Test Your Tech

Blazing away is:

A. The BBC drama about Charles Dickens.

B. Learning a new software program without reading the manual.

C. A fire burning out of control.
Test Your Tech

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B. Learning a new software program without reading the manual.

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Announcements

• Due Monday before noon:
  * Lab 2—Directories
  * HW 1
    • It’s not a quiz
    • We just used Catalyst’s Web Q tool to allow you to answer the homework questions online

• For lecture Monday, read chapter 3 of Fluency
Video

- Fitness: Skills, Concepts and Capabilities (5:38)
  - http://uweoconnect.extn.washington.edu/fitnessskillsconceptscapabilitiesdslfit7/
What the Digerati Know

Other people can teach you computer applications or you can figure them out for yourself

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Learning New Tools

How do we learn to use new tools?

- Reading the owner’s manual -- chain saw
- Be taught in their use -- car, bicycle
- Figure them out ourselves -- iPod
Learning New Tools

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- Software designers wanting you to learn their tool ASAP, try for ‘intuitive’
  - Consistent Interfaces -- build on experience
  - Suggestive icons -- bypass terminology
  - Metaphors -- exploit analogous reasoning
Standard Functionality

Most applications have File and Edit
Standard Functionality

Most applications have File and Edit

Impress your friends with your knowledge of Japanese
What does ‘New’ Mean?

‘New’ means create a ‘blank instance’

To understand ‘blank instance’ know that information has properties as well as content which are all stored in a table with a place for everything

- Document: Date created, date modified, creator, fonts, content, diagrams, pictures, tables, ...

A ‘blank instance’ is simply the structure without any of the content
Example

- Checkbook register
  - A blank line is a new instance
  - Same structure
    - Column headings: date, payee, reconciled, withdrawal, deposit, balance
    - Data types for each column: date, text, y/n, currency, currency, currency

<table>
<thead>
<tr>
<th>DATE</th>
<th>PAYEE</th>
<th>Rec</th>
<th>WD</th>
<th>DEP</th>
<th>BAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/31/07</td>
<td>Rentals R Us</td>
<td></td>
<td>750.00</td>
<td></td>
<td>1235.00</td>
</tr>
<tr>
<td>1/1/08</td>
<td>BIG S Season Pass</td>
<td></td>
<td>499.00</td>
<td></td>
<td>736.00</td>
</tr>
</tbody>
</table>
"Click Around"

Software designers use standard ideas to make applications intuitive

• To learn a new application, check it out by clicking around

  * Take a minute to ... 
    • Look under all menus to see operations 
    • Follow the “…” for menu operations 
    • Try to recognize what the icons mean

  Clicking around is exploration
A New Application

Find:
• consistent interface
• icons
• metaphor
Metaphors

Net Point Video: Metaphors
http://uweoconnect.extn.washington.edu/metaphorsdslfit7/
“Blazing Away”

Learn an application fast by trying it

• Beginning with a new instance, assertively try menu items
  * Expect to fail and make a mess
  * Exit the application, and if you are asked “Save?” reply “No”
  * Try repeatedly until becoming familiar

If you are trying to achieve some goal, keep your eyes on the prize
To Learn A New Tool

Software systems build on a consistent interface, standard metaphors, etc.

* Expect to teach yourself applications
* Do so by familiarizing yourself with the features … “Clicking Around”
* Assertively try out the features, “Blaze Away,” watching what they do
  * Be efficient -- stay focused, don’t type a lot when you expect to exit

If all else fails...
Differences & Similarities

Different vendors will produce similar software for the same task

- Superficially, the GUIs use similar features
- Fundamentally, the task largely determines how the software must work ... they must be similar
Differences & Similarities

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• Implications ...
  • Know one word processor, learn others fast
  • SW differences: mostly glitz, convenience
  • Don’t accept lousy ... switch to other SW
Mac or PC???

Which is better—Mac or PC?

• Arguments create only heat, no light
  * They are more alike than different
  * Any Fluent person can use both

Homework 2: Find a Macintosh computer on campus, e.g. MGH 1st floor or OUGL labs. Try out the Mac and see what you find familiar and what is different. Locate the browser, and check the class web page. Hand in a list describing in a sentence or two five features you find different, and five that are the same.

Due: Before 5pm on Friday, January 18, 2008
Another Implication

If SW is similar at its core, computations can be taught without learning a specific vendor’s SW …
Another Implication

If SW is similar at its core, computations can be taught without learning a specific vendor’s SW ... consider text searching and replacement.

Article 1. All human beings are born free and equal ...
Replacement

Two strings are required: search string and substitution string

- Adopt a notation: search × substitute
Notation Example

Illustrating the use of the notation

* Using the replacement Clinton × Bush
  
  The sentence
  
  “At the White House President Clinton said …”
  
  Becomes
  
  “At the White House President Bush said …”
  
* It’s easy to express substitutions
  
  Gore × Cheney / Albright × Powell / Socks × Buddy
  
  To show deletion use epsilon, ε, as in: word × ε
Placeholder Technique

A common problem ... copying text off web often trashes the line breaks

Roses are red
Violets are blue
Searching is fun
But doesn’t rhyme

Intended
Trashed by extra line breaks

Roses are red
Violets are blue
Searching is fun
But doesn’t rhyme
Placeholder Technique

Formatting is performed by special (non printing) characters ...

Roses are red
Violets are blue
Searching is fun
But doesn’t rhyme

Intended
Trashed by extra line breaks
**Placeholder Technique**

Roses are red

Violets are blue

- Deleting the single ↓ deletes them all!

Roses are red
Violets are blue
Searching is fun
But doesn’t rhyme
Thinking of the Input

Roses are \( \text{red} \)\ Violets are \( \text{blue} \)...

• Placeholder technique ...

Step 1. Substitute a placeholder for the longer string

\[ \text{\_\_} \times \# \]

Yielding

Roses are \( \text{red} \# \)\ Violets are \( \text{blue} \# \)...

Step 2. Next, delete the shorter string

\[ \text{\_\_} \times \varepsilon \]

Yielding

Roses are \( \text{red} \# \)\ Violets are \( \text{blue} \# \)...

28
Step 3. Finally, replace the placeholder with the original long string

$\# \times \epsilon$

Yielding

Roses are red\[\downarrow\]
Violets are blue\[\downarrow\]\[\ldots\]

The intended result!

- Summarizing the placeholder
  longstring $\times$ placeholder
  shortstring $\times$ $\epsilon$
  placeholder $\times$ longstring
Summarizing

Humans must learn to use tools

• Software designers want you to learn easily
• SW uses consistent interface, metaphors, ...

* Teach yourself applications by “Clicking Around,” and “Blaze Away”
* SW for a task must share core features
* Learn apps independently of vendor

Placeholder technique is effective for fixing text
For Monday

- Lab 2, HW1 are due before noon
- Read Chapter 3 of Fluency
- Review for next week’s pop quiz
Next Week

- Pop quiz next week in Lab
  - Online like the last one
  - Ten questions
    - True/False
    - Multiple Choice
Next Week

• Review
  * Study questions at end of each chapter
  * Study answers to odd-numbered questions in back of book
  * Lecture notes
  * Videocasts of lectures
  * Flash cards
Next Week

- Have a good weekend!