



Gwani Software



TRAINING DEPARTMENT
(Knowledge & Expertise)

Visual Basic 6.0 Curriculum

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Visual Basic 6.0

General Description: - This course is intended to give the trainee basic skills to design and code software design project in Visual Basic 6.0.

Aims: - The aims of this course are:

1. To impart forms and reports design skills to the trainee,
2. To drill the trainee how to write functional codes to handles objects in Visual Basic,
3. To drill the trainee on basics for designing software in Visual Basic 6.0,
4. To drill the trainee on how to link Visual Basic project with MS Access database and textiles,
5. To drill the trainee on how to manage data environment and reports.

Objectives: - The trainee at the end of the training session should be able to:

- Design forms and reports in design environment of Visual Basic 6.0.
- Write codes to handle common objects in Visual Basic 6.0.
- Designing simple application package using Visual Basic 6.0.
- Link MS Access database to Visual Basic Project using DAO facility.
- Manage data environment and reports in Visual Basic project.

Target Audience: - This course should be taken by computer scientist, programmers, system designers, software engineers and anyone interest in designing windows applications.

Pre-requisite:- Programming Essentials, flowchart, data structure and algorithms are pre-requisite to this course.

Approximate Duration: - The course requires 21 hours of class session and adequate time for system analysis and programming drills.

Method of Assessment: - Trainee is to be assessed by full blown software design project which he is to design and present.

Methodology:- The class takes lessons digest it then move on to design a project related to the lessons; finally the trainee will be given adequate exercise on software design from the lessons. The class will equally attend to problems the trainee may face while doing the exercise.

Recommended Resource Materials: - The following materials are recommended for the trainee's study;

1. Using ADO Control in your Visual Basic 6 projects
2. Kepware Technologies (2006)' **Visual Basic grid example**', Kepware Technologies.
3. Lou Tylee, (1998)' **Learn Visual Basic 6.0**', Kidware, Bellevue.
4. Michael Brydon, (1997)' **An Introduction to Visual Basic**', Brydon.
5. '**Visual Basic tutorial**', www.vbtutor.net
6. '**Programming in Visual Basic 6.0**', Beverly Sampform.
7. Lynch, (1999), '**an Introduction to Visual Basic**', Mansfreid, QLD; Lynformation
8. Kerman, M and Brown, R (2000),' **Computer Programming fundamentals with application in Visual Basic 6.0**', Reading, Massachusetts.

Day 1	History of visual languages VB and object oriented programming. Installation of VB compiler. Launching VB Text editor, exploring the package, introducing project explorer, properties window, toolbox, form layout and workspace. <i>No Exercise</i>
Day 2	Project & form: - Creating New project: internal and external name, working with multiple projects, removing a project. Opening an existing project, opening recent project. Adding a form:- Internal and External name, working with multiple forms, hiding a form, form caption, splash screen, about dialog, main form, menu editor: creating menu items, shortcuts, submenus, coding of menus MDI forms, coding it, triggering events.

	<p style="text-align: center;"><u>Exercise</u></p> <ol style="list-style-type: none"> 1. Design of main page with menus. 2. Design of multiple of forms projects with links.
Day 3	<p>Labels & Textbox: - inserting textbox, naming textbox, forecolor, font, style, password, visibility, coding examples.</p> <p style="text-align: center;"><u>Exercise</u></p> <ol style="list-style-type: none"> 1. Rainbow colors 2. Flash bulb 3. Tic-tac-toe game 4. Login page 5. E-mail compose page 6. Transpose of a matrix 7. Battery charger 8. Gaussian elimination 9. Saving deposit & withdrawal form 10. Text Editor
Day 4	<p>Command button & Timer: - Inserting timer, interval, principles of operation, use of modules for finite event, use of counter, naming a timer.</p> <p>Command button: - Inserting command button, naming it, caption, function in a form, coding it, triggering events.</p> <p style="text-align: center;"><u>Exercise</u></p> <ol style="list-style-type: none"> 1. Traffic light on cross junction 2. Automatic flash bulb 3. Fuel meter 4. PHCN meter 5. Digital clock 6. Stopwatch 7. LCM of series of numbers 8. Handset keypad 9. Standard calculator 10. Word Translator for English to local language
Day 5	<p>Functions:- function name, creating passing parameters, returning value, calling function, using function, importance of modularity.</p> <p style="text-align: center;"><u>Exercise</u></p> <ol style="list-style-type: none"> 1. Function to swap values of two variables.

	<ol style="list-style-type: none"> 2. X^y function 3. Parity Checker function 4. Sort Function 5. Search function 6. Encryption function 7. Decryption function 8. Tossing pair of dice 9. Max Function 10. Min Function
Day 6	<p>Picture & Image:- High quality photo on Picture, low quality photo on image, graphics format i.e. jpeg, gif, png and others, resizing and cropping graphics using Microsoft picture manager.</p> <p>Picture: Prefix, loading picture from properties dialog and code, resizing, repositioning, visibility.</p> <p>Image: prefix, loading picture from properties dialog and code, resizing, repositioning, stretching, visibility.</p> <p style="text-align: center;"><u>Exercises</u></p> <ol style="list-style-type: none"> 1. Image resize application using zoom 2. Image resize application using height & width modification 3. Digital photo album 4. Passport upload application 5. Image printing application 6. <i>Jini kada jinni</i> game 7. Image explorer 8. Photograph journalism 9. Butterfly flapping its wings 10. John Walker (Keep walking)
Day 7	<p>Message box input and other inbuilt functions: - Calling message box, prompt title, buttons control, coding.</p> <p>Input box: - Calling input box, prompt title, button control, value, checking value, coding worked examples.</p> <p>Inbuilt functions: - sqrt (), abs (), int (), sin (), cos (), tangent of angles, random (), and other functions.</p> <p style="text-align: center;"><u>Exercise</u></p> <ol style="list-style-type: none"> 1. Calculating trig. Ratio 2. Calculating absolute value of N 3. On mouse move message box 4. Getting input from input box

	<ol style="list-style-type: none"> 5. Calculating area of a triangle using Hero's formula 6. Converting GMT to local time 7. Locating state on map of Nigeria 8. Calculating bearing & distances 9. Balancing chemical equations 10. Twenty questions & answers
Day 8	<p>Combo and list boxes: - Inserting combo box, naming it, caption, creating static list, creating dynamic list, removing item, clearing item, index and coding of worked examples.</p> <p>List box:- fundamental difference with combo box, inserting it, naming it, creating static list, creating dynamic list, removing item, clearing item, index and coding of worked example.</p> <p style="text-align: center;"><u>Exercise</u></p> <ol style="list-style-type: none"> 1. Shopping tray 2. Voting form 3. WAEC Registration form 4. Identifying local Govt. origin and state 5. Distance on land of towns from Bauchi 6. Railway station booking office 7. Diagnosis of some tropical diseases 8. Checking obesity 9. Choosing martial partner base on genotype 10. Blood transfusion matching using ABO System
Day 9	<p>Option button & checkbox:- Inserting option button on frame, naming a frame, naming a frame, naming option button, principle of operation, option caption, true or false value, coding worked examples.</p> <p>Checkbox: - Inserting checkbox, naming it, caption, and value (0, 1&2), checking value, coding of worked examples.</p> <p style="text-align: center;"><u>Exercise</u></p> <ol style="list-style-type: none"> 1. Sex selection 2. Poll vote in Lingua franca 3. Poll opinion with close reason on best Nigerian Actress 4. Drawing of polygons by clicking edges 5. Fifteen total 9 boxes game

	<p>6. <i>Jamb registration form</i></p> <p>7. <i>States visited</i></p> <p>8. <i>A questionnaire on PHCN performance</i></p> <p>9. <i>Computerized verbal aptitude common entrance exam</i></p> <p>10. <i>Mystreans Mathematics</i></p>
Day 10	<p>Drive list & file box: - Inserting drive list, working with drive list, coding drive list, and properties of drive list.</p> <p>File list: - Inserting file list, working with file list, coding file list and properties to file list.</p> <p style="text-align: center;"><u>Exercise</u></p> <ol style="list-style-type: none"> 1. <i>Windows explore</i> 2. <i>File search</i> 3. <i>Open dialog</i> 4. <i>CD Navigator.</i>
Day 11	<p>Basic shapes: - Inserting basic shapes, properties of basic shapes, types of basic shapes and coding of basic shapes.</p> <p style="text-align: center;"><u>Exercise</u></p> <ol style="list-style-type: none"> 1. <i>Triangles</i> 2. <i>Circles</i> 3. <i>Rectangle</i> 4. <i>Lines</i> 5. <i>Squares.</i>
Day 12	<p>Data structures and operators: - Variables, expression, constants, data type: single, double, integer, string. Byte, Boolean, date, and variant. Local variables, module variables, and global variables.</p> <p>Operators: Multiplicative, additive, modules, exponentiation(caret), unary, precedence and sample works.</p> <p><u>Exercise</u></p> <ol style="list-style-type: none"> 1. <i>Binary converter</i> 2. <i>Octal converter</i> 3. <i>Hexadecimal converter</i> 4. <i>Decimal converter</i> 5. <i>Time zone</i> 6. <i>Week days reader</i>

	<ol style="list-style-type: none"> 7. <i>Compound interest calculator</i> 8. <i>Word sorter</i> 9. <i>Dictionary</i> 10. <i>Library catalogue</i>
Day 13	<p>Selection & loop: - if...then...else, select case and sample programs to demonstrate how to use them.</p> <p>Loop:-Do loop, for...next, while...wend, infinite loop, conditional loop unconditional loop and sample programs to demonstrate how to use loop.</p> <p style="text-align: center;"><u>Exercise</u></p> <ol style="list-style-type: none"> 1. <i>Summing of an AP</i> 2. <i>The first odd numbers less than 1000</i> 3. <i>Displaying text in motion</i> 4. <i>Fibonacci of N</i> 5. <i>Factorial of N</i> 6. <i>B^y calculator</i> 7. <i>Average of students score</i> 8. <i>Regression analysis</i> 9. <i>Statistics of a text</i> 10. <i>Lexical scanner of tokens.</i>
Day 14	<p>Text files and data base: - Creating text file, extension, path, open mode, reading text file, appending text file, overwriting text file worked examples.</p> <p>Database: - Inserting data access object, configuring data access object, linking data access to NWind, biblio Database, Linking form object with data access object, navigation, updating record, deleting record and worked examples.</p> <p style="text-align: center;"><u>Exercise</u></p> <ol style="list-style-type: none"> 1. <i>The five cars</i> 2. <i>Address book</i> 3. <i>Train time table</i> 4. <i>Bank saving deposit & withdrawal</i> 5. <i>Ammo record keeping</i> 6. <i>Inventory system</i> 7. <i>Vaccination record</i> 8. <i>Epidemic alarm</i>

	<p>9. Sales record</p> <p>10. Payroll system</p>
Day 15	<p>Icons and help files: - Icon, inserting icons in a form, inserting icons for software, worked examples.</p> <p style="text-align: center;"><u>Exercise</u></p> <p>1. Inserting of icons and help files for all project developed in previous exercise.</p>
Day 16	<p>VB templates & MSDN: - Form templates, login, about, splash screen, dialog, and wizard. Project templates. MSDN: - Installing MSDN, working with MSDN.</p> <p style="text-align: center;"><u>No Exercise</u></p>
Day 17	<p>Data environment & report: - Creating data environment, connecting, command and their properties. Reports: - Inserting reports, linking reports to data environment, reports object, linking report's object to command, vertical and horizontal format, opening, report header, page header, report footer, page footer and worked examples.</p> <p style="text-align: center;"><u>Exercise</u></p> <p>1. Create data environment and report of exercise of lesson 15.</p>
Day 18	<p>Errors & user defined errors: - Runtime errors, common syntax errors, error messages. User defined errors: - On error command, creating error messages, exit sub command and worked examples.</p> <p style="text-align: center;"><u>Exercise</u></p> <p>1. Create a user defined error messages in all the projects in the previous exercises.</p>
Day 19	<p>Project properties and executable file:- project properties, entering new project properties like application name, version, description, company, trademark and copyright, Compiling project, producing and executable files.</p> <p style="text-align: center;"><u>Exercise</u></p> <p>1. Define the project properties and convert the entire project in the previous exercise to executable files and submit them.</p>
Day 20	Revision of all lessons
Day 21	<p>Project work. Full blown software design on any of the exercises above.</p>