Atlantic International University

Student Name: ANTHONY ODUORI SOLO

Student ID: UB3257SIT7960

SECOND PHASE SUBMISSION OF ASSIGNMENT

INTERNET

ATLANTIC INTERNATIONAL UNIVERSITY

INTERNET COURSE

TABLE OF CONTENT

INTRODUCTION TO INTERNET

The internet is the most used network in the world, but it is also the least understood. The internet is a network of networks; it's a set of separate and distinct networks operated by various national and state government agencies, non profit organization and other corporations. The internet exists only to the extent that these thousands of separate networks agree to use Internet protocols (TCP/IP) and to exchange data packets among one another.

All networks that connect to the internet must rigidly conform to a set of standards for the transport and network layers that unyielding, without these standards, data communication would not be possible. At the same time, content and new application protocols are developed freely and without restriction and anyone in the world is able to comment on proposed changes to the internet protocols.

HOW THE INTERNET WORKS

Basic Architecture

The Internet is hierarchical in structure. At the top are very large national Internet Service Providers (ISP's) that are responsible for large Internet networks. These national ISP's connect together and exchange data at network access points (NAP)

Regional and local ISP's often will have several connections into national ISP to transmit its messages and a regional ISP does not charge another regional ISP thus this is known as peering. Its peering that makes the internet work and has led to the belief that the internet is "free". This is true to some extent but higher level ISPs normally charge lower level ISPs to transmit their data e.g. national ISP will charge regional and regional will charge local ISPs) thus a local ISP will charge individuals for access.

ISP are autonomous systems thus each ISP is responsible for running its own interior routing protocols and for exchanging routing information.

Connecting to an ISP

Each of the ISP's is responsible for running its own network that forms part of the internet. Each IPS has one or more points of presence (POP). A POP is simply the place at which the ISP provides services to its customer.

WEB BROWSER

What is a web browser?

It is a program used to view, download, upload, surf or otherwise access documents (pages) on the World Wide Web. Browsers can be text-based meaning they do not show graphics or images but most however are text and graphical based.

Types of Web Browser

There are various types of web browsers i.e. Mozilla, Windows Explorer, Opera, Netscape e.t.c

MS – ACCESS I-II

What is a Database?

It is a structure for storing information. Databases are typically organized into *tables*, which are collections of related items.

Access is a database, a program used to store information about a large number of items. As well as displaying the data kept about each item you can ask the database to select various items that satisfy certain criteria (e.g. selecting all the sales representatives from a certain town) or sort them into order. Getting the database to search the list of items to find ones that match criteria is called ***applying a query*** to the database. Access is one of the most powerful databases around.

Tables, Records and Fields

An Access database contains one or more ***tables***. These are lists of items and each table consists of a list of items of the same type. A database of employees in a factory might contain a table listing the employees themselves, one listing the salary levels for the company, one listing the details of the departments that the employees work for etc.

Each item in a table is called a ***record***. Each piece of information stored about each record is called a ***field***. The following diagram shows a table called ***Friends*** consisting of three records, each with four fields:

Table: Friends

Record 1		Record 2		Record 3	
Name:	**Diane**	Name:	**Jeremy**	Name:	**Natalie**
Gender:	F	Gender:	M	Gender:	F
Age:	21	Age:	15	Age:	19
Height:	1.56m	Height:	1.62m	Height:	1.60m

Starting an Access Database
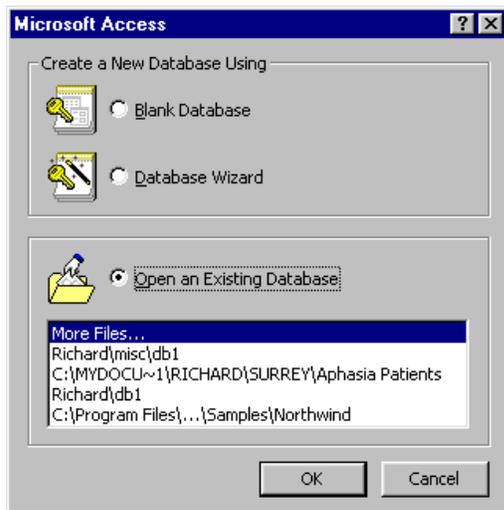
When you activate Access, you are faced with the initial menu. This gives you the choice of starting a new (blank) database, opening an existing database (to edit it or to ask it queries), or to use the Database Wizard.

The Wizard is a program built in to Access which takes you by the hand and helps you build the database. It does the hard work for you - all you have to do is "fill in the gaps".

A list of the most recently used databases appears under the Open Existing Database option. To use one of these, click on the name. Alternatively, one of the options on that list is "More Files" which lets you choose from all the available database files using the normal Open dialogue box (the sort of thing you see when you choose Open in Microsoft Word).

Whichever of the three options you choose, to proceed to the next step, click on OK at the bottom of the box.

Starting a blank database

The first thing Access gets to do when you create a new database is to save it! This seems strange when it is blank, but as the database consists of a variety of tables, queries, forms it makes sense to choose the file name "up front" so that Access can save these items automatically as and when they are created. The database file will lump all these things together in the same file.

The name that Access suggests for your database is **db1** (or **db2**, **db3** etc. if the file **db1** already exists), although you are free to choose any other file name. When you have chosen the file name for your database, you are faced with the listing of the main components of the database.

The diagram below shows the component listing for a database that I created on Aphasia patients. When you start a new database, the large white area will be blank.

The six tabs at the top of the listing (Tables, Queries etc.) show the different listings that you can choose. The diagram shows the **Tables** tag selected, so that the white area shows the tables present in the database.
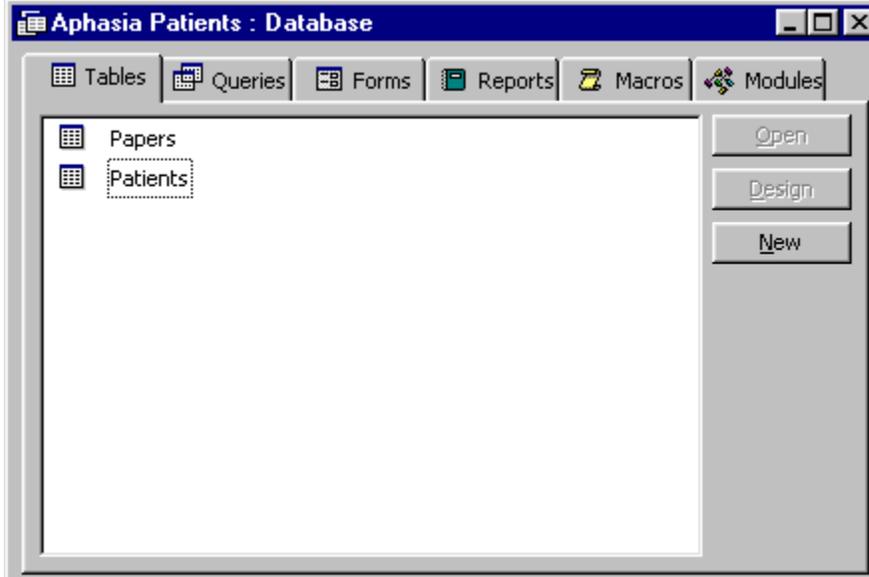
In this example, there are two of them, **Papers** and **Patients**. If you click on the **Queries** tab, Access will list the queries that the database holds, or forms for the **Forms** tab etc.

Next to the white area are three icons, **Open**, **Design** and **New**. The **Open** icon lets you view the contents of the item (whatever it is). The **Design** icon lets you edit the structure of the item (for example, adding another field to a table or altering a query so that it does something different). The **New** icon lets you create a new table, query or whatever.

Creating a New Table

The first thing that you do when you start a blank database is put a table of data in it. Select the **Table** tag and click on **New**. The following dialogue box appears:

You are asked what method you would like to use to create the table. As before, there is a Wizard, which is a program that creates the table for you (you still have to enter the raw data in the table, of course)

You can import a table from an existing database. You can also create a table which is a copy of another table (possibly in another database) and linked to it, so that when the table is changed in one database, it also changes automatically in the other as well.

The two options that create a simple table from scratch are **Datasheet View** and **Design View**.
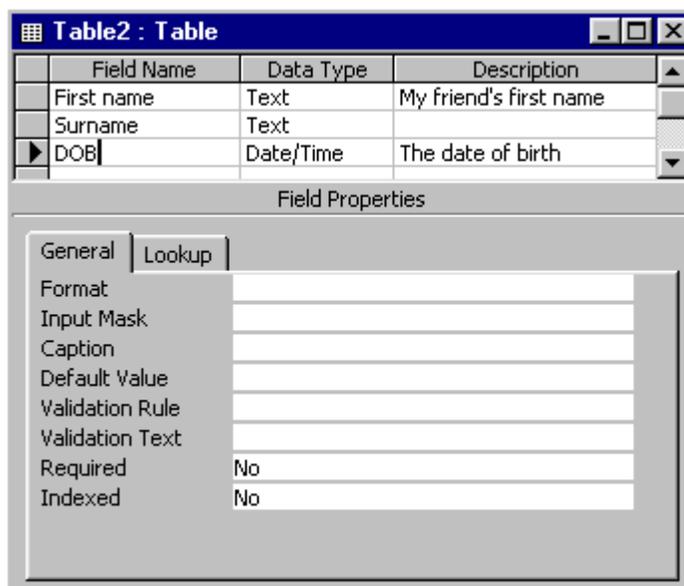
The next stage is to define the list of fields that will make up this table. You are presented with a series of slots for you to fill in the fields - the diagram to the right shows a table in the process of having its fields defined.

Each field has a name (first name, surname, DOB in the example) and a data type. The data type indicates what sort of information can be stored in that field. The "first name" field, for example, is going to hold letters of the alphabet, so its data type is set to **Text**. The DOB field is going to hold a date. Similarly, if a field had been included to hold a person's age, then its data type would be set to **Number**.
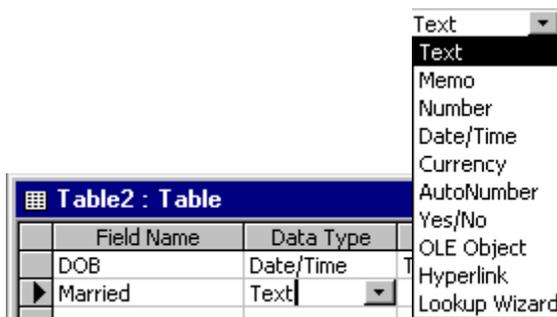
To set the type of the field, click in the relevant slot in the **Data Type** column. A small grey down-arrow symbol appears. Clicking on this produces a drop-down list of data types.

Here I have created a field called **Married**, and I want to set it to **Yes/No** (I shall ignores divorces, separation etc.), so I click on the grey arrow and choose **Yes/No** from the list that presents itself.

Most of the types are fairly self-explanatory - text, number, date/time, currency etc. A **memo** field is similar to a **text** field. An **AutoNumber** field is similar to a simple number except Access automatically gives each record in the database a different (and unique) number. For instance, if you create a table with an AutoNumber field, then the first record in the table will have 1 in this field. The second will have 2 here, the third 3 etc. This is marvelous if you want a field which you can guarantee will be different for each of the records in the table.
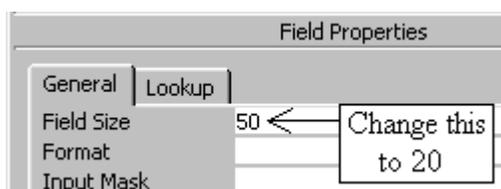
Beneath the grid for defining the fields themselves is the **Field Properties** box. This lets you set the exact properties of each field. For instance, if you create a Text field, Access assumes that you will require 50 characters (letters) for the field.

If it is a first name, then 50 characters is more than necessary, so you can click on the field and change it to 20, as indicated above.

The last thing to mention is the **Description** slot of the field creation grid. This lets you enter a description for the field explaining what it is for. This is purely optional - a field called "surname" needs no description, but one called "DOB" should probably be explained.

When you have finished adding and editing fields in the table, click on the icon in the top right corner of the field selection grid. First of all, Access asks you whether you want to save the table that you have created (presumably you do), and when you click on **Yes**, you are asked to give the table a name. The default name is **Table1** (or **Table2** etc.

A Primary Key

An error message has appeared indicating that you have no **Primary Key Field**. What is this all about?
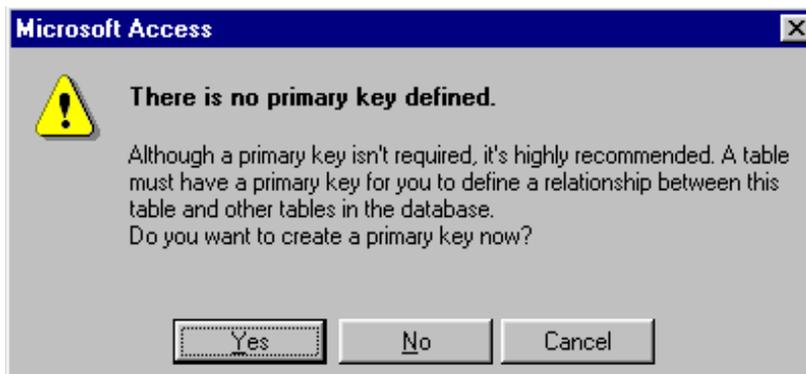
A primary key is a field in the table that Access can use to identify each field uniquely. For instance, you may have several John Smiths in your database, so how can you tell them apart? Access suggests that you create a field, perhaps a code number, for each record, with no two records having the same value in this field. If you mark this field as the primary key, then Access will make sure no two entries are ever the same.

A good example of a primary key field is one set up as an **AutoNumber** type. This will automatically fill in a code number for each record, starting at 1 for the first.
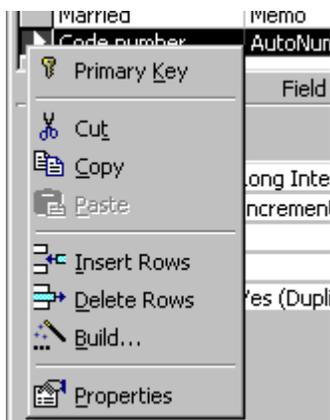
To turn any field (whether it is an AutoNumber or not) into a primary key, move the arrow over the small grey rectangle to the left of the field name and click the *right* mouse button.

This gives an option for creating the primary key, and you can use it for adding/deleting fields in the grid (i.e. inserting or deleting rows hence primary key has been created.

Designing the table without Access moaning about a primary key. Of course, primary keys are purely optional, but you have to put up with Access reminding you at every stage!

Clicking on the cross returns you to the components list (shown below), here you will see that a new table has appeared in the large white space .The table, is however, empty. The fields have been set up, but there is no data in them. Click on the **Open** icon to view the contents of the table in **Datasheet view**:

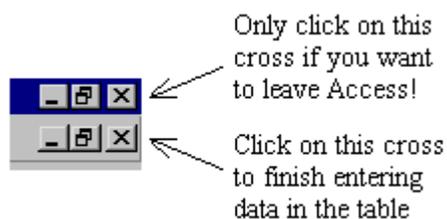|	First name	Surname	DOB	Height	Code number
▶				0	(AutoNumber)

The table has only one row in it and that is empty! The height (being a number) appears as 0, and the automatically generated code number has yet to be filled in. Type in the data - as soon as you start typing in the empty line, another empty line appears below it ready for the next record:

	First name	Surname	DOB	Height	Code number
	Richard	Bowles	17/07/64	144	1
🖉	Diane	Johnson	21/12/70	160	2
✳				0	(AutoNumber)

Access always marks the blank line where the next record is to be entered with a star in the grey box on the left - just in case you can't recognize a blank line when you see one!

Exiting the Table

To stop entering data in the table, click on the lower of the two crosses in the top right corner of the screen. Only use the top cross to leave Access altogether.

Only click on this cross if you want to leave Access!

Click on this cross to finish entering data in the table

Designing the Table in Datasheet View

This lets you specify the field name at the same time that you enter the data itself. The table appears in Datasheet view as below, with the fields called **Field1**, **Field2** etc. Move the mouse pointer over one of these field names and click the right mouse button to rename the field itself.

Field1	Field2	Field
	↓Ź Sort Ascending	
	↓Ẑ Sort Descending	
	📋 Copy	
	📋 Paste	
	↔️ Column Width...	
	Hide Columns	
	⊞ Freeze Columns	
	⬆ Insert Column	
	Lookup Column...	
	⬇ Delete Column	
	Rename Column	

HTML-I-II

Introduction to HTML

HTML is the markup language used to create World Wide Web documents hence HTML is a set of logical codes in parentheses that constitute the appearance of a web document and the information it contains e.g.****The text would appear bold in the browser****

The codes are enclosed by less than "<" and greater than ">" brackets. These bracketed codes of the markup are commonly referred to as tags. HTML codes are always enclosed between brackets and are not case sensitive, meaning it doesn't matter whether you type the in upper case or lower case.

HTML has an opening a tag and a closing tag distinguished by the "/" inside the "<" opening bracket.

Document Structure

The document is marked up with elements and their attributes is according to a document type definition (DTD). These are rules that govern the way in which a document can be marked up.

An element called **<HTML>** surrounds the whole document. This element contains two sub-elements, HEAD and BODY. These elements are required to form any HTML document i.e.

<html>
<head>
<title>document Title</title><head>
<body></body>
</html>

<HTML>

<HEAD> has sub-elements that define header material

<TITLE> Document title. The title of your document is what appears in a web browser's favorite or bookmark list. Your document's title should be as descriptive as possible. Search engines on the internet use the document's title for indexing purposes.**<TITLE>**

<BASE>can be used to record the document's location in the form of a URL. The URL recorded here may be used to resolve a relative URL (If the document is not accessed in its original location).**</BASE>**

<ISINDEX>indicates to the browser that the document is an index document. This is used only if the document is on a server that does indexing.**</ISINDEX>**

<LINK>indicates a relationship between this document and some other object on the web. **</LINK>**

<META>provides information such as the page's keywords and description that appears in HTTP headers.**</META>**

<SCRIPT>contains information used by cascading style sheets**</SCRIPT>**

</HEAD>

<BODY>html elements are contained within these tags

</**BODY>**

</HTML>

Text Editor

There are many different programs that one can use to create a web document. Text editors are basic word processing programs. The advantage of using a text editor is that the files are created and saved with few if any invisible formatting codes, which could drastically affect a document when saved as a web page and displayed in a browser. Tex editors are good for creating web documents.

HTML editors enable user to create documents quickly and easily by pushing a few buttons. Instead of entering all of the HTML codes by hand, these programs will generate the HTML 'source code' for you. HTML Editors are excellent tools for experienced web developers

Document properties are controlled by attributes of the BODY element i.e. color settings for the background color of the page, the document's text and different states of links.

The BODY element

The BODY element of a web page is an important element in regards to the page's appearance. This element contains information about the pages background color, the background image, as well as the text and link colors.

If the BODY element is left blank, web browsers will revert to their default colors. To set the document's background color, you need to edit the <BODY> element by adding the BGCOLOR attribute i.e.

<BODY BGCOLOR="#FFFFFF"></BODY>

LINK, VLINK and ALINK

These attributes control the colors of the different link states:

- ❖ LINK – initial appearance – default=Blue
- ❖ VLINK – visited link – default = Purple
- ❖ ALINK – active link being clicked – default =Red

Wed developers will set the link colors of their documents to flow with the color scheme of the site. The format for setting these attributes is:

<BODY BGCOLOR="#FFFFFF" TEXT="#FF0000" LINK="#0000FF" VLINK="#FF00FF" ALINK="#FFF00">

The results of the above BODY element would be a white background with links being blue, visited links as magenta and active links colored in yellow.

The BODY element also gives the ability of setting an image as the document's background. Background images are tiled in the web browser, which means that they are replicated and positioned below and besides each other until the browser screen is filled. Images must be seamless hence when the copies are placed below and besides each other the seams are invisible.

Using background images can be very effective if used properly. For instance you may want the company logo as the background or create a border background so that it appears as though your page is divided into two columns. A background image must be either in the form of a gif or jpg file.i.e

<BODY BACKGROUND="logo.gif" BGCOLOR="#FFFFFF">

The documents background image is set to logo.gif. the BGCOLR attribute has been added hence the browser window will have a white background during the process of loading the background.

TABLES

The <table></table> element has four sub-elements:

a) Table Row <tr></tr>
b) Table Header <th></th>
c) Table Data <td></td>
d) Caption<caption></caption>

The table row elements usually contain Table Header elements or Table Data elements. The Table Header and Table Data elements can contain several of the body elements, which allows for rich formatting of the data in the table i.e

<table border= "1"

<tr>

<th>Column 1 header</th>

<th>Column 2 header</th>

</tr>

<td>row 1 – col 1 </td>

<td>row 2 – col 2 </td>

<t/tr>

<tr>

<td>row 2 – col 2 </td>

<td/row 2 – col 2 </td>

</tr>

<tr>

<td>row 3 – col 1</td>

<td>row 3 – col 2 </td>

</tr>

</table>

Tables are used a great deal in the creation of web pages. They allow you to create boundaries that make positioning easier. They are great for formatting forms.

Table Caption:

A table caption allows you to specify a line of text that will appear centered above or below the table. This can act like a title for the table i.e.

<table border="1" cellpadding="2">

<caption align="bottom">Label for my table</caption>

The caption element has one attribute ALIGN that can be either TOP (above the table) or BOTTOM (below the table). Standard character formatting codes are used inside the CAPTION element.

REFERENCE

- ❖ Wiseman Trainers College Nairobi
- ❖ Hypertext Markup Language – Infotech Centre