Announcements

Monday labs cannot be held due to a scheduling conflict -- go to Tuesday's

- There are four Tuesday labs:
  8:30, 9:30, 1:30, 2:30
- The term's calendar is posted including
  Midterm dates; it's subject to change
- RGB Yellow = Full, Full, Zero intensity

What the Digerati Know

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

Learning New Tools

How do we learn to use new tools?

- Be taught to use them -- car, bicycle
- Reading the owner's manual -- chain saw
- Figure them out ourselves -- CD player

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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

A New Application

Find: consistent interface icons metaphor

Standard Functionality

Most applications have File and Edit
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 structure with a place for everything

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

“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

“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

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

Mac or PC???

Arguments about which is better, Mac or PC, create only heat, no light
• They are more alike than different
• Any Fluent person can use both

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
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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

Another Implication

If SW is similar at core, computations can be taught independently of vendor

Another Implication

If SW is similar at core, computations can be taught independently of vendor ... consider text searching and replacement

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

<table>
<thead>
<tr>
<th>Old String</th>
<th>Search</th>
<th>Replace</th>
<th>New String</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fred</td>
<td>don't</td>
<td>New</td>
<td>Frank</td>
</tr>
<tr>
<td>Bob</td>
<td>doesn't</td>
<td>New</td>
<td>Michael</td>
</tr>
<tr>
<td>Alice</td>
<td>doesn't</td>
<td>New</td>
<td>John</td>
</tr>
</tbody>
</table>

Replacement

Two strings are required: search string and substitution string

- Article 3: All human beings are born free and equal ...

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

- Now deletion use epsilon, ε, as in: word + ε

Placeholder Technique

The Problem: Eliminate single instances of a string without removing doubles

Intended
Placeholder Technique

The Problem: Eliminate single instances of a string without removing doubles

If the strings are listed as

"The doesn't rhyme"

Intended

Trashed by extra line breaks

Thinking of the Input

Roses are _red,l_Violets are _blue,l_l_l

• Deleting the single _j_ deletes them all!

Placeholder Replaced

• Finally, replace the placeholder with the original long string

_\red{l}_

• Yielding

Roses are _red,l_Violets are _blue,l_l_l

• The intended result

• Summarizing the placeholder

longstring • placeholder

shortstring • e

placeholder • 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 app.s independently of vendor

Placeholder technique is effective for fixing text.