



Objectives

- Localizing applications is a domestic and international revenue generating option
- Sticker shock often occurs
- Present causes and ways to avoid
- Introduce alternative approaches to reduce cost.

Cutting the Fat Out of Translation

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Agenda

Cutting Fat Out of Translation

- Adding Languages to Your Applications
- Why Applications are not Localized
- Localization with TranMan
- Localization with WizTOM for Progress
- Demonstration

Cutting the Fat Out of Translation

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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

It's The Same, But Different


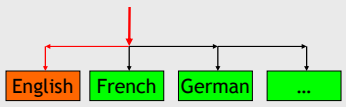
- Weird Letters - ¿ÀÆÇĞΛΨЯЖФΣ
- Odd Fonts – Mincho, GulimChe, ...
- Unusual Measurement Systems
- Language Ambiguity
 - Cancel- abort vs. undo
 - Print- noun vs. verb
- Grammar Complexity
 - Word order, endings, plurals



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Why Applications Are Not Localized

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



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Why Applications Are Not Localized

- Starting small: other languages in U.S.?
 - Applications not designed for localization
 - Progress Localization tools do not scale
 - It's too costly

What if the localization tools reduced requirements for advance design and cost?


Then it is a business opportunity!

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Localization Technology

Localization 101

Brief Introduction!



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Definitions

- Internationalization (I18N) – Engineering a product for 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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Cutting the Fat Out of Translation

Localization

- Addresses:
- Laws
- Customs
- Business Practices
- User preferences
- Symbolism of graphic elements
- Translation of all parts of the product – software, help, documentation.

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Software Translation

- Translate all visible text
 - dialog boxes, menus, messages
 - reports
- Adjust or replace graphics
- Accommodate local formats
 - month names, day names, etc.
- Resize and reformat elements
 - expansion due to translation,
 - format expansion
 - number and currency precision, width, etc.
 - fonts, font sizes, etc..

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Software Translation

- Compile
 - Can be resource intensive
- Test
 - Verify localization (Linguistic QA)
 - Translations grammatically correct?
 - Is the original meaning and spirit accurately reflected?
 - Verify functionality (Functional QA)
 - Is logic broken by translation or resizing?

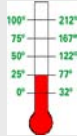
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Typical localization issues

First Name: Androgynous
Last Name: Pat
Gender: ☐ Male ☒ Female








2004年6月8日

12\$34€



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Common Color Advice

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

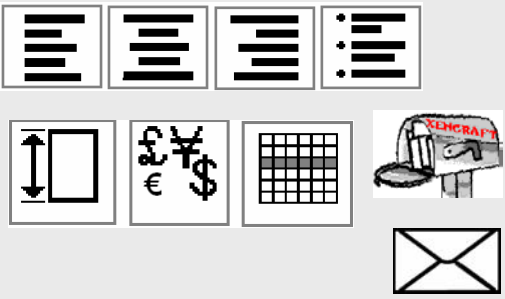
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Preparing for localization

Use generalization and abstraction



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Preparing for localization

Choosing graphics and text

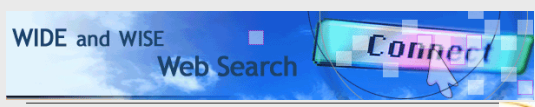
- Avoid geocentric images, text
- Avoid puns and word play (ini2reg, scale)
- Avoid metaphors (home, desktop, toolkit)
- Avoid body parts and positions (eyes, hands, feet)
- Avoid sports references (homerun)
- Avoid animal symbols (owl, dog, cow,...)
- Avoid religious symbols (stars, crosses)
- Be aware that reading directions can be left to right or right to left.

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Preparing for localization

Avoid putting text in images

- Graphics expensive to update
- Font difficult to create
- Background difficult to replace
- New text may interfere with image
- Solution: Use Tooltips



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Text Preparation

Goals

- Efficiency
 - Text changes should not break software or require expensive software changes
- Consistency
- Accurate translations
- High quality writing

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Preparing for localization

Text preparation

- Issues with localizing text
 - Text extraction
 - Text construction
 - Word order, Grammar rules
 - Text expansion
 - Text with multiple uses
 - Text context
 - Fonts
 - Styles
 - Accelerator keys

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Preparing for localization

Text preparation

- Text extraction
 - Translating text mixed with code is error-prone, or requires translators to be coders.
 - Translation might use program syntax

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

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Preparing for localization Text preparation

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

```
/* 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}
    }
```

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Preparing for localization Text preparation

- Text externalization
 - Example property files

```
/* 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 preparation

- Text construction
 - Text built of fragments is hard to translate
 - Fragments may not follow grammar rules
 - Cannot know which parts go together
 - Parts can be reused in incompatible ways

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

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Preparing for localization Text preparation

- Word order, Grammar rules
 - Text may need to be reordered.
 - Some languages are Subject-verb-object
 - Others can be Subject-object-verb
 - Grammar rules can require word endings to follow correct usage:
 - Gender, Case, Plurality
 - Translators cannot do this with fragments

```
String1 = "There are" + i + "tables in" + j + "files."
```

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Preparing for localization Text preparation

- Text construction
- Word order, Grammar rules
 - Solution is to use complete sentences.
 - With embedded, reorderable arguments.

```
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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Preparing for localization Text preparation

- Text expansion
 - Translations can be longer than the original

English: Speed Limit
German: Geschwindigkeits-Begrenzung

English Swedish



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Preparing for localization Text preparation

- Text expansion
 - Solutions:
 - Leave spare room for expansion
 - More expansion room for shorter items
 - Use “Drill downs” for more detail

Use drill-downs for more detail:

Advanced...

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Preparing for localization Text preparation

- Text with multiple usages
 - 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 Text preparation

- Text context
 - 2 Kinds of context
- Spatial: space available for translation
 - Translators can choose words that fit
 - OK for limited use, but increases terminology inconsistency
 - Necessary in some cases
 - e.g. column vs. side labels

Status:	active	Status	Start	End
Start date:	11/1/2002	active	11/1/2002	11/30/2202
End Date:	11/30/2002			

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Preparing for localization Text preparation

- Text context
 - 2 Kinds of context
- Semantic: Having consistent meanings
 - Translators need to know the relationships between text segments
 - How does the translator know to use anaranjada or naranja?

Color
☐ Blue ☒ Orange

Fruit
☐ Apple ☒ Orange

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Preparing for localization Text preparation

- Fonts
 - May expand vertical as well as horizontal
 - May be hard to match “mood” of original
 - Հայաստան (Armenia)
 - 中国 (China)
 - საქართველო (Georgia)
 - Ελλάς (Greece)
 - 대한민국 (Korea)
 - Россия (Russia)
 - ประเทศไทย (Thailand)

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Preparing for localization Text preparation

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

中国 中国

日本語 日本語
 Wakiten Amikake

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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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Spanish Keyboard

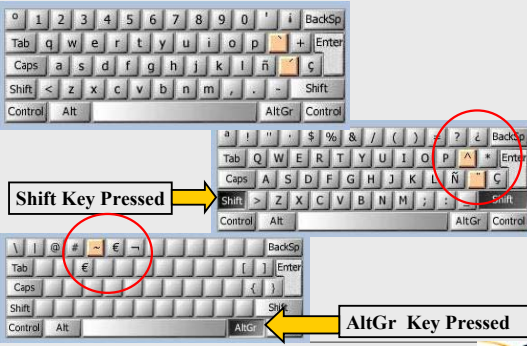
Keys added, deleted, moved.
(Changes application fingering.)



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

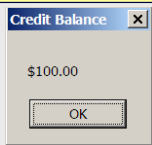
Use subject:predicate

- 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 translation

- Text reuse
 - To reduce translation cost and effort, be consistent
 - Use terms, in the same way, where possible.
 - Expect identical text with different usage to be translated differently.
 - Make sure documentation, help, error messages, and user interface agree.
 - Create and use a glossary to define (and manage) consistent usage.

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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.i18nquy.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.
-----------------	---	------------

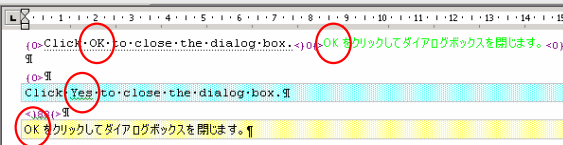
Fuzzy matches

■ It is raining.	Es regnet.
■ It rains.	Es regnet.
■ It is raining outside .	Es regnet draußen .

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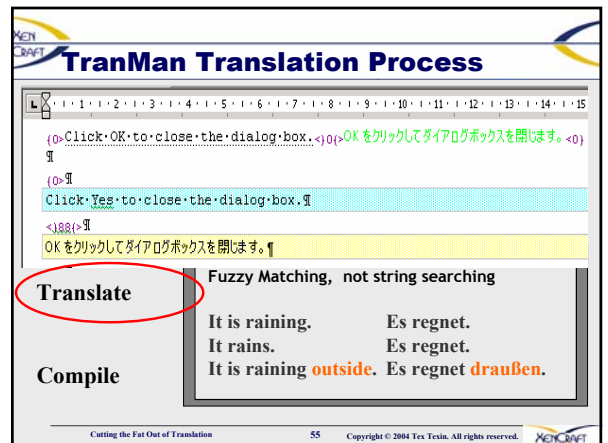
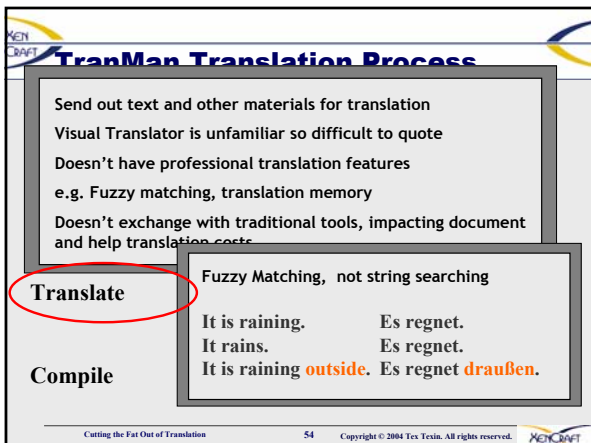
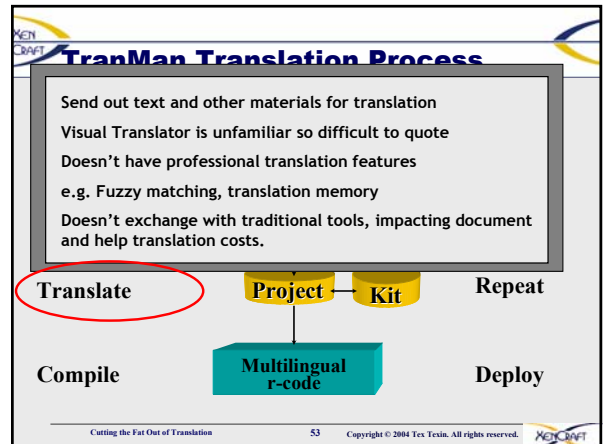
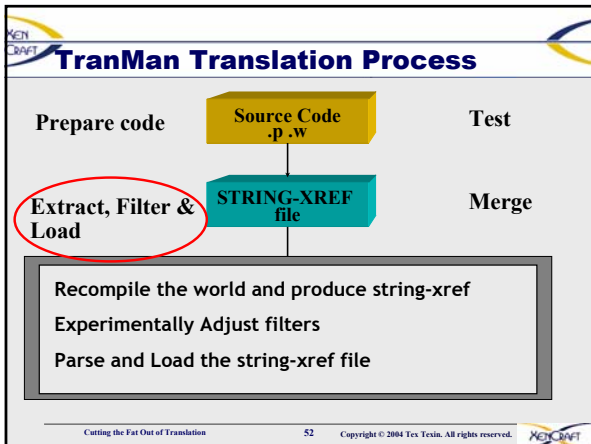
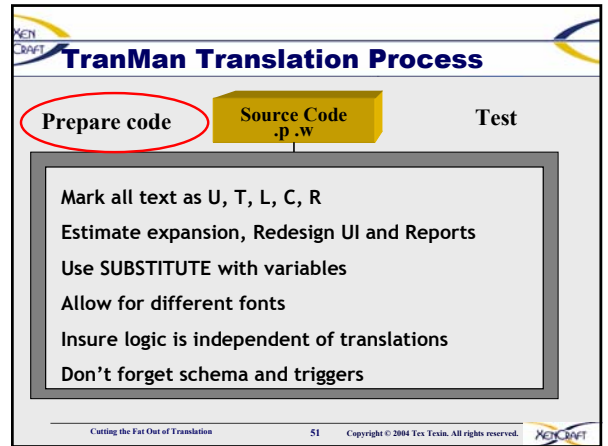
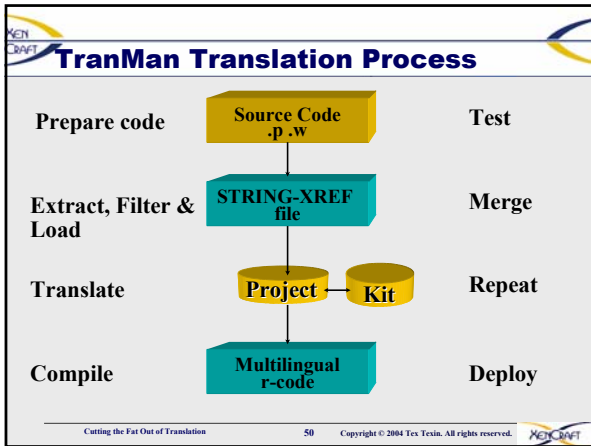
Matching

- Fuzzy match example

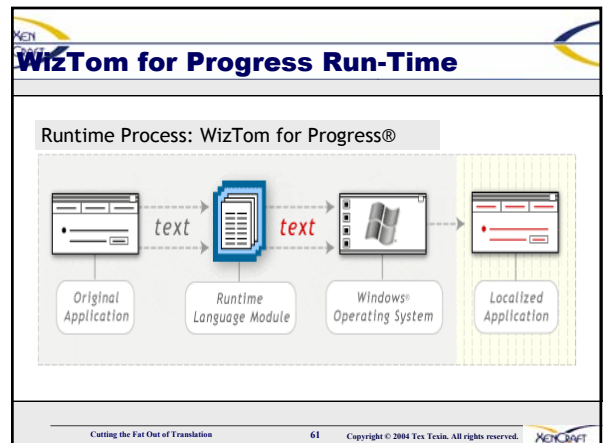
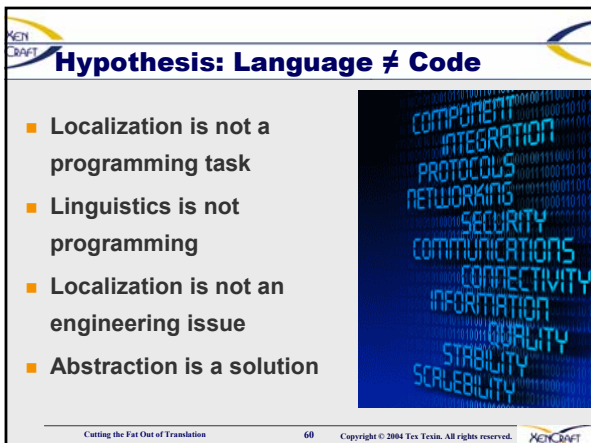
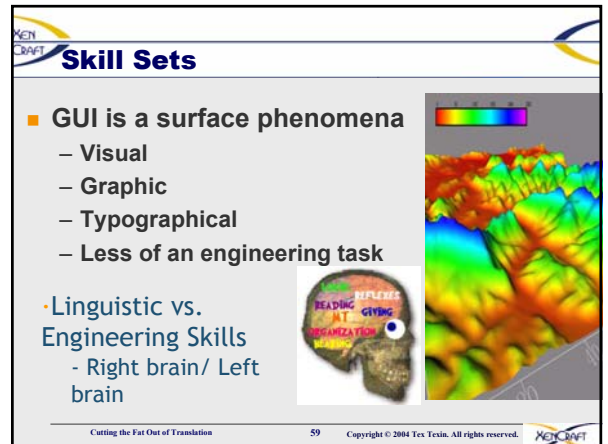
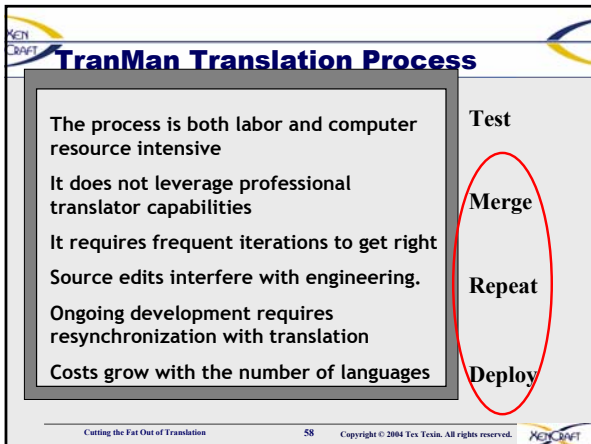
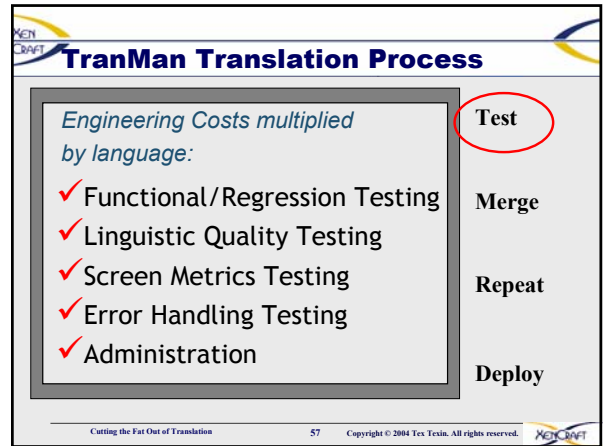
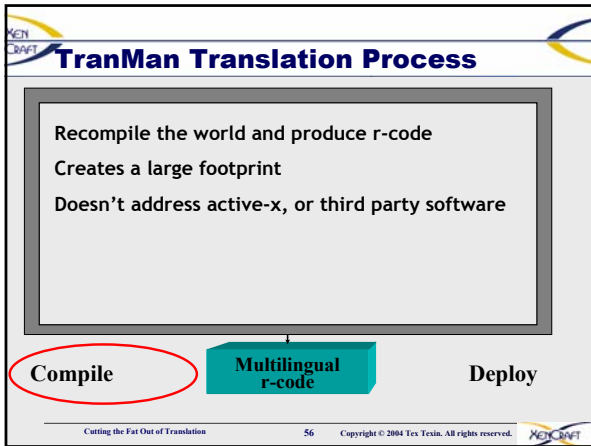


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