their:
 - part of grammar
 - definitions
 - typical usage examples
 - Notes for translator

Widget, noun, software user interface control
 "The browser widget displays data tables."
 Note- Competitor uses "control". Avoid using translation of "control" for "Widget".

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Glossaries

- Corporate, Product and Marketing terms
 - Logos, tag lines
 - Web addresses
 - E.g. <http://www.coca-cola.com.cn>
 - Distinguishing, Competitor terms
- Industry (Vertical) terminology
- Computer, Software vendor terminology
 - Windows, Unix, Mac, etc. for consistency



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Computer Aided Translation Tools

- CAT Tools
 - Aka Computer Assisted Translation
 - Terminology Management
 - Translation Memory
 - DTP Localization
 - Software Localization
 - Automated Translation
- List of tools and links to other tool lists at:
 - <http://www.i18nguy.com/TranslationTools.html>

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Translation memory

- Reuses translations from previous projects or the current project
- Reduces translation cost and effort
- Detects where previous translations can be applied
 - Fuzzy matching increases efficiency
- Does not eliminate all work
 - Requires setup, file management and review

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Fuzzy or Approximate Matching

- Exact matches are most likely to have precise translations. Near matches can benefit from existing translations too.

In translation memory- English/German

- It's raining. / Es regnet.

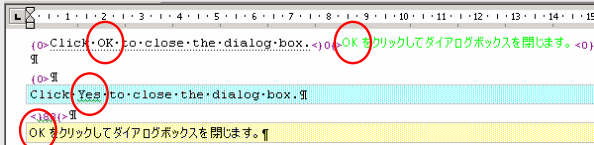
Fuzzy matches

- It is raining. Es regnet.
- It rains. Es regnet.
- It is raining **outside**. Es regnet **draußen**.

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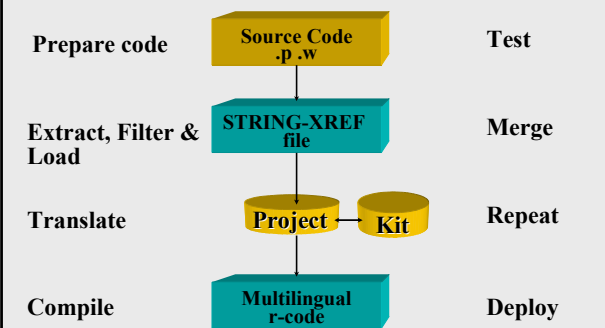
Matching

- Fuzzy match example



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TranMan Translation Process



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TranMan Translation Process

Prepare code **Source Code** (.p, .w) **Test**

Mark all text as U, T, L, C, R
 Estimate expansion, Redesign UI and Reports
 Use SUBSTITUTE with variables
 Allow for different fonts
 Insure logic is independent of translations
 Don't forget schema and triggers

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TranMan Translation Process

Send out text and other materials for translation
 Visual Translator is unfamiliar so difficult to quote
 Doesn't have professional translation features
 e.g. Fuzzy matching, translation memory
 Doesn't exchange with traditional tools, impacting document and help translation costs.

Translate **Project** — **Kit** **Repeat**

Compile **Multilingual r-code** **Deploy**

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TranMan Translation Process

Recompile the world and produce r-code
 Creates a large footprint, or
 build different versions with different languages
 Doesn't address active-x, or third party software
 It does support Unix, Character UI

Compile **Multilingual r-code** **Deploy**

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The Plan

- Reduce translation & update costs
- Minimize engineering re-work
- Reduce time-to-market
- Reduce QA

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WizTom for Progress Run-Time

Runtime Process: WizTom for Progress®

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WizTom for Progress Development

Localization Process: WizTom for Progress®

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Cutting the Fat Out of Translation

Feature-Benefits

- Features**
 - Core application totally unmodified
 - Single build, No code divergence
 - “Plug & Play”
 - unnecessary to wait for “gold-bits”
 - Simple deployment
- Benefits**
 - Engineering focused on functionality; one-pass functional QA
 - Single build/version. No language-specific patches, no support headaches
 - Add languages anytime, customers add own terms
 - Enables “Sim-Ship”, fast to market!

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Let's Demonstrate!

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WizTom Studio

The whole translation process is managed through the Studio

- Text Extraction:**
 - from the running site / application
 - from the source code if available

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WizTom Studio

- Text Extraction
- Thesaurus Edition**
 - After parsing various sources, Studio separates content from the code and displays only rich text formats to translators.
 - Add / remove languages
 - Translation modification
 - Integrated translation memory

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WizTom Studio

- Text Extraction
- Thesaurus Edition
- Imports / Exports**
 - translation work can be shared between different translators
 - existing translations can be re-used
 - use of dedicated translation memory tools (Trados, Deja Vu...)

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WizTom Studio


- Text Extraction
- Thesaurus Edition
- Import / Export
- Mirror effect: for RTL languages**

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WizTom Studio

WizTom Studio allows real time translations with a direct view of the results on the application.

- Text Extraction
- Thesaurus Edition
- Import / Export
- Mirror Effect
- Contextual Translation



United Nations Educational, Scientific and Cultural Organization
Current events
Publications
Programmes
Documents
Information services
Microsoft
Databases
NICS
Character

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Strategies Localizing Applications

- Character UI – TranMan
- GUI – TranMan, WizTom
- Dynamics – Localization Manager, DB
- Web – DB, Localization Manager, WizTOM
- .NET, Resources, WizTOM
- 3rd party components w/o source, WizTOM

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Best Practices

- Program local, deploy global
- Eliminate unnecessary QA
- Focus on competitive functionality and core competencies
- Support all locales with English staff
- Plug & Play as required
- Manage terms as required

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XenCraft and ABLE Innovations

- The XenCraft and ABLE Partnership
 - Experts in Internationalization
 - Experts in Localization
 - The only companies focused on Globalization of Progress Applications!
- We can help you add languages to your Progress applications
- We can help you go Global!

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Questions



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