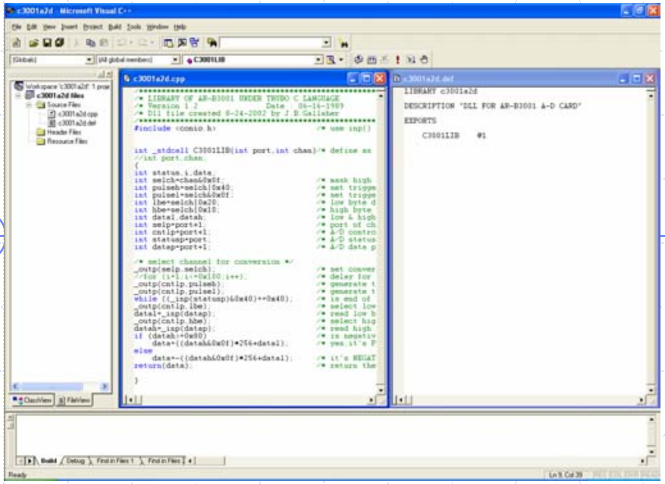


```
/*****************************************************************
/* LIBRARY OF AR-B3001 UNDER TURBO C LANGUAGE
/* Version 1.2                 Date : 06-16-1989
/* Dll file created 8-24-2002 by J.B.Gallaher
/*****************************************************************
#include <conio.h>                              /* use inp()


int _stdcall C3001LIB(int port,int chan)/* define as
//int port,chan;
{
int status,i,data;
int selch=chan&0x0f;                            /* mask high
int pulseh=selch|0x40;                          /* set trigge
int pulsel=selch&0x0f;                          /* set trigge
int lbe=selch|0x20;                             /* low byte d
int hbe=selch|0x10;                             /* high byte
int datal,datah;                                /* low & high
int selp=port+1;                                /* port of ch
int cntlp=port+1;                               /* A/D contro
int statusp=port;                               /* A/D status
int datap=port+1;                               /* A/D data p

/* select channel for conversion */
_outp(selp,selch);                              /* set conver
//for (i=1;i<=0x100;i++);                       /* delay for
_outp(cntlp,pulseh);                            /* generate t
_outp(cntlp,pulsel);                            /* generate t
while ((_inp(statusp)&0x40)==0x40);             /* is end of
_outp(cntlp,lbe);                               /* select low
datal=_inp(datap);                              /* read low b
_outp(cntlp,hbe);                               /* select hig
datah=_inp(datap);                              /* read high
if (datah)=0x80)                                /* is negativ
    data=((datah&0x0f)*256+datal);              /* yes,it's P
else
    data=-((datah&0x0f)*256+datal);             /* it's NEGAT
return(data);                                   /* return the

}
```

```
LIBRARY c3001a2d

DESCRIPTION "DLL FOR AR-B3001 A-D CARD"

EXPORTS

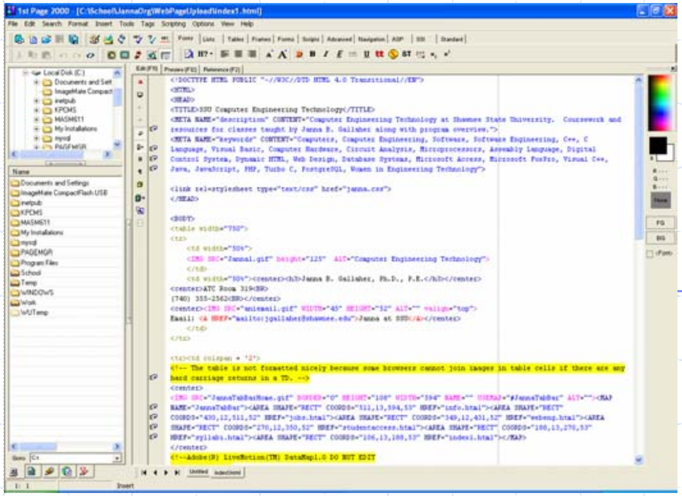
    C3001LIB    @1
```

Photo Objects 50,000 Premium Image Collection
File Edit View Help
Photo Objects
PhotoFonts
Enter keywords that describe the image(s) you want
Search in: <All Categories>
● Match all words (AND)
○ Match any word (OR)
50281 Photo-Object(s) found
Double-click Photo-Object or PhotoFont to start the image Export Wizard.

CD#	Name	Description
6	1 dollar	money cash Australia wealth copper currency coin 1dollar
6	1 guilder	money Netherlands cash coin silver wealth currency 1guilder
6	1 guilder 2	money Netherlands cash coin silver wealth currency 1guilde2
6	1 guilder 3	money Netherlands cash coin silver wealth currency 1guilde3
6	1 Markka	money cash Finland coin copper currency 1markka
6	1 Markka 2	money cash Finland coin copper currency 1markka2
8	1 o'clock	time pieces clock hour hands ivory red 1oclock
8	1 o'clock 2	time pieces clock hour hands silver alarm ring wake up morning 1ocloc2

The User Interface Design Process

Step 5: Select the Proper Kinds of Windows

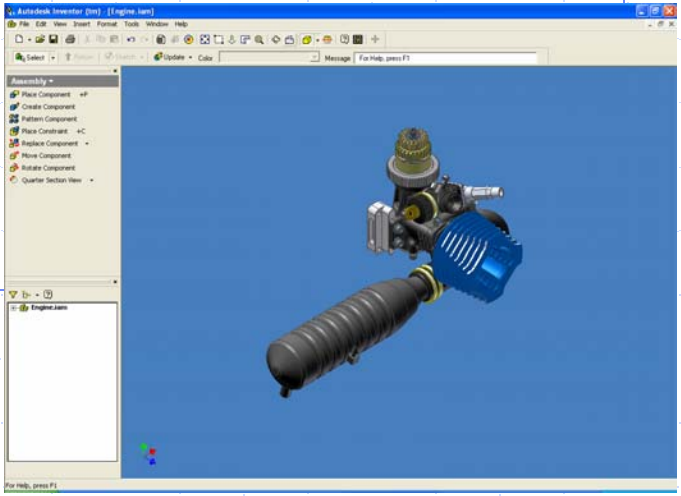

1st Page 2000 - [C:\School\JannaOrg\WebPageUpload\index1.html]
File Edit Search Format Insert Tools Tags Scripting Options View Help
Fonts Lists Tables Frames Forms Scripts Advanced Navigation ASP SSI Standard
Edit (F10) Preview (F11) Reference (F2)
Local Disk (C:)
Documents and Settings
ImageMate CompactFlash USB
inetpub
KPCMS
MASM611
My Installations
mysql
PAGEMGR
Program Files
School
Temp
WINDOWS
Work
WUTemp
Name
Untitled
index1.html
Insert

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
<HTML>
<HEAD>
<TITLE>SSU Computer Engineering Technology</TITLE>
<META NAME="description" CONTENT="Computer Engineering Technology at Shawnee State University.  Coursework and
resources for classes taught by Janna B. Gallaher along with program overview.">
<META NAME="keywords" CONTENT="Computers, Computer Engineering, Software, Software Engineering, C++, C
Language, Visual Basic, Computer Hardware, Circuit Analysis, Microprocessors, Assembly Language, Digital
Control System, Dynamic HTML, Web Design, Database Systems, Microsoft Access, Microsoft FoxPro, Visual C++,
Java, JavaScript, PHP, Turbo C, PostgreSQL, Women in Engineering Technology">

<link rel=stylesheet type="text/css" href="janna.css">
</HEAD>

<BODY>
<table width="750">
<tr>
    <td width="50%">
    <IMG SRC="Janna1.gif" height="125"  ALT="Computer Engineering Technology">
    </td>
    <td width="50%"><center><h3>Janna B. Gallaher, Ph.D., P.E.</h3></center>
<center>ATC Room 319<BR>
(740) 355-2562<BR></center>
<center><IMG SRC="animail.gif" WIDTH="45" HEIGHT="52" ALT="" valign="top">
Email: <A HREF="mailto:jgallaher@shawnee.edu">Janna at SSU</A></center>
    </td>
</tr>

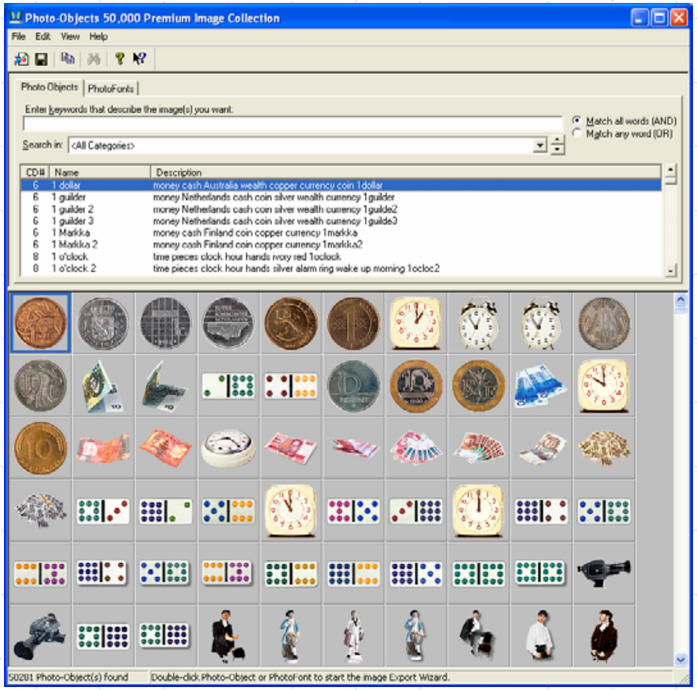
<tr><td colspan = "2">
<!-- The table is not formatted nicely because some browsers cannot join images in table cells if there are any
hard carriage returns in a TD. -->
<center>
<IMG SRC="JannaTabBarHome.gif" BORDER="0" HEIGHT="108" WIDTH="594" NAME="" USEMAP="#JannaTabBar" ALT=""><MAP
NAME="JannaTabBar"><AREA SHAPE="RECT" COORDS="511,13,594,53" HREF="info.html"><AREA SHAPE="RECT"
COORDS="430,12,511,52" HREF="jobs.html"><AREA SHAPE="RECT" COORDS="349,12,431,52" HREF="webeng.html"><AREA
SHAPE="RECT" COORDS="270,12,350,52" HREF="studentaccess.html"><AREA SHAPE="RECT" COORDS="188,13,270,53"
HREF="syllabi.html"><AREA SHAPE="RECT" COORDS="106,13,188,53" HREF="index1.html"></MAP>
</center>
<!--Adobe(R) LiveMotion(TM) DataMap1.0 DO NOT EDIT
```



Introduction

A window is an area of the screen, usually rectangular in shape, defined by a border that contains a particular view of some area of the computer or some portion of a person's dialog with the computer.

- This step addresses:
  - A window's characteristics.
  - A window's components.
  - A window's presentation styles.
  - The types of windows available.
  - Organizing window system functions.
  - A window's operations.
  - Web system frames and pop-up windows.



Enter keywords that describe the image(s) you want.

● Match all words (AND)
○ Match any word (OR)

Search in: <All Categories>

CD#	Name	Description
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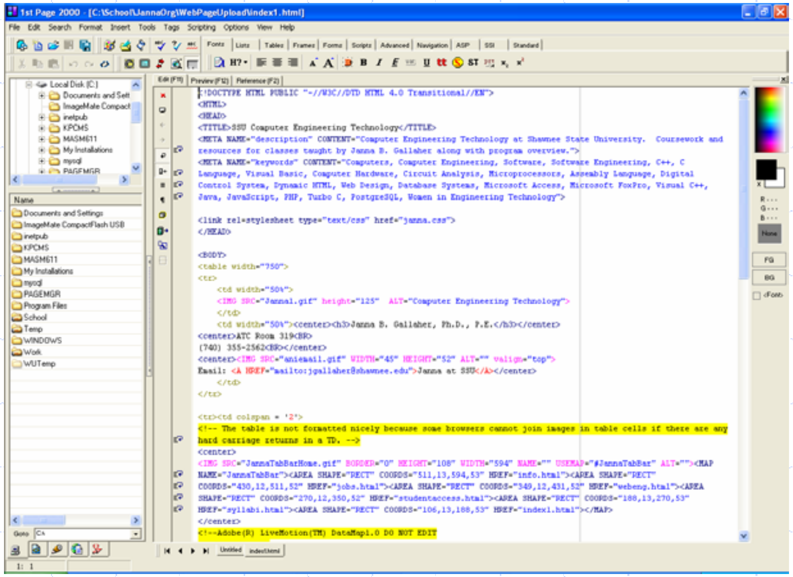
50201 Photo-Object(s) found

Double-click Photo-Object or PhotoFont to start the image Export Wizard.

Window Characteristics

- Window Characteristics:
  - A name or title.
  - A size in height and width
  - A state (active or inactive).
  - Visibility.
  - A location.
  - Presentation .
  - Management capabilities.
  - The task to which it is dedicated.


1st Page 2000 - [C:\School\JannaOrg\WebPageUpload\index1.html]
File Edit Search Format Insert Tools Tags Scripting Options View Help
Fonts Lists Tables Frames Forms Scripts Advanced Navigation ASP SSI Standard
Edit (F11) Preview (F12) Reference (F2)
Local Disk (C:)
Documents and Settings
ImageMate CompactFlash USB
inetpub
KPCMS
MASM611
My Installations
mysql
PAGEMGR
Program Files
School
Temp
WINDOWS
Work
WUTemp
Name
Goto
FG
BG
Untitled
index1.html

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Java, JavaScript, PHP, Turbo C, PostgreSQL, Women in Engineering Technology">

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<center>ATC Room 319<BR>
(740) 355-2562<BR></center>
<center><IMG SRC="aniemail.gif" WIDTH="45" HEIGHT="52" ALT="" valign="top">
Email: <A HREF="mailto:jgallaher@shawnee.edu">Janna at SSU</A></center>
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SHAPE="RECT" COORDS="270,12,350,52" HREF="studentaccess.html"><AREA SHAPE="RECT" COORDS="188,13,270,53"
HREF="syllabi.html"><AREA SHAPE="RECT" COORDS="106,13,188,53" HREF="index1.html"></MAP>
</center>
<!--Adobe(R) LiveMotion(TM) DataMap1.0 DO NOT EDIT
```

The Attraction of Windows

- Presentation of Different Levels of Information
- Presentation of Multiple Kinds of Information
- Sequential Presentation of Levels or Kinds of Information
- Access to Different Sources of Information
- Combining Multiple Sources of Information
- Performing More Than One Task
- Reminding
- Monitoring
- Multiple Representations of the Same Task

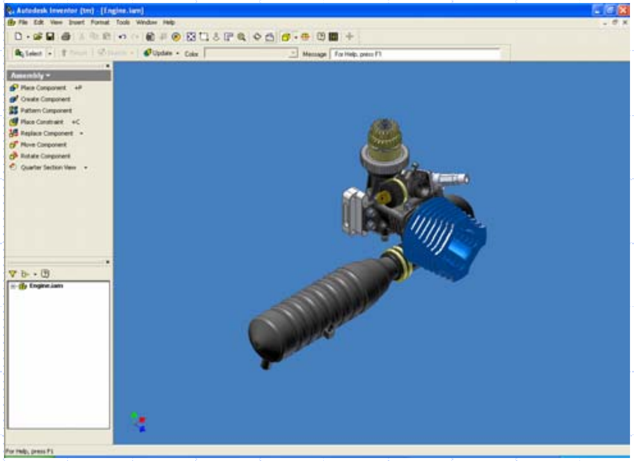
Constraints in Window System Design

- Historical Considerations
- Hardware Limitations
- Human Limitations
- Other Limitations

Nov 1
Chris, to start a program just click on it.
To see the programs in this room, hold down the F1 key.
Other options

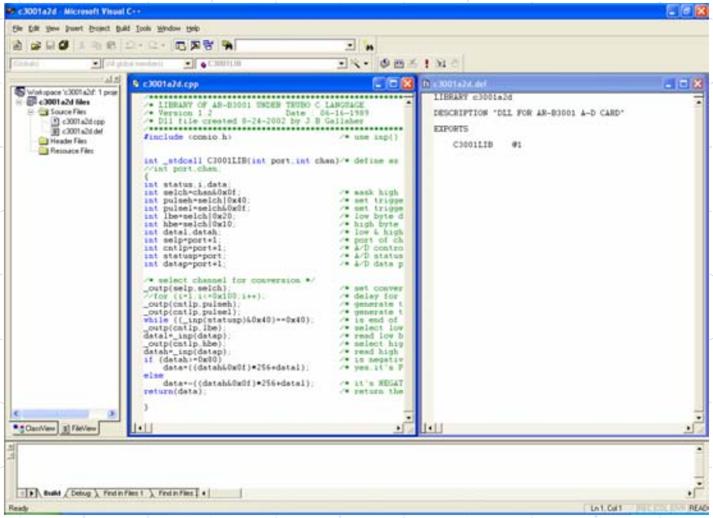
Components of a Window

- Frame
- Title Bar
- Title Bar Icon
- Window Sizing Buttons
- What’s This? Button
- Menu Bar
- Status Bar
- Scroll Bars
- Split Box
- Toolbar
- Command Area
- Size Grip
- Work Area



Window Presentation Styles: Tiled Windows

- Advantages:
  - The system usually allocates and positions windows for the user.
  - Open windows are always visible.
  - Every window is always completely visible
  - They are perceived as less complex than overlapping windows.
  - They are easier for novice people to learn and use
  - They yield better user performance for tasks where the data requires little window manipulation.



```
/**********************************************************
/* LIBRARY OF AR-B3001 UNDER TRUBO C LANGUAGE
/* Version 1.2                  Date : 06-16-1989
/* Dll file created 8-24-2002 by J.B Gallaher
/**********************************************************
#include <conio.h>                              /* use inp()


int _stdcall C3001LIB(int port,int chan)/* define as
//int port,chan;
{
int status,i,data;
int selch=chan&0x0f;                            /* mask high
int pulseh=selch|0x40;                          /* set trigge
int pulsel=selch&0x0f;                          /* set trigge
int lbe=selch|0x20;                             /* low byte d
int hbe=selch|0x10;                             /* high byte
int datal,datah;                                /* low & high
int selp=port+1;                                /* port of ch
int cntlp=port+1;                               /* A/D contro
int statusp=port;                               /* A/D status
int datap=port+1;                               /* A/D data p

/* select channel for conversion */
_outp(selp,selch);                              /* set conver
//for (i=1;i<=0x100;i++);                       /* delay for
_outp(cntlp,pulseh);                            /* generate t
_outp(cntlp,pulsel);                            /* generate t
while ((_inp(statusp)&0x40)==0x40);             /* is end of
_outp(cntlp,lbe);                               /* select low
datal=_inp(datap);                              /* read low b
_outp(cntlp,hbe);                               /* select hig
datah=_inp(datap);                              /* read high
if (datah>=0x80)                                /* is negativ
    data=((datah&0x0f)*256+datal);              /* yes,it's P
else
    data=-((datah&0x0f)*256+datal);             /* it's NEGAT
return(data);                                   /* return the

}
```

```
LIBRARY c3001a2d

DESCRIPTION "DLL FOR AR-B3001 A-D CARD"

EXPORTS

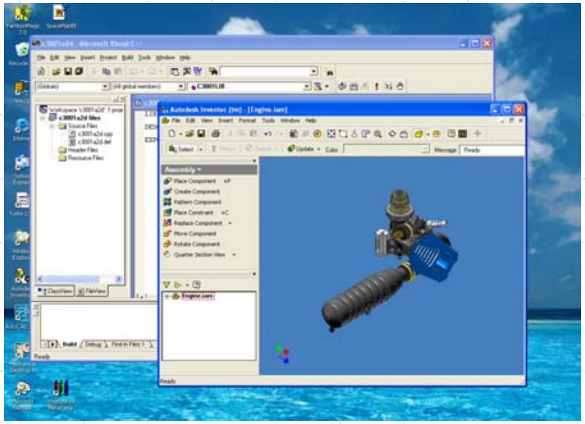
    C3001LIB    @1
```

(Continued on Next Page)

Window Presentation Styles: Tiled Windows (Continued)

- Disadvantages:
  - Only a limited number can be displayed.
  - As windows are opened, existing windows change size.
  - As windows change size, the movement can be disconcerting.
  - As the number of displayed windows increases, each window can get very tiny.
  - Changes in sizes and locations are difficult to predict.
  - Configuration of windows may not meet the user’s needs.
  - They are perceived as crowded because window borders are flush against one another and they fill up the whole screen.
  - They permit less user control because the system actively manages the windows.

Window Presentation Styles: Overlapping Windows

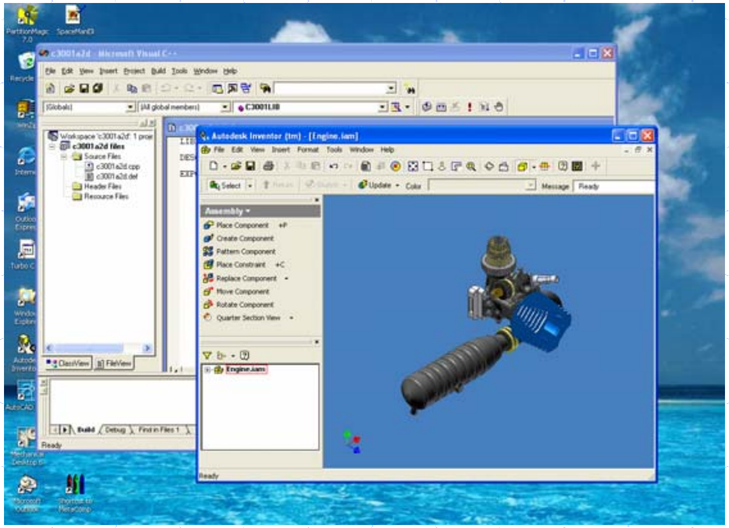


- Advantages:
  - Their look is three-dimensional
  - Greater control allows the user to organize the windows.
  - Windows can maintain larger sizes.
  - Windows can maintain consistent sizes.
  - Windows can maintain consistent positions.
  - Screen space is conserved because windows are placed on top of one another.
  - There is less pressure to close or delete windows.Larger borders can be maintained around window information.
  - They yield better user performance for tasks where the data requires much window manipulation.

(Continued on Next Page)

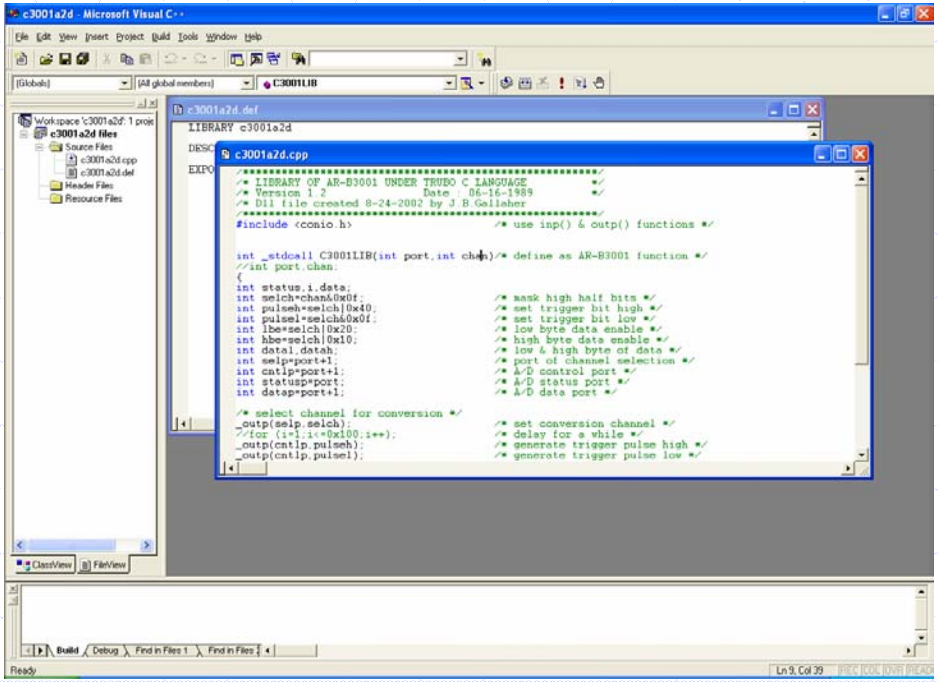
Window Presentation Styles: Overlapping Windows (Continued)

- Disadvantages:
  - They are operationally much more complex than tiled windows.
  - Information can be obscured behind other windows.
  - Windows themselves can be lost behind other windows.The three-dimensional space representation is not always realized by the user.
  - Control freedom increases the possibility for greater visual complexity and crowding.



Window Presentation Styles: Cascading Windows

- Advantages:
  - No window is ever completely hidden.
  - Bringing any window to the front is easier.
  - It provides simplicity in visual presentation and cleanness.



```
LIBRARY c3001a2d

DESC

EXPO
```

```
/*************************************************************/
/* LIBRARY OF AR-B3001 UNDER TRUBO C LANGUAGE                */
/* Version 1.2                 Date : 06-16-1989             */
/* Dll file created 8-24-2002 by J.B.Gallaher
/*************************************************************/
#include <conio.h>                        /* use inp() & outp() functions */


int _stdcall C3001LIB(int port,int chan)/* define as AR-B3001 function */
//int port,chan;
{
int status,i,data;
int selch=chan&0x0f;                      /* mask high half bits */
int pulseh=selch|0x40;                    /* set trigger bit high */
int pulsel=selch&0x0f;                    /* set trigger bit low */
int lbe=selch|0x20;                       /* low byte data enable */
int hbe=selch|0x10;                       /* high byte data enable */
int datal,datah;                          /* low & high byte of data */
int selp=port+1;                          /* port of channel selection */
int cntlp=port+1;                         /* A/D control port */
int statusp=port;                         /* A/D status port */
int datap=port+1;                         /* A/D data port */

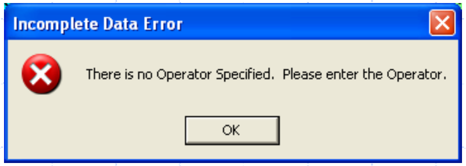
/* select channel for conversion */
_outp(selp,selch);                        /* set conversion channel */
//for (i=1;i<=0x100;i++);                 /* delay for a while */
_outp(cntlp,pulseh);                      /* generate trigger pulse high */
_outp(cntlp,pulsel);                      /* generate trigger pulse low */
```

Window Presentation Styles: Picking a Presentation Style

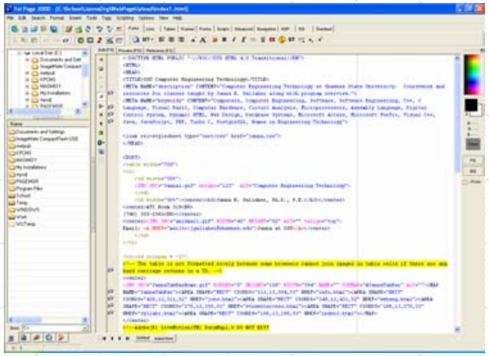
- Use tiled windows for:
  - Single-task activities.
  - Data that needs to be seen simultaneously.
  - Tasks requiring little window manipulation.
  - Novice or inexperienced users.
- Use overlapping windows for:
  - Switching between tasks.
  - Tasks necessitating a greater amount of window manipulation.
  - Expert or Experienced users.
  - Unpredictable display contents.

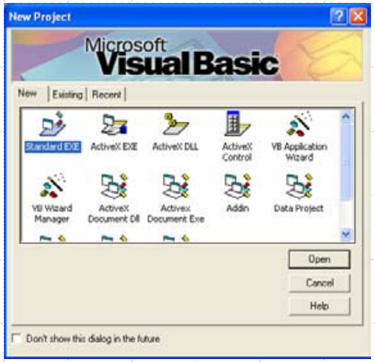
Types of Windows

- Primary Window
- Secondary Windows
- Dialog Boxes
- Property Sheets and Property Inspectors
- Message Boxes
- Palette Windows
- Pop-up Windows

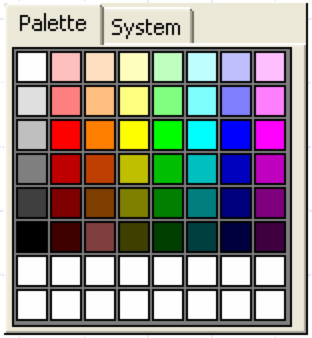

Incomplete Data Error

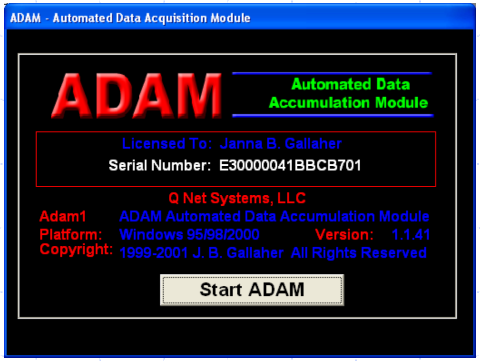
There is no Operator Specified. Please enter the Operator.




New Project

□ Don't show this dialog in the future



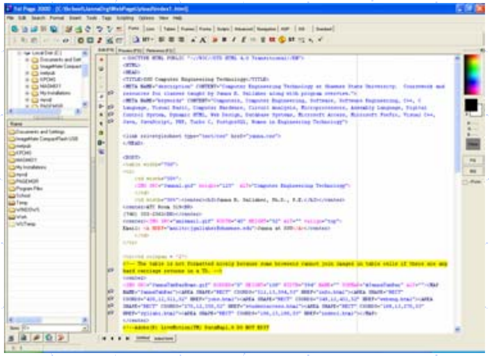

ADAM - Automated Data Acquisition Module

Licensed To: Janna B. Gallaher
Serial Number: E30000041BBCB701

Q Net Systems, LLC

Adam1: ADAM Automated Data Accumulation Module
Platform: Windows 95/98/2000 Version: 1.1.41
Copyright: 1999-2001 J. B. Gallaher All Rights Reserved

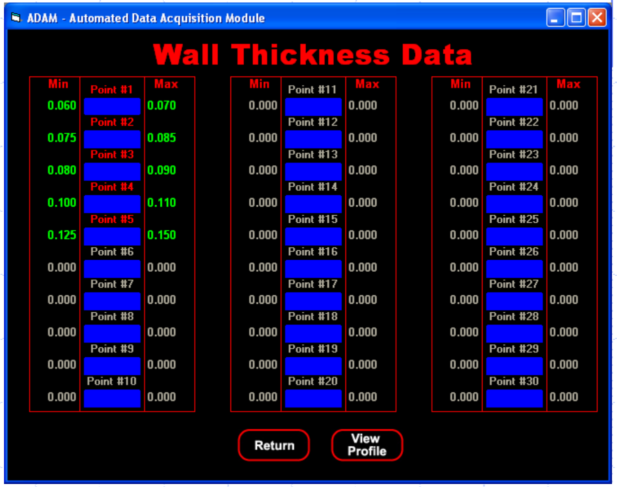
Primary Window



- Proper usage:
  - Represent an independent function or application
  - Use to present constantly used window components and controls
    - Menu bar items that are used frequently or used by most, or all, primary or secondary windows.
    - Controls used by dependent windows.
  - Use for presenting information that is continually updated. (e.g. time and date)
  - Use of providing context for dependent windows.
  - Do not:
    - Divide an independent function into two or more primary windows.
    - Present unrelated functions in one primary window..

Secondary Window

- Proper usage:
  - For performing subordinate, supplemental, or ancillary actions that are:
    - extended or more complex in nature.
    - Related to objects in the primary window.
  - For presenting frequently or occasionally used window components.



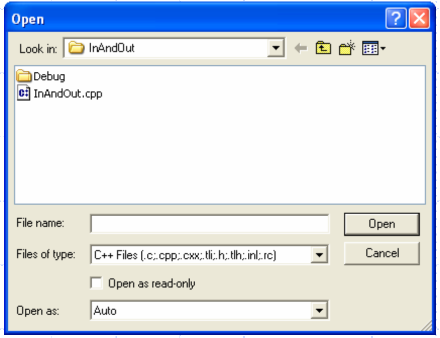
Min	Point	Max	Min	Point	Max	Min	Point	Max
0.060	Point #1	0.070	0.000	Point #11	0.000	0.000	Point #21	0.000
0.075	Point #2	0.085	0.000	Point #12	0.000	0.000	Point #22	0.000
0.080	Point #3	0.090	0.000	Point #13	0.000	0.000	Point #23	0.000
0.100	Point #4	0.110	0.000	Point #14	0.000	0.000	Point #24	0.000
0.125	Point #5	0.150	0.000	Point #15	0.000	0.000	Point #25	0.000
0.000	Point #6	0.000	0.000	Point #16	0.000	0.000	Point #26	0.000
0.000	Point #7	0.000	0.000	Point #17	0.000	0.000	Point #27	0.000
0.000	Point #8	0.000	0.000	Point #18	0.000	0.000	Point #28	0.000
0.000	Point #9	0.000	0.000	Point #19	0.000	0.000	Point #29	0.000
0.000	Point #10	0.000	0.000	Point #20	0.000	0.000	Point #30	0.000

- Important guidelines:
  - Should typically not appear as an entry on the taskbar.
  - Should not be larger than 263 dialog units x 263 dialog units.

(Continued on Next Page)

Secondary Window (Continued)

- Modal and Modeless
  - Modal:
    - Use when interaction with any other window must not be permitted
    - Use for: Presenting information, receiving input, asking questions.
    - Use carefully because it constrains what the user can do and stops the program flow.
  - Modeless:
    - Use when interaction with other windows must be permitted.
    - Use when interaction with other windows must be repeated.



Look in: InAndOut

Debug
InAndOut.cpp

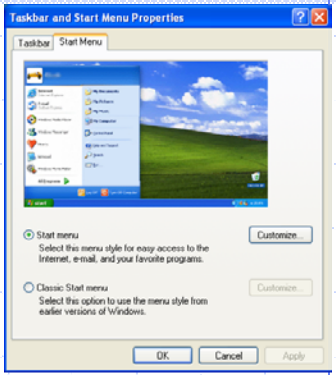
File name:

Files of type: C++ Files (.c;.cpp;.cxx;.tli;.h;.tlh;.inl;.rc)

□ Open as read-only

Open as: Auto

Secondary Window (Continued)



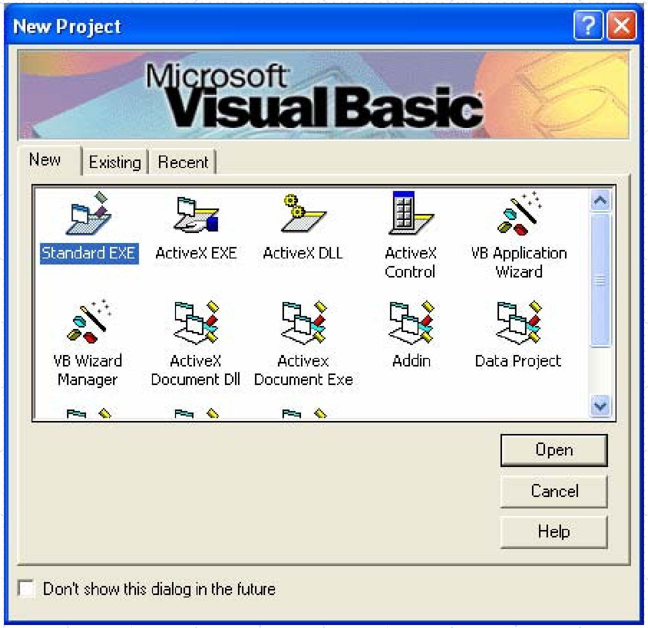
● Start menu
Select this menu style for easy access to the Internet, e-mail, and your favorite programs.

○ Classic Start menu
Select this option to use the menu style from earlier versions of Windows.

- Cascading:
  - Provides advanced options at a lower level in a complex dialog.
  - Guidelines:
    - Provide a command button leading to the next dialog box with a “To a Window” indicator (…).
    - Present the additional dialog box in cascaded form.
    - Provide no more than two cascades in a given path.
    - Do not cover previous critical information.
    - If independent, close the secondary window from which it was opened.
- Unfolding:
  - Provide advanced options at the same level in a complex dialog.
  - Guidelines:
    - Provide a command button with an expanding dialog symbol (>>).
    - Expand to right or downward.

Dialog Boxes

- Use for presenting brief messages.
- Use for requesting specific, transient actions.
- Use for performing actions that:
  - Take a short time to complete.
  - Are not frequently changed.
- Command buttons to include: Ok, Cancel, and others as necessary.



□ Don't show this dialog in the future

Property Sheets and Property Inspectors

- Property Sheets
  - Presents the complete set of properties for an object
  - Categorize and group within property pages
  - Command buttons: Ok, Cancel, Apply, Reset, and others
  - For a single property sheet, place the commands on the sheet.
  - For a tabbed property page, place the commands outside the tabbed pages.
- Property Inspectors
  - Displays only the most common or frequently accessed object properties.
  - Make changes dynamically.

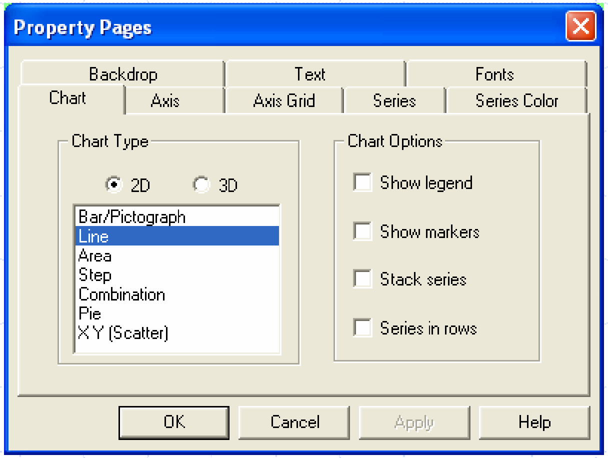


Chart Type

● 2D ○ 3D

Bar/Pictograph
Line
Area
Step
Combination
Pie
X Y (Scatter)

Chart Options

□ Show legend

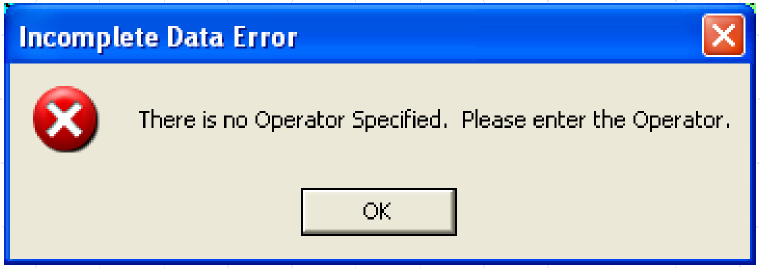
□ Show markers

□ Stack series

□ Series in rows

Message Boxes

- Use for displaying a message about a particular situation or condition.
- Command buttons to include: OK, Cancel, Help, Yes and No, Stop, and buttons to correct the action that caused the message box to be displayed.
- Enable the title bar close box only if the message includes a cancel button.
- Designate the most frequent or least destructive option as the default command button.

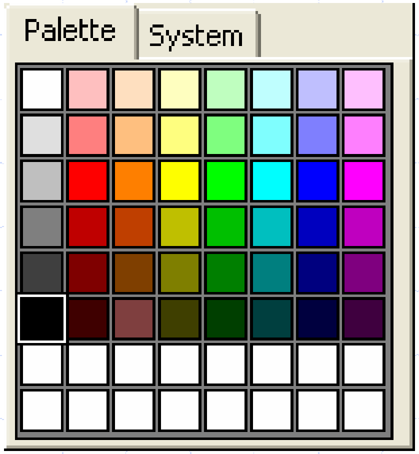


Incomplete Data Error

There is no Operator Specified. Please enter the Operator.

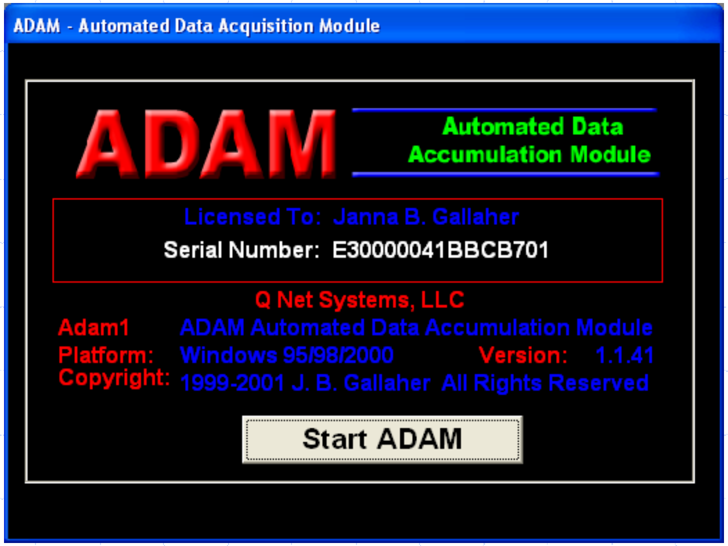
Palette Windows

- Use to present a set of controls.
- Design as resizable or, if it fits, fixed in size.



Pop-up Windows

- Use to display:
  - Additional information when an abbreviated form of the information is the main presentation.
  - Textual labels for graphical controls.
  - Context-sensitive Help information.

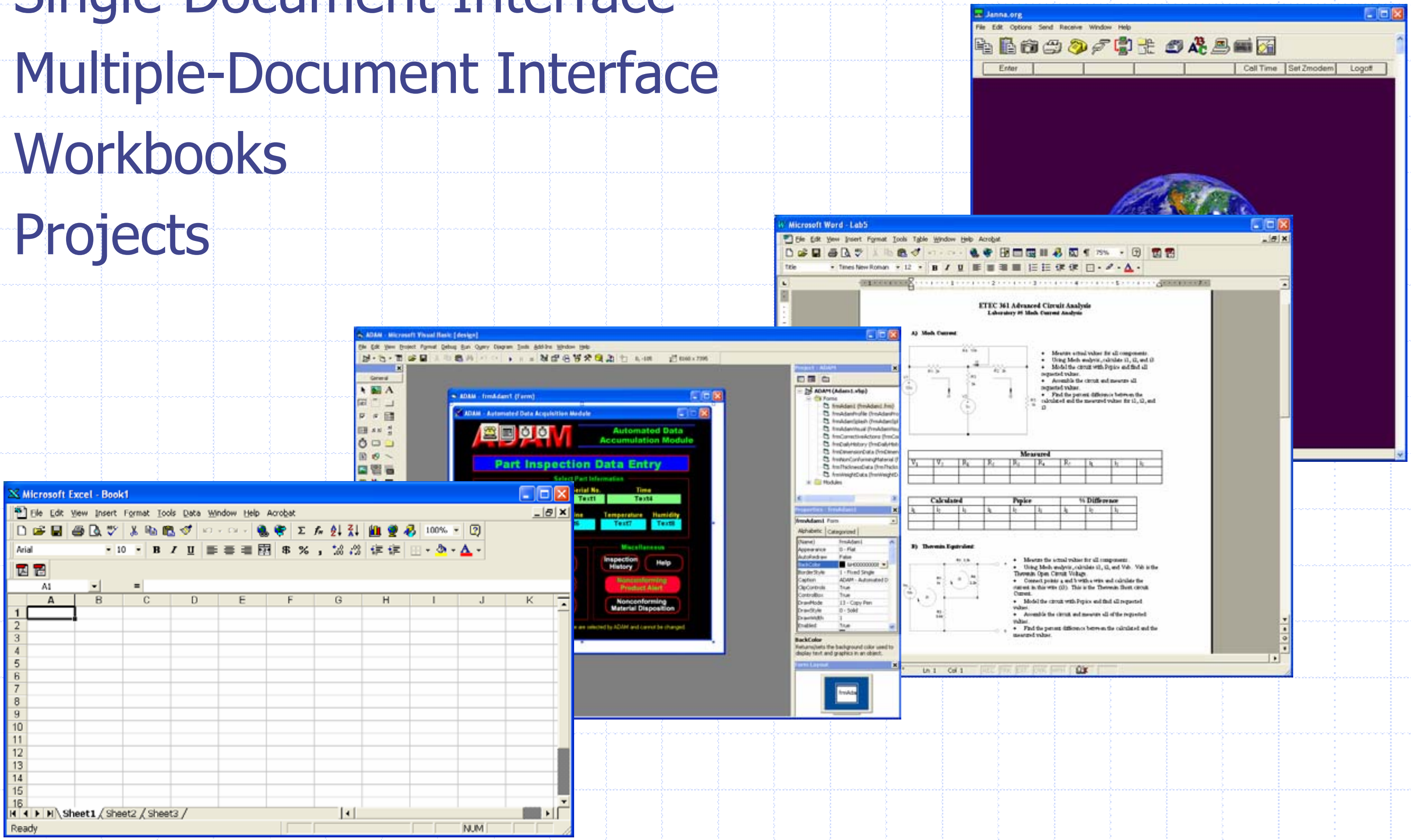


Licensed To: Janna B. Gallaher
Serial Number: E30000041BBCB701

Q Net Systems, LLC
Adam1 ADAM Automated Data Accumulation Module
Platform: Windows 95/98/2000 Version: 1.1.41
Copyright: 1999-2001 J. B. Gallaher All Rights Reserved

Window Management

- Single-Document Interface
- Multiple-Document Interface
- Workbooks
- Projects


Janna.org
File Edit Options Send Receive Window Help
Enter
Call Time
Set Zmodem
Logoff
Microsoft Word - Lab5
File Edit View Insert Format Tools Table Window Help Acrobat
ETEC 361 Advanced Circuit Analysis
A) Mesh Current
Measured
Calculated
Pspice
% Difference
B) Thevenin Equivalent
ADAM - Microsoft Visual Basic [design]
File Edit View Project Format Debug Run Query Diagram Tools Add-Ins Window Help
ADAM - frmAdam1 (Form)
ADAM - Automated Data Acquisition Module
ADAM
Automated Data Accumulation Module
Part Inspection Data Entry
Inspection History
Help
Nonconforming Product Alert
Nonconforming Material Disposition
Project - ADAM
Properties - frmAdam1
Form Layout
Microsoft Excel - Book1
File Edit View Insert Format Tools Data Window Help Acrobat
Arial
10
100%
A1
A B C D E F G H I J K
Sheet1
Sheet2
Sheet3
Ready
NUM

Single-Document Interface

- A single primary window with a set of secondary windows.
- Proper usage:
  - Where object and window have a simple, one-to-one relationship.
  - Where the object’s primary presentation or use is as a single unit.
  - To support alternate views with a control that allows the view to be changed.
  - To support simultaneous views by splitting the window into panes.
- Advantages:
  - Most common usage.
  - Window manipulation is easier and less confusing.
  - Data-centered approach.
- Disadvantage:
  - Information is displayed or edited in separate windows.

Multiple Document Interface

- Description:
  - A technique for managing a set of windows where documents are opened into windows.
  - It contains a single primary window, called the parent.
  - A set of related document or child windows, each also essentially a primary window.
  - Each child window is constrained to appear only within the parent window.
  - The child windows share the parent window's operational elements.
  - The parent window's elements can be dynamically changed to reflect the requirements of the active child window.

Multiple Document Interface (Continued)

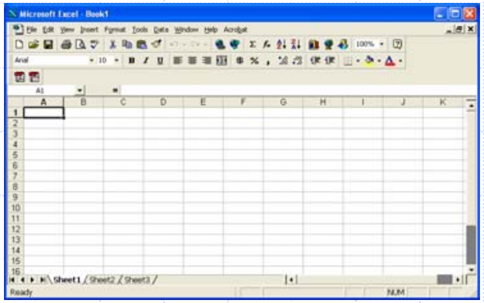
- Proper usage:
  - To present multiple occurrences of an object.
  - To compare data within two or more windows.
  - To present multiple parts of an application.
  - Best suited for viewing homogeneous object types.
  - To clearly segregate the objects and their windows used in a task.
- Advantages:
  - The child windows share the parent window’s interface components.
  - Useful for managing a set of objects.
  - Provides a grouping and focus for a set of activities within the larger environment of the desktop.

Multiple Document Interface (Continued)

- Disadvantages:
  - Reinforces an application as the primary focus.
  - Containment for secondary windows within child windows does not exist, obscuring window relationships and possibly creating confusion.
  - Because the parent window does not actually contain objects, context cannot always be maintained on closing and opening.
  - The relationship between files and their windows is abstract, making an MDI application more challenging for beginning users to learn.
  - Confining child windows the the parent window can be inconvenient or inappropriate for some tasks.
  - The nested nature of child windows may make it difficult for the user to distinguish a child window in a parent window from a primary window that is a peer with the parent widow is positioned on top.

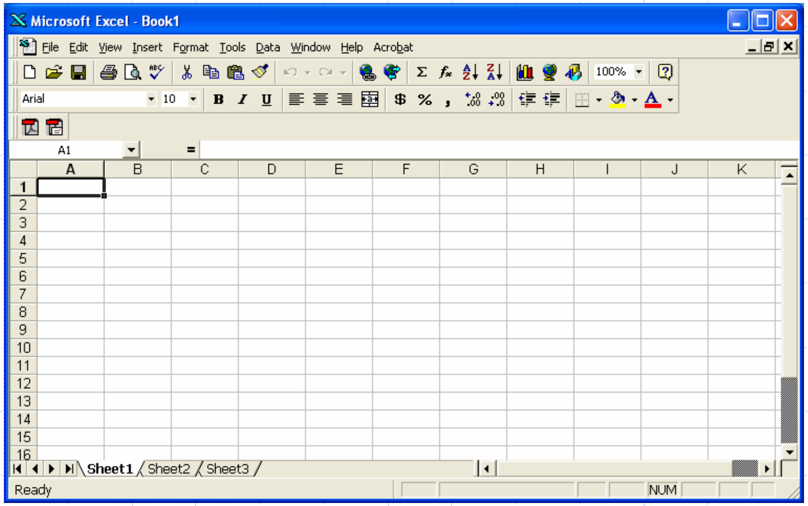
Workbooks

- Description:
  - A window or task management technique that consists of a set of views organized like a tabbed notebook.
  - It is based upon the metaphor of a book or notebook.
  - Views of objects are presented as sections within the workbook's primary windows; child window do not exist.
  - Each section represents a view of data.
  - Tables can be included and used to navigate between sections.
  - Otherwise, its characteristics and behavior are similar to those of the multiple-document interface with all child windows maximized.


Microsoft Excel - Book1
File Edit View Insert Format Tools Data Window Help Acrobat
Arial
10
100%
A1
A B C D E F G H I J K
Sheet1 / Sheet2 / Sheet3 /
Ready
NUM

Workbooks (Continued)

- Proper usage:
  - To manage a set of views of an object.
  - To optimize quick navigation of multiple views.
  - For content where the order of the sections is significant.



Workbooks (Continued)

- Advantages:
  - Provides a grouping and focus for a set of activities within the larger environment of the desktop.
  - Conserves screen real estate.
  - Provides the greater simplicity of the single-document window interface.
  - Provides greater simplicity by eliminating child window management.
  - Preserves some management capabilities of the multiple-document interface.
- Disadvantage:
  - Cannot present simultaneous views.

Projects

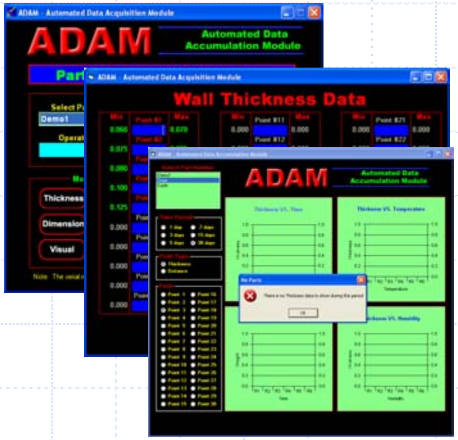
- Description:
  - A technique that consists of a container: a project window holding a set of objects.
  - The objects being held within the project window can be opened in primary windows that are peers with the project window.
  - Visual containment of the peer windows within the project window is not necessary.
  - Each opened peer window must possess its own menu bar and other interface elements.
  - Each opened peer window can have its own entry on the task bar.
  - When a project window is closed, all the peer windows of object also close
  - When the project window is opened, the peer windows of the contained objects are restored to their former positions.
  - Peer windows of a project may be restored without the project window itself being restored.

Projects (Continued)

- Proper usage:
  - To manage a set of objects that do not necessarily need to be contained.
  - When child windows are not to be constrained.
- Advantages:
  - Provides a grouping and focus for a set of activities within the larger environment of the desktop.
  - Preserves some management capabilities of the multiple document interface.
  - Provides the greatest flexibility in the placement and arrangement of windows.
- Disadvantages:
  - Increased complexity due to difficulty in differentiating peer primary windows of the project from windows of other applications.

Organizing Window Functions

- Window Organization
  - Organize windows to support user tasks.
  - Support the most common tasks in the most efficient sequence.
  - Use primary windows to:
    - Begin an interaction and provide a top-level context for dependent windows.
    - Perform a major interaction.
  - Use secondary windows to:
    - Extend the interaction.
    - Obtain or display supplemental info.
  - Use dialog boxes for:
    - Infrequently used or needed info.
    - “Nice-to-know” info.



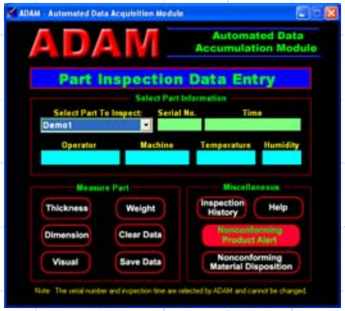
- Number of Windows
  - Minimize the number of windows needed to accomplish an objective.

Window Operations

- Active Window
  - A window should be made active with as few steps as possible.
  - Visually differentiate the active window from the other windows.
- General Guidelines
  - Design easy to user and learn windowing operations (direct manipulation is better than indirect manipulation).
  - Minimize the number of window operations necessary to achieve a desired effect.
  - Make navigating between windows particularly easy and efficient to do.
  - Make the setting up of windows particularly easy to remember.
  - In overlapping systems, provide powerful commands for arranging windows on the screen in user-tailorable configurations.

Window Operations (Continued)

- Opening a Window
  - Provide an iconic representation or textual list of available windows.
  - When opening a window:
    - Position the opening window in the most forward plane of the screen.
    - Adapt the window to the size and shape of the monitor on which it will be presented.
    - Designate it as the active window.
    - Set it off against a neutral background.
    - Ensure that its title bar is visible.
  - When a primary window is opened or restored, position it on top.
    - Restore all secondary windows to the states that exited when the primary window was closed.



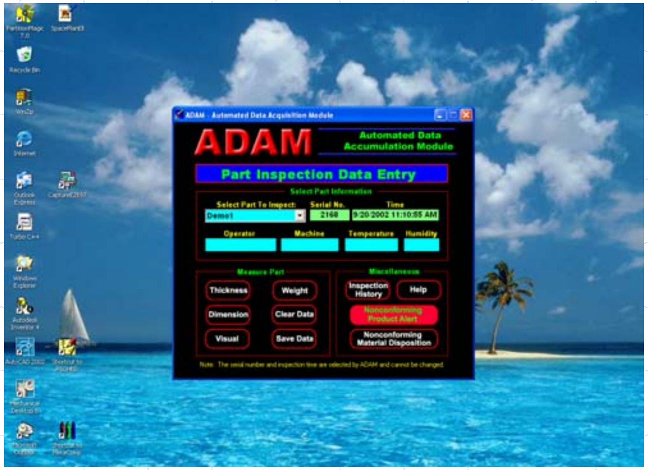
Note: The serial number and inspection time are selected by ADAM and cannot be changed.

Window Operations (Continued)

- Opening a Window (Continued)
  - When a dependent secondary window is opened, position it on top of its associated primary window.
    - Position a secondary window with peer windows on top of its peers.
    - Present layered or cascaded windows with any related peer secondary windows.
  - When a dependent secondary window is activated, its primary window and related peer windows should also be positioned at the top.
  - If more than one object is selected and opened, display each object in a separate window. Designate the last window selected as the active widow.
  - Display a window in the same state as when it was last accessed.
    - If the task requires particular sequence of windows, use a fixed or consistent presentation sequence.
  - With tiled windows, provide an easy way to resize and move newly opened windows.

Window Operations (Continued)

- Sizing Windows
  - Provide large-enough windows to:
    - Present all relevant and expected information for the task.
    - Avoid hiding important information.
    - Avoid crowding or visual confusion.
    - Minimize the need for scrolling.
  - If a window is too large, determine:
    - Is all the information needed?
    - Is all the information related?
  - Otherwise, make the window as small as possible.
    - Optimum window sizes:
      - For text, about 12 lines.
      - For alphanumeric information, about seven lines.



ADAM - Automated Data Acquisition Module

Select Part To Impect: Demo1

Serial No.: 2168

Time: 9/20/2002 11:10:55 AM

Note: The serial number and inspection time are selected by ADAM and cannot be changed.

Window Operations (Continued)

- Window Placement
  - Considerations:
    - the use of the window
    - The overall display dimensions.
    - The reason for the window's appearance.

ADAM - Automated Data Acquisition Module
ADAM
Automated Data Accumulation Module
Part Inspection Data Entry
Select Part Information
Operator
Machine
Temperature
Humidity
Measure Part
Thickness
Weight
Dimension
Clear Data
Visual
Save Data
Miscellaneous
Inspection History
Help
Nonconforming Product Alert
Nonconforming Material Disposition

Select Part To Inspect: Demo1
Serial No. 2168
Time 9/20/2002 11:10:55 AM

Note: The serial number and inspection time are selected by ADAM and cannot be changed.

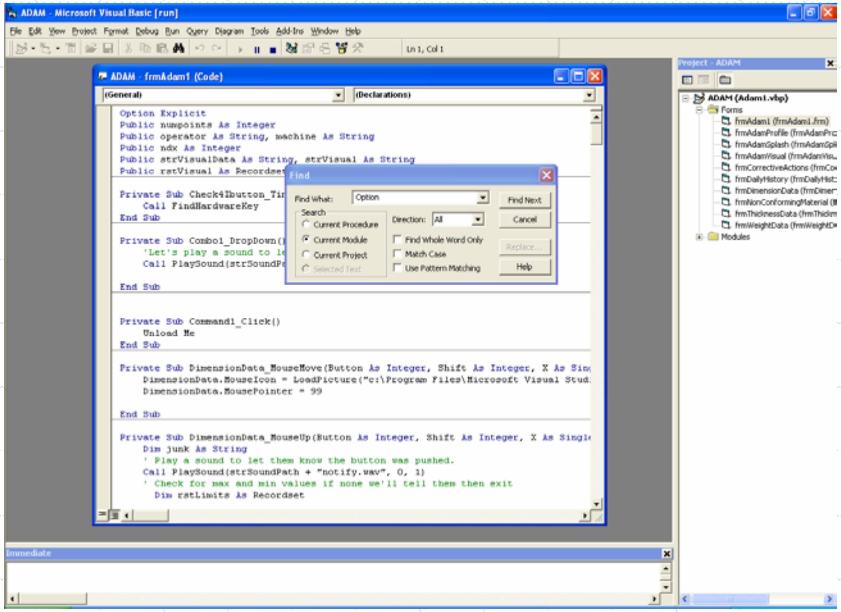
  - General:
    - Place the window so it is entirely visible.
    - If the window is being restored, place the window where it last appeared.
    - If the window is new, and a location has not yet been established, place it:
      - At the point of the viewer's attention, usually the location of the pointer or cursor.
      - In a position convenient to navigate to.
      - So that it is not obscuring important or related underlying window information.

Window Operations (Continued)

- Window Placement (Continued)
  - General (Continued);
    - For multiple windows, give each additional window its own unique and discernible location.
      - A cascading presentation is recommended.
    - In multiple-monitor configuration, display the secondary window on the same monitor as its primary window.
    - If none of the above location considerations apply, then:
      - Horizontally center a secondary window within its primary window just below the title bar, menu bar, and any docked toolbars.
    - If the user then moves the window, display it at this new location the next time the user opens the window.
      - Adjust it as necessary to the current display configuration.
    - Do not let the user move a window to a position where it cannot be easily repositioned.

Window Operations (Continued)

- Window Placement (Continued)
  - Dialog boxes:
    - If the dialog box relates to the entire system, center it on the screen.
    - Keep key information on the underlying screen visible.
    - If one dialog box calls another, make the new one movable whenever possible.


ADAM - Microsoft Visual Basic [run]
File Edit View Project Format Debug Run Query Diagram Tools Add-Ins Window Help
Ln 1, Col 1
ADAM - frmAdam1 (Code)
(General)
(Declarations)
Find
Find Next
Cancel
Replace...
Help
Project - ADAM
ADAM (Adam1.vbp)
Forms
frmAdam1 (frmAdam1.frm)
frmAdamProfile (frmAdamPro
frmAdamSplash (frmAdamSpl
frmAdamVisual (frmAdamVisu
frmCorrectiveActions (frmCor
frmDailyHistory (frmDailyHist
frmDimensionData (frmDimen
frmNonConformingMaterial (fi
frmThicknessData (frmThickn
frmWeightData (frmWeightD
Modules
Immediate

```
Option Explicit
Public numpoints As Integer
Public operator As String, machine As String
Public ndx As Integer
Public strVisualData As String, strVisual As String
Public rstVisual As Recordset

Private Sub Check4Ibutton_Tir
    Call FindHardwareKey
End Sub

Private Sub Combo1_DropDown()
    'Let's play a sound to le
    Call PlaySound(strSoundPa

End Sub


Private Sub Command1_Click()
    Unload Me
End Sub

Private Sub DimensionData_MouseMove(Button As Integer, Shift As Integer, X As Sin
    DimensionData.MouseIcon = LoadPicture("c:\Program Files\Microsoft Visual Stud
    DimensionData.MousePointer = 99

End Sub

Private Sub DimensionData_MouseUp(Button As Integer, Shift As Integer, X As Single
    Dim junk As String
    ' Play a sound to let them know the button was pushed.
    Call PlaySound(strSoundPath + "notify.wav", 0, 1)
    ' Check for max and min values if none we'll tell them then exit
      Dim rstLimits As Recordset
```

Find What: Option

Search
○ Current Procedure
● Current Module
○ Current Project
○ Selected Text

Direction: All

□ Find Whole Word Only
□ Match Case
□ Use Pattern Matching

Window Operations (Continued)

- Window Separation
  - Crisply, clearly, and pleasingly demarcate a window from the background of the screen on which it appears.
    - Provide a surrounding solid line border for the window.
    - Provide a window background that sets the window off well against the overall screen background.
    - Consider incorporating a drop shadow beneath the window.
- Moving a Window
  - Permit the user to change the position of all windows.
  - Change the pointer shape to indicate that the move selection is successful.
  - Move the entire window as the pointer moves.
    - If it is impossible to move the entire window, move the window outline while leaving the window displayed in its original position.
  - Permit the moving of a window without its being active.

Window Operations (Continued)

- Resizing a Window
  - Permit the user to change the size of primary windows.
    - Unless the information displayed in the window is fixed or cannot be scaled to provide more information.
  - Change the pointer shape to indicate that the resizing selection is successful.
  - The simplest operation is to anchor the upper-left corner and resize from the lower right corner.
    - Also permit resizing from any point on the window.
  - Show the changing window as the pointer moves.
    - If it is impossible to show the entire window being resized, show the window’s outline while leaving the window displayed in its original position.

Window Operations (Continued)

- Resizing a Window (Continued)
  - When window size changes and content remains the same:
    - Change the image size proportionally as window size changes.
  - If resizing creates a window or image too small for easy use, do one of the following:
    - Clip (truncate)information arranged in some logical structure or layout when minimum size is attained, or
    - When no layout considerations exist, format (restructure) information as size is reduced, or
    - Remove less useful information (if it can be determined), or
    - When minimum size is attained, replace information with a message that indicates that the minimum size has been reached and that the window must be enlarged to continue working.
  - Permit resizing a window without its being active.

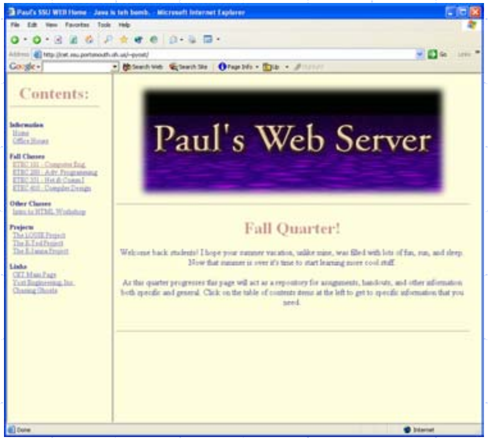
Window Operations (Continued)

- Other Operations
  - Permit primary window to be maximized, minimized, and restored.
- Window Shuffling
  - Window shuffling must be easy to accomplish.
- Keyboard Control/Mouseless Operation
  - Window actions should be capable of being performed through the keyboard as well as with a mouse.
  - Keyboard alternatives should be designated through use of mnemonic codes as much as possible.
  - Keyboard designations should be capable of being modified by the user.

Window Operations (Continued)

- Closing a Window
  - Close a window when:
    - The user requests that it be closed.
    - The user performs the action required in the window.
    - The window has no further relevance.
  - If a primary window is close, also close all of its secondary windows.
  - When a window is closed, save its current state, including size and position, for use when the window is opened again.

Web Systems



Paul's SSU WEB Home - Java is teh bomb. - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://cet.ssu.portsmouth.oh.us/~pvost/
Go Links
Google Search Web Search Site Page Info Up
Done
Internet

Contents:

Information
Home
Office Hours

Fall Classes
ETEC 101 - Computer Eng.
ETEC 200 - Adv. Programming
ETEC 301 - Net & Comm I
ETEC 405 - Computer Design

Other Classes
Intro to HTML Workshop

Projects
The LOGIK Project
The K.Ted Project
The K.Lanna Project

Links
CET Main Page
Yuri Engineering, Inc.
Chasing Ghosts

Paul's Web Server

Fall Quarter!

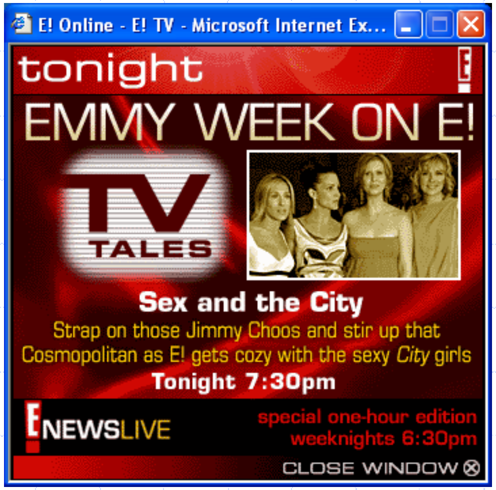
Welcome back students! I hope your summer vacation, unlike mine, was filled with lots of fun, sun, and sleep. Now that summer is over it's time to start learning more cool stuff.

As this quarter progresses this page will act as a repository for assignments, handouts, and other information both specific and general. Click on the table of contents items at the left to get to specific information that you need.

- Frames
  - Description:
    - Multiple Web screen panes that permit the displaying of multiple documents on a page.
    - These documents can be independently viewed, scrolled, and updated.
    - The documents are presented in a tiled format.
  - Proper usage:
    - For content expected to change frequently.
    - To allow users to change partial screen content.
    - To permit users to compare multiple pieces of information.
  - Guidelines:
    - Use only a few frames (three or less) at a given time.
    - Choose sizes based upon the type of information to be presented.
    - Never force viewers to resize frames to see information.
    - Never use more than one scrolling region on a page.

Web Systems (Continued)

- Pop-Up Windows
  - Be extremely cautious in the use of pop-up windows.



EMMY WEEK ON E!

Sex and the City

Strap on those Jimmy Choos and stir up that Cosmopolitan as E! gets cozy with the sexy *City* girls

Tonight 7:30pm

special one-hour edition
weeknights 6:30pm