

# **Error Messages and other feedback**

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**SWE 432**

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

## **Principles**

**Users remember more about when bad  
things happen**

**than when good things happen**

## Overview : Four Ideas

1. Be specific
2. Give constructive guidance in a positive tone
3. Use a user-centered style
4. Use an appropriate physical format

These are also good parenting tips

Or management tips

Generally : GOOD LEADERSHIP

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## Be Specific

**A message that has to be explained has *failed***

- Users should not have to read a message twice
- Messages should be concise
- Messages should be brief, informative, and in the users' vocabulary
- A usable message should state
  - What the error was
  - Where the error was
  - How to fix it

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## Be Specific (3)

### Examples

#### Non-specific

Invalid input  
Invalid date  
SYNTAX ERROR  
Illegal entry  
Error accessing  
http://www.cs.gmu.edu:  
SOCKET: Connection  
refused

#### Specific

The id number must be 5 integers  
Format: MM/DD/YY  
Unmatched left parenthesis  
Type first letter: Send, Read, or Drop  
www.cs.gmu.edu is busy, try again later

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## Constructive Guidance in a Positive Tone

- Meaningful messages
- Positive tone
- Not incriminating
- Blame system, not users
- State what should be there, not what should not
- No hostile terminology
  - Fatal error, run aborted, catastrophic error, illegal error, bad, ...

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## Use a User-centered Style

- Users should feel that they are in control
- Messages should be:
  - Courteous
  - Not Imperative

### Examples

#### Non-user-centered

ENTER DATA.  
Ready!

#### User-centered

Ready for command:  
Your turn :

## Use an Appropriate Physical Format

### Messages should be neat, consistent, and readable

- Mostly mixed case (upper and lower)
- All upper-case only for brief, serious warnings
- Message placement should not interfere
- Include white space around messages
- Input and message on same screen
- Highlight erroneous data fields

## Examples

- ☹ **! HT ACCESS: Error accessing “http://www.cs.gmu.edu/offutt.html”:  
“HTTP: File/directory does not exist”**
- ☺ **The requested URL /offutt.html was not found on http:// ...**
  
- ☹ **!PrintMonitor is currently printing “Doc 1: Bad Examples” from  
“WordPerfect 2.1”. If PrintMonitor quits now, “Doc 1: Bad Examples”  
will be printed when the system is restarted with MultiFinder. Do you  
want to finish printing before PrintMonitor quits? (*Windows 95*)**
- ☺ **Currently printing. If shutdown occurs now, the document will not be  
printed until WordPerfect restarts. You can still delay shutdown until the  
document finishes printing.**  
**Wait and shutdown after printing:**   
**Shutdown now and cancel printing:**

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## Another Example

- ☹ **http://www.inwarehouse.se/ : Microsoft OLE DB  
Provider for ODBC Drivers error '80004005'  
[Microsoft][ODBC SQL Server Driver][SQL  
Server]Your transaction (process ID #85) was  
deadlocked with another process and has been chosen  
as the deadlock victim. Rerun your transaction.  
/script/webkatalogen/pb.asp, line 221**
  
- ☺ **Internal failure, please try again.**

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## Another Example

- ☹ Bus error, core dumped (*Unix*)
- ☺ Access through a nil pointer in function GetNext()
- ☹ Terminating thread, due to a stack overflow problem. A VxD, possibly recently installed, has consumed too much stack space. Increase the setting of MinSPs in SYSTEM.INI or remove recently installed VxDs. There are currently 5 SPs allocated. (*Windows 2000*)
- ☺ ???

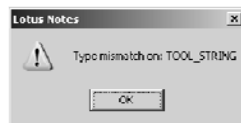
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## Yet Another Example

- From Lotus notes



- What does that mean ???

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## A Confusing Example

This webpage has a redirect loop.

The webpage at

<https://property.onesite.realpage.com/system/onlinepayments/default.asp>

has resulted in too many redirects. Clearing your cookies for this site may fix the problem. If not, it is possibly a server configuration issue and not a problem with your computer.

Here are some suggestions:

Reload this web page later.

Learn more about this problem.

More information on this error

Below is the original error message

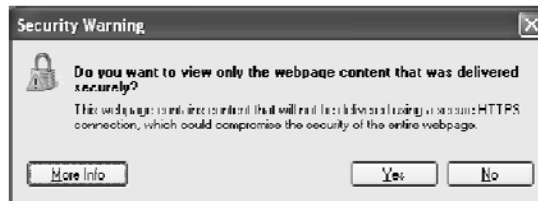
Error 310 (net::ERR\_TOO\_MANY\_REDIRECTS): There were too many redirects.

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## Another Confusing Example



- The wording of this message makes it hard to know how to answer
  - “to view only” ?
- If I want to let it show me everything, should I answer “Yes” or “No”?
- This message can only be understood by someone who got an A in a logic class ...

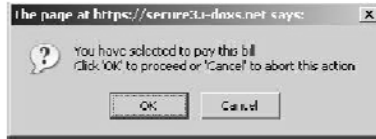
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## Yeta Yet Another Example

- From an online bill payment system



- Is it legal to “abort” in this state?

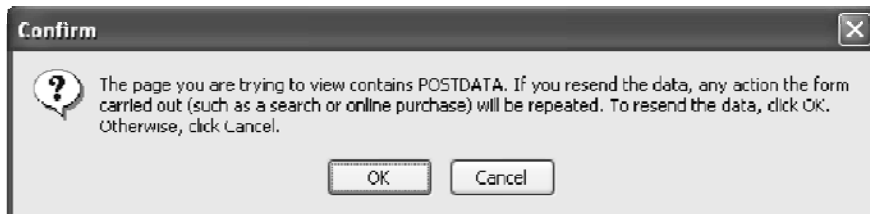
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## A Commonly Occurring Example

- Most browsers give a warning before submitting POST data for the second time
  - Avoid duplicate submissions and updates
  - Avoid duplicate purchases
- Users should be very careful before overriding this hesitation
- However ... how many users understand “POSTDATA”?



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## Last Example

- ☹ Program Error: WINWORD.exe has generated errors and will be closed by Windows. You will need to restart this program. An error log is being created. (*Word 2000*)
- ☹ I spent weeks trying to solve this problem !
- ☹ The default printer is a network printer and is currently unavailable. Word is continuing, but you will not be able to print.

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## A Stupid Example

Where is the 'any' key  
on my computer keyboard?



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## Another Stupid Example



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## Summary

### Good Error Messages:

- Increase speed of use
- Increase subjective satisfaction
- Reduce repeat errors

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