

Web User Interface (WUI) Behavior

Jeff Offutt

<http://www.cs.gmu.edu/~offutt/>

SWE 432

**Design and Implementation of
Software for the Web**

Good Usability is Good Engineering

**It is not hard to design and good usable web
interfaces**

**But it is VERY EASY to build BAD web
interfaces !**

Overview

- UI Flow
- Overhead and Excise
- Memory
- Selection
- Dialog Boxes

Following clear engineering rules help us build
USABLE interfaces

UI Flow

The next thing the interface wants to do is
exactly what the user expects

- Follow users' mental model
 - Let the user direct the software
 - Don't talk with the user
 - Keep all related tools available
 - Modeless feedback : The user should not have respond
- Interfaces should be invisible, not cool
- It's easy to make things complicated, it's hard to make things simple

Flow Example

Do you want to save?			
Yes	No	Cancel	Help

Of course!!! Dont ask me.

Yes, WUIs are different from CLs by being easier, but slower ...

But, that is not an excuse to design them to be slow!

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Overhead and Excise tasks

- Overhead relates to solving problems:
 1. Revenue Tasks: Sub-tasks that work to solve the problem directly
 - designing
 - requirements
 2. Excise Tasks: Sub-tasks that must be done but that are not really part of the problem
 - compiling
 - Debugging
- Excise tasks often satisfy the needs of the tools, not the users

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Excise Tasks

- Excise tasks are trivial, unless we have a lot of them
 - Eliminate them if possible
 - Automate them as much as possible
- Excise for users with comp-semantic knowledge is often perceived as revenue for users without

Memory – Auto-customization

- Remember what the user did the last time
- Avoid unnecessary questions
- Imagine a secretary that asked you every time whether you wanted copies on front and back !
- Dialog boxes ask questions, buttons offer choices

Auto-customization Examples

- MS Word : I always put my files in C:\offutt
But MS Word always thinks I'm going to open a file in C:\Program Files\ ...
(took me 2 years to find the customization!)
- PPT : I often print “Handouts”, “2”, “Pure black and white”
If I print several PPT files in a row, I have to click all three boxes every time!
- ATM : I always withdraw \$150
2010: Capital One Bank established a “user profile,” where I could define my default amount

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Selection : The Mouse

“Democracy is a terrible system of organizing a society, but it’s better than any of the others”

— Winston Churchill

- So is a mouse a terrible selection device, but it’s better than any other
- The worst aspect of a mouse is that it forces us to take our hands off the keyboard
- MS Word
We type text
We issue commands with voice
CLs are natural – typing commands is not

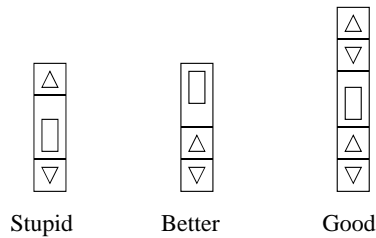
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Selecting Events

- Some expect a pen input to be used as a pointer, but it is much harder to pick up a pen than grasp a mouse.
 - This is why pens are no longer widely used
- Keep events close together!



Speeding up a WUI is primarily about reducing the number of events needed to accomplish a task.

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Dialog Boxes

Dialog boxes are among the most inconveniently designed part of most WUIs

- Dialog boxes are sometimes :
 - Unneeded
 - Labeled with confusing text
- Dialog boxes are interruptions and inherently intrusive
 - We cannot always afford to spend 20 minutes talking every time someone comes to our office
- Dialog boxes are excise tasks
- Use dialog boxes for
 - Exceptional interaction (errors, printing, ...)
 - Dangerous interaction (requiring extra concentration)

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Modal Dialog Boxes

No other interaction is allowed until the dialog box is closed

- Error messages should almost NEVER be in modal dialog boxes
 - The message should disappear with the next interaction with the parent window
- Modal boxes are :
 - easy to program
 - easy to understand
 - annoying
 - too common
- HTML alert boxes are modal ...

Summary

Building usable WUIs is actually simple

Be polite to users

Be respectful to user