Test Your Tech

FIT100

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.

1

Announcements

FIT100

- 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*

3

Video

FIT100

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

4

FIT100

What the Digerati Know

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

5

Learning New Tools

FIT100

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

6

Learning New Tools

FIT100

How do we learn to use new tools?
- ○ Reading the owner's manual -- chain saw
- ○ Be taught in their use -- car, bicycle
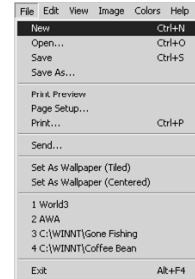- ○ Figure them out ourselves -- iPod

- 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

7

Standard Functionality

FIT100

Most applications have **File** and **Edit**

| File | Edit | View | Image | Colors | Help |

New Ctrl+N
Open... Ctrl+O
Save Ctrl+S
Save As...

Print Preview
Page Setup...
Print... Ctrl+P

Send...

Set As Wallpaper (Tiled)
Set As Wallpaper (Centered)

1 World3
2 AWA
3 C:\WINNT\Gone Fishing
4 C:\WINNT\Coffee Bean

Exit Alt+F4

8

Standard Functionality

FIT100

Most applications have **File** and **Edit**

Edit View Image Colors
Undo Ctrl+Z
Repeat Ctrl+Y
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
Clear Selection Del
Select All Ctrl+A
Copy To...
Paste From...

Impress your friends with your knowledge of Japanese

What does 'New' Mean?

FIT100

'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

10

Example

FIT100

- 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

DATE	PAYEE	Rec	WD	DEP	BAL
12/31/07	Rentals R Us		750.00		1235.00
1/1/08	BIG S Season Pass		499.00		736.00

"Click Around"

FIT100

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

12

A New Application

FIT100

Find:
• consistent interface
• icons
• metaphor

FIT100

Metaphors

FIT100

Net Point Video: Metaphors

http://uweoconnect.extn.washington.edu/metaphorsdslfit7/

15

"Blazing Away"

FIT100

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

16

To Learn A New Tool

FIT100

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 …

17

Differences & Similarities

FIT100

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

18

Differences & Similarities

FIT100

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

- Implications …
  - Know one word processor, learn others fast
  - SW differences: mostly glitz, convenience
  - Don't accept lousy … switch to other SW

19

Mac or PC???

FIT100

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

20

Another Implication

FIT100

If SW is similar at its core, computations can be taught without learning a specific vendor's SW …
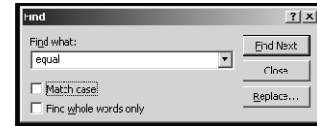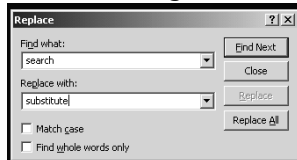
21

Another Implication

FIT100

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 ...`

`eeeeeeeeeeeeequal`

Find

Find what:
`equal`

☐ Match case
☐ Find whole words only

Find Next
Close
Replace…

Replacement

FIT100

Two strings are required: search string and substitution string

Replace

Find what:
`search`

Replace with:
`substitute`

☐ Match case
☐ Find whole words only

Find Next
Close
Replace
Replace All

- Adopt a notation: `search ✻ substitute`

23

Notation Example

FIT100

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

24

Placeholder Technique

FIT100

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
```

```
Roses are
red

Violets are
blue

Searching is
fun

But doesn't
rhyme
```

Intended

Trashed by extra line breaks →

25

Placeholder Technique

FIT100

Formatting is performed by special (non printing) characters …

```
Roses are red↵
↵
Violets are blue↵
↵
Searching is fun↵
↵
But doesn't rhyme↵
```

```
Roses are ↵
red↵
↵
Violets are ↵
blue↵
↵
Searching is ↵
fun↵
↵
But doesn't ↵
rhyme ↵
```

Intended →

Trashed by extra line breaks →

26

Placeholder Technique

FIT100

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 ↵
```

→

```
Roses are redViolets
are blueSearching is
funBut doesn't rhyme
```

27

Thinking of the Input

FIT100

Roses are ↵red↵↵Violets are ↵blue↵↵…

• Placeholder technique …

Step 1. Substitute a placeholder for the longer string

↵↵ ✸ #

Yielding

Roses are ↵red#Violets are ↵blue#…

Step 2. Next, delete the shorter string

↵ ✸ ε

Yielding

Roses are red#Violets are blue#…

28

Placeholder Replaced

FIT100

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

✸ ↵↵

Yielding

Roses are red↵↵Violets are blue↵↵…

The intended result!

• Summarizing the placeholder

longstring ✸ *placeholder*

shortstring ✸ *ε*

placeholder ✸ *longstring*

29

Summarizing

FIT100

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

30

For Monday

FIT100

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

31

Next Week

FIT100

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

32

Next Week

FIT100

- 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

33

Next Week

FIT100

- Have a good weekend!

34