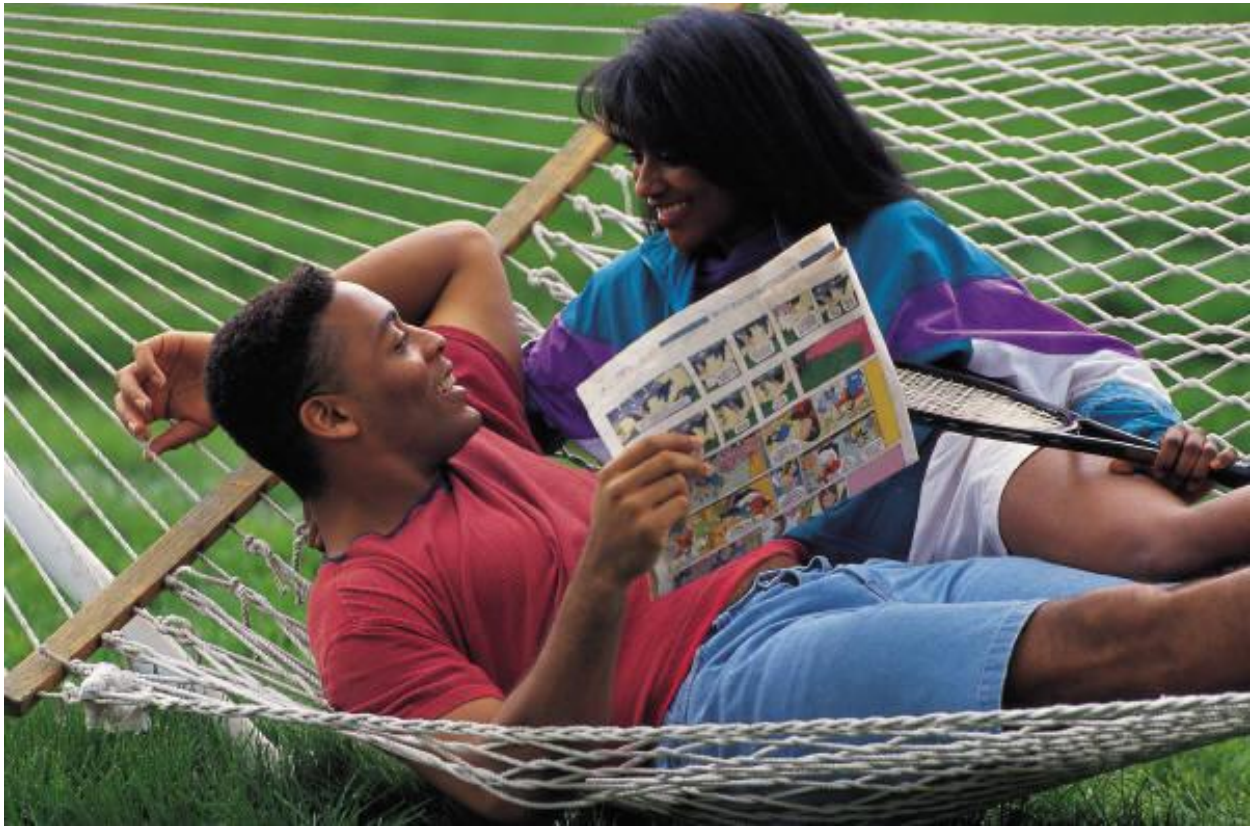
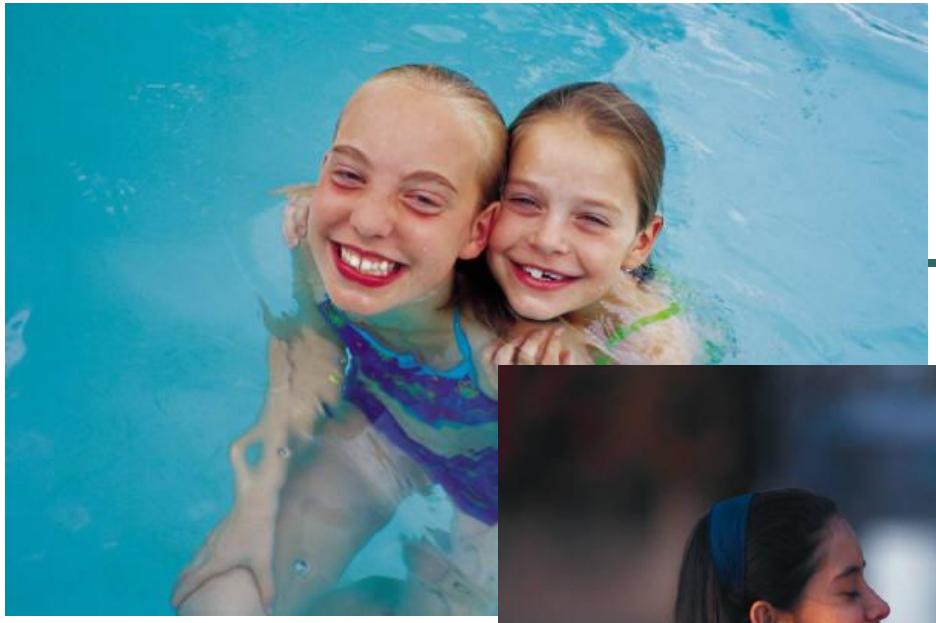
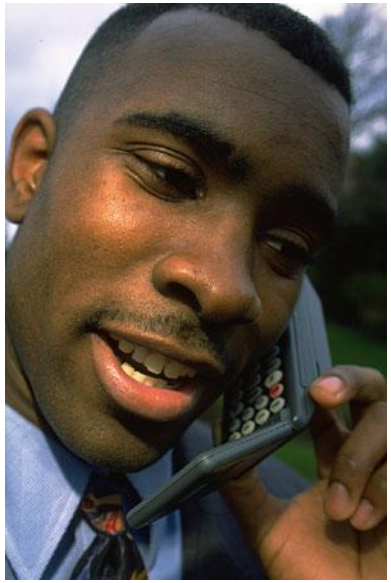
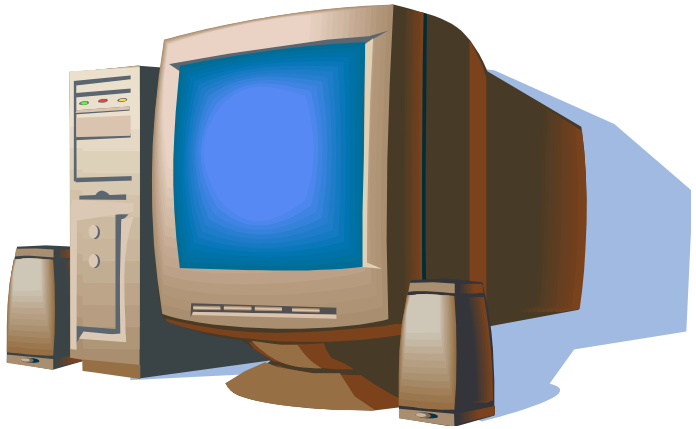
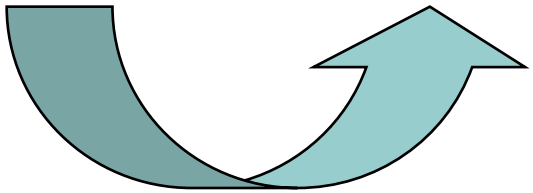
HUMAN COMPUTER INTERFACE











Human Computer Interface

The Changing Face of Communication

Until the recent process of computerisation began, the mode of communication had always been a human to human interface.
A critical theory of the present state of technology would argue that we are entering a dehumanising stage in the development of the new human to computer interface.

What is an interface?

The term ***interface*** is generally defined as "the place at which independent systems meet and act on or communicate with each other".
The shift to an interface based on human to computer interaction removes one of the expressive and emotional systems from the older human to human model and replaces it with an electronic digital information processing unit.

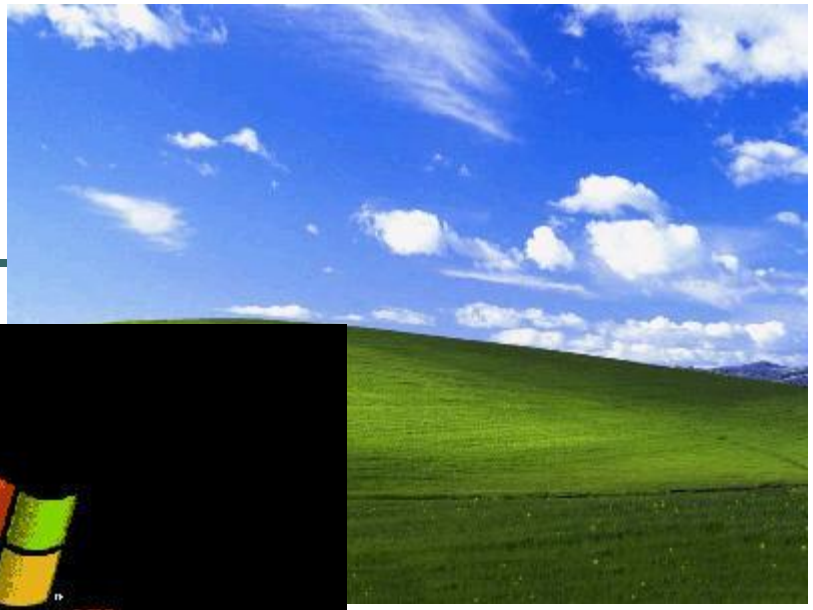
The Effects of the Graphic Window Interface

Human to computer interaction is driven by a form of software commonly referred to as the ***Graphic Window Interface***. First developed by Apple Computers, it is now the universal standard interface called "Windows". Windows is based on a more visually oriented interface, which follows the recent conditioning of our society to immediacy in all forms of communication.

User Interface

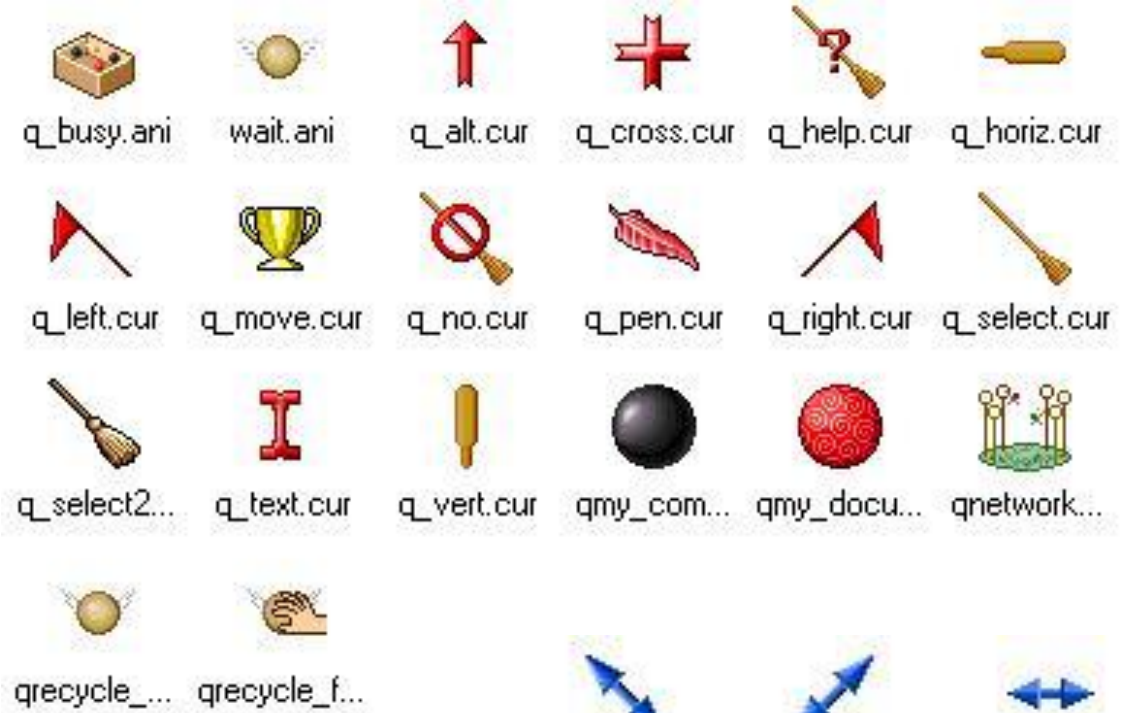
A User Interface is the software through which a user interacts with a computer system. The user tells the computer what to do and the computer responds. Modern desktop computer user interfaces are WIMP (Windows, Icons, Menus, Pulldowns) interfaces, utilizing the desktop metaphor.

WINDOWS



My Computer
Network Neighborhood
Recycle Bin
Inactive Window
Active Window
Normal
Disabled
Selected
Window Text
Message Box
Message Text
OK

My Computer
Network Neighborhood
Recycle Bin
Inactive Window
Active Window
Normal
Disabled
Selected
Window Text
Message Box
Message Text
OK


q_busy.ani
wait.ani
q_alt.cur
q_cross.cur
q_help.cur
q_horiz.cur
q_left.cur
q_move.cur
q_no.cur
q_pen.cur
q_right.cur
q_select.cur
q_select2...
q_text.cur
q_vert.cur
qmy_com...
qmy_docu...
qnetwork...
qrecycle_...
qrecycle_f...

d1.ani
d2.ani
horizontal....
move.ani
vertical.ani
help.cur
link.cur
no.cur
normal.cur
pen.cur
precision.cur
text.cur
up.cur
wait.cur
work.cur

Interface Design

Overview

The look and feel of the application can be the single most important determinant of its value to the user.

Software must assist the user perform a task, not become a task in itself. It must not make the user feel stupid. It must not make the computer appear to be stupid

Human computer interfaces are not limited to pc's, but also include;

Getting cash from cash machines

Jumbo jet pilot checking his instrument panels

Operator of a high level photocopier

Scientist monitoring a chemical reaction

Music software

A Good design can assist users with their tasks

- safely
- effectively
- efficiently
- enjoyably

Designing Usable Systems

- Who will be using the system?

Primary students, Computer professionals?

- What tasks will the computer be performing?

Is it repetitive? Does it require skill?

- What is the environment like?

Is it in a factory? Is it on a lifeboat? Is it in an office?

- Is it technologically feasible?

INTERFACE STYLES

Common interface styles include;

- **command line interface**

```
program GuessANumber; {$APPTYPE CONSOLE}

uses SysUtils;

var rn, un, cnt: Integer; guess: Boolean;
begin Randomize; rn := (Random(50) + 1); Write('Computer has picked an integer number,'); cnt := 1; un := 0; Guess := False;

while Guess = False

do begin ReadLn(un); if un > rn then Write('Wrong, gimme a smaller number: ') else if un < rn then Write('Wrong, gimme a larger number: ') else //un=rn begin Guess:=True; Writeln; Write('Correct! It took you ' + IntToStr(cnt) + ' times to guess!')

 end; cnt := cnt + 1; end; //while ReadLn; //don't close the window, wait for [Enter]
end.
```

- **MENUS**

---

1. **Full screen menu**
2. **Pull down menu**
3. **Pop up menu**

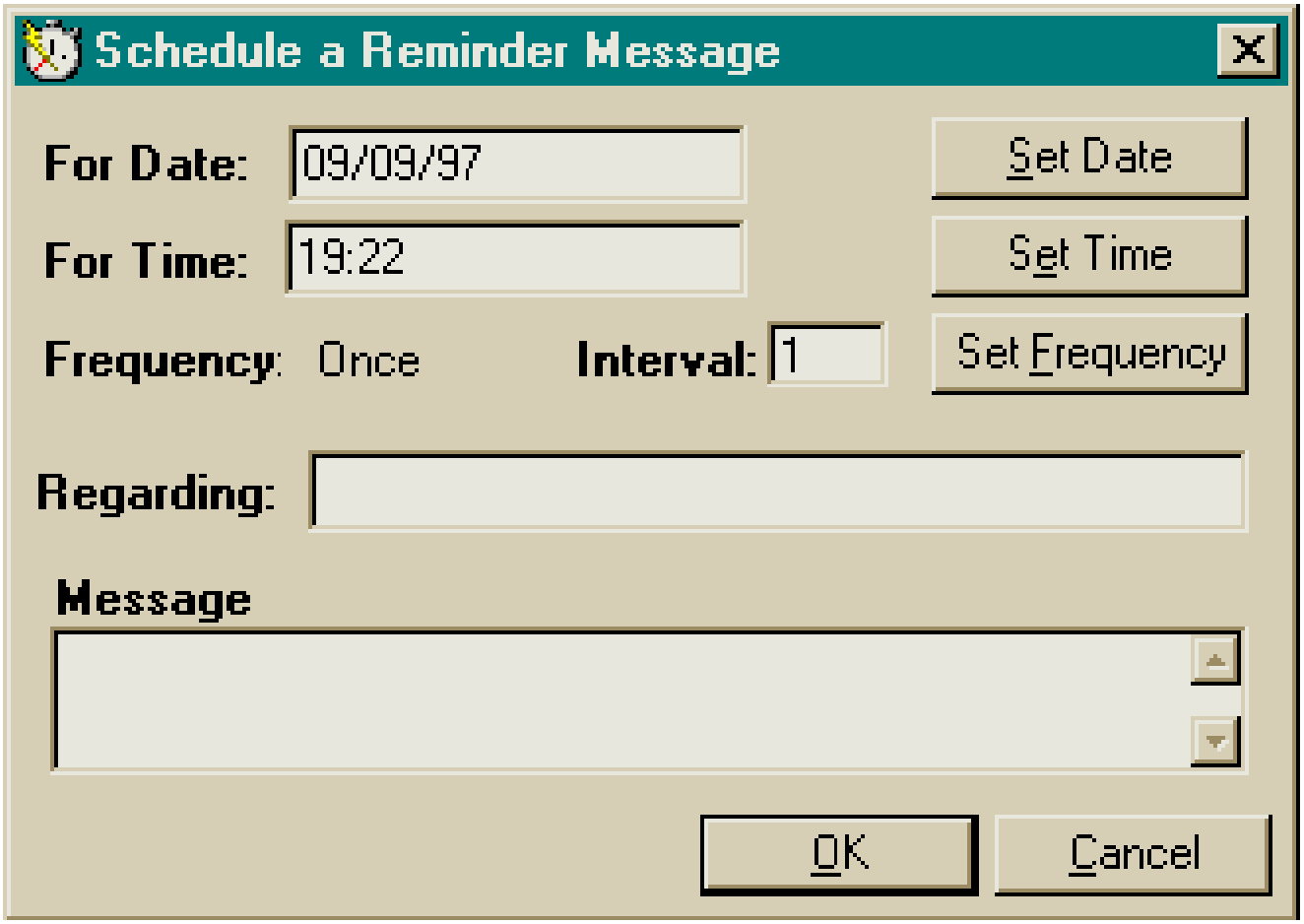
Forms and dialogue boxes

When a user has to enter data, a form is used to display option on screen. This must have;

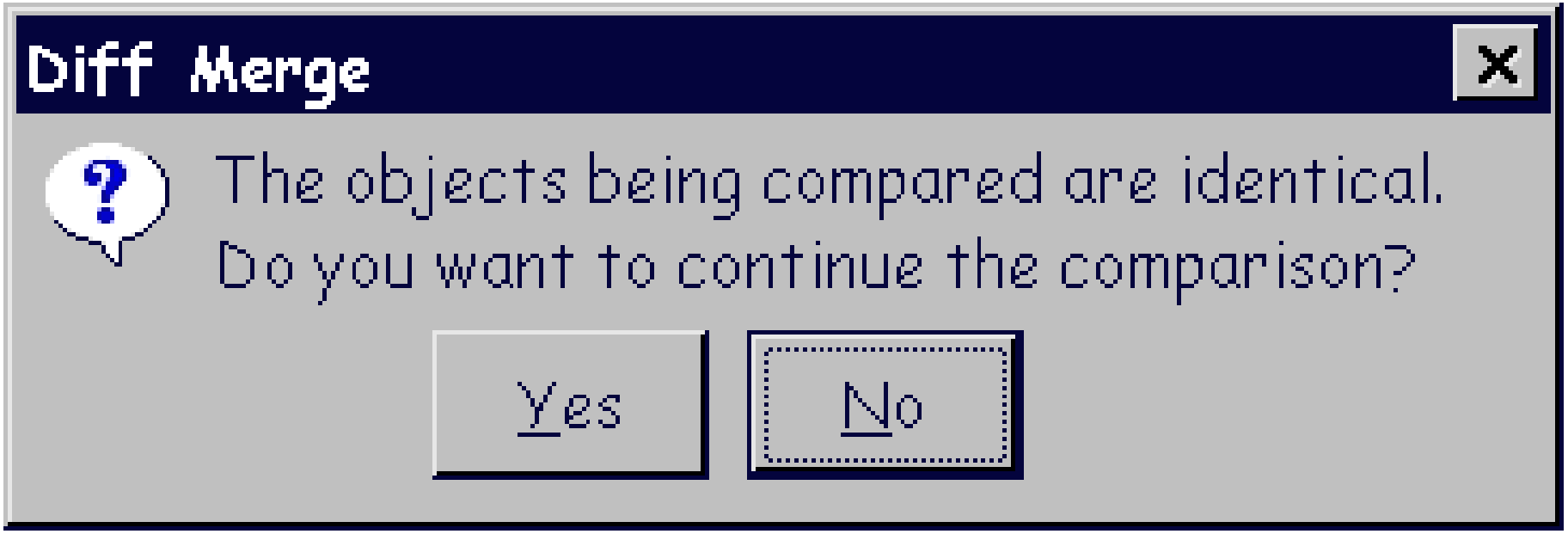
- **a title**
- **very little clutter**
- **an indication of the number of characters to be entered**
- **an option to go back and correct**
- **default values prewritten in**
- **items in logical sequence**
- **exit and help facilities**
- **both upper and lower case letters**

Common mistakes to avoid.

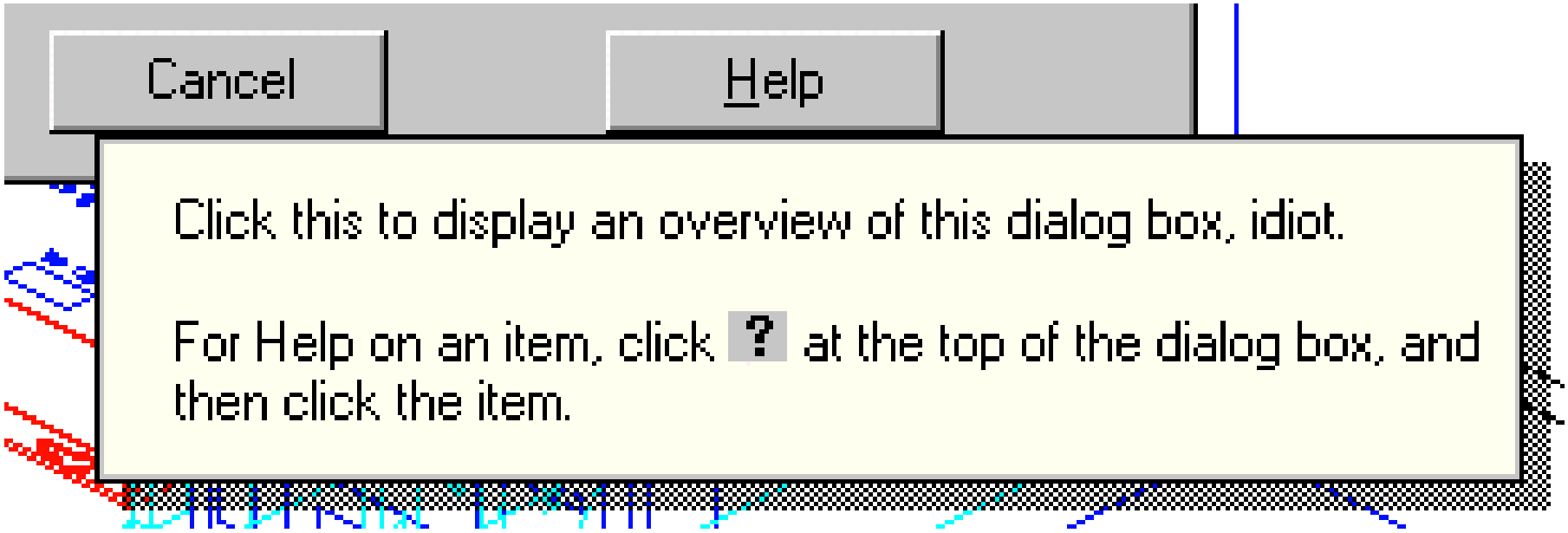
The user must press the Tab key seven times in order to move from the Regarding field to the Message field.



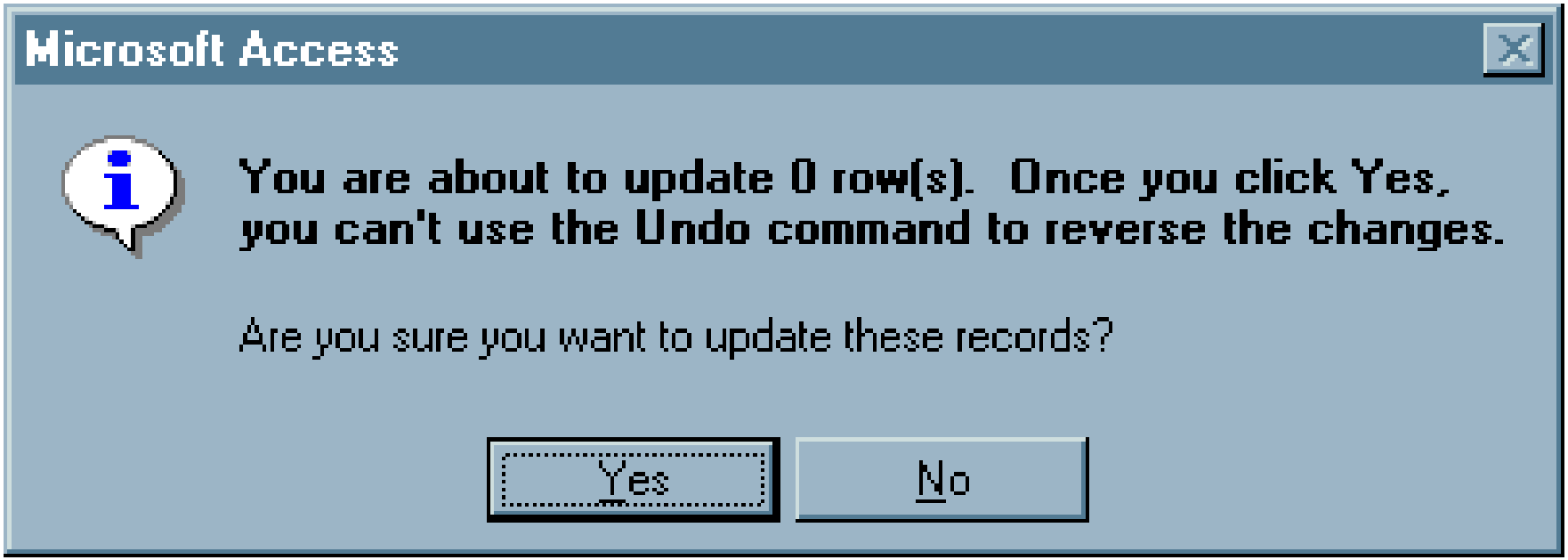
A source-code control system from Rational Software. Given the result, the question is rather *irrational*



An example of context-sensitive, though hardly user-sensitive, help in *AutoCAD Mechanical* .



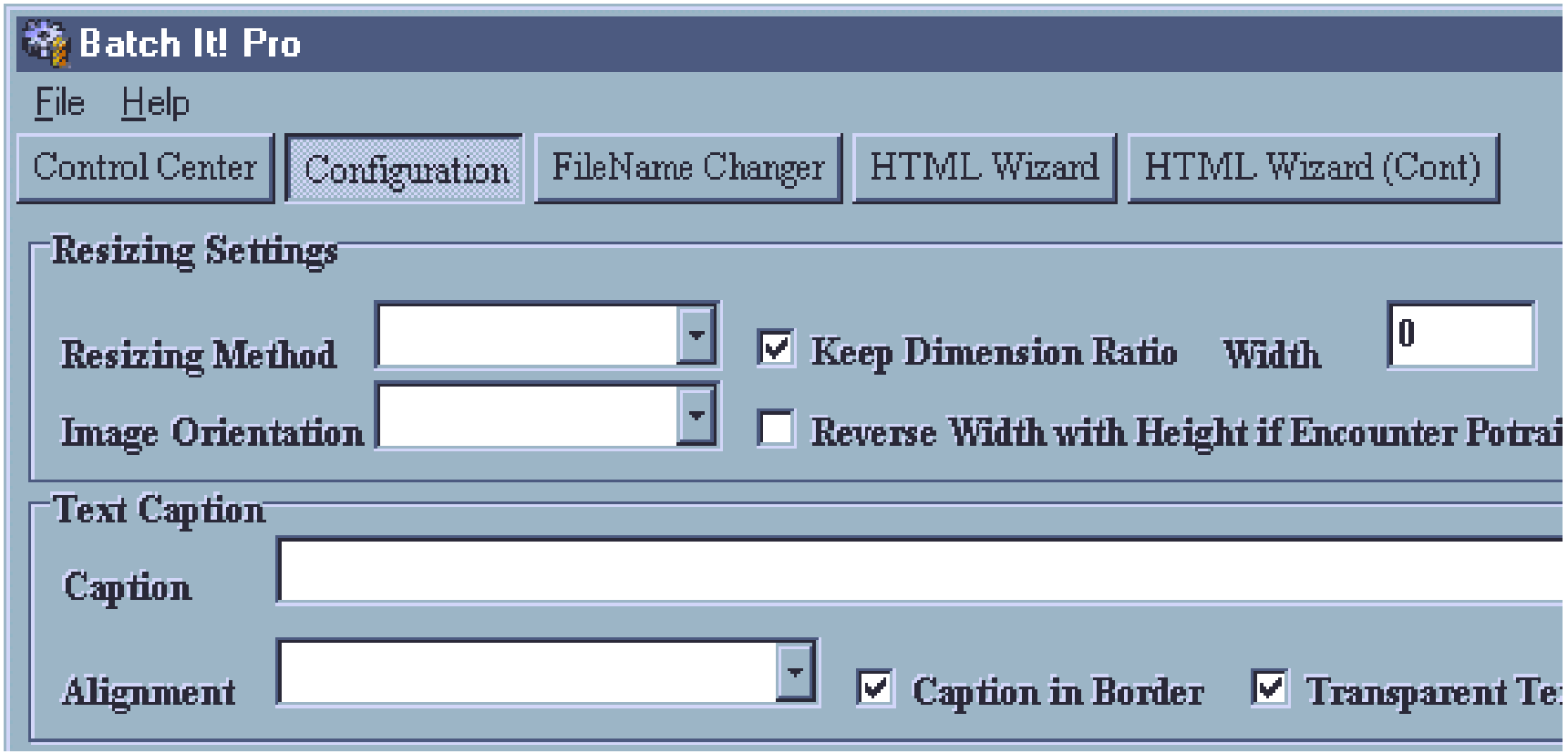
Do not want to update the records that wouldn't be updated anyway?



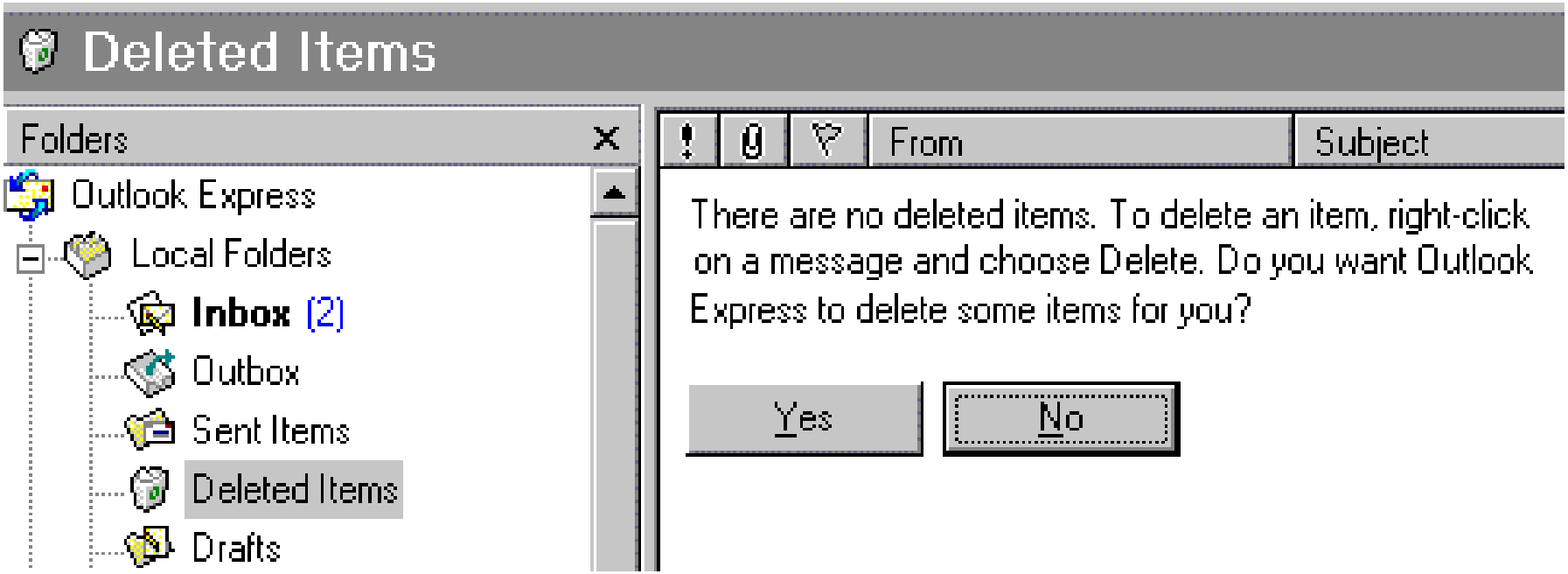
Enough said!

Error Deleting File
Cannot delete 016: There is not enough free disk space.
Delete one or more files to free disk space, and then try again.
OK

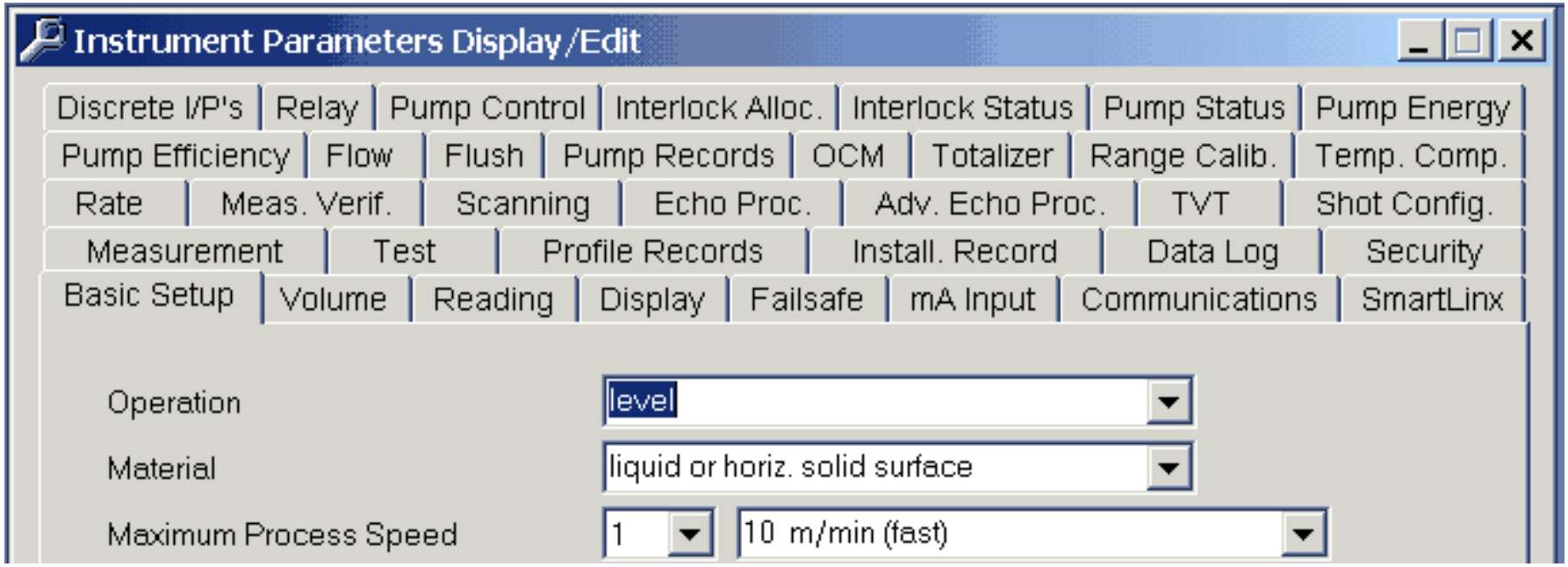
User interface organization may be entirely meaningless



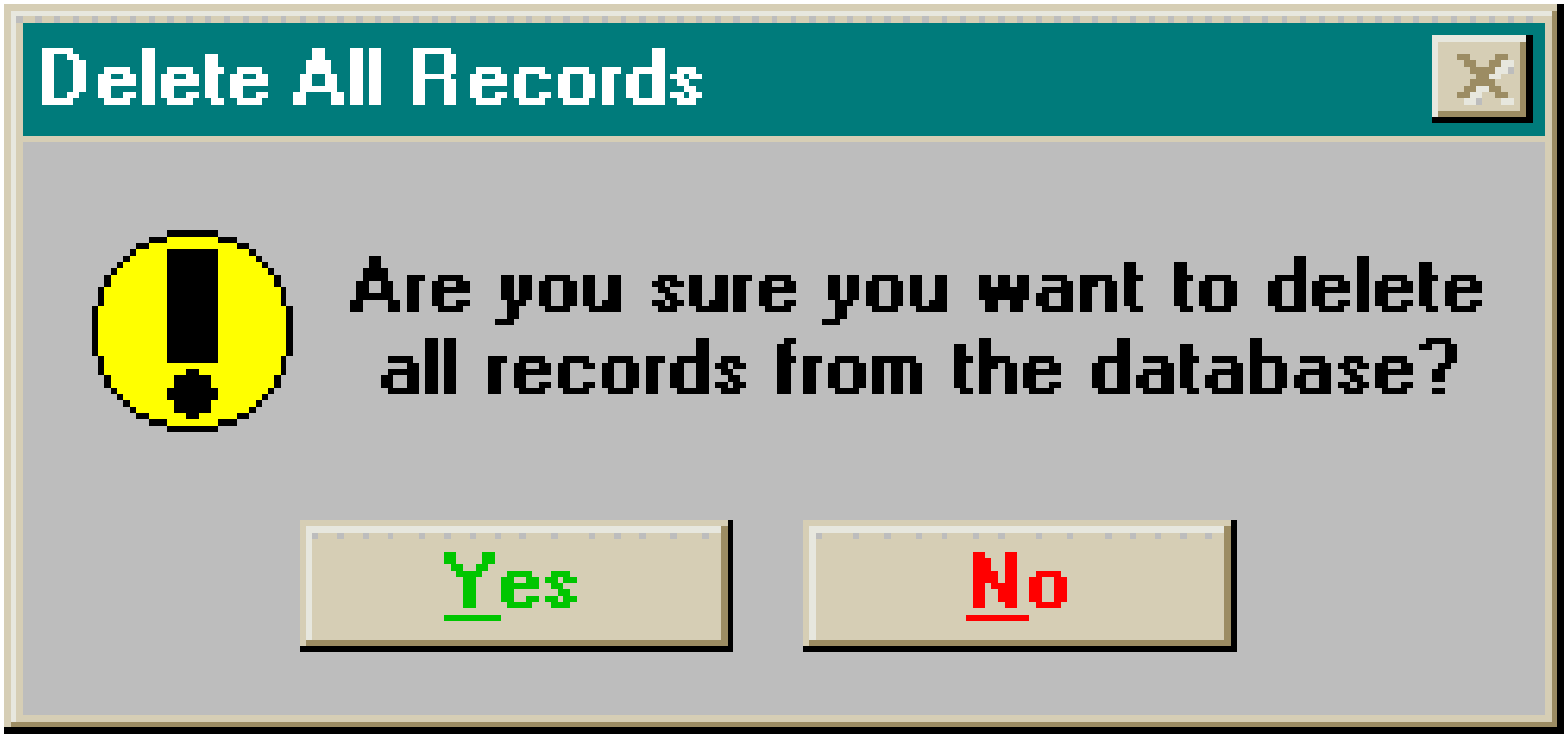
Why would anyone want Outlook Express to delete a randomly-selected piece of mail?

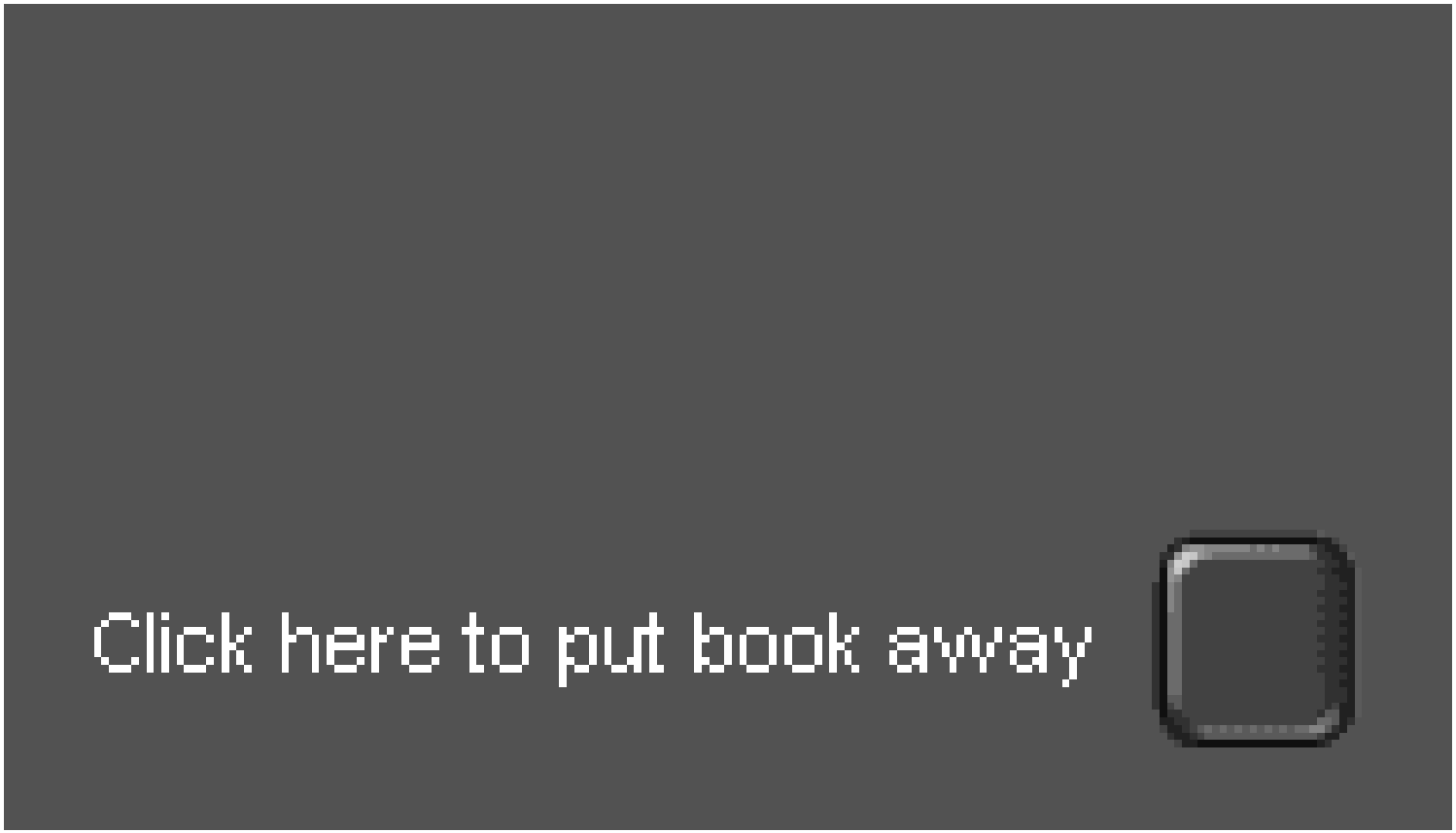


Information Overload!

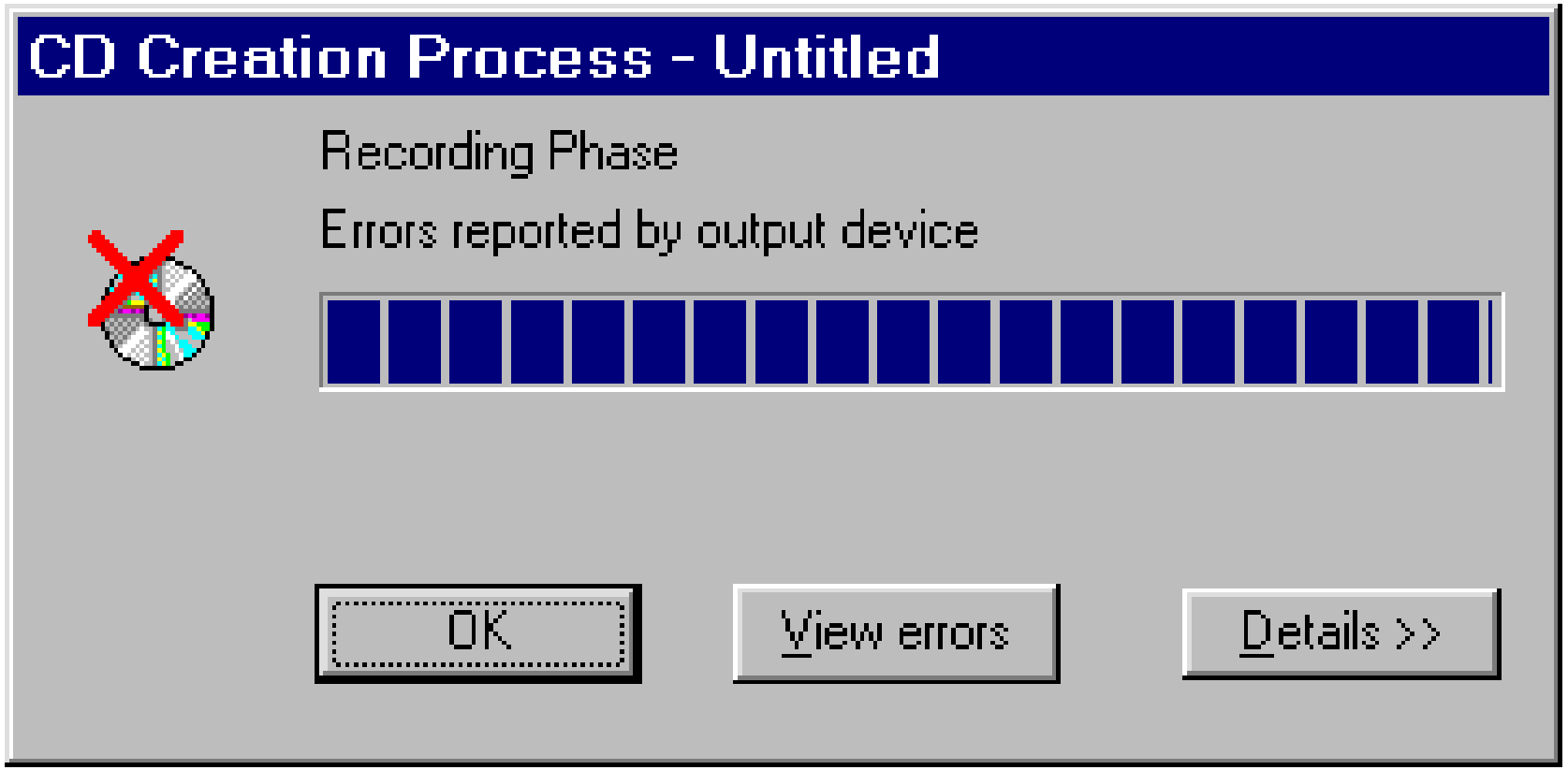


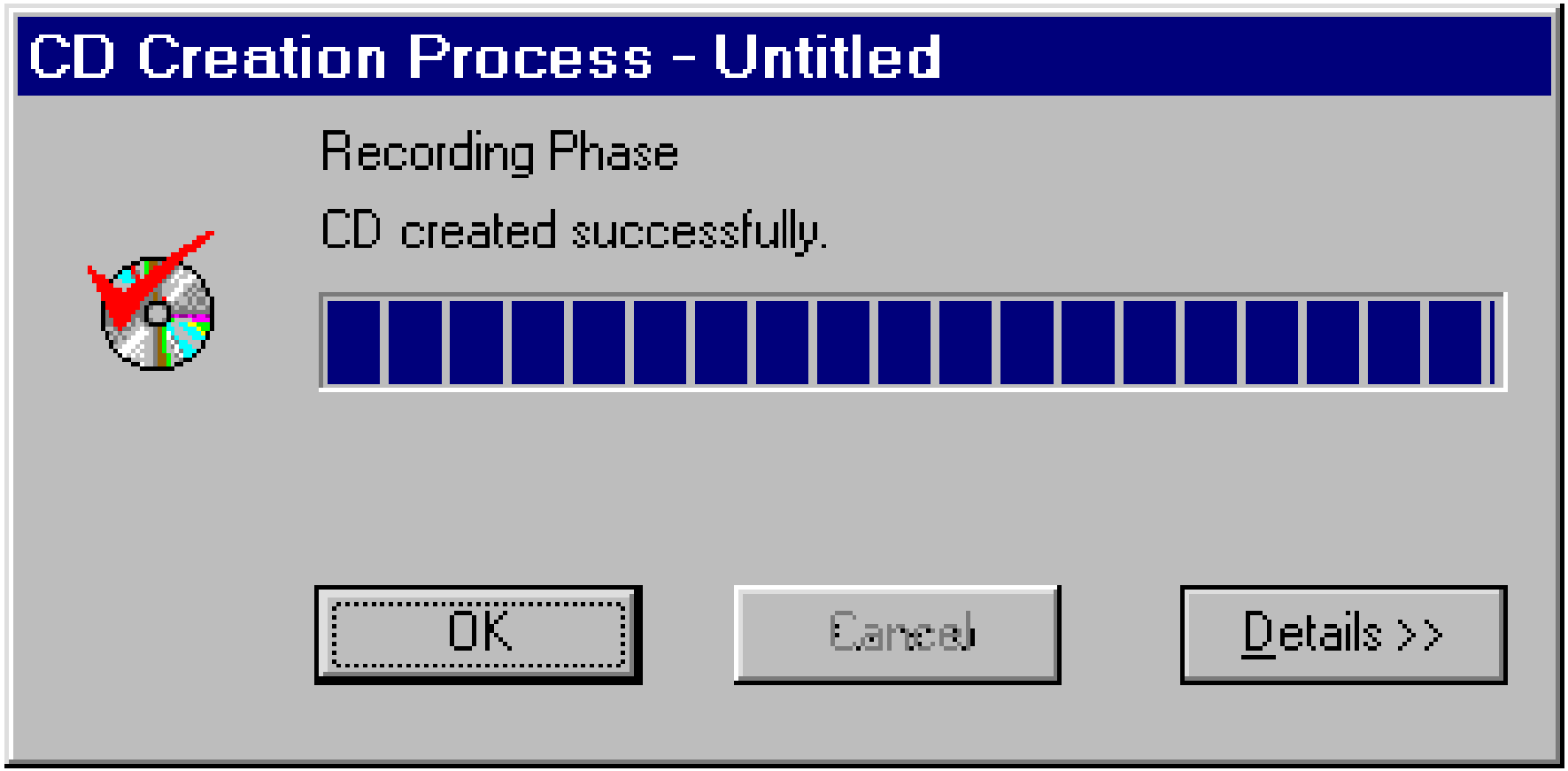
Using colour schemes effectively.




Click here to put book away

Conflicting messages which are too similar




CD Creation Process - Untitled
Recording Phase
CD created successfully.
OK
Cancel
Details >>

Tasks:

Visit website

www.iarchitect.com/mdesign.htm

To investigate more design mistakes.

Look at designing forms with the wizard in Microsoft Access