LIST OF APPENDICES

Appendix: Survey

Read through the two paragraphs (**A** and **B** below) and answer the following questions:

1.1 In the context of the paragraph, explain what you understand by the term “guinea pigs” .

1.2 Explain what you understand by the term “lobola”.

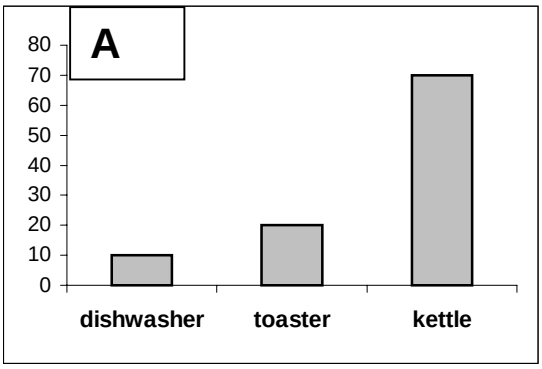
1.3 If you have to answer only ONE of the questions A) or B), which one would you have chosen? **Clearly motivate why you would have made that choice.**

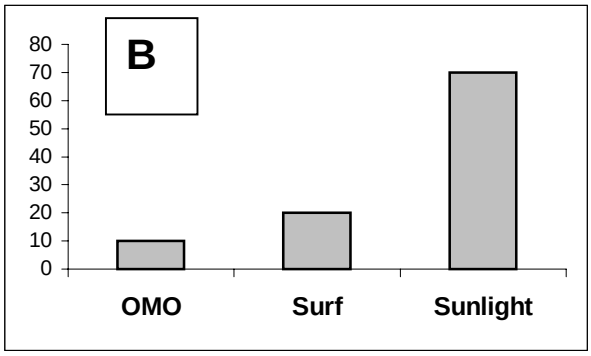
A. The following table gives the survival time of 50 guinea pigs in a medical study done in a laboratory. Draw a histogram …..

B. The following table gives the amount 50 men were prepared to pay for lobola to marry an educated woman. Draw a histogram …

2.1 List the words, if any, that you do not understand in the sentence below.

2.2 Which one of the following bar charts will you include in the article **(A or B)**:





Sentence:

“You are writing an article for a consumer magazine based on a survey of the magazine’s readers on the reliability of their household appliances.”

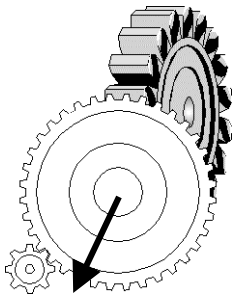
…Continued on page2

3. If the following two paragraphs (**A** and **B**) were part of a question given in a test, which presentation would you have preferred, **A)** or **B)**? **Clearly motivate why you would have made that choice.**

A)

An automatic grinding machine in a factory prepares gears with an average target inside diameter of 40 millimeters (mm) and a standard deviation of 3 mm.

B)



gear inside diameter

An automatic grinding machine in a factory prepares gears with an average target inside diameter of 40 millimeters (mm) and a standard deviation of 3 mm.

4. If the following two paragraphs (**A** and **B**) were part of a question given in a test, which presentation would you have preferred, **A)** or **B)**? **Clearly motivate why you would have made that choice.**

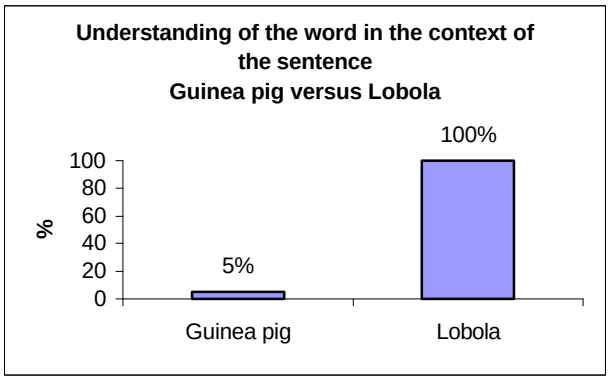
A)

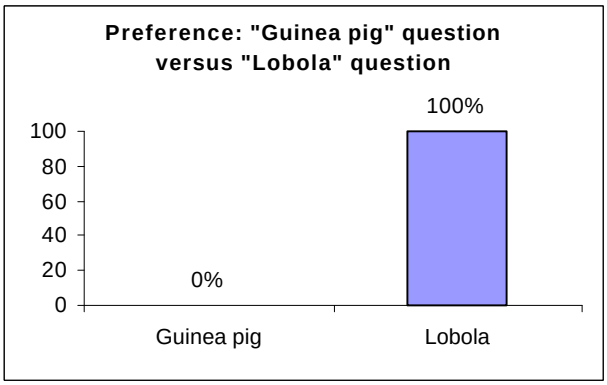
The following table presents the hijacking statistics in two suburbs of Pretoria, namely Mamelodi and Lynnwood. Draw bar charts…….

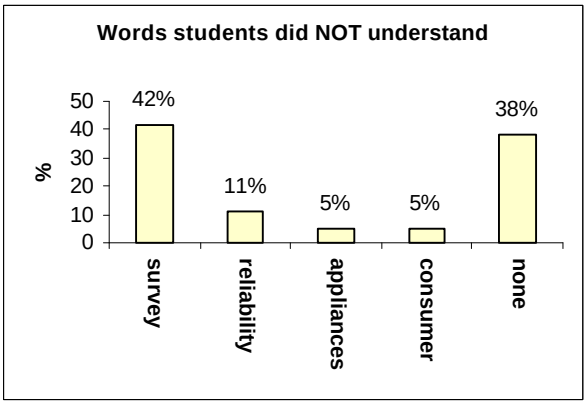
B)

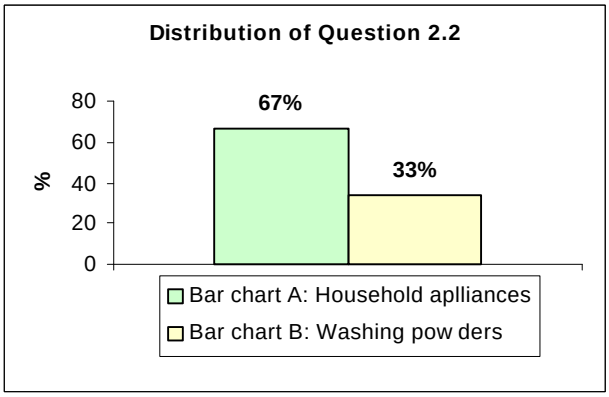
The following table presents the hijacking statistics in two suburbs of Pretoria, namely Mamelodi and Lynnwood. Draw bar charts…….

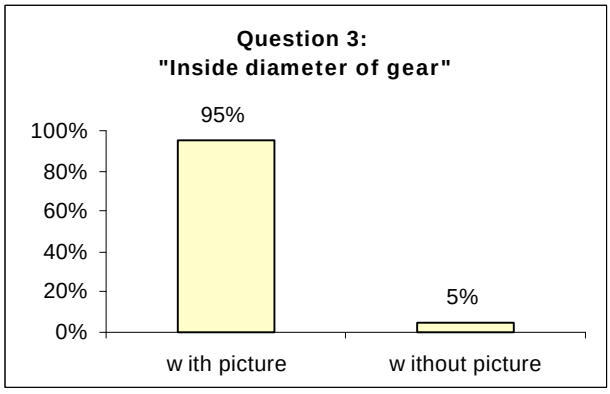
Analysis of Questions 1 - 4

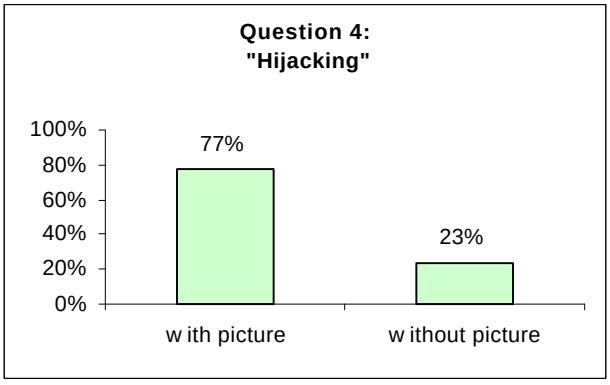












Comments on Question 1 and Question 2

(These comments are unedited feedback from the students)

	1.1 Guinea pig	1.2 Lobola	a) or b)	Reason	Words not understood	A or B
1	√	√	b)	…has to do with my culture	None	A
2	….know they aren't really pigs but forgot what they really are	√	b)	…I understand the question in every sense	None	A
3.	…are sick pigs	√	b)	……an issue of lobola is quite interesting and easily understandable. We hear about lobola daily and after all it is our culture therefore I should precisely understand it	survey	A
4	-	√	b)	…I understand the whole question **and I can interpret it**	survey	A
5.	…pigs that are used for food making	√	b)	…it is traditional for men to pay a lobola for the wife when he wants to marry her	reliability survey	B
6	…pigs that earn money	√	b)	…an educated women is intelligent that is why men will pay to marry her.	Household appliances	A
7	-	√	b)	…easy to understand	Survey	B
8	-	√	b)	…part of life	Survey Reliability	B
9	Don't know	√	b)	…something I understand, something I have a knowledge about. It is my culture, something I have experience and learned about		A
10	big pigs	√	b)	…know the meaning	None	B
11.	…pigs that have to go to the slaughter house	√	b)	…understand clearly what is meant by the term lobola	Survey	A
12	…are old pigs	√	b)	…I understand most	• Survey • Reliability • Consumer magazine	A

Comments on Question 3 and Question 4

(These comments are unedited feedback from the students)

	a) without picture or b) with picture	Reason	a) with picture or b) without picture	Reason
1	b)	…give a clear idea or indication to what's going on	b)	**The statement is not complicated** just by reading I can clearly understand what they are talking about
2	a)	…**no one can say they don't know what an inside diameter is. They would have passed their matric by mistake**	b)	**…I don't need a picture to know what hijacking is**
3	b)	…I believe that without the picture I wouldn't have had a clear picture of the gear with an inside diameter. Which means it would have been quite difficult for me to imagine the question.	a)	…you don't have to think too much about the story and can start on the analysis even before reading any further.
4	b)	…can easily understand what we are writing about	b)	**Even without drawings I can understand the question**
5	b)	…gives you knowledge of what the question is all about	a)	…you immediately know what it is all about
6	b)	..the picture gives you guidance even if you don't understand the question	a)	…you will easily answer the question
7	b)	…without the picture it is going to be difficult for me to answer the question	a)	…easy to answer
8	b)	…gives us light by putting a picture	-	-
9	b)	…more easy to understand what you are talking about	a)	..easy to understand
10	b)	…have a clue what it is about	a)	I know how to answer the question
11	b)	…if you do not understand clearly the words, picture may come up with a clear vision to you, so that you can understand much more		
12	b)	…by looking at picture you understand	a)	…there is a **Chinese proverb that say a small picture can explain more than hundred words.**
13	b)	…with the picture I can see and realize that the diameter is the middle	a)	..indicates that there is criminal offences that has occurred.

	a) without picture or b) with picture	Reason	a) with picture or b) without picture	Reason
14	b)	…easy 6to understand	a)	…help me to understand…without it will take **time** to understand…**will be afraid of hijacking because I will go to jail.**
15	b)	…if you misunderstood the question the picture could highlight you about the question	a)	…could inlight you
16	b)	…understand better and will help with the answering	a)	Understand better
17	b)	…get a clear understanding of what is going on	a)	I prefer the pictures
18	b)	…show me what I am dealing with	a)	…gives me a clue
19	b)	…help you understand when you are struggling	a)	…shows me what is happening
20	b)	…explain what is inside –diameter	a)	…guide me to understand
21	b)	…would be seeing what I am talking about	a)	…I wouldn't struggle by imagining the picture.
22	b)	…gives me guidance of what the question means.	a)	…supports the question
23	b)	…understand better	a)	…understand better
24	b)	…suppose I have forgotten about the diameter, **then I will recall quickly**.	b)	…can easily understand**. Picture wastes time.**
25	b)	…easy to understand something that you see with your eyes	a)	…because of its vividness, **great impact on reader**
26	b)	…help me to understand	b)	**…were not necessary.**
27	b)	…depics what they are exactly talking about…clear understanding	b)	**…is clear even if there are no pictures. How they hi-jack is not relevant.**
28	b)	…help to understand	b)	**…everyone knows what crime is. Picture is useless**
29	b)	…helped to understand	b)	**…can understand information without picture**
30	b)	…help me to identify and understand	a)	…if I didn't understand hi-jacking

	a) without picture or b) with picture	Reason	a) with picture or b) without picture	Reason
31	b)	…gives as the story clearly	b)	**…does not clearly described the hijacking method**
32	b)	…make it more understandable	a)	…know what it is all about even before reading it
33	b)	…more understandable	a)	…more understandable
34	b)	…it gives me a light of what the question is talking about	a)	…prefer the picture
35	b)	-	a)	-
36	b)	…guides me…clearly understand	b)	**…understand what hi-jacking means**
37	b)	…easy to understand	a)	…easy to understand
38	b)	…it appears practically and I understand it better	-	-
39	b)	…gives me a clue to the question	a)	…make it interesting and easier to understand
40	b)	…I know what the question is all about before reading	a)	Same reason
41	b)	…understand the question more better than I would have done without it	a)	…easy to understand
42	a)	**…will confuse me**	a)	…picture is eye-catching
43	b)	…**our African languages don't have words for things we read in questions**	a)	…gives a clue what the question is all about
45	b)	…without the picture I would not have a clue what it is all about	a)	…easier
45	b)	…shows what it is all about	b)	**…picture does not show/presents hijacking statistics**
46	b)	…understand better	a)	…know what it is all about before reading.
47	b)	…faster thinking	a)	…really tell us
48	b)	…understand what is given	a)	…can clearly see
49	b)	…get a clear picture and then calculations become more easier	a)	…more understandable

	a) without picture or b) with picture	Reason	a) with picture or b) without picture	Reason
50	b)	…more understandable	a)	…gives me an idea…see what is happening
51	b)	`…helps to give a meaning of the statement which **helps big time** during the **stress** of the test	a)	…better understanding
52	b)	…help understand…sometime you find that you don't know that particular thing they are talking about	a)	…gives a better idea
53	a)	**…takes my mind off thinking. I start looking at the picture and sometimes think of something else irrelevant to the question**	b)	**I will have to concentrate on what will I do rather than looking at pictures**
54	b)	…easy to understand	a)	…easy to understand
55	b)	…understand better	a)	**…see somebody in jail, it tells us that if you do crime you can result in jail for the rest of your life**
56	b)	…I want to know the thing they are talking about	a)	…Better understamding
57	b)	…understand what it is all about	b)	**…no need for picture**
58	b)	…I will answer the question with a better idea what I am talking about	b)	**…I know what hijacking is**
59	b)	…show clearly what it is about	a)	..shows clearly…
60	b)	…help to understand	a)	…help to understand

	1.1 Guinea pig	1.2 Lobola	a) or b)	Reason	Words not understood	A or B
13	Will have to look up "guinea" in dictionary	√	b)	…it is something that I normally knows and hear most in my life. **Because many people don't talk about such deep words(guinea)**	-	A
14	-	√	b)	…natural thing	Survey	A
15	-	√	b)	-	Survey	B
16	-	√	b)	…something we come across most of the time	Survey	B
17	…they are pigs, but I don't know much about them	√	b)	…some of my family members have gone through the process	-	A
18	Don't understand	√	b)	…is our African culture	Reliability	A
19	…pigs that are not healthy	√	b)	…understand the term more than "guinea pigs"	Reliability	A
20	…pigs with big mouth and tall tail	√	b)	…I agree in paying lobola to the educated woman	Understand all	B
21	…pigs that need checking	√	b)	…I know much more about lobola than guinea pigs	Survey	A
22	…pigs found in bushes	√	b)	…I know about lobola and when coming to guinea pigs **I know nothing at all.**	• Survey • Consumer • reliability	A
23	…wild pigs	√	b)	…I know lobola better	None	B
24	√	√	b)	…ask about things we know and are happening in our daily life…it is tradition	-	A
25	…wild animal	√	b)	…African tradition…have seen it practiced in my culture	-	A
26	…pigs that stay in forests	√	b)	..I would like to see many educated women in this country still prefer men to pay lobola. **The other thing is I hate pigs in general.**	-	A
27	…no idea	√	b)	…easier to answer	-	A

	1.1 Guinea pig	1.2 Lobola	a) or b)	Reason	Words not understood	A or B
28	…look like pigs…are found in oceans	√	b)	…in my tradition is something which happens often. **Unlike guinea pigs, I have seen them only on TV**	-	A
29	…pigs	√	-	-	Survey	B
30	…healthy pigs	√	b)	…I am a male human and finally I have to marry and marrying is all about paying lobola.	Survey	B
31	…don't know	√	b)	…understand it better…traditional thing…see it practically with my eyes	Survey article	A
32	-	√	b)	…I don't live on a farm. Lobola is **something that happens in our everyday lives.**	-	A
33	…wild pigs	√	b)	…I have always been popular with the word "lobola"	Survey	B
34	…little pigs living in the sea "penquins"	√	b)	-	Survey	A
35	-	√	b)	…when I was still growing, my grandmother told me that if I want to marry… it is the traditional thing to do	Survey	B
36	……explain the pigs that were used…	√	b)	…more familiar	Survey	A
37	…pigs from the country Guinea	√	b)	…a real life thing, **so I can tackle this with knowledge**	-	A
38	-	√	b)	…is our tradition	-	B
39	…animals in rural area	√	b)	…we use to do it in my family and culture	Appliances	A
40	…wild pig	√	b)	…what we think about when we want to marry	-	A
41	…ordinary pigs	√	b)	…because I use it or I hear about it almost everyday…it is our culture	-	A
42	…different kind of	√	b)	…easier to draw the frequencies	-	A

	1.1 Guinea pig	1.2 Lobola	a) or b)	Reason	Words not understood	A or B
	breed of pigs					
43	-	√	b)	…is the African thing	Survey	A
45	-	√	b)	…things that happen in our family	Survey	A
45	√	√	b)	…part of my religion	Survey	B
46	√	√	b)	…black tradition	Survey	A
47	…type of pig	√	b)	…clearly understandable	Consumer	A
48	-	√	b)	…happens in my culture	Survey	A
49	-	√	b)	…our tradition…understand it more	-	B
50	Wild pig	√	b)	-	Appliances	B
51	…pigs from Guinea	√	b)	…because I do not know what a guinea pig is	-	A
52	…pigs that have a problem in their survival	√	b)	…understand the most	-	A
53	…small pigs	√	b)	**…familiar with terms, at least it will stop me thinking what the term means.**	-	A
54	-	√	b)	…easy to understand	Survey	B
55	…pigs with diseases	√	b)	…I have experienced it	-	A
56	…pigs with mental problems	√	b)	…understand better	-	B
57	…pigs that are not healthy	√	b)	…traditional thing…**simple for me to answer…**	Survey	A
58	…pigs that are endangered	√	b)	…understand better	Reliability	A
59	-	√	b)	…know what it is about	Survey	B
60	-	√	b)	…understand	-	B

Appendix: Database

A Report on the development of the SSS

Introduction This is an attempt to guide the complete novice through the knowledge necessary to develop a relational database that is accessed from a Web page.

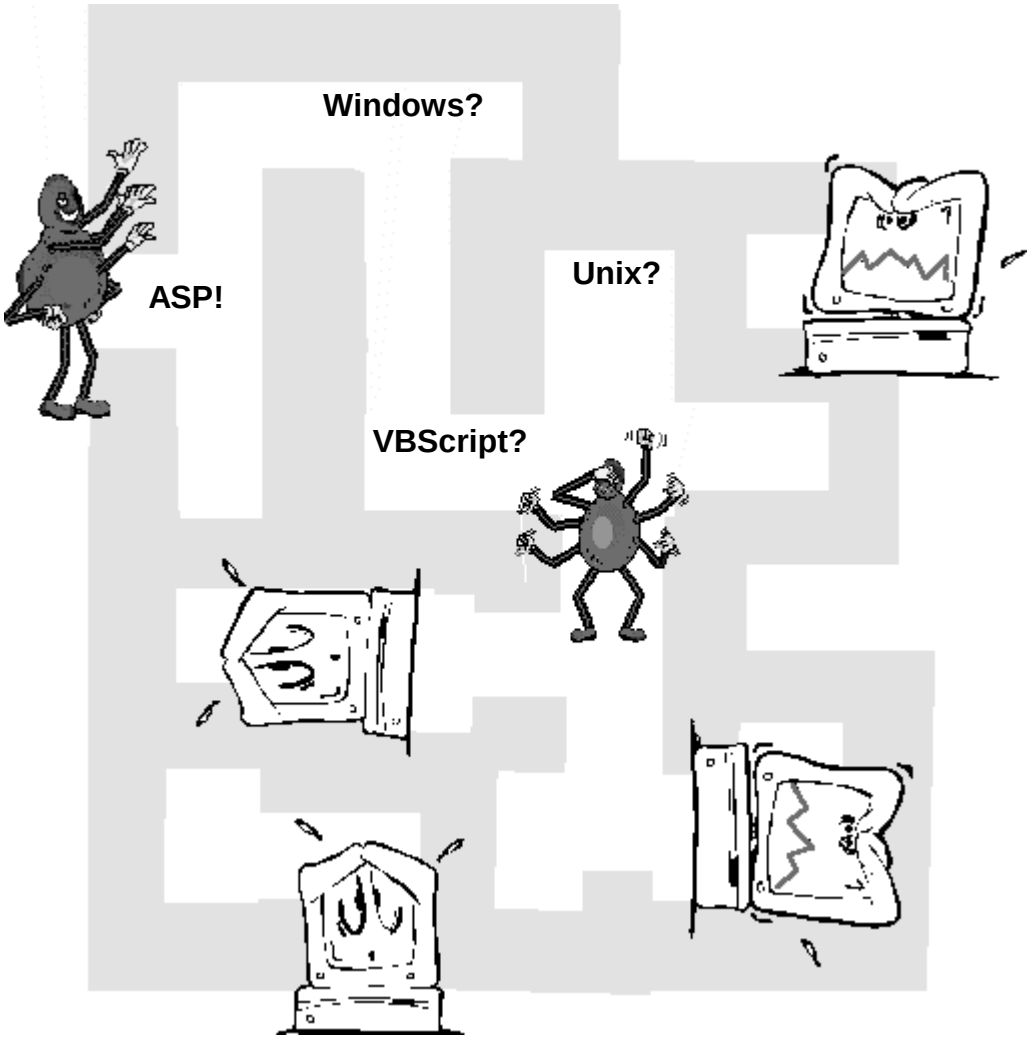


Table of Contents

Operating systems

What is an operating system?

An operating system is the most fundamental program that runs on the personal computer and serves as a communication link between the user and the hardware.

Apart from coordinating the operation of all parts of the computer, it also runs software programs and controls how a software program interacts with you.

Operating systems may be used for a wide variety of purposes including networking, software development and as an end-user platform.

Examples of operating sytems

UNIX
Windows NT
Windows 98 and up
MS-DOS
Macintosh
Linux, and many more

Why is knowledge of the operating system important?

- To be able to “communicate” between a Web server and a database one needs to use a certain language.
- The choice of language depends on the Web server, and
- The choice of Web server depends on the operating system.
- The operating system(OS) is the **engine that drives** the Web servers.
- A fast Web server on a slow OS will still be a slow operating system at its base, and the fast Web server can only make up so much for this lack of speed.

Operating systems (Continued)

What operating system did I choose and why?

When you develop Web pages using basic HTML 4, you work 'off line' and only the final product needs to be transferred to your Service Provider. The situation changes when you have to 'connect' to a database from your Web page.

Now you have to make use of Active Server Pages (ASP), that is a **server side technology**. Although ASP pages are essentially only HTML with scripts, written for example in VisualBasic, embedded in them, these pages are executed by the Web server BEFORE the page is sent to the browser.

Conclusion: I cannot test my development "off-line"
Result: Huge telephone bill
Solution: Use the Windows98 Operating System

How can Windows98 Help you?

Microsoft has this new functionality that makes your existing Windows 98 operating system a platform for sharing information on a personal Web site.

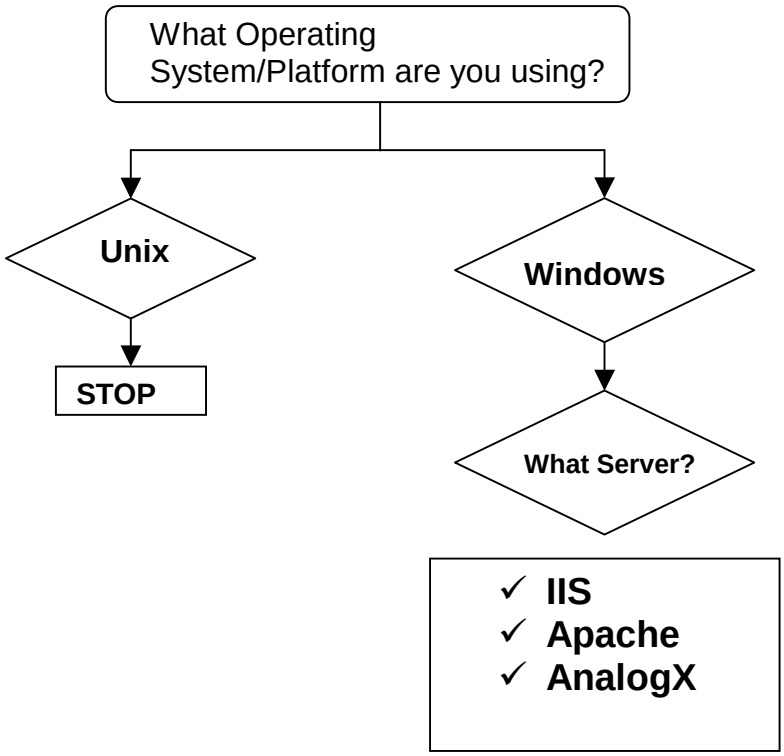
This was a tailor-made solution to my problem. Now I have my own Web server and I can develop and test my application without extra cost and inconvenience.

Consequence

My Service Provider must use a Windows operating system.

Operating systems(final word)

Summary



What about Linux?

With Linux becoming more and more popular as a platform to run Web servers, it is worth mentioning.

Because we are not Service Providers we are not interested in all the good qualities of this system (see http://www.linux.org for more information). What we need to remember is that Linux is a Unix-type operating system and as such we will not be interested in it.

Web servers

Introduction

A protocol is a set of semantic and syntactic rules and conventions governing the way in which data are exchanged between two entities. Hypertext transfer protocol (http) is that set of rules that allows the transfer of hypertext files. A Web server is the platform that allows this transfer of hypertext files. In other words a **Web server** is an **http server**.

What are we looking for?

- A server that runs on the Windows operating system.
- A server that supports
  - HTTP
  - Active Server Pages (ASP)
  - Includes based on HTML comments
  - ODBC driver

IIS and other servers

The Internet Information Server (IIS) is one of many servers that comply with the above specifications and because it is free with Windows NT, it is most likely your service provider will have it.

For a quick comparison between different servers visit:
http://webcompare.internet.com/cgi-bin/quickcompare.pl

Web-to-database application

Before we start

Assumptions

- ✓ You are running Windows 98 and up
- ✓ You use Microsoft Access to develop your database
- ✓ You do know how to construct a relational database
- ✓ You have a basic knowledge of HTML. Make sure that you can code "forms" in HTML

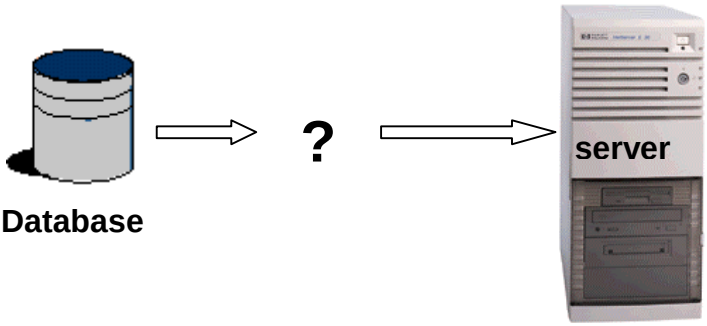
Tool Check

The plan is to develop and check the application on your own machine before serving it through a service provider to the world at large.

- ✓ Check to see if you have Personal Web Server (PWS) installed:
  Start→Programs→Accessories→Internet Tools
  →Personal Web Server
- ✓ Go to "Personal Web Manager" and note what your "home directory" is. The default will likely be something such as c:\Inetpub\wwwroot. **In future that will be the folder that will be serving out your pages**, in other words, you save your files in that root or subsequent folders.
- ✓ Browser URL will be
  http://localhost/your_page_or_subsequent_folder
  For example: My default is c:\Inetpub\wwwroot
  I created a folder in wwwroot called "sss" and in that folder I saved an ASP file called "library.asp".
  My address will be: http://localhost/sss/library.asp
- ✓ A good **text editor** is in the order in which you are going to develop your ASP pages.

Web-to-database application
Connecting to the web-server

What do we have?



The missing link: a DSN-connection

Go to:

- ✓ Start→ Settings→ Control Panel
- ✓ Double-click on

- ✓ Click on Systems DSN tab
- ✓ Click on the “Add” button
- ✓ On the next screen, select the type of database you are using, in this case MS Access), then click “Finish”
- ✓ The next screen is where we will actually make the connection
- ✓ Where it asks you for the Data Source Name, enter the name of your database (in my example, I called my database “SSS”)
- ✓ Click the “Select” button and choose the path to your database (in my case: c:/Inetpub/wwwroot/sss/sss.mdb)
- ✓ Click “OK”

What now?

The connection is made and we need to “call up” this connection and to do that we are going to use ASP-pages.

Web-to-database application
A last word on DSN

Introduction

A data source name (DSN) is precisely what it says: a name of the source where data lie, in our case the Access database file name.

ODBC is a programming interface that enables applications (our ASP pages) to access the data given in our DSN. We know that there is more than one way to indicate the “address” of data. There are also several ways any ASP script can connect to the actual database, but I will only mention system DSN and DSNless.

System DSN

The previous procedure was a system DSN and a procedure that works very well with your PWS. Remember, on your PWS you are the “server-master” and as such can set up your server, but the moment you make use of a service provider this can become a major headache and you will make use of a DSNLess set up.

DSNLESS

DSNLess requires NO server setup, just a carefully constructed connection string and the address of the data server. Armed with appropriate information supplied by your service provider, you could open a data source without a DSN.
The question to ask your service provider is: “ I want to make a DSNLess connection, what is the path to my data file?”

Web-to-database application
Active Server Pages (ASP)

Introduction

Essentially ASP pages are just normal HTML with scripts embedded in them. One can write scripts in VisualBasicScript, Javascript or any language which is Active Script compatible. In this apllication **VisualBasicScript** was used.

ASP is a **server side technology**, which means it works on ANY WEB BROWSER, because all the work is done at the Web server end. The script will be executed by the server BEFORE the page is sent to the browser. If this make sense to you, you will understand why, when you view the source code on the browser, you do not see any scripting!

The real advantage of ASP for this application is the ability to ”call” other programs like Access to execute certain commands- in a nutshell, to use databases with Web pages.

Definition from the Mocrosoft site:

“Active Server Pages is an open, compile-free application environment in which you can combine HTML, scripts, and reusable ActiveX server components to create dynamic and powerful Web-based business solutions. ASP enables server-side scripting for IIS with native support for both VBScript and Jscript”.

Web-to-database application
Active Server Pages (ASP) – continued

ASP Syntax

- Start of script: <%
- End of script: %>
- Do not put html between the two, or else it will break.
- The server will assume that anything between the above delimiters is code and will try to execute it.

VisualBasicScript

- <% **object.method()** %> or <% **object.property** %>
- Examples of **objects:**
  - **Request –** to get information from the user
  - **Response –** to send information to the user
  - **Server –** to control the IIS
  - **Session –** to store information about and change settings for the user's current Web server session
  - **Application -** to share application-level information and control settings for the lifetime of the application
- For a complete list of available built-in ASP objects, with example code, visit the Microsoft site.
- Each of these objects has a collection of functions that it can perform, called "methods", and one or more properties.

Please Note

The aim of this guide is not to teach VisualBasicScript or SQL, but to give enough background information to follow the ASP scripting necessary for the application to function.

Web-to-database application
Active Server Pages (ASP) - continued

Exercise to test whether your set-up is correct:

In any text editor copy the following:

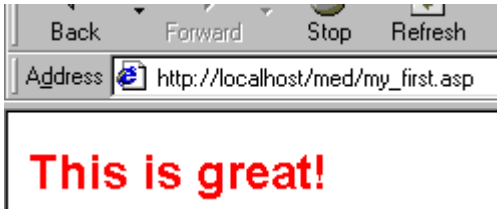
```
<% @Language=VBScript %>
<!--This line is optional. If you leave it out the server will assume you are using VBScript
-->
<html>
  <head>
     <title> Exercise using VisualBasicScript</title>
  </head>
 <body>
    <b style="font-family:Arial;font size:18pt;font-weight:bold;
     color:red">
    <!-- html4 inline style -->
     <% Response.Write("This is great!") %>
  </body>
</html>
```

"save as"

"my_first.asp", please note the extension .asp NOT .html.
Remember to save it in the folder indicated by your PWS.
View your file in a browser.

This is what you should see:

I created a folder "med" in which my files are stored:



Web-to-database application
Active Server Pages (ASP) - continued

SQL: Introduction

In this application I did not make use of FrontPage or Access Wizards because I wanted to understand the basic logic behind everything and therefore I had to understand what SQL was all about. Again I want to stress the fact that I used only those commands necessary for the application to function.

SQL

Structured Query Language is a database language that enables one to select certain records from database tables, using criteria you choose.

SQL Syntax

- **SELECT** records
- **FROM** a certain table in the database
- **WHERE** and now follow the criteria you choose**.**
    - Text fields must be enclosed in single quotes, i.e. WHERE name = 'Bettie'
    - Numeric fields need no special characters before and after, i.e. WHERE age = >20
    - Equality operators:
        - <> not equal
        - > greater than
        - < less than
        - >= greater or equal (at least)
        - <= less than or equal (at most)

Web-to-database application
Active Server Pages (ASP) – continued

Problem: **How do I get the request from the user?**	When you want to retrieve information from the database, you make use of a query in your SQL statement. Usually, when you create SQL statements, you make use of variables within the statement: SELECT story FROM Questions WHERE methodID=**variable_holding_methodID** But how are we going to get that variable? We are going to use HTML forms **(link)** and a couple of lines of VBScript.
HTML form: **The form element**	A form is designated by the following tag set: <form **action**=”url” **method**=”get”> </form> The **action** indicates what URL the submitted form should be sent to, in our case to an ASP page. The **method**=”get” will pass the information to a query string that will be discussed in the following section.
HTML form: The select element	The <select> </select> tag defines a set of options displayed by default as a drop-down or pop-up list box. The <option> tag defines the options in the “select” list. Because the values of the options must be extracted from our database, we will be using VBScript.

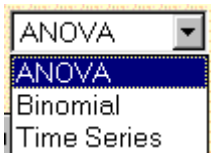
Web-to-database-application
Active Server Pages (ASP) - continue

VBScript in the option tag

```
<select name="methodID">
<% 'Loop through the record set to make each entry in the   list. %>
<% do while not meth.eof %>
<option value = "<%= meth(1) %>"> <%= meth(0) %></option>
<%meth.movenext
        loop%>
</select>
```

Those who are familiar with basic programming will recognize the loop. The “do while” statement will “loop” through the record set in the database to make each entry in the list.

The result will be the following drop-down menu:



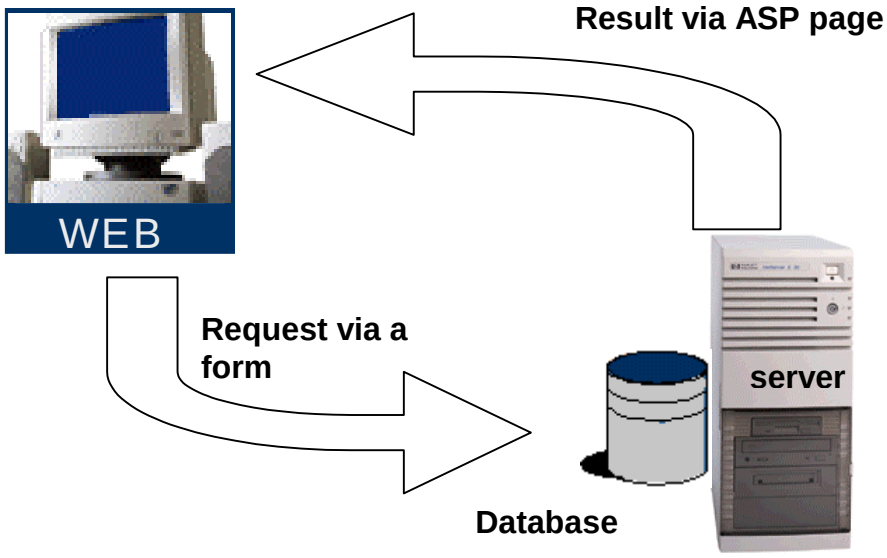
Yes, there will be areas that will be unclear at this stage but the idea is to familiar yourself with all the pieces of the puzzle parts and the picture will eventually fall into place.

The query string

By submitting a choice in the drop-down menu the user has passed information to the “query string” and linked to an ASP page where the information from this query string will be used.

Web-to-database application

Summary The following schematic outline summarises the process:



Web-to-database application Example

Introduction

I would like to work through my application with you and explanations will be inserted by using comments:
You will insert a comment into ASP by placing text after a single quote: <% 'This is comment %> For clarity, I am changing the colour to help distinguish between the ASP (red) and HTML (blue) coding.

Only the coding relevant to ASP will be discussed, not the HTML-formatting of the files.

The assumption is made that there is a DSN connection to the database called "SSS".

Extract from homepage:

```
<form action="sss2.asp" method="get">
    <table cellspacing=0 cellpadding="5" border=0 >
     <tr>
      <td valign="top">
        <b>Choose a topic:
          <% 'Get this information from includes. %>
       <!--#include file="topicdown.inc"--> <p>
       </td>
       <td valign="top">
       <b>Choose a method:
         <% 'Get this information from includes. %>
       <!--#include file="methoddown.inc"--><p>
     </td>
      <td valign="top">
       <b>Choose a level:
         <% 'Get this information from includes. %>
       <!--#include file="leveldown.inc"--><p>
     </td></tr><tr>
<th colspan=3><input type="Submit" value="Submit your choice">
</th></tr></table>
```

Web-to-databaseapplication Example(continue)

What is the "include"?

<!--#include file="topicdown.inc"-->

This line tells the Web server to insert the lines that are written in the "include" file called methoddown.inc

The use of this include file is to make the coding less clustered and to explain ASP principles and for no other reason.

Topicdown.inc:

```
1  <%
2  'Request the name of method and the primary key from the topic table.
3  SQLtop="SELECT topic, topicID FROM topics"
4  set conntop = server.createobject("ADODB.Connection")
5  conntop.open "sss"
6  set top=conntop.execute(SQLtop)
7  %>
8
9  <select name="topicID">
       <% 'Loop through the recordset to make each entry in the list. %>
       <% do while not top.eof %>
           <option value = " <%= top(1) %>"> <%= top(0) %></option>
15     <%top.movenext
16     loop%>
17 </select>
18
19 <% conntop.close %>
20

23
```

Web-to-database application Example (continued)

Lines 5 - 8

```
set conntop = server.createobject("ADODB.Connection")
conntop.open "sss"
set top=conntop.execute(SQLtop)
```

Remember, we have a database called “SSS” that must be connected to the Web server.

One of the five ASB objects (link) is the “server” object that is called in the code:

```
set conntop = server.createobject("ADODB.Connection")
```

This line creates a new connection object with the variable name `conntop`, which opens a connection to the server.

The next line, `conntop.open "sss"`, uses the **open** method of the Connection object to establish a tie to the “SSS” database.

In the following line, `set top=conntop.execute(SQLtop)` , the `conntop` object is used to execute an SQL statement (which is stored in the variable created in line 4 called `SQLtop`) against the database.

Note

The above connection is a systemDSN and is the one that you will use on your PWS. The only difference when you make use of your SP will be the following DSNLess (link) connection:

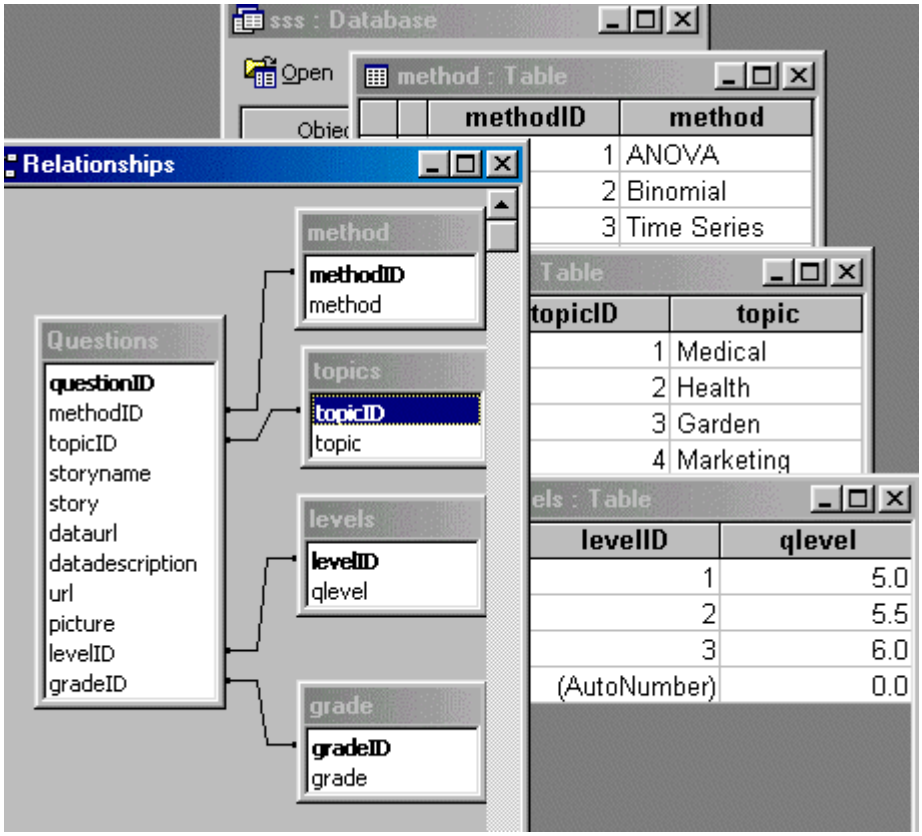
```
conntop.open ";Driver={Microsoft Access Driver (*.mdb)};" &
"DBQ=c:\InetPub\vroot\bbasson\database\sss.mdb"
```

The SP must provide the path to the database.

Web-to-database application Example (continued)

SSS database:

To understand the logic behind the rest of the statements it will help to have a look at the database.



The Ralational database

A relational database stores data in one or more tables, and these tables can be joined in a variety of ways to efficiently access the information.

The different tables and their relationship can clearly be seen in the figure above.

Web-to-database application Example (continued)

Line 4 and 16

SQLtop="SELECT topic, topicID FROM topics"

The SQL will go to the table named “topics” and select the record set in the sequence “topic” and then “topicID”. In this array you refer to elements by their numerical position, starting with 0. Consequently “=top(1)” will list the value of the second record set, namely “tipicID”.

<option value = " <%= top(1) %>"> <%= top(0) %> </option>

will result in the following (after the loop has been executed):

<option value = "1"> Medical</option>
<option value = "2"> Health</option>
<option value = "3"> Garden</option>

The query string

When the form is submitted the URL changes as follows:

http://localhost/sss/sss2.asp?topicID=1&methodID=1&levelID=1

Note:

- The URL of the page that loaded matches the **action** attribute of the form tag.
- The last part of the URL began with a question mark followed by the **name** attribute of the input tag. The text that follows the question mark is known as the query string.

The next step is to get the entered information from the query.string. This is done in the following ASP page called **sss2.asp**

Web-to-database application
Example (continued)

```
<html>
<head>
<title>The Data and Story Library in a South African Context
</title>
<style>
        b{font-size:10pt;color:black;font-weight:bold;font-family:Arial;}

</style>
</head>
<body background="images/back2.gif" topmargin="5" leftmargin="5" link="#c80000" vlink="#c80000">
<%@ Language = VBscript %>
<%
```

'Declare variables.
'It is not necessary but good practice to declare variables in VBScript.

```
Dim topicID
Dim methodID
Dim levelID
Dim SQLinfo
Dim conninfo
Dim info
```

'Grab variables from the querystring.

```
topicID=Request.Querystring("topicID")
methodID=Request.Querystring("methodID")
levelID=Request.Querystring("levelID")
```

'Get the information.

```
SQLINFO="SELECT picture,url,story FROM Questions "
SQLINFO=SQLINFO & "WHERE methodID= " & methodID
SQLINFO=SQLINFO & "AND topicID= " & topicID
SQLINFO=SQLINFO & "AND levelID= " & levelID

SQLMETH="SELECT method FROM method "
SQLMETH=SQLMETH & "WHERE methodID= " & methodID

SQLTOP="SELECT topic FROM topics "
SQLTOP=SQLTOP & "WHERE topicID= " & topicID

SQLLEV="SELECT qlevel FROM levels "
SQLLEV=SQLLEV & "WHERE levelID= " & levelID
```

'Connect Web server and Database

```
set conninfo = server.createobject("ADODB.Connection")
conninfo.open ";Driver={Microsoft Access Driver (*.mdb)};" & "DBQ=c:\InetPub\vroot\bbasson\database\sss.mdb"
```

'Or conninfo.open "sss" if you are working on your PWS.

'Define variables.

```
set info=conninfo.execute(SQLINFO)
set meth=conninfo.execute(SQLMETH)
set top=conninfo.execute(SQLTOP)
set lev=conninfo.execute(SQLLEV)
%>

<table>
  <tr>
   <td width="40%">
<b>
<font color="#c80000">Statistical Method:</font> <%= meth(0) %><br>
<font color="#c80000">Topic:</font> <%= top(0) %><br>
<font color="#c80000">Level:</font> <%= lev(0) %>
   </td>
   <td>
    <b><font color="#c80000">Please note that the link (the title that is underscored) will link you to a Word file. In this file will be the question and you can edit it to fit your need.
   </td>
  </tr>
</table>
<hr color="#c80000">

<%

'Get a list of all the sories.

do while not info.eof %>
<b>

<%= info(0) %>
<%= info(1) %><br>
<%= info(2) %><p>

<%info.movenext
loop%>

<b>

<%
'Test to see if there are any matching records. If not, give a meassage.
%>

<%if info.bof and info.eof then

response.write ("No questions in this catagory yet")

End if

%>

<% info.close %>
```

Web-to-database application

Select and Update

The construction of this database of “real-life” stories needs careful consideration. One can either have someone responsible for updating the database or an automatic procedure.

In the first case the contact information will be an e-mail address of the “database manager” who will have total control over the content of the database.

In the second case there can be an on-line form and anyone can enter any information. A very simple SQL statement can insert this new record set and it will be immediately available.