



Programme: **BTEC Higher National Diploma (HND) in Computing H2**
Unit Number and Title: (Unit 17) MS Office Solution Development
Assignment Ref. Number: 17.1- Develop a business solutions built in office 2000 applications (or later versions)
Module Tutor: Murshed Thakur
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Date Set: 02nd November 2009

Learner's Name:..... Learner's ID..... Date handed-in.....

Plagiarism Statement

I declare that, apart from properly referenced quotations, this report is my own work and contains no plagiarism; it has not been submitted previously for any other assessed unit on this or other courses.

Learner's Signature:..... Date:.....

Learning outcomes and criteria covered by this assignment

Learners will be able to apply Microsoft Office suite for solving the real world scenarios using appropriate analysis and design methodologies. This assignment will provide you with an opportunity to present evidence of achievement towards the following learning outcomes and criteria i.e. Pass Merit Distinction.

- LO1 [17.1]: Apply **Visual Basic skills**
- LO2 [17.2] **Understand design issues** of Office solutions
- LO3 [17.3] **Build solutions** in Office applications
- LO4 [17.4] Use FrontPage to **publish Office solutions**.

- P1: [17.1.01]: start, pause and stop program execution, use the standard control tools to create the user interface
- P2: [17.1.02]: set properties of forms and controls at design time, create menus and implement menu functionality
- P3: [17.1.03]: use the visual basic debugging tools, access and set properties of controls from code
- P4: [17.1.04]: get and validate data from users, use data types correctly
- P5: [17.1.05]: use control flow statements of selection and iteration, create and use procedures and functions
- P6 [17.2.01]: identify when programmed solution is required, analyse benefits and disadvantages of programmed solution
- P7 [17.2.02]: discuss and implement security requirements
- P8 [17.2.03]: use the package and deployment wizard
- P9 [17.2.04]: demonstrate use of principles of user interface design
- P10 [17.3.01]: design and build programmed solutions in excel
- P11 [17.3.02]: design and build programmed solutions in word
- P12 [17.3.03]: design and build programmed solutions in access
- P13 [17.3.04]: design and build programmed solutions in PowerPoint
- P14 [17.3.05]: design and build programmed solutions in outlook
- P15 [17.4.01]: create a FrontPage web page, use the FrontPage editor to design and create web pages
- P16 [17.4.02]: publish the web to a server, manage the website, program in FrontPage

- M1 [17.1]: Identify and apply strategies to find appropriate solutions
- M2 [17.2]: Select/design and apply appropriate methods/techniques
- M3 [17.3]: Present and communicate appropriate findings
- D1 [17.1]: Use critical reflection to evaluate own work and justify valid conclusion
- D2 [17.2]: Take responsibility for managing and organizing activities
- D3 [17.3]: Demonstrate convergent/lateral/creative thinking



LEARNER'S BRIEF

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Introduction

This unit focuses on the use of Visual Basic for Applications to extend the capability of Microsoft Office in the development of solution that automate business processes access data and publish information to an intranet or the internet.

The unit develops Visual Basic skills for use in Office and looks at building solutions in Excel, Word, PowerPoint, Access and Outlook. The unit also looks at the use of FrontPage 2000 to design, create and publish Office solutions to the internet and intranets.

The unit requires a thorough knowledge of the Microsoft Office suite together with an intermediate level of skills in using Visual Basic. This unit presents opportunities to demonstrate key skills in problem solving, information technology and improving own learning and performance. Learners will be able to apply Microsoft Office suite for solving the real world scenarios using appropriate analysis and design methodologies. The web enabled software tools and databases for a mid level business firms can be implemented after successfully completion of this module.

Specification of Assessment

You need to develop a business solution built in office 2000 applications (or later versions) and demonstrating the achievement of the learning outcomes. You can choose the office applications in the unit that will be sufficient to simulate a real-world application.

You should demonstrate the use of user interface design principles and effective documentation and testing. Elaborate explanation need to be included on the report for your choice of application tools with the drawbacks and future suggestions.

Continuous assessment will be conducted throughout this unit. Your assignment report needs to cover all the questionnaire related with a real world applications described by the following criteria.



1 Visual Basic skills

Visual Basic editor: macros, procedures, writing and running code, setting properties, environment options
Debugging and error handling: types of errors. Break mode. Debugging techniques: break points, step through, Watch expressions, Locals window, Call stack, use of Immediate window. Error handlers
Variables and constants: declaration and use of variables. Scope of variables. Data types (String, Integer, Long, Single, Double, Currency, Boolean, Variant). Conversion between data types. Use of pre-defined constants
Control flow structures: If...Then...Else, Select Case, Do...Loop, For...Next, For...Each
Working with forms: forms, toolbox, controls, events, menus, command bars, toolbars
Communication with users: MsgBox, InputBox functions. Validation
Object models: objects, properties, methods, Office Object models, type libraries, Object Browser.

Requirement 1 to pass:

- 1.1. Demonstrate a piece of applications which will reflect the uses of Visual Basic Controls, Properties, and events. You may consider the work analysed and practiced on your first lesson. [Pass-P5]
- 1.2. The application you will create on section 1.1 demonstrate and reflect the work on your report by writing the steps for start, pause and stop program execution [Pass-P1].
- 1.3. The best way to learn programming with Visual Basic is to actually create a program. You will create a VB Program by designing forms and controls for viewing a web page i.e. your customized web browser. [Pass-P2]
- 1.4. Select/design and apply appropriate methods/techniques [Merit – M2]
- 1.5. Create an application that displays a different PC tip every time the application starts. (You can modify the tip file described in your lesson.) [Pass-P3]
- 1.6. The application you created on the previous sections add a log in dialog box and modify the code to validate your personalized username and password [Pass-P4].
- 1.7. Add a menu option to the regular form to make the tips appear again at startup. Hint: Check out the `chkLoadTipsAtStartup_Click()` procedure and use the `SaveSetting` command to reset the tips. Although you haven't mastered `SaveSetting`, you have all the tools you need to complete this project quickly. [Pass – M1]



2 Understand design issues

Office solutions: Office, programmability, designing solutions

Deploying solutions: package and deployment wizard, setup files, exe files, custom templates, security
Principles of user interface design: user control, modal interactions, simplicity, consistency, personalisation, feedback, user assistance

Requirement 2 to pass:

- 2.1 When designing your application, you need help choosing between different technologies or approaches. Briefly describe the benefits and disadvantages of programmed solution [Pass- P6].
- 2.2 Write a short not on using the package and deployment wizard [Pass- P8].
- 2.3 Demonstrate principles of user interface design [Pass- P9].
- 2.4 Discuss and implement security requirements for all of your applications [Pass- P7].

3 Build solutions

Excel: Excel Object Model, workbooks, worksheets, ranges, charts, pivot tables, publishing as html
Word: Word Object Model, documents, templates, ranges, selections, autotext, table objects
PowerPoint: PowerPoint Object Model, presentation object
Office Assistant: the Office Assistant
Object Model, balloons
Access: the Access Object Model, databases, reports, web reports. ADO Object Model, connections, commands, recordsets, navigating, filtering. OLE DB. Querying data using Access Query Wizard, SQL. Handling errors
Outlook: the Outlook Object Model, items, events, messages
COM Addins: designing, creating, registering.

Requirement 3 to pass:

- 3.1 A spreadsheet is used to record the marks candidates achieve in examination questions and calculate whether the candidate has passed or failed the examination (Figure 1). [Pass- P10]
 - To calculate the Total Mark (column H) the individual marks (columns B to G) are added together.
 - A formula (in column I) is used to display Pass or Fail according to whether the Total Mark is 40 or more (Pass) or less than 40 (Fail).
 - The Average Mark is calculated by using a formula that averages the Total Mark values in column H.
 - The Number of Students for whom results have been recorded is calculated by using a formula.
 - The Number of Passes for the results that have been recorded is calculated by using a formula.
 - The % Passed is calculated using the Number of Passes as a percentage of the Number of Students.



	A	B	C	D	E	F	G	H	I	J	
1	Exam Results Record Sheet										
2											
3											
4	Candidate Name	Question						Total Mark	Result		
5		1	2	3	4	5	6				
6	Chris Smith	5	18	19	6	15	10	73	Pass		
7	Fazia Bibi	0	26	20	4	19	10	79	Pass		
8	Gemma James	0	21	11	0	8	4	44	Pass		
9	James Brown	0	13	12	0	0	5	30	Fail		
10	James Nkonde	0	15	8	0	15	4	42	Pass		
11	Kamran Khan	0	24	12	5	9	8	58	Pass		
12	Les Jones	3	23	19	2	16	13				
13											
14								Average Mark	54.33333333		
15								Number of Students	6		
16								Number of Passes	5		
17								% Passed	83%		
18											

- What *Total Mark* will be displayed in cell H12 when the correct formula is input?
- What *Result* will be displayed in cell I12 when the correct formula is input into H12?
- What is the most efficient formula to input into cell H12 to correctly calculate the *Total Mark*?
- What is the most efficient formula to input into cell I12 to correctly calculate the *Result*?
- What formatting should be applied to cell H14 to make the spreadsheet look professional?
- What is the most efficient formula to input into cell H15 to correctly calculate the *Number of Students* (the number of *Total Mark* values)?
- Describe a method to correctly calculate the *Number of Passes* and display the result in H16.
- What formatting has been applied to cell H17 to display the result correctly?
- What is the most efficient formula to input into cell H17 to correctly calculate the *% Passed*?

- 3.2 Present and communicate appropriate findings on above applications [Merit – M3].
- 3.3 MS Word: Use wizard template to create a professional letter to inform 20 employee of a company to attend the training scheme by applying Mail Merge tools in MS Word [Pass- P11].
- 3.4 Reflect your works in report by placing the data source file and your sample letter. Discuss elaborately on your report the alternatives of creating data source file for mail merge operations [Distinction - D1]
- 3.5 MS Access: Create a retail database by appropriate analysis and design, you might include tables Customer, supplier, product, employee and payroll. Create forms to enter data in your table and apply the query to find



the following by set up table relationship. Describe the other functionalities you have in Access on your report and attach along with your CD. [Pass-P12]

- (a) What's the company's most popular sales item in the United Kingdom?
- (b) What would we gain and lose if we dropped our slowest-moving product line?
- (c) Who is the employee living in London with salary higher 25K?

- 3.6 Outlook: Discuss email management using MS Outlook, what precaution you will consider to manage your email. [Pass-P13]
- 3.7 PowerPoint: Create PowerPoint presentation slides containing any of your assignment contents applying hyperlinks with the web pages which you will create on section 4.2. Your presentation slides should also demonstrate VB application tools for navigating the slides. [Pass-P14]

4 Publish office solutions

FrontPage: FrontPage webs, server extensions, page editor, publishing *Managing a Website*: reports and tasks, categories *FrontPage solutions*: FrontPage Object Model, Web Object Model, Page Object Model

Requirement 4 to pass:

- 4.1 Create a web page using Microsoft Frontpage where you can design a homepage and set up links with other 3-4 pages containing information by deploying list, images, forms and tables [Pass-P15].
- 4.2 Take responsibility for managing and organizing your web page design activities. You can use FrontPage tools to organize the page structure of your web page [Distinction-D2].
- 4.3 Add programming functionalities on your web page for date and time generation by using any scripting language i.e. JavaScript [Pass-P16]
- 4.4 Demonstrate convergent/lateral/creative thinking on your candidate web page [Distinction-D3].



Outcomes and assessment criteria

Outcomes	Assessment criteria for pass To achieve each outcome a learner must demonstrate the ability to:
1 Apply Visual Basic skills	<ul style="list-style-type: none">• start, pause and stop program execution• use the standard control tools to create the user interface• set properties of forms and controls at design time• create menus and implement menu functionality• use the visual basic debugging tools• access and set properties of controls from code• declare and use variables• get and validate data from users• use data types correctly• use control flow statements of selection and iteration• create and use procedures and functions
2 Understand design issues of office solutions	<ul style="list-style-type: none">• identify when programmed solution is required• analyse benefits and disadvantages of programmed solution• discuss and implement security requirements• use the package and deployment wizard• install applications• demonstrate use of principles of user interface design
3 Build solutions in Office applications	<ul style="list-style-type: none">• design and build programmed solutions in excel• design and build programmed solutions in word• design and build programmed solutions in access• design and build programmed solutions in PowerPoint• design and build programmed solutions in outlook• design and build programmed solutions for office assistant• build and use com addins in solutions
4 Use FrontPage 2000 to publish Office 2000 solutions (or later versions)	<ul style="list-style-type: none">• create a FrontPage web page• use the FrontPage editor to design and create web pages• publish the web to a server• manage the website• program in FrontPage



Merit Descriptor	Indicative Characteristics
In order to achieve a merit The learner must:	The learner's evidence shows:
M1 <ul style="list-style-type: none"> Identify and apply strategies to find appropriate solutions 	<ul style="list-style-type: none"> That judgment has been made for successful research to take place. Problems have been identified and overcome
M2 <ul style="list-style-type: none"> Select/Design and apply appropriate methods/techniques 	<ul style="list-style-type: none"> That the case study demonstrates that a range of information sources have been used. That techniques used for obtaining and presenting information gathered is appropriate and justified.
M3 <ul style="list-style-type: none"> Present and communicate appropriate findings 	<ul style="list-style-type: none"> That the case study is structured following a logical format. A range of methods have been used to present the information for the case study
Distinction Descriptor	Indicative Characteristics
In order to achieve a merit The learner must:	The learner's evidence shows:
D1 <ul style="list-style-type: none"> Use critical reflection to evaluate own work and justify valid conclusions 	<ul style="list-style-type: none"> Conclusion reached through your work have been justified. Your case study provides evidence that self evaluation of your information has taken place and realistic improvements proposed.
D2 <ul style="list-style-type: none"> Take responsibility for managing and organizing activities 	<ul style="list-style-type: none"> Activities have been identified and undertaken at the appropriate level and within agreed deadlines.
D3 <ul style="list-style-type: none"> Demonstrate convergent/lateral/creative thinking 	<ul style="list-style-type: none"> The case study shows that ideas have been generated, decisions taken and problems have been overcome. Convergent and lateral thinking have been applied and receptiveness to new ideas is evident. Your case study demonstrates that innovation and creative thought have been applied.



Achievement of Pass grade

A pass grade is achieved by meeting all the requirements defined in the assessment criteria for each individual unit.

Achievement of a merit or distinction grade

All the assessment criteria and merit grade descriptors need to be completed within a unit to achieve a merit grade.

All the assessment criteria merit and distinction grade descriptors must be completed within a unit to achieve a Distinction grade.

Assessment Criteria	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13
Requirements	1.2	1.3	1.5	1.6	1.1	2.1	2.4	2.2	2.3	3.1	3.3	3.5	3.6

P14	P15	P16
3.7	4.1	4.3

Grading Criteria	M1	M2	M3	D1	D2	D3
Requirements	1.7	1.4	3.2	3.4	4.2	4.4

The pass criteria and merit and distinction grade will be analysed and justified from the THREE parts of the assessment as shown in the table below.

Assessment No.	Type
1	Project with documentation – 3000 words
2	A CD showing your Programming code and HTML file

Support materials

Recommended Textbooks

- Aitken, P – Developing Solutions with Office Components and VBA – Prentice Hall, 2000. ISBN: 0130263062
- Jacobson, R – Microsoft Excel 2000 Visual Basic for Applications: Fundamentals – (MS Press, 1999) ISBN: 0735605939
- Microsoft Office 2000 Visual Basic Language Reference – (MSPress, 1999) ISBN: 1572319550
- Microsoft Technologies series

Recommended web resources

- <http://msdn.microsoft.com/vba> - Microsoft VBA site
- www.vbatutor.com/vbatutor.html - online VBA Tutor
- www.vb-bookmark.com/vba.html - BBA resources
- www.vbapro.com/ - VBA resources

Note: Web pages provide access to a further range of internet information sources. Students must use this resource with care, beware of plagiarism and justifying the use of information gathered.



Assessment Information

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Learner name:

Learner ID

Information/feedback on assessment and grading criteria

Assessment criteria (Pass-p)	Achieved	Evidence	Feedback
P1: start, pause and stop program execution, use the standard control tools to create the user interface	Y/N	Software	
P2: set properties of forms and controls at design time, create menus and implement menu functionality	Y/N	Software	
P3: use the visual basic debugging tools, access and set properties of controls from code	Y/N	Software	
P4: get and validate data from users, use data types correctly	Y/N	Software	
P5: use control flow statements of selection and iteration, create and use procedures and functions	Y/N	Software	
P6: identify when programmed solution is required, analyse benefits and disadvantages of programmed solution	Y/N	Report	
P7: discuss and implement security requirements	Y/N	Report	
P8: use the package and deployment wizard	Y/N	Report	



P9: demonstrate use of principles of user interface design	Y/N	Report	
P10: design and build programmed solutions in excel	Y/N	Report/logbook	
P11: design and build programmed solutions in word	Y/N	Report/logbok	
P12: design and build programmed solutions in access	Y/N	Software/logbook	
P13: design and build programmed solutions in PowerPoint	Y/N	Report	
P14: design and build programmed solutions in outlook	Y/N	Report	
P15: create a FrontPage web page, use the FrontPage editor to design and create web pages	Y/N	Software	
P16: publish the web to a server, manage the website, program in FrontPage	Y/N	Report	

Grading criteria (Merit-M Distinction-D)	Achieved	Evidence	Feedback
M1 Identify and apply strategies to find appropriate solutions	Y/N	Report	
M2 Select/Design and apply appropriate methods/techniques	Y/N	Report	
M3 Present and communicate appropriate findings	Y/N	Report	
D1 Use critical reflection to evaluate own work and justify valid conclusions	Y/N	Report	
D2 Take responsibility for managing and organizing activities	Y/N	Report	
D3 Demonstrate convergent/lateral/creative thinking	Y/N	Report	



Assessor's general comments

Assessor's Signature

Date

Print Name:

Learner's comments

Signature

Date

Print Name:

* The feedback will be given to students four weeks after the submission of an assignment.