

Contents

1	System Maintenance	3
1.1	Samples of forms and reports	3
1.1.1	Forms	3
1.1.2	Reports	4
1.2	A sample of detailed algorithm design	4
1.3	Procedure, function and variable lists	4
1.3.1	Procedures and functions	4
1.3.1.1	frmLoginForm	4
1.3.1.2	frmMainMenu	4
1.3.1.3	frmAdd	5
1.3.1.4	frmAddCustomer	5
1.3.1.5	frmAddSupplier	5
1.3.1.6	frmAddComponent	5
1.3.1.7	frmRemove	6
1.3.1.8	frmRemoveCustomer	6
1.3.1.9	frmRemoveSupplier	6
1.3.1.10	frmRemoveComponent	7
1.3.1.11	frmList	7
1.3.1.12	frmListFullDetails	7
1.3.1.13	frmReportMenu	8
1.3.1.14	frmReportInvoice	8
1.3.1.15	frmReportLog	8
1.3.1.16	frmReportQuote	8
1.3.1.17	frmReportSurvey	9
1.3.1.18	frmSurveyForm	9
1.3.1.19	frmSwankyCode	9
1.3.2	Variables	9
1.3.2.1	frmLoginForm	9
1.3.2.2	frmMainMenu	10
1.3.2.3	frmAdd	10
1.3.2.4	frmAddCustomer	11
1.3.2.5	frmAddSupplier	12
1.3.2.6	frmAddComponent	12
1.3.2.7	frmRemove	14
1.3.2.8	frmRemoveCustomer	14
1.3.2.9	frmRemoveSupplier	15
1.3.2.10	frmRemoveComponent	15
1.3.2.11	frmList	16

1.3.2.12	frmListFullDetails	18
1.3.2.13	frmReportMenu	20
1.3.2.14	frmReportInvoice	20
1.3.2.15	frmReportLog	21
1.3.2.16	frmReportQuote	22
1.3.2.17	frmReportSurvey	22
1.3.2.18	frmSurveyForm	23
1.3.2.19	frmSwankyCode	24

Chapter 1

System Maintenance

1.1 Samples of forms and reports

1.1.1 Forms

Name	Purpose
frmLoginForm	The login form.
frmMainMenu	The main menu form.
frmAdd	The customer/supplier/component addition menu form.
frmAddCustomer	The customer addition form.
frmAddSupplier	The supplier addition form.
frmAddComponent	The... oooh, take a guess...
frmRemove	The customer/supplier/component deletion menu form.
frmRemoveCustomer	The customer details removal form.
frmRemoveSupplier	The supplier details removal form.
frmRemoveComponent	The component details removal form.
frmList	The customer/supplier/component listing form.
frmListFullDetails	Lists the full details of the selected customer/supplier/component in a form.
frmReportMenu	the report generating/viewing menu, listing the different types of reports.
frmReportInvoice	The report invoice selection and manipulation menu—opens Word documents for invoices.
frmReportLog	The log file selection and manipulation menu—opens Word documents for log forms.
frmReportQuote	The quotation selection menu—opens Word documents for quotations.
frmReportSurvey	The survey form selection menu.

Name (cont.)	Purpose (cont.)
frmSurveyForm	Displays survey details of the selected customer.
frmSwankyCode	Not really a form—just a form interface for code behind it referenced by other parts of code—‘swanky code’ that could be pushed out so as to not clutter up other forms’ code.

1.1.2 Reports

There are no reports generated by the program itself, in the program: data is just piped into Microsoft Word documents.

1.2 A sample of detailed algorithm design

1.3 Procedure, function and variable lists

1.3.1 Procedures and functions

1.3.1.1 frmLoginForm

Name	Type	Purpose
frmLoginForm_Load	Procedure	The automatically created procedure that houses the code executed when the form loads. In this case, it loads the database connection string.
OK_Click	Procedure	The procedure that controls what happens when the user clicks on the OK button. In this case, the username and passwords entered by the user are compared with those in the database and an error is spat out if the credentials are wrong, else the main menu is displayed.
Cancel_Click	Procedure	The code inside here executes when the user clicks the Cancel button on this form. The program closes.

1.3.1.2 frmMainMenu

Name	Type	Purpose
frmMainMenu_Load	Procedure	Controls what happens when the main menu form loads. In this case, the login form gets hidden.
btnReport_Click	Procedure	Controls what happens when the Report Forms button is clicked. The main menu is hidden and ‘frmReportMenu’ appears.
btnList_Click	Procedure	As above, but with the List button and ‘frmList’.
btnAdd_Click	Procedure	As above, but with the Add button and ‘frmAdd’.

Name (cont.)	Type (cont.)	Purpose (cont.)
btnRemove_Click	Procedure	As above, but with the Remove button and 'frmRemove'.
btnQuit_Click	Procedure	When the user clicks the Quit button, the program closes. There is no point returning the user to the login form as this could cause problems with the database and the opening and closing of connections.

1.3.1.3 frmAdd

Name	Type	Purpose
frmAdd_Load	Procedure	This contains code to check if the database connection is still active, and populate the form's dropdown box, when the form loads.
btnShow_Click	Procedure	When the user clicks the Show button, the code inside this procedure makes the corresponding form display.
btnClose_Click	Procedure	Controls what happens when the Close button is clicked. The current form closes and the main menu is displayed.

1.3.1.4 frmAddCustomer

Name	Type	Purpose
frmAddCustomers_Load	Procedure	This contains code to check if the database connection is still active, and populate the form's dropdown box, when the form loads, and also control the tooltips that display when the user hovers over certain labels.
btnSave_Click	Procedure	This takes all the user-entered details and saves them to the database, or displays an error message if some don't validate.
InsertParameters	Procedure	This takes the textbox values and makes sure that each one goes into the correct database field.
btnCancel_Click	Procedure	When the user clicks the Cancel button, this executes code to hide this form and display the previous one, 'frmAdd'.

1.3.1.5 frmAddSupplier

Name	Type	Purpose
frmAddSupplier_Load	Procedure	Executes code when the form loads. In this case, it checks whether the database connection is alive.
btnSave_Click	Procedure	This takes all the user-entered details and saves them to the database, or displays an error message if some don't validate.
InsertParameters	Procedure	This takes the textbox values and makes sure that each one goes into the correct database field.
btnCancel_Click	Procedure	When the user clicks the Cancel button, this executes code to hide this form and display the previous one, 'frmAdd'.

1.3.1.6 frmAddComponent

Name	Type	Purpose
-------------	-------------	----------------

Name (cont.)	Type (cont.)	Purpose (cont.)
AddComponent_Load	Procedure	This contains code to check if the database connection is still active, and populate the form's dropdown box, when the form loads.
btnSave_Click	Procedure	This takes all the user-entered details and saves them to the database, or displays an error message if some don't validate.
InsertParameters	Procedure	This takes the textbox values and makes sure that each one goes into the correct database field.
btnCancel_Click	Procedure	When the user clicks the Cancel button, this executes code to hide this form and display the previous one, 'frmAdd'.

1.3.1.7 frmRemove

Name	Type	Purpose
frmRemove_Load	Procedure	This contains code to check if the database connection is still active, and populate the form's dropdown box, when the form loads.
btnShow_Click	Procedure	When the user clicks the Show button, the code inside this procedure makes the corresponding form display.
btnClose_Click	Procedure	Controls what happens when the Close button is clicked. The current form closes and the main menu is displayed.

1.3.1.8 frmRemoveCustomer

Name	Type	Purpose
frmRemoveCustomers_Load	Procedure	This contains code to check if the database connection is still active, and populate the form's dropdown box, when the form loads.
btnRemove_Click	Procedure	On click, this button's code takes the customer name that the user selected and removes all of their details from the database, or displays an error message if the deletion fails.
RemoveParameters	Procedure	This takes the user-selected value and makes sure that the correct customer is deleted from the database, by specifying which field the user-selected data corresponds to.
btnCancel_Click	Procedure	When the user clicks the Cancel button, this executes code to hide this form and display the previous one, 'frmRemove'.

1.3.1.9 frmRemoveSupplier

Name	Type	Purpose
frmRemoveSupplier_Load	Procedure	This contains code to check if the database connection is still active and populate the form's dropdown box when the form loads.
btnRemove_Click	Procedure	On click, this button's code takes the supplier name that the user selected and removes all of their details from the database, or displays an error message if the deletion fails.
RemoveParameters	Procedure	This takes the user-selected value and makes sure that the correct supplier is deleted from the database, by specifying which field the user-selected data corresponds to.
btnCancel_Click	Procedure	When the user clicks the Cancel button, this executes code to hide this form and display the previous one, 'frmRemove'.

1.3.1.10 frmRemoveComponent

Name	Type	Purpose
frmRemoveComponent_Load	Procedure	This contains code to check if the database connection is still active and populate the form's dropdown box when the form loads.
btnRemove_Click	Procedure	On click, this button's code takes the component name that the user selected and removes all of their details from the database, or displays an error message if the deletion fails.
RemoveParameters	Procedure	This takes the user-selected value and makes sure that the correct component is deleted from the database, by specifying which field the user-selected data corresponds to.
btnCancel_Click	Procedure	When the user clicks the Cancel button, this executes code to hide this form and display the previous one, 'frmRemove'.

1.3.1.11 frmList

Name	Type	Purpose
frmList_Load	Procedure	This contains code to check if the database connection is still active, and populate the form's dropdown box, when the form loads.
btnShow_Click	Procedure	On click, this will show the names of customers/suppliers/components in the listbox, depending on what the user selected in the dropdown box.
btnShowAssoc_Click	Procedure	This procedure contains code that calls the AssocCompSupp() procedure if the selected dropdown item is Component. Otherwise, it displays an error message.
AssocCompSupp	Procedure	This finds out from the database in a slightly complicated way which supplier supplies the selected component, and displays it in a message box. The supplier in the database is an ID, so the following function converts it into a name and gives that value back to this procedure to print the full dialogue box in a way the user will understand.
SwitchSuppIDToName	Function	This function gets the supplier ID produced by the database code in the AssocCompSupp() procedure and, with the use of its value (passed by value), converts the ID into a name, then puts that into a variable which is originally passed by reference from AssocCompSupp() so that its value changes in that procedure to, producing a complete, user-comprehensible (hopefully!) message box saying which component is supplied by which supplier.
btnListFullDetails_Click	Procedure	When the user clicks on this button, the form that has the ability and space to list the full customer/supplier/component details displays, and this form hides.
btnClose_Click	Procedure	As usual, on click, this form is hidden and the previous form, in this case the main menu, is shown.

1.3.1.12 frmListFullDetails

Name	Type	Purpose
------	------	---------

Name (cont.)	Type (cont.)	Purpose (cont.)
frmListFullDetails_Load	Procedure	This makes sure that the database connection is still alive, and contains an If statement that calls various procedures to populate the full information depending on what the user selected from the dropdown menu on the previous form.
PopulateCustInfo	Procedure	This populates the customer-related textboxes depending on the customer name the user has selected on the previous form, frmList.
PopulateSuppInfo	Procedure	This does the same, but for suppliers and supplier information.
PopulateCompInfo	Procedure	This does the same, but for components and component information.
btnClose_Click	Procedure	This form is closed, and 'frmList' is unhidden.

1.3.1.13 frmReportMenu

Name	Type	Purpose
btnLogs_Click	Procedure	On click, display 'frmReportLog' and hide this form.
btnQuotes_Click	Procedure	On click, display 'frmReportQuotes' and hide this form.
btnInvoices_Click	Procedure	On click, display 'frmReportInvoice' and hide this form.
btnSurvey_Click	Procedure	On click, display 'frmReportSurvey' and hide this form.
btnQuit_Click	Procedure	This form is closed, and 'frmMainMenu' is unhidden.

1.3.1.14 frmReportInvoice

Name	Type	Purpose
frmReportInvoice_Load	Procedure	This checks if the database connection is still alive, then gets the customer name from the database to populate the dropdown menu from which the user selects a customer name.
btnOK2_Click	Procedure	When the user clicks OK, code is executed that gets all the relevant customer details from the database and puts each one into a variable.
btnCancel_Click	Procedure	This form is closed, and 'frmReportMenu' is unhidden.

1.3.1.15 frmReportLog

Name	Type	Purpose
frmReportLog_Load	Procedure	When the form loads, code is executed that populates the dropdown list with months and years that the user can select from to view a log file.
btnOK_Click	Procedure	When the user clicks OK, the log form corresponding to the month and year the user selected is opened in Microsoft Word.
btnCancel_Click	Procedure	This form is closed, and 'frmReportMenu' is unhidden.

1.3.1.16 frmReportQuote

Name	Type	Purpose
frmReportQuote_Load	Procedure	This checks if the database connection is still alive, then gets the customer name from the database to populate the drop-down menu from which the user selects a customer name.
btnOK2_Click	Procedure	When the user clicks OK, code is executed that gets all the relevant customer details from the database and puts each one into a variable.
btnCancel_Click	Procedure	This form is closed, and 'frmReportMenu' is unhidden.

1.3.1.17 frmReportSurvey

Name	Type	Purpose
frmReportSurvey_Load	Procedure	This checks if the database connection is still alive, then gets the customer name from the database to populate the drop-down menu from which the user selects a customer name.
btnOK_Click	Procedure	When the user clicks OK, the user's selected item in the dropdown list is attributed to a variable, and 'frmSurveyForm' is shown.
btnCancel_Click	Procedure	This form is closed, and 'frmReportMenu' is unhidden.

1.3.1.18 frmSurveyForm

Name	Type	Purpose
frmSurveyForm_Load	Procedure	The load procedure that executes the obtaining of specific customer details when the form loads.
btnClose_Click	Procedure	When this button is clicked, code executes that closes this form and opens 'frmReportSurvey'.

1.3.1.19 frmSwankyCode

Name	Type	Purpose
CheckAdditions	Procedure	This is referenced by other code in other forms to check the additions into textboxes to make sure that everything goes into the database correctly.
WordInvoiceAutomationMagic	Procedure	This is referenced from the invoice form. This procedure deals with inserting the correct values in the correct place in the invoice Word document, and opening it to the user.
WordQuotationAutomationMagic	Procedure	This is referenced from the quotation form. This procedure deals with inserting the correct values in the correct place in the quotation Word document, and opening it to the user.

1.3.2 Variables

1.3.2.1 frmLoginForm

Variable	Data Type	Purpose
accConnection	OleDbConnection	The database connection's main command to make Access work with VB.
ConnectionString	String	The variable that defines the database provider and the location of the database.
cmdString	String	The variable for the SQL statement that is passed to the database.
da	OleDbDataAdapter	The dataadapter variable, which takes cmdString and accConnection as parameters.
ds	DataSet	The dataset variable.
dt	DataTable	The datatable variable which allows tables in the database to be referenced.
lblUsername	Label	The username form label, to tell the user to enter a username in the box below it.
lblPassword	Label	The password form label, to tell the user to enter a password in the box below it.
txtUsername	Textbox	The textbox that the user enters their username into on the form.
txtPassword	Textbox	As above, but the user enters a password into it.
btnCancel	Button	The cancel button on this form.
btnOK	Button	The OK button—on click, this executes the code within the btnOK_Click procedure, checking the user-entered values with the ones in the database.
u	String	This takes the value of txtUsername's .Text property for ease of typing later on when doing the comparison.
p	String	The same as above, but the value of txtPassword's .Text property.
loginuname	String	The variable for the actual value of the database 'login_uname' field.
loginpword	String	The variable for the actual value of the database 'login_pword' field.

1.3.2.2 frmMainMenu

Variable	Data Type	Purpose
btnAdd	Button	On click, this button opens the addition menu.
btnRemove	Button	On click, this button opens the removal menu.
btnList	Button	On click, this button opens the listing form.
btnReport	Button	On click, this button displays the report menu.
btnQuit	Button	On click, this closes the program.

1.3.2.3 frmAdd

Variable	Data Type	Purpose
cbtxtAddOptions	ComboBox	The dropdown menu/textbox for the addition options: customer/supplier/component.
btnShow	Button	The button that shows the next form, depending on what the user selects in the dropdown menu.
btnClose	Button	On click, this button closes frmAdd and opens the previous form.
accConnection	OleDbConnection	This is not a variable directly in this form: it is referenced from frmLoginForm where it has values.

1.3.2.4 frmAddCustomer

Variable	Data Type	Purpose
lblCustomerTitle	Label	The customer title label, to tell the user to enter a customer's title in the box beside it.
lblCustomerName	Label	As above, but the customer name label.
lblCustomerBillingAddress	Label	As above, but the customer billing address label.
lblCustomerBillingPostcode	Label	As above, but the customer billing postcode label.
lblCustomerInstallationAddress	Label	As above, but the customer installation address label.
lblCustomerInstallationPostcode	Label	As above, but the customer installation postcode label.
cbCustomerBillInstallSameAddress	Checkbox	The user ticks this box if the customer's installation address is the same as his or hers billing address.
lblCustomerHomeTelNo	Label	The customer home telephone number label, to tell the user to enter a customer's home telephone number into the box beside it.
lblCustomerMobTelNo	Label	As above, but with the customer's mobile telephone number.
lblCustomerEmail	Label	As above, but the email address of the customer.
lblCustomerMpanNo	Label	As above, but the customer's MPAN number.
cbCustomerTitle	Combobox	The actual combobox. Using this, the user can specify a title for the specific customer, for example Mr or Mrs.
txtCustomerName	Textbox	The user can enter the customer name into this textbox.
txtCustomerBillAddress	Textbox	The user can enter the customer's billing address into this textbox.
txtCustomerBillPostcode	Textbox	As above, but the customer's billing address postcode.
txtCustomerHomeTelNo	Textbox	As above, but the customer's home telephone number.
txtCustomerMobTelNo	Textbox	As above, but the customer's mobile telephone number.
txtCustomerEmail	Textbox	As above, but the customer's email address.
txtCustomerMpanNo	Textbox	As above, but the customer's MPAN number.
btnCancel	Button	This is the name of the button on this form that, when clicked, will hide the current form and display 'frmAdd'.
btnSave	Button	This button, when clicked, will execute code that will save the data the user has entered to the database, or error if there is a problem.
accConnection	OleDbConnection	This is referenced in the __Load procedure from frmLoginForm where it has values, but is also a variable in its own right so that the code in the __Click procedure can execute (database update stuff).
cmdString	String	The variable that holds the SQL command string for INSERT INTO to make the customer details go into the database.
AddCustomerDataAdapter	OleDbDataAdapter	The dataadapter variable: it takes the accConnection variable value that doesn't change, and the strSQL output. Well, in this case it does nothing. . . .
accCommand	OleDbCommand	The accCommand variable renamed so as not to confuse the compiler when passed by reference to the InsertParameters() procedure in order to give the database fields values based on values in the corresponding textboxes.
intInsert	Integer	This is the checking variable—if its value is ever 0 after a database operation, the operation has not completed successfully.
acccmd	OleDbCommand	The accCommand variable renamed so as not to confuse the compiler when passed by reference to the InsertParameters() procedure in order to give the database fields values based on values in the corresponding textboxes.

Variable (cont.)	Data Type (cont.)	Purpose (cont.)
pos	Integer	This is the positioning variable that is used in the InStr() string manipulation code that finds the position of an " " symbol.
etb	String	The shortened name for txtCustomerEmail's .Text property.
atsymbol	String	The atsymbol, to avoid having a symbol directly in the InStr() operation.

1.3.2.5 frmAddSupplier

Variable	Data Type	Purpose
lblSupplierName	Label	The supplier name label, to tell the user to enter a supplier name in the box beside it.
lblSupplierAddress	Label	The supplier address label, to tell the user to enter a supplier address in the box beside it.
lblSupplierPostCode	Label	The supplier postcode label, to tell the user to enter a supplier postcode in the box beside it.
lblSupplierTelNo	Label	The supplier telephone number label, to tell the user to enter a supplier telephone number in the box beside it.
lblSupplierContactName	Label	The supplier contact name label, to tell the user to enter a supplier contact name in the box beside it.
txtSupplierName	Textbox	The textbox that the user enters the supplier name into on the form.
txtSupplierAddress	Textbox	As above, but the user enters the supplier's address.
txtSupplierPostCode	Textbox	As above, but the user enters the supplier's postcode.
txtSupplierTelNo	Textbox	As above, but the user enters the supplier's telephone number.
txtSupplierContactName	Textbox	As above, but the user enters the name of the supplier's employee which they have the most contact with and/or who is their designated contact person.
btnCancel	Button	Closes frmAddSupplier and reopens frmAdd.
btnSave	Button	This executes code that saves the supplier details, erroring if there is a problem.
accConnection	OleDbConnection	This is referenced in the _Load procedure from frmLoginForm where it has values, but is also a variable in its own right so that the code in the _Click procedure can execute (database update stuff).
cmdString	String	This variable takes the INSERT INTO Supplier SQL query, in this case.
AddSupplierDataAdapter	OleDbDataAdapter	This is a variable defining the DataAdapter
accCommand	OleDbCommand	This is the variable which allows properties of it to be set such as the command text defined as the value of cmdString, and the location of the accConnection (frmLoginForm, as mentioned earlier).
intInsert	Integer	This is the checking variable—if its value is ever 0 after a database operation, the operation has not completed successfully.
acccmd	OleDbCommand	The accCommand variable renamed so as not to confuse the compiler when passed by reference to the InsertParameters() procedure in order to give the database fields values based on values in the corresponding textboxes.

1.3.2.6 frmAddComponent

Variable	Data Type	Purpose
btnCancel	Button	The cancel button, which, when clicked, executes code that closes this form and shows 'frmAdd' again.
btnSave	Button	On click, the data entered is taken and saved into the database, or an error message pops up if something is wrong with the data.
lblComponentName	Label	The component name label, to tell the user to enter a component name in the box beside it.
lblComponentType	Label	The component type label, to tell the user to enter a component type in the box beside it.
lblComponentSerialNo	Label	The component serial number label, to tell the user to enter a component serial number in the box beside it.
lblComponentPanelkWp	Label	The component panel kWp label, to tell the user to enter the kWp of the solar panel in the box beside it.
lblCompSupplierName	Label	The component supplier name label, to tell the user to enter the supplier name in the box beside it.
txtComponentName	Textbox	The textbox that the user enters the component name into on the form.
txtComponentType	Textbox	As above, but the user enters the component type into the form.
txtComponentSerialNo	Textbox	As above, but the user enters the component serial number into the form.
txtComponentPanelkWp	Textbox	As above, but the user enters the solar panel kWp value into the form.
txtCompSupplierName	Textbox	As above, but the user enters the name of the supplier into the form.
accConnection	OleDbConnection	This is referenced in the _Load procedure from frmLoginForm where it has values, but is also a variable in its own right so that the code in the _Click procedure can execute (database update stuff).
strSQL	String	This variable takes the INSERT INTO Component SQL query, in this case.
da	OleDbDataAdapter	The dataadapter variable: it takes the accConnection variable value that doesn't change, and the strSQL output.
ds	DataSet	The dataset variable.
dt	DataTable	The datatable variable which allows tables in the database to be referenced.
dr	DataRow	The datarow variable.
suppidvaluecmd	String	This takes the SELECT SQL command string that gets the supplier ID value from the Supplier table, when the supplier name = the selected supplier name selected by the drop down box by the user.
cmdString	String	This is the INSERT INTO SQL string that inserts the values entered by the user (in the form) into the database, including the now enterable value of the comp_supplier field, the ID, through some data fiddling.
da	OleDbDataAdapter	The dataadapter variable: it takes the accConnection variable value that doesn't change, and the suppidvaluecmd output.
ds	DataSet	The dataset variable.
accCommand	OleDbCommand	This is the variable which allows properties of it to be set such as the command text defined as the value of cmdString, and the location of the accConnection (frmLoginForm, as mentioned earlier).

Variable (cont.)	Data Type (cont.)	Purpose (cont.)
intInsert	Integer	This is the checking variable—if its value is ever 0 after a database operation, the operation has not completed successfully.
supplieridvalue	Integer	The supplier ID value from the database, into a variable, so it can be put into the comp_supplier database field in the Component table later on.

1.3.2.7 frmRemove

Variable	Data Type	Purpose
cbtnRemoveOptions	ComboBox	The dropdown menu/textbox for the removal options: customer/supplier/component.
btnShow	Button	The button that shows the next form, depending on what the user selects in the dropdown menu.
btnClose	Button	On click, this button executes code that closes frmAdd and opens the previous form.
accConnection	OleDbConnection	This is not a variable directly in this form: it is referenced from frmLoginForm where it has values.

1.3.2.8 frmRemoveCustomer

Variable	Data Type	Purpose
btnCancel	Button	When clicked, code behind this button closes the current form and displays 'frmRemove'.
btnRemove	Button	This button, when clicked, executes code that removes the selected customer from the database.
txtcbCustomerRemove	Combobox	This is the dropdown box from which the user can select a customer to remove.
strSQL	String	This variable takes the DELETE FROM Customer table SQL query, in this case.
da	OleDbDataAdapter	The dataadapter variable: it takes the accConnection variable value that doesn't change, and the strSQL output.
ds	DataSet	The dataset variable.
dt	DataTable	The datatable variable which allows tables in the database to be referenced.
dr	DataRow	This helps in the loop to populate the dropdown box to get the customers for the user to choose which one to delete: it is used in the For Each loop to get the customer name for every customer in each row of the selected table.
cmdString	String	In the btnRemove_Click procedure, this is the string variable that holds the SQL for the DELETE of a specific customer.
da	OleDbDataAdapter	The dataadapter variable: it takes the accConnection variable value that doesn't change, and the cmdString output.
ds	DataSet	The dataset variable.
accCommand	OleDbCommand	This is the variable which allows properties of it to be set such as the command text defined as the value of cmdString, and the location of the accConnection (frmLoginForm, as mentioned earlier).

Variable (cont.)	Data Type (cont.)	Purpose (cont.)
intRemove	Integer	This is the checking variable—if its value is ever 0 after a database operation, the operation has not completed successfully.
accCmd	OleDbCommand	The accCommand variable renamed so as not to confuse the compiler when passed by reference to the InsertParameters() procedure in order to give the database fields values based on values in the corresponding textboxes.

1.3.2.9 frmRemoveSupplier

Variable	Data Type	Purpose
btnCancel	Button	When clicked, code behind this button closes the current form and displays 'frmRemove'.
btnRemove	Button	This button, when clicked, executes code that removes the selected supplier from the database.
txtcbSupplierRemove	Combobox	This is the dropdown box from which the user can select a supplier to remove.
da	OleDbDataAdapter	The dataadapter variable: it takes the accConnection variable value that doesn't change, and the strSQL output.
ds	DataSet	The dataset variable.
dt	DataTable	The datatable variable which allows tables in the database to be referenced.
dr	DataRow	This helps in the loop to populate the dropdown box to get the suppliers for the user to choose which one to delete: it is used in the For Each loop to get the supplier name for every supplier in each row of the selected table.
cmdString	String	In the btnRemove_Click procedure, this is the string variable that holds the SQL for the DELETE of a specific supplier.
da	OleDbDataAdapter	The dataadapter variable: it takes the accConnection variable value that doesn't change, and the cmdString output.
ds	DataSet	The dataset variable.
accCommand	OleDbCommand	This is the variable which allows properties of it to be set such as the command text defined as the value of cmdString, and the location of the accConnection (frmLoginForm, as mentioned earlier).
intRemove	Integer	This is the checking variable—if its value is ever 0 after a database operation, the operation has not completed successfully.
accCmd	OleDbCommand	The accCommand variable renamed so as not to confuse the compiler when passed by reference to the InsertParameters() procedure in order to give the database fields values based on values in the corresponding textboxes.

1.3.2.10 frmRemoveComponent

Variable	Data Type	Purpose
btnCancel	Button	When clicked, code behind this button closes the current form and displays 'frmRemove'.
btnRemove	Button	This button, when clicked, executes code that removes the selected component from the database.

Variable (cont.)	Data Type (cont.)	Purpose (cont.)
txtcbComponentRemove	Combobox	This is the dropdown box from which the user can select a component to remove.
da	OleDbDataAdapter	The dataadapter variable: it takes the accConnection variable value that doesn't change, and the strSQL output.
ds	DataSet	The dataset variable.
dt	DataTable	The datatable variable which allows tables in the database to be referenced.
dr	DataRow	This helps in the loop to populate the dropdown box to get the components for the user to choose which one to delete: it is used in the For Each loop to get the component name for every component in each row of the selected table.
cmdString	String	In the btnRemove_Click procedure, this is the string variable that holds the SQL for the DELETE of a specific component.
da	OleDbDataAdapter	The dataadapter variable: it takes the accConnection variable value that doesn't change, and the cmdString output.
ds	DataSet	The dataset variable.
accCommand	OleDbCommand	This is the variable which allows properties of it to be set such as the command text defined as the value of cmdString, and the location of the accConnection (frmLoginForm, as mentioned earlier).
intRemove	Integer	This is the checking variable—if its value is ever 0 after a database operation, the operation has not completed successfully.
acccmd	OleDbCommand	The accCommand variable renamed so as not to confuse the compiler when passed by reference to the InsertParameters() procedure in order to give the database fields values based on values in the corresponding textboxes.

1.3.2.11 frmList

Variable	Data Type	Purpose
accConnection	OleDbConnection	This is referenced in the _Load procedure from frmLoginForm where it has values, but is also a variable in its own right so that the code in the _Click procedure can execute (database update stuff).
btnClose	Button	On click, this button executes code that closes frmList and opens the previous form.
btnShow	Button	On click, this button executes code which populates the listbox below it with the values of whatever the user selected in the dropdown menu.
lbList	ListBox	The box that holds the output of the command executed by the code behind the btnShow button—the list of customer/suppliers/components.
cbtxtListOptions	ComboBox	The dropdown menu/textbox for the listing options: customer/supplier/component.
btnShowAssoc	Button	This executes the code that shows the associations between the different components and suppliers, for example.
btnListFullDetails	Button	When this button is clicked, it executes code that opens the frmListFullDetails form, listing the full details of the selected customer (from lbList) in the appropriate boxes.

Variable (cont.)	Data Type (cont.)	Purpose (cont.)
cmdString	String	This is the SQL command string that changes depending on what is selected and what needs to be displayed in IList to pull the correct data from the database.
ds	DataSet	The dataset variable in the main procedure.
dr	DataSet	The datarow variable, which gets the current row of data based on the cmdString, and outputs it in IList.Items.Add(), in this case.
da0	OleDbDataAdapter	The dataadapter variable for if the user selects customers: it takes the accConnection variable value that doesn't change, and the Customer table cmdString.
da1	OleDbDataAdapter	The dataadapter variable for if the user selects suppliers: it takes the accConnection variable value that doesn't change, and the Supplier table cmdString.
da2	OleDbAdapter	The dataadapter variable for if the user selects components: it takes the accConnection variable value that doesn't change, and the Component table cmdString.
dt0	DataTable	The datatable variable which allows tables in the database to be referenced based in this case on the Customer table's cmdString.
dt1	DataTable	The datatable variable which allows tables in the database to be referenced based in this case on the Supplier table's cmdString.
dt2	DataTable	The datatable variable which allows tables in the database to be referenced based in this case on the Component table's cmdString.
cn	String	In the AssocCompSupp() (association component/supplier) procedure, this takes the selected component name from the IList and assigns it to cn.
compsuppliervalcmd	String	This is the SQL command that gets the component's supplier ID from the Component table (it's a foreign key in that table) according to the component name that is 'cn'.
sn	String	This is the supplier name variable—this will be filled in by the value returned by the operations in the SwitchSupplIDToName() function.
da	OleDbDataAdapter	The dataadapter variable, which takes compsuppliervalcmd and accConnection as parameters.
ds	DataSet	The dataset variable.
compsupplierval	Integer	This gets the supplier ID of the component supplier from the data retrieved from the SQL command.
csuppv	Integer	This is assigned the value of the above compsupplierval variable, purely for ease of use in the function that converts the supplier ID to the name of the supplier, SwitchSupplIDToName().
csuppvval	Integer	The csuppv variable from the AssocCompSupp() procedure, passed by value to the SwitchSupplIDToName() function, given a different name to avoid confusing the compiler.
finalsn	String	The sn variable from the AssocCompSupp() procedure, passed by reference to the SwitchSupplIDToName() function, given a different name to again avoid confusing the compiler. Later on, this is given the value of the result of the cmdString in this function.
cmdString	String	The variable that is the SQL statement that gets the supplier's name from the Supplier table, where the supplier ID is equal to the variable csuppvval.

Variable (cont.)	Data Type (cont.)	Purpose (cont.)
da	OleDbDataAdapter	The dataadapter variable: it takes the accConnection variable value that doesn't change, and the cmdString output.
ds	DataSet	The dataset variable.

1.3.2.12 frmListFullDetails

Variable	Data Type	Purpose
lblFullListCustomer	Label	The label that tells the user what the particular section of this form is showing. In this case, the customer details.
lblFullListSupplier	Label	The label that tells the user what the particular section of this form is showing. In this case, the supplier details.
lblFullListComponent	Label	The label that tells the user what the particular section of this form is showing. In this case, the component details.
btnClose	Button	On click, this form closes and the previous form, 'frmList', shows itself.
lblCustomerTitle	Label	The customer title label, to tell the user that the customer's title is listed in the box beside it.
lblCustomerName	Label	The customer name label, to tell the user that the customer's name is listed in the box beside it.
lblCustomerBillingAddress	Label	The customer billing address label, to tell the user that the customer's billing address is listed in the box beside it.
lblCustomerBillingPostcode	Label	The customer billing postcode label, to tell the user that the customer's billing postcode is listed in the box beside it.
lblCustomerInstallationAddress	Label	The customer installation address label, to tell the user that the customer's installation address is listed in the box beside it.
lblCustomerInstallationPostCode	Label	The customer installation postcode label, to tell the user that the customer's installation postcode is listed in the box beside it.
lblCustomerHomeTelNo	Label	The customer home telephone number label, to tell the user that the customer's home telephone number is listed in the box beside it.
lblCustomerMobTelNo	Label	The customer mobile telephone number label, to tell the user that the customer's mobile telephone number is listed in the box beside it.
lblCustomerEmail	Label	The customer email address label, to tell the user that the customer's email address is listed in the box beside it.
lblCustomerMpanNo	Label	The customer MPAN number label, to tell the user that the customer's MPAN number is listed in the box beside it.
lblSupplierName	Label	The supplier name label, to tell the user that the supplier's name is what is listed in the box beside it.
lblSupplierAddress	Label	The supplier address label, to tell the user that the supplier's address is what is listed in the box beside it.
lblSupplierPostCode	Label	The supplier postcode label, to tell the user that the supplier's postcode is listed in the box beside it.
lblSupplierTelNo	Label	The supplier telephone number label, to tell the user that the supplier's telephone number is listed in the box beside it.
lblSupplierContactName	Label	The supplier contact name label, to tell the user that the supplier's telephone number is listed in the box beside it.

Variable (cont.)	Data Type (cont.)	Purpose (cont.)
lblComponentName	Label	The component name label, to tell the user that the component name is listed in the box beside it.
lblComponentType	Label	The component type label, to tell the user that the component type is listed in the box beside it.
lblComponentSerialNo	Label	The component serial number label, to tell the user that the component serial number is listed in the box beside it.
lblComponentPanelkWp	Label	The component panel kWp label, to tell the user that the kWp of the solar panel is listed in the box beside it.
lblCompSupplierName	Label	The component supplier name label, to tell the user that the supplier name is listed in the box beside it.
cblDctt	Textbox	These variables are of the format <i>type</i> , <i>'list details'</i> , <i>'what it lists'</i> , to make you aware. So this one is "combobox, list details, customer title". The title of the selected customer is obtained from the database and shown in here.
txtldctn	Textbox	The selected customer's name is shown in this textbox, according to whichever customer the user selected to see details of.
txtldctba	Textbox	The billing address of the selected customer is shown in here.
txtldctbp	Textbox	The billing postcode of the selected customer is shown in here.
txtldctia	Textbox	The installation address of the selected customer, even if it is the same as the billing address, is shown in this textbox.
txtldctip	Textbox	The customer's installation postcode is shown in this textbox, even if it is the same as the billing postcode.
txtldctea	Textbox	The customer's email address is shown in this textbox.
txtldctmpan	Textbox	The customer's MPAN number is shown in this textbox.
txtldspn	Textbox	These variables are of the format <i>type</i> , <i>'list details'</i> , <i>'what it lists'</i> , to make you aware. So this one is "combobox, list details, supplier name". This textbox shows the supplier's name.
txtldspa	Textbox	The textbox that holds the supplier's address.
txtldspdp	Textbox	The textbox that holds the supplier's postcode.
txtldspn	Textbox	The textbox that holds the supplier's telephone number.
txtldspc	Textbox	The textbox that holds the name of the contact at the supplier.
txtldcpn	Textbox	These variables are of the format <i>type</i> , <i>'list details'</i> , <i>'what it lists'</i> , to make you aware. So this one is "combobox, list details, component name".
txtldcpt	Textbox	The textbox that holds information about the type of component selected.
txtldcpsn	Textbox	The textbox that holds information about the component's serial number.
txtldcppkwp	Textbox	The textbox that holds information regarding the panel's kWp capacity.
txtldcpspn	Textbox	This holds the name of the supplier, after it has been complicatedly passed through a few functions in order to obtain it from the database.
accConnection	OleDbConnection	This is referenced in the <code>_Load</code> procedure from <code>frmLoginForm</code> where it has values, but is also a variable in its own right so that the code in the <code>_Click</code> procedure or in other procedures that reference it can execute (database update stuff).

Variable (cont.)	Data Type (cont.)	Purpose (cont.)
ctn	String	This takes the value of the frmList.IbList.SelectedItem, the customer name when the selected listing is customers, in order to work with a shorter variable name.
spn	String	This takes the value of the frmList.IbList.SelectedItem, the supplier name when the selected listing is suppliers, in order to work with a shorter variable name.
cpn	String	This takes the value of the frmList.IbList.SelectedItem, the component name when the selected listing is components, in order to work with a shorter variable name.
cmdString	String	In every procedure, whether related to customers, suppliers, or components, this is the string variable that holds the SQL for the SELECT of a specific component.
da	OleDbDataAdapter	
ds	DataSet	The dataset variable.
dt	DataTable	The datatable variable which allows tables in the database to be referenced.
compsupplierval	Integer	This gets the supplier ID of the component supplier from the data retrieved from the SQL command.
csuppv	Integer	This is equal to the compsupplierval variable, but passed by value to frmList's SwitchSupplierIDToName() function, given a different name to avoid confusing the compiler.
sn	String	The supplier name, initially blank for it to be passed to frmList's SwitchSupplierIDToName() function.

1.3.2.13 frmReportMenu

Variable	Data Type	Purpose
btnSurvey	Button	When clicked, this button executes code that opens the survey form menu.
btnQuotes	Button	When clicked, this button executes code that opens the quote form menu.
btnInvoice	Button	When clicked, this button executes code that opens the invoice form menu.
btnLog	Button	When clicked, this button executes code that opens the log form menu.
btnQuit	Button	When clicked, this closes the current form and displays the previous form, in this case the main menu.

1.3.2.14 frmReportInvoice

Variable	Data Type	Purpose
lblInvoiceSelectionSpiel	Label	This is the label that tells the user what the dropdown box below it is for.
txtcbCustNameForInvoice	Combobox	This is the combobox from which the user can select a customer name for the invoice.
btnOK2	Button	The OK button for this to display the quotation in Word for the selected customer.

Variable (cont.)	Data Type (cont.)	Purpose (cont.)
btnCancel	Button	The cancel button. On click, this hides the current form and shows 'frmReportMenu'.
accConnection	OleDbConnection	This is referenced in the __Load procedure from frmLoginForm where it has values, but is also a variable in its own right so that the code in the __Click procedure can execute (database update stuff).
strSQL	String	This variable takes the SELECT FROM Customer SQL query, in this case.
da	OleDbDataAdapter	The dataadapter variable: it takes the accConnection variable value that doesn't change, and the strSQL output.
ds	DataSet	The dataset variable.
dt	DataTable	The datatable variable which allows tables in the database to be referenced.
dr	DataRow	This helps in the loop to populate the dropdown box to get the customers for the invoice: it is used in the For Each loop to get the customer name for every customer in each row of the selected table.
ctn	String	This is the short variable to house the long txtcbCustNameForInvoice.SelectedItem, i.e. what the user selects from the drop down box.
cmdString	String	This holds the SQL that gets all of the customer details from the Customer table, according to which customer is specified in 'ctn'.
da	OleDbDataAdapter	The dataadapter variable: it takes the accConnection variable value that doesn't change, and the cmdString output.
ds	DataSet	The dataset variable.
dt	DataTable	The datatable variable which allows tables in the database to be referenced.
aict	String	The variable that holds the customer title obtained from the database. This variable's abbreviation goes 'add invoice cust title', and every other one is similar.
aicn	String	As above, but the customer name.
aica	String	As above, but the customer address.
aicp	String	As above, but the customer postcode.

1.3.2.15 frmReportLog

Variable	Data Type	Purpose
ms_word	Word.Application	This sets up the Word application stuff so that all the Word manipulation and automation works.
worddoc	Word.Document	This defines the Word document, again for manipulation and automation stuff.
rlsi	String	This is the shortened version of txtcbReportLog.SelectedItem, to avoid too much typing in the giant If statement coming next in the code.
wd	Word.Document	This is the shortened version of worddoc, to avoid too much typing in the giant If statement coming next in the code.

1.3.2.16 frmReportQuote

Variable	Data Type	Purpose
txtcbCustNameForQuotation	Combobox	The combobox from which the user can select a customer to generate a quotation for.
btnOK2	Button	The OK button for this to display the quotation in Word for the selected customer.
btnCancel	Button	The cancel button. On click, this form closes and 'frmReportMenu' reopens.
accConnection	OleDbConnection	This is referenced in the _Load procedure from frmLoginForm where it has values, but is also a variable in its own right so that the code in the _Click procedure can execute (database update stuff).
strSQL	String	This variable takes the SELECT FROM Customer SQL query, in this case.
da	OleDbDataAdapter	The dataadapter variable: it takes the accConnection variable value that doesn't change, and the strSQL output.
ds	DataSet	The dataset variable.
dt	DataTable	The datatable variable which allows tables in the database to be referenced.
dr	DataRow	This helps in the loop to populate the dropdown box to get the customers for the quotation: it is used in the For Each loop to get the customer name for every customer in each row of the selected table.
ctn	String	This is the short variable to house the long txtcbCustNameForQuotation.SelectedItem, i.e. what the user selects from the drop down box.
cmdString	String	This holds the SQL that gets all of the customer details from the Customer table, according to which customer is specified in 'ctn'.
da	OleDbDataAdapter	The dataadapter variable: it takes the accConnection variable value that doesn't change, and the cmdString output.
ds	DataSet	The dataset variable.
dt	DataTable	The datatable variable which allows tables in the database to be referenced.
aqct	String	The variable that holds the customer title obtained from the database. This variable's abbreviation goes 'add quotation cust title', and every other one is similar.
aqcn	String	As above, but the customer name.
aqca	String	As above, but the customer address.
aqcp	String	As above, but the customer postcode.

1.3.2.17 frmReportSurvey

Variable	Data Type	Purpose
txtcbReportSurvey	Combobox	The dropdown box/textbox that the user can select a customer to view the survey of from.
btnCancel	Button	The cancel button which, when clicked, hides this form and displays 'frmReportMenu'.

Variable (cont.)	Data Type (cont.)	Purpose (cont.)
btnOK	Button	When clicked, this opens the survey form with the selected customer's survey details.
cmdString	String	The SQL command that in this case selects a customer name from the Customer tables.
accConnection	OleDbConnection	This is referenced in the _Load procedure from frmLoginForm where it has values, but is also a variable in its own right so that the code in the _Click procedure can execute (database update stuff).
da	OleDbDataAdapter	The dataadapter variable: it takes the accConnection variable value that doesn't change, and the cmdString output.
ds	DataSet	The dataset variable.
dt	DataTable	The datatable variable which allows tables in the database to be referenced.
custname	String	This is the shortened version of txtcbReportSurvey.SelectedItem that is referenced in 'frmSurveyForm'.

1.3.2.18 frmSurveyForm

Variable	Data Type	Purpose
btnClose	Button	On click, this button closes the current form and displays 'frmReportSurvey'.
lblSurveyCustomerTitle	Label	The label that shows the user what is displayed in the box next to it. In this case, the customer title.
lblSurveyCustName	Label	The label that shows the user what is displayed in the box next to it. In this case, the customer name.
lblSurveyCustBillAddress	Label	The label that shows the user what is displayed in the box next to it. In this case, the customer billing address.
lblSurveyCustBillPostcode	Label	The label that shows the user what is displayed in the box next to it. In this case, the customer billing postcode.
lblSurveyCustInstAddress	Label	The label that shows the user what is displayed in the box next to it. In this case, the customer installation address.
lblSurveyCustInstPostcode	Label	The label that shows the user what is displayed in the box next to it. In this case, the customer installation postcode.
lblCustomerHomeTelNo	Label	The label that shows the user what is displayed in the box next to it. In this case, the customer home telephone number.
lblCustomerMobTelNo	Label	The label that shows the user what is displayed in the box next to it. In this case, the customer mobile number.
lblCustomerEmail	Label	The label that shows the user what is displayed in the box next to it. In this case, the customer email address.
lblCustomerMpanNo	Label	The label that shows the user what is displayed in the box next to it. In this case, the customer MPAN number.
txtscn	Textbox	The textbox for the customer name value.
cbscba	Combobox	The combobox for the customer title.
txtscba	Textbox	The textbox for the customer billing address.
txtscbp	Textbox	The textbox for the customer billing postcode.
txtscia	Textbox	The textbox for the customer installation address.
txtscip	Textbox	The textbox for the customer installation postcode.
txtschtn	Textbox	The textbox for the customer's home telephone number.

Variable (cont.)	Data Type (cont.)	Purpose (cont.)
txtscmtn	Textbox	The textbox for the customer's mobile telephone number.
txtscmpn	Textbox	The textbox for the customer's MPAN number.
txtscea	Textbox	The textbox housing the customer's email address.
cn	String	The customer name string variable that is a shortened version of frmReportSurvey.txtcbReportSurvey.SelectedItem.
cmdString	String	The SQL statement that controls the SELECT to get customer details from the Customer table according to the customer the user selected.
accCommand	OleDbCommand	This is the variable which allows properties of it to be set such as the command text defined as the value of cmdString, and the location of the accConnection (frmLoginForm, as mentioned earlier).
da	OleDbDataAdapter	The dataadapter variable: it takes the accConnection variable value that doesn't change, and the cmdString output.
ds	DataSet	The dataset variable.
dt	DataTable	The datatable variable which allows tables in the database to be referenced.

1.3.2.19 frmSwankyCode

Variable	Data Type	Purpose
intInsert	Integer	This is referenced by value to the CheckAdditions() procedure: this is used to check if the insertion has failed. If intInsert's value is 0, it has.
btnSave	Button	This is referenced by reference to the CheckAdditions() procedure: this is the btnSave from whichever form calls the procedure, i.e. the save button.
ict	String	The customer title in the WordInvoiceAutomationMagic() procedure, referenced by value from the invoice form, and this procedure uses its values in a Microsoft Word document.
icn	String	As above, but the customer name.
ica	String	As above, but the customer address.
icp	String	As above, but the customer postcode.
oWord	Word.Application	The Microsoft Word application object, which helps integrate Word into VB and enables the insertion of data into Microsoft Word documents.
oDoc	Word.Document	The Microsoft Word document object, enabling documents to be created from inside VB.
CustAddressStuff	Word.Paragraph	The customer address stuff, defined as a new paragraph in the Word document, and given values of all the variables passed by reference earlier for the values.
CustInvoiceHeader	Word.Paragraph	This variable's .Text element is just the header that is centred on the Word document's page that states that the document is an invoice.
CustQuotationHeader	Word.Paragraph	This variable's .Text element is just the header that is centred on the Word document's page that states that the document is a quotation.

Variable (cont.)	Data Type (cont.)	Purpose (cont.)
qct	String	The customer title in the WordQuotationAutomationMagic() procedure, referenced by value from the quotation form, and this procedure uses its values in a Microsoft Word document.
qcn	String	As above, but the customer name.
qca	String	As above, but the customer address.
qcp	String	As above, but the customer postcode.

(The final four variables in this table are the only new variables in the WordQuotationAutomationMagic() procedure—every other variable in that procedure also existed in WordInvoiceAutomationMagic() and does the same thing.)