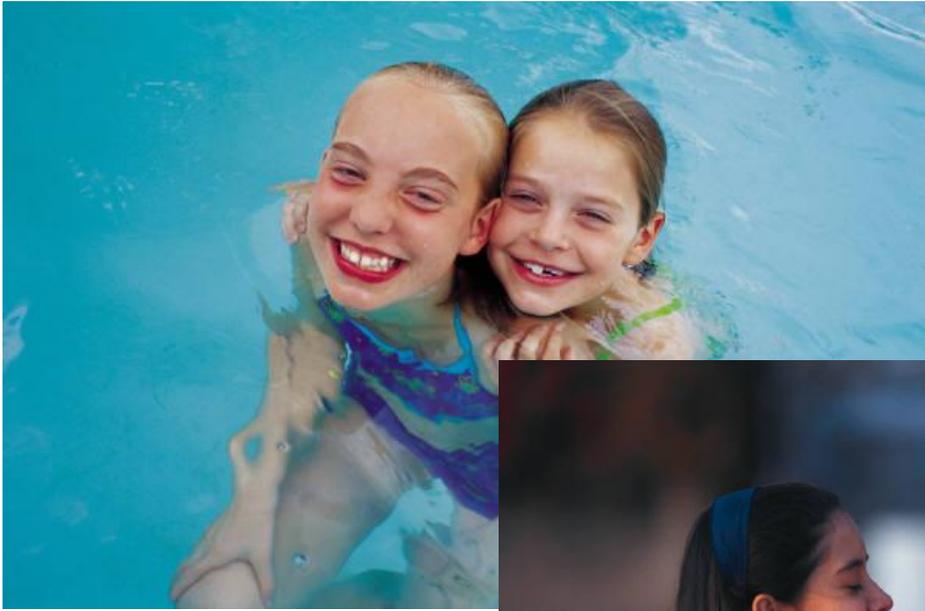
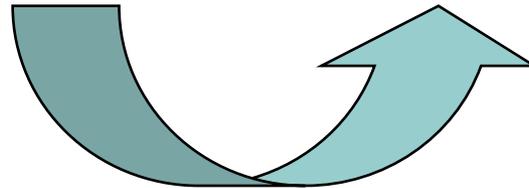
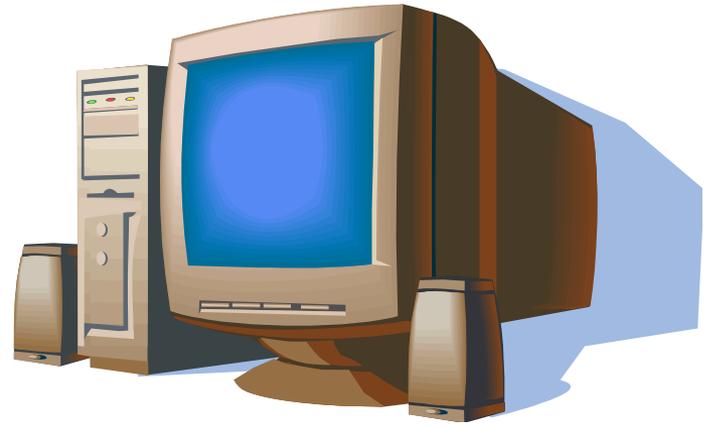


# HUMAN COMPUTER INTERFACE

---







# Human Computer Interface

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## **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.

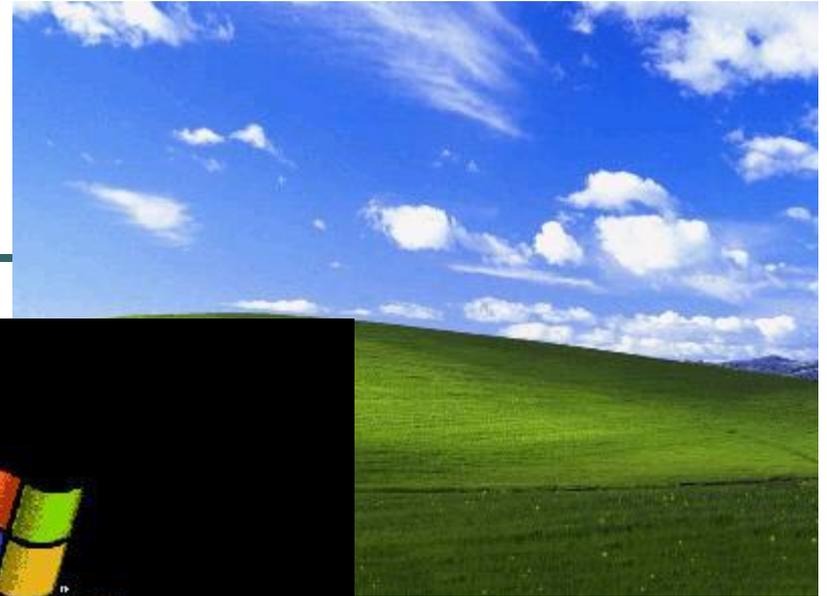
# User Interface

---

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

---







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?**

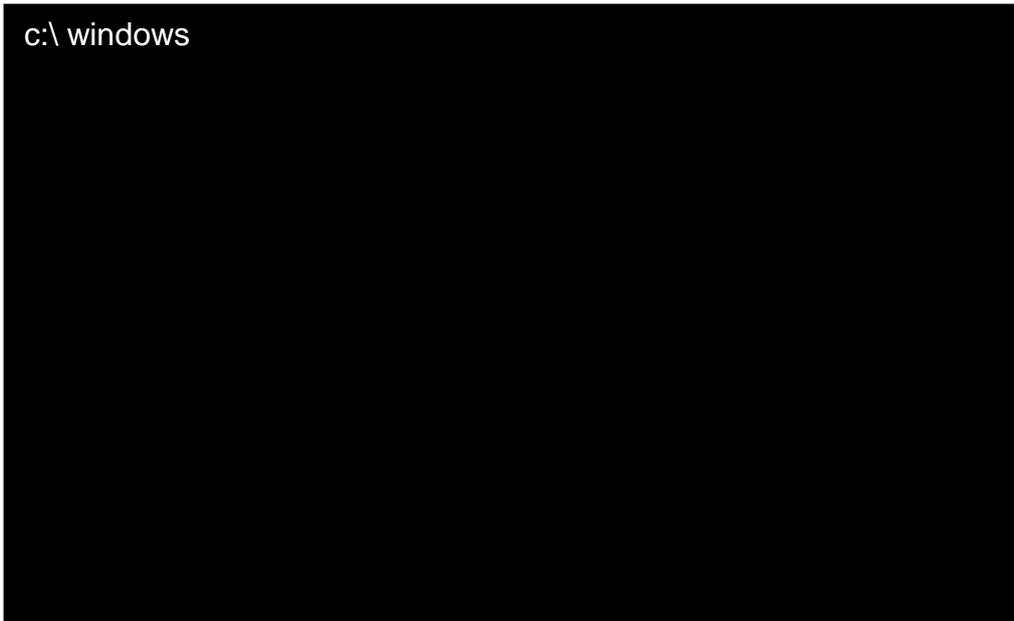
- **Is it technologically feasible?**

# INTERFACE STYLES

---

**Common interface styles include;**

- **command line interface**



```
c:\ windows
```

```
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

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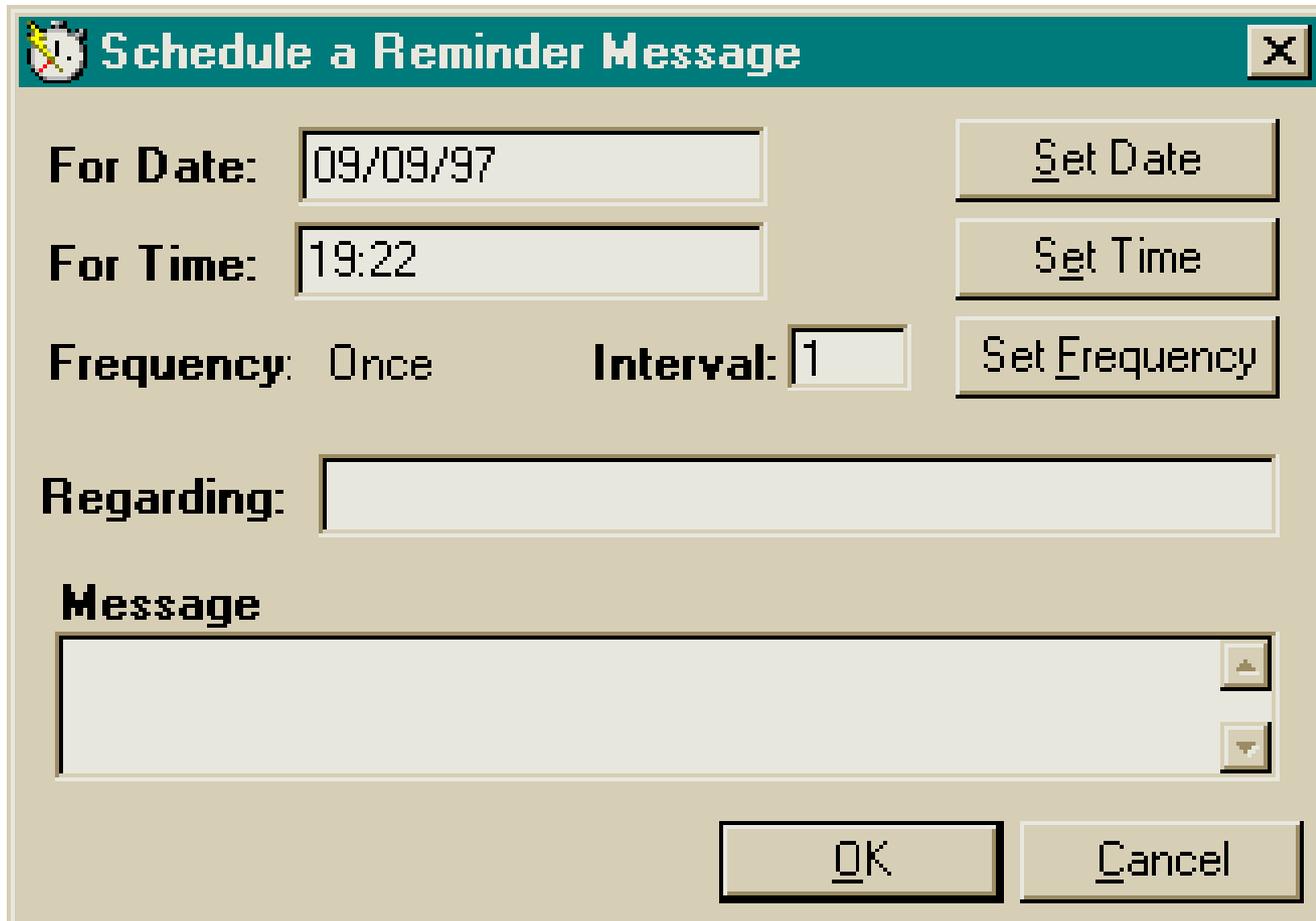
**When a user has to enter data, a form is used to display option on screen. This must have;**

- **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.



The image shows a dialog box titled "Schedule a Reminder Message" with a close button (X) in the top right corner. The dialog box contains the following fields and controls:

- For Date:** A text box containing "09/09/97" and a "Set Date" button to its right.
- For Time:** A text box containing "19:22" and a "Set Time" button to its right.
- Frequency:** A dropdown menu showing "Once".
- Interval:** A text box containing "1" and a "Set Frequency" button to its right.
- Regarding:** A large empty text box.
- Message:** A large empty text box with scroll bars on the right side.
- Buttons:** "OK" and "Cancel" buttons at the bottom center.

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

---

**Diff Merge** 



The objects being compared are identical.  
Do you want to continue the comparison?

Yes

No

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

---

Cancel

Help

Click this to display an overview of this dialog box, idiot.

For Help on an item, click **?** at the top of the dialog box, and then click the item.

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

---

Microsoft Access



**You are about to update 0 row(s). Once you click Yes, you can't use the Undo command to reverse the changes.**

Are you sure you want to update these records?

Yes

No

**Enough said!**

---

**Error Deleting File**

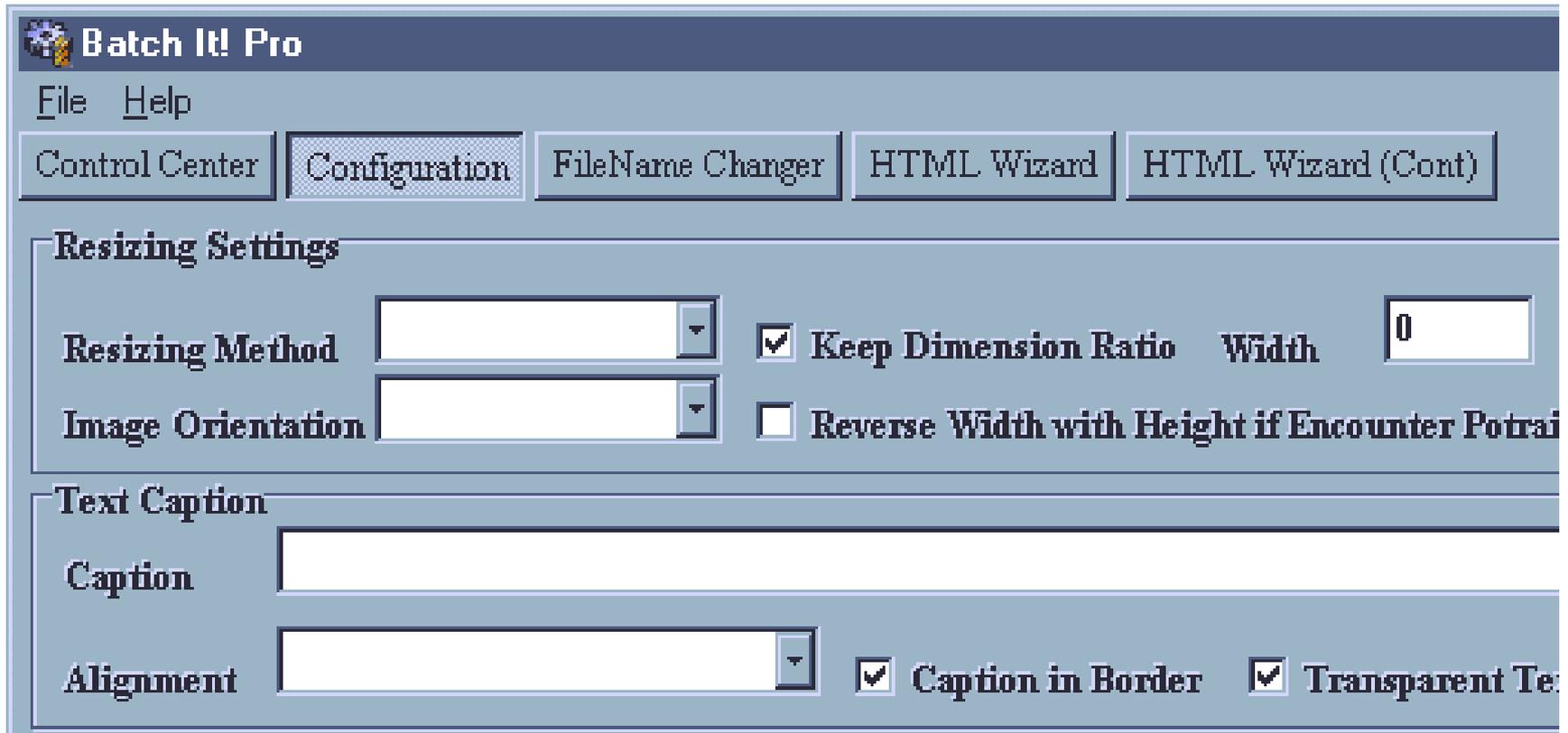


Cannot delete 016: There is not enough free disk space.

Delete one or more files to free disk space, and then try again.

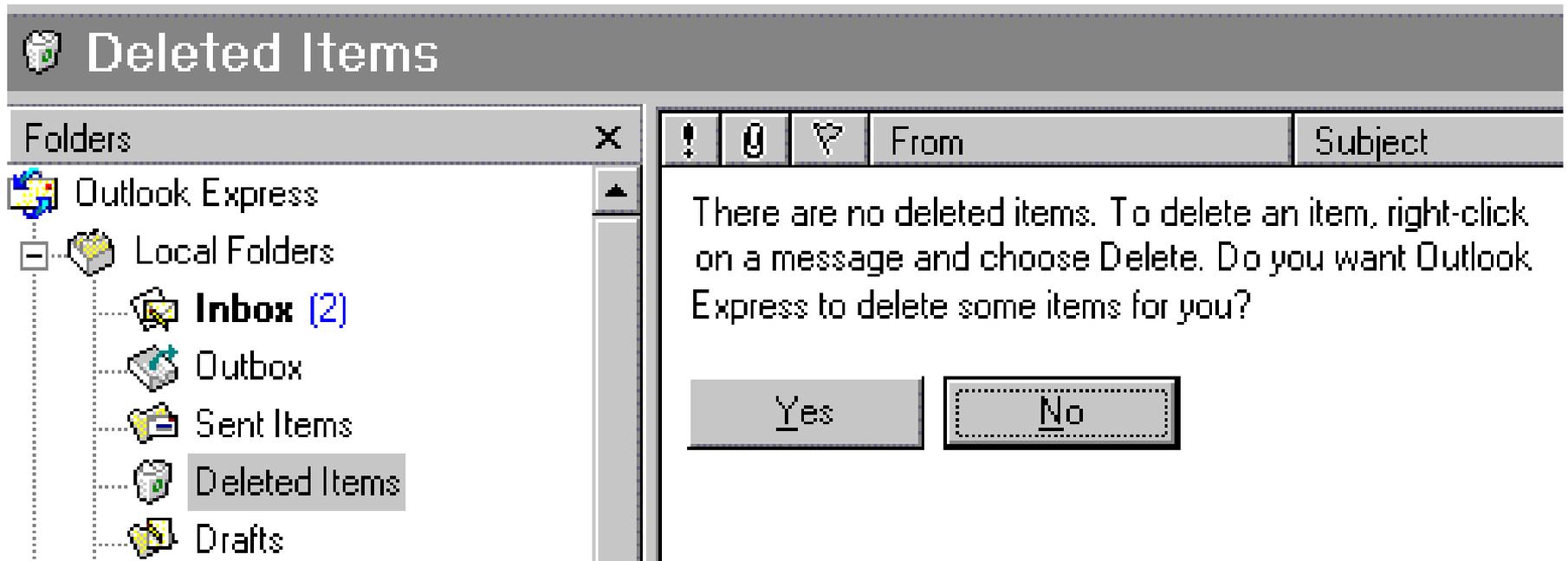
OK

# User interface organization may be entirely meaningless



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

---



# Information Overload!

The screenshot shows a software window titled "Instrument Parameters Display/Edit". The window contains a grid of menu items and three dropdown menus. The menu items are arranged in a grid with 8 columns and 5 rows. The dropdown menus are located below the grid.

Discrete I/P's	Relay	Pump Control	Interlock Alloc.	Interlock Status	Pump Status	Pump Energy	
Pump Efficiency	Flow	Flush	Pump Records	OCM	Totalizer	Range Calib.	Temp. Comp.
Rate	Meas. Verif.	Scanning	Echo Proc.	Adv. Echo Proc.	TVT	Shot Config.	
Measurement	Test	Profile Records	Install. Record	Data Log	Security		
Basic Setup	Volume	Reading	Display	Failsafe	mA Input	Communications	SmartLinx

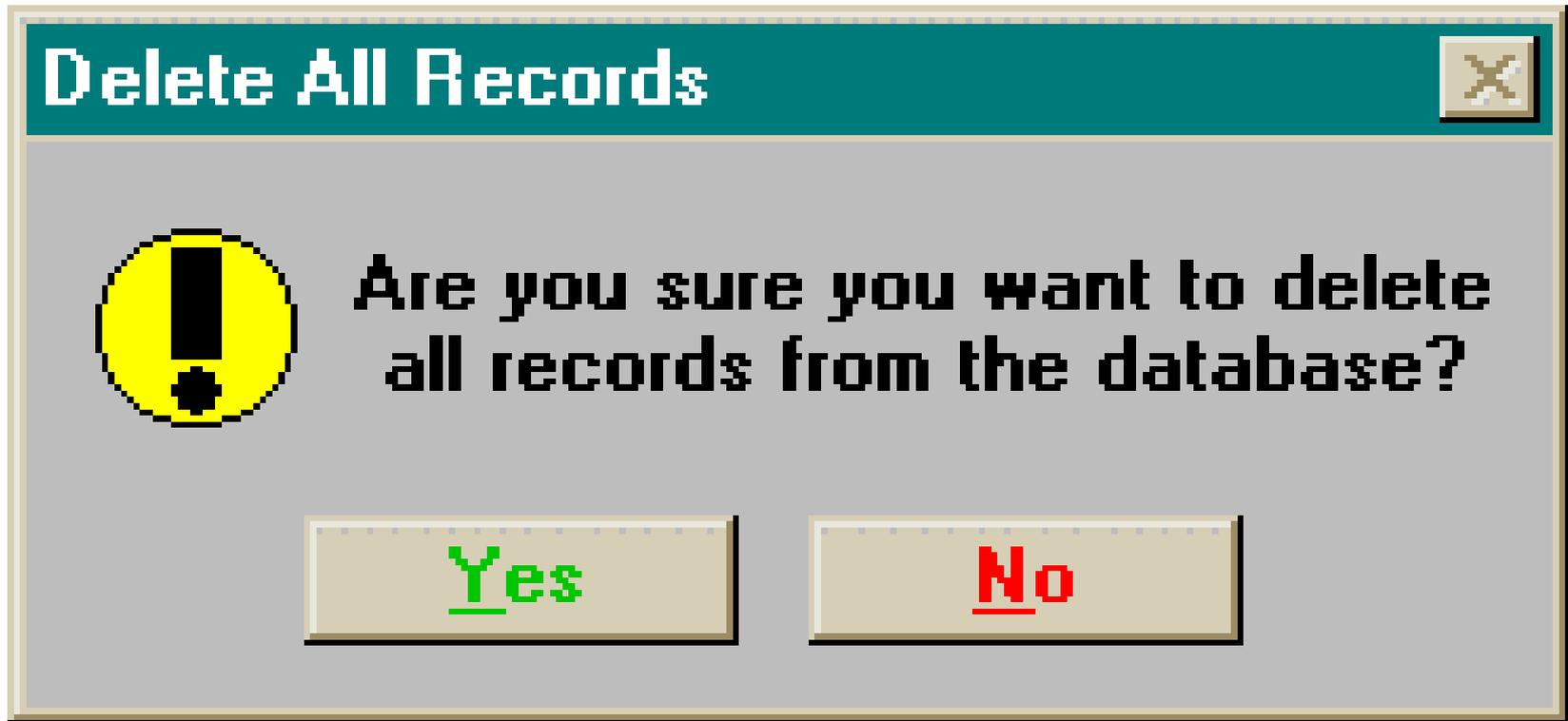
Operation: level

Material: liquid or horiz. solid surface

Maximum Process Speed: 1 10 m/min (fast)

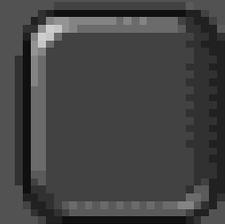
## Using colour schemes effectively.

---



---

Click here to put book away

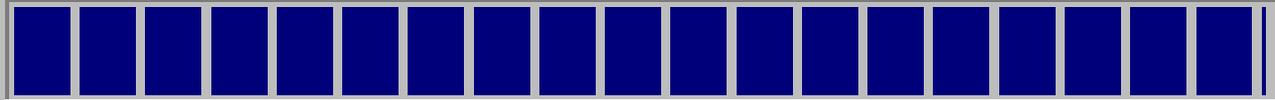


# Conflicting messages which are too similar

**CD Creation Process - Untitled**

Recording Phase

Errors reported by output device

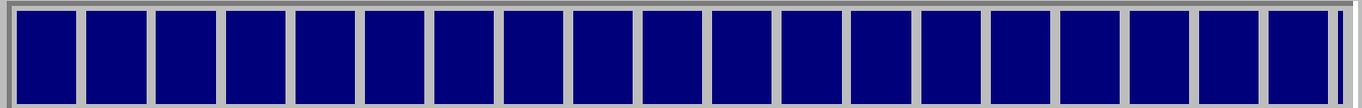


OK      View errors      Details >>

## CD Creation Process - Untitled

Recording Phase

CD created successfully.



OK

Cancel

Details >>

# Tasks:

---

**Visit website**

**[www.iarchitect.com/mdesign.htm](http://www.iarchitect.com/mdesign.htm)**

**To investigate more design mistakes.**

**Look at designing forms with the wizard in Microsoft Access**