COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE
(A Case Study of Nigeria Customs Service)

By

KWAJAFFA, ABDU ALI
PGD/MCS/97/280

DEPARTMENT OF MATHEMATICS/COMPUTER SCIENCE
SCHOOL OF SCIENCE AND SCIENCE EDUCATION
FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
NIGER STATE.

MARCH, 2000.

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE
(A Case Study of Nigeria Customs Service)

By

KWAJAFFA, ABDU ALI
PGD/MCS/97/280

A Project submitted to the Department of Mathematics/Computer Science, School of Post-Graduate Studies, Federal University of Technology, Minna, Niger State in Partial Fulfillment of the Requirement for the Award of Post-Graduate Diploma in Computer Science.

MARCH, 2000.

CERTIFICATION

Having read through this project carried out by me (Kwajaffa A.A.), I certify that this project work is originally written by the above named student and has met the standard of the requirement for both the department and the institution in general.

_____   _____
Mr. L.N. Ezeako   **Date**
(Project Supervisor)

_____   _____
Dr. S. A. Reju   **Date**
(Head of Department)

_____   _____
External Examiner   **Date**

DEDICATION

This Project Work is Dedicated to the Almighty Allah for his uncountable

blessings on me and to my entire families.

ACKNOWLEDGEMENT

The project work was successfully completed with the aid of contributions from individuals. The support ranged from elaborate critiques to informal suggestions. The technical competence as well as moral support are enormous and appreciative.

First and foremost, I thank God the Almighty Allah for his uncountable wisdom and blessing on me all through my whole life.

I am grateful to my supervisor Mr. L.N. Ezeako for his patience, understanding and cooperation in make sure that this project becomes a successful one. I say thank you and may God Almighty reward you abundantly, (Amen).

I will also want to use this medium to acknowledge the effort and cooperation of the Head of Department (Dr. S.A. Reju) for his understanding and patience in making sure that this project becomes a successful one.

I will also want to acknowledge the good will of lectures of the department for their moral understanding and patience in course of impacting knowledge on me. Special thanks also goes to the following people; Engr. S.G. Mshelia, System Analysist Olaiya Mohammed Mutiu and Kola Abdul Raheem. I thank you for your moral support and encouragement.

ABSTRACT

Teaching with the aid of Visual Aids Material dates back to the early 1970's when one of the greatest philosophers of Education (Maria Montessori) said, "Education (learning) is never complete without the use of visual aids material for teaching". Then, technology was rather relatively low compared to what we have now.

However, today, technological advancement has revolutionised our daily lives and our various organisations. This revolution is the use of computer system in various fields like Banking, Teaching, Medicine, Aviation, Stock Control, Statistical analysis, etc. which have indeed proved efficient with the relative increase in productivity.

Because of the advantages the computer now offers, its usefulness in the application of teaching is our main interest. Hence, this project work (*Computer Assisted Learning On Gatt Valuation Code*) designed a **CAL SOFTWARE** that would teach personnel of the Nigeria Customs service an important area of their profession "GATT VALUATION CODE" which is to be implemented by the year 2000.

Few among the achievements of this project are:-

(I)   The development of a CAL TUTOR Software on GATT VALUATION CODE

(II)   Promotion of design of indigenous software packages, and

(III) Familiarisation of the customs officer with the use of the computer, especially those in the strategic areas that need current information regarding vital decision-making.

TABLE OF CONTENTS

CHAPTER ONE

1.0 GENERAL INTRODUCTION

CHAPTER TWO

CHAPTER THREE

3.0   SYSTEM ANALYSIS AND DESIGN

CHAPTER FOUR

4.0   GENERAL IMPLEMENTATION REVIEW

CHAPTER FIVE

5.0   ACHIEVEMENT OF THE SYSTEM

CHAPTER ONE

1.0 GENERAL INTRODUCTION

1.1 INTRODUCTION

The Nigeria Customs Valuation Unit still applies the Brussels definition of value for valuation of goods for customs purposes, be it for collection of import duty, excise duty or for sales of seized or overtime goods. The Brussels definition of value (BDV) convention referred to in Custom Parlance "Notional value" which is based on principles that the value of imported goods is the worth of such goods in a free market transaction considers "cost insurance and freight charges" in the valuation of custom duty.

The relevant law is contained in the Custom and Excise Management Act. No. 55 of 1958 section 42.

Importation: The value of any imported goods is the normal price, which in the opinion of the Nigeria Customs Service Board, the goods would fetch on sale in the open market at the time of importation. It should be emphasised that this price is not necessarily the price given by the importer.

In addition to the above, a buying commission as well as the charges up to the point of delivery of the goods at the port of importation shall be included in the calculation of the normal price.

However, for vast majority of goods, the C.I.F invoiced price is accepted since it is presumed that the goods would have been available to all and sundry importers buying under the same condition. Where, however, the goods are imported by an agent of a foreign supplier, any price given on the invoice to the agent cannot, prima-facie, be

1

accepted as forming a satisfactory basis since an agent is not the purchaser of the goods. Similarly in the case of goods imported by a sole concessionaire or by an associated house, it is necessary to be satisfied that the purchasers price is an open market price and not a privilege price.

Use of Data Bank: In such cases as stated above, it is necessary to determine the value through the checking of the declared value by reference to other prices being paid at the same by other importers of similar goods or the price at which the goods similar to them have been offered freely for sale in Nigeria after importation, by reference to the Customs Data Bank.

Excise: In the case of excisable goods, the value for duty is the value of the manufactured goods computed by the Nigeria customs service from the unit cost analysis submitted by the manufacturer.

Gatt Valuation Code: The GATT Valuation Code is based on the computation of value of customs duty by what it calls "transaction value". Transaction value is the price actually paid for goods in the exporting country by the buyer. An attempt shall be made to comment in detail on the operation mode of the GATT valuation code which is the subject of this theses.

1.2   GATT, WHAT IS IT?

GATT began in 1974 with the objective of pursuing mutually advantageous arrangement dedicated to the substantial reduction of tariffs and other barriers to trade, and to halt discriminatory treatment in international commerce.

GATT has 45 members with Columbia and Peru being the new members who signed the Agreement in 1993 and 1994 respectively.

2

"World Customs Organisation (WCO), has two committees on valuation, which are the valuation committee and the technical committee on customs valuation. The technical committee is responsible for the preparation of the numerous instruments and guide lines which provide uniform interpretation of the agreements provisions.

GATT Valuation Code : The Brussels definition of Value (BDV) convention referred to in customs Parlance " Notional Value" which is based on principles that the value of imported goods is the worth of such goods in a free market transaction considers cost, insurance and freight charges in the valuation of customs duty.

The *GATT Valuation Code* is based on the computation of value of customs duty by what it calls "transaction value".

"Transaction Value" is the price actually paid for goods in the exporting country by the buyer.

The code has been sharply criticised by developing countries. Since the valuation of imported goods done in prices in exporting countries attract less import duty which apart from reducing the revenue of developing countries from tariffs, encourage imports.
This study is aimed at making the application of GATT Valuation Code guidelines easier and faster for better performance on the job by officers of the Nigeria Customs Service and others who may have interest in knowing this aspect of custom operation.

1.3 BRIEF HISTORY OF NIGERIA CUSTOMS SERVICE

The Nigerian Customs Service was established about a century ago, when the British Colonial Administration appointed Mr. T. A. Wall, in 1891, as Director-General of Customs for the collection of Inland Revenue in Niger Coast Protectorate. The name

Department of Customs and Excise emerged in 1992 when Mr. F. A. Clinch was appointed the first comptroller of customs and excise Federation of Nigeria.

The Customs and Excise preventive service was established under the leadership of one Mr. Nicol a Briton, towards the end of 1945. Thus the department of customs and excise became divided into two main divisions viz maritime and preventive.

The former collects customs excise duties and the other related functions such as the arrest and prosecution of smugglers.

In 1959, the affairs of the department were brought under the management of a board; the board of customs and excise, which was constituted under the provisions of the customs and excise management act (CEMA) No. 55 of 1958.

By decree No. 7 of 1970, additional members were appointed to represent the other ministries, viz Economic Development and Reconstruction, Trade and Industries to broaden the scope of the interests, which should guide the Boards decisions.

With the enactment of the above act, the chairman of the board of Customs and Excise became the Chief Executive of the Department of Customs and Excise. Mr. E. P. C. Langdon, a Briton, was appointed the first Chairman, Board of Customs and Excise Federation of Nigeria in 1959.

However, the Nigerianisation policy pursued by the Federal government of Nigeria after independence led to the appointment, in 1964, of the first Nigerian Chairman of Board of Customs and Excise in the person of Mr. Ayodele Diyan.

The post of chairman was abolished by virtue of decree no. 41 of 28th August, 1975 and replaced with that of Director and all powers hitherto conferred on the Chairman and Deputy Chairman of the Board, were passed on to the Director and Deputies. Alhaji S.A. Musa was therefore appointed the first Director of Customs and Excise.

On 1st April, 1977, the first major re-organisation of the Department of Customs and Excise took place. The two parallel services preventive and technical were unified into one integrated professional body. The unification structured the department into five main directorates, viz:

1. Customs and Excise Revenue Directorate

2. Customs and Excise Investigation Directorate

3. Customs and Excise Enforcement Directorate

4. Customs and Excise Inspection Directorate

5. Customs and Excise Economic Directorate

RESEARCH AND PLANNING DIRECTORATE

In 1985, another major structured change in the department took place, as the department of customs and excise was removed from the ministry of finance and transferred to the federal ministry of internal affairs, by the customs, immigration and prison services decree No. 14 of 11th January, 1986. This was sequel to Government's acceptance of some of the recommendations of the study group on customs and smuggling, headed by Alhaji Yahaya Gusau.

The decree also established the Customs, Immigration and Prison Services Board (CIPB) to replace the Board of Customs and Excise.

The CIPB took over the functions of the Board of Customs and Excise and in addition absorbed the function of the Federal Public Service Commission with regard to appointment, promotion and disciplinary control over staff of the department of Customs and Excise.

The Minister, Federal Ministry of Internal Affairs became the Chairman of CIPB while the Director of Customs and Excise became an ordinary member along with his counterpart in Immigration and Prisons departments. The first Director of Customs and Excise under this arrangement was Alhaji Abubakar Musa.

Re-organisation program for the three services in the Ministry was embarked upon by the C.I.P.B. The most significant structured change that gave birth to the present day Customs and Excise department took place on 16th February, 1988, with regard to the post of Director of Customs and Excise from salary grade level 16 to grade 17; the number of Deputy Directors was increased from five to six and the post uplifted from grade level 15 to 16; 18 post, of Assistant Directors were created on salary grade level 15; and the functions of the department were decentralised through zonal commands to facilitate decision making process.

Officers in-charge of the six zonal commands became known as zonal co-ordinators while those in-charge of the States were known as Area Controllers. Dr. Bello Haliru Mohammed became the first Director of Customs and Excise under the present reorganised system.

Federal Military Government Decree No. 45 of 1992, re-established Board of Customs and Excise under the control of the Federal Ministry of Finance. The decree made the Minister of Finance as the Chairman of the Board while the Director of Customs and Excise became the Deputy Chairman.

On 25th August 1993, the Federal Military Government by Decree No. 77 of 1993, changed the Board of Customs and excise to Nigeria Customs service and the head of the department to the Comptroller-General of Customs with Dr. Bello Halirru Mohammed as the first Comptroller-General of Customs.

In January, 1994, the Federal Military Government set up a probe Panel under the chairmanship of Major-General Paul Tarfa (Rtd) to re-organise and restructure the Nigeria Customs Service. Based on the interim report of the probe panel the comptroller-general and his deputies were sent on compulsory leave while Brigadier General S.O Ango was appointed the Administrator of Nigeria Customs Service.

1.4 ORGANISATION CHART

Some Key Abbreviation

D. C. G.	-	Deputy Comptroller General
A. C. G.	-	Assistant Comptroller General
I & I	-	Inspection and Investigation
E & D	-	Enforcement and drugs
T & T	-	Trade and Tariff
F. O.	-	Federal Operations.

```
                    COMPTROLLER GENERAL OF CUSTOMS

ACG HQTS   SEC TO THE              LEGAL UNIT   PUBLIC        INTERNAL
           ROAD                                 RELATION UNIT AUDIT UNIT

D.C.G.      D.C.G.      D.C.G.          D. C.G.        D.C.G. EXCISE   D.C.G.
F. A. T. S  CUSTOMS     I & I          RESEARCH &      & IND.          E & D
DEPT        DEPT        DEPT           STATISTIC       INCENTIVE       DEPT
                                       PLANNING        DEPT

1.  AC.G. Fin Div.   1. A.C.G Import,   1.   A.C.G.    1 ACG Research &   1 ACG Excise      1.  ACG & D
                     Export Licencing &      Insp.     Statistics Plan    General Div.
2.  A.C.G Admin Div  Valuation Dept.                   2. A.C.G Eco Rel   2. ACG Ind. Incen &  2. A.C.G. FOM
                     2. A.C.G.T & T      2. A.C.G. Invest  & Int. Ret. Div.  Verification        Div
3. A..C.G. Tech Ser.                     Div

ACG Zonal   ACG Zonal   ACG Zonal       ACG Zonal      ACG Zonal      ACG Zonal
Coordinator Coordinator Coordinator     Coordinator    Coordinator    Coordinator
Zone A      Zone B      Zone C          Zone D         Zone E         Zone F

Comptrollers Comptrollers Comptrollers  Comptrollers   Comptrollers   Comptrollers
10 Area      5 Area       6 Area        7 Area         9 Area         7 Area
Commands     Commands     Commands      Commands       Commands       Commands
```

OBJECTIVES OF THE STUDY

By virtue of section 42 and schedule 2 of Customs and Excise Management act No. 55 of 1958, the valuation branch has the responsibility for the following:

(a)   Checking all duplicate Bill of Entry with a view to ensuring that correct values are used and that correct duties are paid and Maintaining adequate data Bank of information on all imports including information on all CRF and IDR collated and indexed.

8

(b)   Conducting market surveys with a view to determining correct value of goods for duty purposes as well as for foreign exchange safeguards, and

(c)   Carrying out price studies on selected commodities for monitoring value declaration on entries, etc among others. The above is particularly for the guide of custom officers in day to day performance of their duties.

Also, clearing and forwarding agencies play a vital role in the Nigerian Economy has a relationship with the Customs, which is symbiotic. The agents have the professional experience and are internationally recognised bodies to handle the business of clearing and forwarding.

In Nigeria, with its poor communication network, the chaotic transportation system, characterised by high degree of illiteracy among importers and exporters, the Services of customs approved agencies are even more imperatives.

Without the agencies, the Customs would find it extremely difficult to deal with the multitude of international businessmen and women some of who cannot differentiate between the many forms to be completed at the ports, not to talk of making correct entries to the satisfaction of the Customs.

Any person going through the process for the first time without knowing the intricacies would wonder why there should be so much paper work and such taxing procedure.

It is the Customs agents who know how to relate with the shipper, it is he who is trained to handle the long and complicated Customs procedures and it is he who is proficient in transacting business with the Nigerian Ports Authority, the Nigerian Airport Authority and with officials at the approved land frontiers of Nigeria.

The study is aimed at educating individuals, institutions of learning and professional bodies and non-governmental agencies who would want to acquaint themselves with Customs job and procedures.

1.6 SCOPE AND LIMITATION OF THE STUDY

Undoubtedly, the Nigeria Customs Service remains the most important sector that generates substantial revenue for the development of the Nigerian Economy. In the Nigeria Customs Service, the propensity to source for fund depends solely on human vigil, risk and sacrifice.

The job of the custom officers are nerve breaking, fluid and exposed to smugglers attack, public misdemeanor and other hazards. Inspite of the hazards which confront the staff of the Customs Service, the revenue generating capacity has been on the increase.

This study shall be limited to revenues generated from import duties, export duties, Excise duties and Customs fees, penalties, etc. whose calculation of charges, duties and fees and penalty are based on the value assessment of the commodity. The valuation of the commodities or goods shall of course be based on the valuation guidelines which shall be spelt out in the valuation code.

1.7 DEFINITION OF TERMS

- *Exporter* - Means a person or firm consigning goods to an importer in Nigeria.
- *Supplier* - Means a person or firm who supplies goods to an exporter.
- *Manufacturer*- Means a person or firm who actually manufacturers the goods and includes the owner or producer.

An Approved Pre-Shipment Inspection Agents

> means any such agent or like body approved for this purpose by the minister of finance and notified in the official gazette.

Trade goods - are goods imported by way of trade and include those goods which are

    a.   Imported in pursuance of a contract of sale

    b.   Imported on consignment;

    c.   Purchased by private individual or

    d.   Supplied by a parent company or associated firm, for use by the importing firm.

A "Sole Concessionaire"

> is an importer who alone has the right to import goods from a particular supplier.

An "Associated House"

> is any business or firm wholly or partly under the same control as the foreign supplier by reason of common directorate or shareholding, or associated with the foreign supplier by reason of the fact that the financial interest in the form of loans or common shareholding exists between the two parties.

An "F.O.B" (Free On Board) Or "F.A.S" (Free Alongside Ship) Invoice

> is one which includes all costs of manufacture, profit etc and cost of transport and loading up to the point where the goods are deposited on the carrying vessel in the case of F.O.B. or at the ship's side in the case of F.A.S.

- *A "C.I.F" (Cost Insurance Freight) Invoice*

  - is one which includes all costs of manufacture, profit, etc insurance, freight and all charges up to the point where the goods are discharged from the carrying vessel.

- *Terms Described As "F.I.O."(free In And Out)*

  - are terms under which goods are carried without expense to the ship either for loading or unloading.

- *A "Through Rate"* is an inclusive charge in respect of transport of goods between one point and another. The term is generally used in respect of rates covering all charges for delivery to the importer's premises.

- *"Customs Value of Imported Goods"*

  - means the value of goods for the purposes of levying ad-valorem duties of Customs on imported goods.

- *"Country of Importation"*

  - means country or Customs territory of importation.

- *"Produced"* - includes grown, manufactured and mined.

- *"Identical Goods"* means goods which are the same in all respects, including physical characteristics, quality and reputation. Minor differences in appearance would not preclude goods otherwise conforming to the definition from being regarded as identical.

- *Similar Goods* - means goods which although not alike in all respects, have like characteristics and like component materials which enable them to perform the same functions and to be commercially interchangeable. The quality of the goods, their reputation and the existence of a trade-mark are among the factors to be considered in determining whether goods are similar.

'Identical Goods" and "Similar Goods "

do not include, as the case may be, goods which incorporate or reflect engineering, development, artwork, design work, and plans and sketches for which no adjustment has been made because such elements were undertaken in Nigeria.

Goods shall not be regarded as "identical goods" or "similar goods" unless they are produced in the same country as the goods being valued.

Goods produced by a different person shall be taken into account only when there are no identical goods, or similar goods as the case may be, produced by the same person as the goods being valued.

Goods of the Same Class or Kind

means goods which fall within a group of range of goods produced by a particular industry or industrial sector, and includes identical or similar goods.

Commercial Level means the step at which the goods are changing hands; the first commercial level being between the exporter and the importer; the second being between the importer and the first buyer in Nigeria and subsequently in that order.

Date of Importation means the date of the report of the carrying vessel, aircraft or vehicle.

CPC means Customs Processing Centre (formerly known as Longroom)).

TVDS means Transaction Value Data Sheet. This is the specific form used by valuation Branch officers for the extraction of reliable and undisputed transaction data in respect of imports for use as

basis of comparison of the declared value of identical and similar imports, and thus justify the establishment of value disputes.

PVC   means provisional value certificate. This is the certificate temporarily issued by the area valuation branch officers to ascertain the Customs value of imports which declared value is in dispute, and thus arrive at the appropriate bond value for the security of the balance import duties in respect of the imports pending necessary ruling by the Nigeria Customs Service headquarters.

CHAPTER TWO

2.0. RESEARCH METHODOLOGY & THE CONCEPT OF EXPERT SYSTEM

2.1 THE ROLE OF COMPUTER

What is a computer?. A computer is a machine that follows instructions in order to process data, solve a specific problem or accomplish a particular task. The instructions that control a computer when it performs a task is referred to as a program. A collection of programs that are made to work together for a specific purpose is called software.

The role of computer in the study includes the following:-

a.   **INCREASED PRODUCTIVITY.**

It's one of the reasons why we use computers in the first place, to get things done faster and better. Unfortunately, sitting down infront of a computer doesn't automatically make you more productive. You must learn how to use the computer before it can help you improve your work.

b.   **RAPID AND ACCURATE CALCULATION.**

Everyone nowadays is aware of the benefit of using an electronic calculator to speed up complex calculations. The computer is even faster and more efficient at doing lengthy or complex analysis on data in a very short time. Once the procedures are specifically designed, and appropriate data is fed, rapid processing and accurate output is guaranteed.

c.   **RELIABILITY**

Computer systems are particularly perfectly suited to repetitive tasks.

d.   **STORAGE OF DATA**

Large amounts of information may be stored on a computer (or on disks which can be inserted into the computer like a tape cartridge) in a manageable form.

e.   **MEMORY CAPABILITY**

Computer systems have total and instant recall of data - no forgetfulness.

f.   **DATA ANALYSIS**

Once information has been entered into a computer, you can ask for summaries and breakdowns of this information expressed in a way you like. This aspect is particularly necessary when comparing transaction values of similar or identical goods imported by an importer into Nigeria.

g.   **TRANSFER OF DATA**

A computer can provide data for other computers. For example, the transfer of price information in a digital (i.e. computer-held) format over telephone lines from a regional market to the central market information centre may speed up the dissemination of that information to a significant degree, and with greater accuracy.

All the above computer system capabilities are necessary to aid the computer assisted learning and the expert system which allows a computer to function as a consultant to a user, in a specific problem area (like finding the correct transaction value of an imported goods).

2.2 METHOD OF INVESTIGATION

The fact finding technique employed in this study is the library research. The library is the storehouse of knowledge and wisdom, which have accumulated since the beginning of time. In a general sense whatever is worth knowing is probably recorded in one of the volumes in the library. The method used in gathering information in this study is record searching. The main purpose of a record search is to establish quantitative information-volumes, frequencies, trends, and ratios. It will also help to establish how much reliance can be put on the data source gathered.

The sources of published data are government agencies e.g. Federal government agencies magazines and trade periodicals e.g. independent publisher in a particular profession, Newspapers and Almanacs, Books/Textbooks Materials and International Organisations.

2.3   CONCEPT OF EXPERT SYSTEM AND COMPUTER ASSISTED LEARNING (CAL)

2.3.1. ARTIFICIAL INTELLIGENCE (A.I)

Those cognitive abilities found in human beings that are apparently not found in other living organisms have long proved to be source of wonder to humans. Attempts to understand these abilities have formed a large basis of what has now become as science. The physical sciences of biology, chemistry, and to a lesser extent physics have been involved in discovering how the brain implements, updates and stores these abilities.

The social sciences of physiology, linguistics and sociology etc have at various degrees of abstraction, tried to understand how these cognitive abilities show themselves in actual behaviour.

Until 1950, when Alan Turning Published his manual seminar paper "computing Machinery and Intelligence" the main aim of these sciences was to catalogue and theorise about these abilities in humans. After Turnings paper, philosophically at least, the domain of study was broadened to include the possibility of transferring human intelligence into a machine. It was then admitted that making machines appear more intelligent was at least a valid area for research. The phrase appear more intelligent was used here because there has been no acceptable definition of intelligence. The closest one comes to a definition a list of features that are usually present if an activity appears intelligent. These features include-ability to reasons, to infer, to explain as well as to acquire knowledge, the ability to teach and to understand natural language.

2.3.2 DEFINITIONS OF ARTIFICIAL INTELLIGENCE (A.I)

In the language of Kuhn (Kuhn, 1962), fields in which there are many paradigm shift are bound to have conflicting definitions. Artificial Intelligence (A.I) falls into this class because

problems of (A.I) are no longer called (A.I) problems once they have been solved. For example, computerised game playing was originally an active field of (A.I) research, but chess programs are no longer considered (A.I) programs. In view of these the best approach in defining (A.I) is to offer a number of different definitions.

1. **Artificial Intelligence (A.I)** is the science of making machine to do things that would require intelligence if done by men (Minsky, 1968).

2. is the discipline that aims to understand the nature of human intelligence through the construction of computer programs that imitate human behaviour (Bournet, 1985).

3. is the study of Mental faculties through the use of computational models(Charniak and Mc Dermott, 1985)

4. is the study of making computer to do things which, at the moment, people are better (Rich, 1983).

The overall consensus achieved is that **Artificial Intelligence (A.I)** is concerned with automating those human activities not been automated before.

2.3.3 DEFINITION OF COMPUTER ASSISTED LEARNING (CAL)

Computer Assisted Learning could be defined as the step by step approach to understanding how to manipulate the computer to solve problems which at the moment are solve manually.

It is just like a tutorial to teach the beginner how to understand the computer machine in order to improve ones work for the better.

2.3.4 EXPERT SYSTEMS

As modern industrialized society becomes more specialized, the need to have expert advice increases rapidly. This necessity is visible in all forms of life - a consumer wishing to buy a new washing machine, for example needs to base his decision on a wide variety of technical and aesthetic factors before making his choice.

In most cases he will ask a sales assistant for expert advice in making these decisions. While there is obviously a bias among sales staff in favour of more expensive models, there is also a large amount of expert knowledge that would be implemented.

On the industrial level, many of the machines in modern features require expert advice if they need to be repaired. Finally, management and government teams rely heavily on expert advice to help them plan and implement future policies. These analogies lead us to the definitions of expert systems.

DEFINITIONS OF EXPERT SYSTEMS

Just as there is a wide divergence view as to what defines **Artificial Intelligence (A.I)** there are similar problems involved in definining expert systems. Here are some definitions.

1. **EXPERT SYSTEMS** - are programs which performs tasks which are usually performed by experts (Hart, 1986).

2. - An expert system is one that handles real-world complex problems requiring an expert interpretation and solves these problems using a computer based model of expert human reasoning, reaching the same conclusions that human expert would reach if faced with a comparable problem (Weiss, 1984).

3. - An expert system is a knowledge based system that emulate thought to solve significant

19

problems in a particular domain of expertise (Jackson, 1986).

4.   -   An expert system is an intelligent computer program that uses knowledge and inference procedures to solve problems that are difficult enough to require significant human expertise for their solutions. Knowledge necessary to perform at such a level, plus the inference procedures used, can be thought of as a model of expertise of the best practitioners of the field (Feigenbaum, 1982).

5.   -   An expert system is a computer program that assists a user by providing information about a particular domain. It does this by manipulating information about the field that has been provided by a number of experts in the field. Another important feature of an expert system is that it has the facility to explain/justify the methods used to provide the information.

Most definitions of expert systems (including those stated above) can be divided into those that state what an expert system do and those that specify how it does it.

It is necessary to be very wary of this definitions particularly those that state that "an expert system is a computer program that performs the task of a human expert."payroll clerks are experts in the field of paying employees according to various tax and benefit regulations, yet one would not normally call a payroll package an expert system. One attempt at solution to this problem is to state that expert systems are used in areas where an expert knowledge is not

explicitly stated - yet most of the work done by system analyst is to elicit and formalize these unstated procedures etc.

The definition I favour combines what an expert system does with how it does it as well as showing the differences between it and a standard computer program.

2.3.5 COMPARISON BETWEEN CAL & EXPERT SYSTEM (ES).

The expert system is a new type of information systems that is being used more and more to support managerial decision-making. It is an organized collection of people, procedures, database and devices used to generate expert advice or suggest a decision in an area or discipline. It is important to note that expert systems do not replace humans; they are programmed to behave in predesigned ways by human experts in a particular field. Computer assisted learning on the other hand is designed to teach someone to learn how to use the computer before it can help to improve its work.

2.4 STATUTORY DEFINITIONS OF VALUE IN GATT VALUATION CODE

2.4.1 DEFINITION OF VALUE

The Customs value of imported goods shall be transaction value that is the price actually paid or payable for the goods when sold for export to Nigeria whether the price is above or below prices for identical or similar goods, provided that:

1. There are no restrictions as to the disposition or use of the goods by the buyer other than certain specific restrictions which

   a. Are imposed or required by law in Nigeria (e.g. goods subject to license).

   b. Limit the geographical area in which the goods may be resold (e.g. sole distributors)

   c. Do not substantially affect the value of the goods (e.g. prohibition on reselling a new model of motor car before a specified date).

21

Only these three types of restrictions concerning the disposition or use of the goods are admissible, any other will entail rejection of the transaction value method. Since they may affect the price of the goods.

2. The sale or price is not subject to some condition or considered for which a value cannot be determined with respect to the goods being valued.

3. No part of the proceeds of any subsequent resale, disposal or use of the goods by the buyer will accrue directly or indirectly to the seller, unless an appropriate adjustment can be made in accordance with provisions of this code.

4. The buyer and seller are not related or where the buyer and seller are related, that the transaction value is accepted for custom purposes.

2.4.2 CHARGES TO BE INCLUDED

The value shall include all charges up to the point of delivery of the goods at the port or place of importation. For practical purposes, this may be taken as the point where the goods on discharge from the importing aircraft or ship are deposited on the quay, wagon or lighters alongside and placed at the disposal of the importer by unloosing the crane slings. All costs, charges and expenses whether for purchase or delivery of goods up to that point are inclusive in the value. This simply means, cost, charges and expenses occur at the country of exportation. Some of these inclusive expenses are specified in the definition viz. Freight and insurance and in addition there may be expenses for foreign carriage, loading and unloading, containers, packing, port dues, royalties etc. All expenses for treatment of the goods subsequent to unloading are exclusible, although where, in certain cases e.g postal and certain 'free house' or 'free store' importation, the importer could not have obtained his goods any cheaper at whatever place within Nigeria he had taken delivery, such post importation deductions are not in practice allowed. Financing commissions, being commissions charged in respect of the advance of purchase monies or the establishment of letters of credit (irrevocable) are not inclusible.

Thus while an invoice may provide a transaction value, it may not cover one or more of these charges e.g. in the case of F.O.B (Free On Board) invoices, and arrangements must be made to ascertain what additions should be made to arrive at the statutory value.

2.4.3 VALUATION OF GOODS FOR CUSTOM PURPOSES

All officers are to note and be guided in the discharge of their duties by the following in determining the transaction value for custom purposes:

a. The treatment of inadvertent errors occurring in the declared value of goods:

Officers are to be lenient in the treatment of certain errors committed in good faith having regard to the declaration of value of goods for Customs purposes. Such errors are those of transcription, arithmetical errors in declaration, inadvertent omissions of elements of the normal price, inadvertent errors in the conversion of foreign currency, incorrect deductions and similar errors arising from misapprehension of principles of the definition of value.

The rectification of such errors if they occur at all should be subject to the payment of the difference in duty involved and there should be no additional charge of interest. To determine the margin below which no penalty should be imposed and above which the penalty to be imposed should be moderate and commensurate to the gravity of the error.

b. Treatment in the valuation of goods of the right of reproduction in Nigeria: where an idea or an original work is incorporated in or reflected by imported goods, the value of the right to reproduce that idea or work in other goods by using the imported goods should not be included in the dutiable value of the imported goods.

c. The application of value in respect of trade marks: In order to ensure uniformity in valuation in cases in which trade marks are involved, the right to use trade mark should not be included in the dutiable value of goods.

2.4.4 ASSESSMENT OF GOODS

The assessment of value will therefore depend upon:-

a.   Whether the invoice price, having regard to the trading relations of the importer and supplier, affords a satisfactory basis of value and if not what other price should be adopted and

b.   Whether the price adopted as the basis of value needs addition in respect of pre-importation charges.

2.4.5 METHOD FOR DETERMINATION OF Customs VALUE

There are six different methods of determining the Customs value of imported goods :

1.   The transaction value of imported goods

2.   The transaction value of similar goods

3.   The transaction value of identical goods

4.   The deductive method

5.   The computed value method and

6.   The fall-back or reasonable means method.

Neither the importer nor the Customs administration is entitled to select the valuation method to be used. The order set out above is binding, that is, when valuing imported goods, the first method to be applied is that of the transaction value of the goods imported. Only if for any reason or other, thus methods proves in applicable, can the second method be invoked. If under that second method the goods still cannot be valued, the third one should be tried, then the fourth, until Customs value can be determined.

The only exception to this rule is that the importer may request that the order in which the deductive method and the computed value are applied be reversed.

2.4.6 APPLICATION OF THE METHODS

1. The transaction value method of the imported goods:

    a. The basis for valuation of goods for Customs purposes should to the greatest extent possible be the transaction value of goods being valued.

    b. "Goods when sold" this expression in the definition, presupposes the existence of a sale prior to the valuation operation. In the absence of such a sale there is no transaction value hence cannot be applied. This would be the case e.g. if the goods were imported on consignment or for hire.

    c. "For export to Nigeria" only transaction entailing the <u>actual transfer</u> of goods at International level may be used. It is sufficient for the sale to have taken place at the time of valuation. Consequently the transaction value must be accepted without account being taken of the time lapsed between the conclusion of the contract of sale and the time of Customs valuation. Nor should account be taken of fluctuation in the market, which may have occurred after the date on which the contract was concluded.

    d. "Price actually paid or payable" is the real price which is actually made or to be made as a condition of sale of the imported goods, by the buyer to the seller or by the buyer to a third party to satisfy an obligation of the seller. If the goods are paid for prior to valuation, then the valuation will be based on the price paid. Where that is not the case the price payable will be used. The payment need not necessarily take the form of a transfer of money. It could be made by way of letters of credit or negotiable instruments. It may be made directly or indirectly.

    e. Related persons: At the centre of any valuation system it is the basic principle that there exist a buyer and seller both driven by the desire to make a profit, their negotiations are founded on that Principle. Where a relationship exists between the buyer and the seller (e.g. sole agent, sole distributors or sole concessionaires are considered related persons) it is impossible that the invoice

prices are influenced by that relationship. This does not generally mean that the related parties are seeking to avoid paying duties but that the prices are influenced by their common financial interest.

To determine whether the transaction value can be accepted, the circumstances specific to the sale have to be examined. However, if the buyer and the seller are not related and if the other three conditions are met the transaction value is the custom value.

f.   The test values: The transaction value in a sale between related persons shall be accepted whenever the importer demonstrates that such value closely approximates

1.   Transaction value in sales to unrelated buyers of identical or similar goods for export to the same country of importations or

2.   Customs value established by the deductive method or the computed value method.

The above test value must not be used to establish substitute values.

g.   Compulsory Adjustments: The compulsory adjustments to be made to the price actually paid or payable are as follows:-

a.   Commission and brokerage, except buying commission,

1.   The cost of containers which are treated as being one for Customs purposes with the goods in question,

2.   The cost of packing, whether for labour or materials

b.   The value of the following elements supplied by the buyer free of charged or , at a reduced cost, and known as assists

·1.   Materials, components, parts and similar items incorporated in the imported goods;

26

2.   Tools, dies, moulds and similar items used in the production of the imported goods

3.   Materials consumed in the production of the imported goods;

4.   Engineering, development, art work, design work and plans sketches undertaken elsewhere than in Nigeria and necessary for the production of the imported goods.

After an assist has been found to exist, it has to be valued and the value charged against the imported goods.

c.   The value of any part of the proceeds of subsequent resale, disposal or use of the imported goods that accrue directly or indirectly to the seller.

h.   Commissions and brokerage: Commission of the selling agents and brokerage are inclusible in the Customs value, while that of the buying agents should not be added to the price actually paid or payable for those goods when determining the Customs value.

2. Transaction value of identical goods:

    a.   Identical goods are goods which are the same in all respects, including physical characteristics, quality and reputation. The following example be regarded as identical

        -    a red 1990 "Peugeot 406 DSR" Car

        -    a blue 1990 "Peugeot 406 SR" Car.

    Goods are regarded as identical only if produced in the same country, if possible by the same person, as the goods being valued, they must have been imported and valued under the first valuation method and exported about the same time as the goods being valued.

    b.   Under this method the essential characteristics are:-

        1.   The goods must be identical to the imported good

        2.   The country of production must be the same

        3.   The date of exportation must be roughly the same.

        4.   identical goods must have been valued using the transaction method.

    c.   if more than one transaction value of identical goods is found, the lowest of such value shall be used to determine the Customs value of the imported goods.

3. Transaction Value of Similar Goods

The term "Similar goods" means goods which although not alike in all respect, have like characteristics and like component materials which enable them perform the same functions and to be commercially interchangeable. The quality of the goods, their reputation and the existence of a trade mark are among the factors to be considered in determining whether goods are similar.

4. Deductive Method

This method is based on the unit price at which the imported goods are sold in Nigeria at the first commercial level after importation to persons not related to the seller.

For example-exporter E sells goods to Importer Y at a price of ₦50.00 per piece. Importer Y then resells the goods to his customer B at a price of ₦150.00 per piece.

For whatever reason the price of ₦50.00 is not acceptable as transactional value. In this example the price serving as the basis for the method is ₦150.00, that is a sale in Nigeria where the importer is the seller and his customer in Nigeria is the buyer.

CONDITIONS FOR APPLICATION OF DEDUCTIVE METHODS:

a. The sale must be between unrelated persons

b. The actual imported goods or identical or similar goods must be sold in Nigeria, otherwise this method cannot be applied

c. The goods must be sold in Nigeria in the conditions as imported.

d. Where this method is to be applied reference should be made to the valuation branch.

5. Computed Value Method

This valuation method consists of the following:

a. The cost of value of materials and fabrication or other processing employed in producing the imported goods

b. The amount of profit and general expenses equal to that usually reflected in sales of goods of the same class or land as the goods being valued which are made by producers in the country of exportation for export to Nigeria.

CONDITION OF APPLICATION

Since the computed value is based on the producers cost price, it depends on elements available only in the country of production. Consequently this method can only be applied if the producer is prepared to provide data on the cost of his production.

CHAPTER THREE

3.0 SYSTEM ANALYSIS AND DESIGN

3.1 THE PROPOSED SYSTEM AND ITS OBJECTIVES

The proposed system is a Computer Assisted Learning (CAL), that is designed to teach the Nigeria Custom Service Personnel on GATT VALUATION CODE that is about to be implemented by the year 2000. Specifically, the objectives of the proposed system are to:

1. Serve as a learning tool through the use of computer.

2. To promote the design of indigenous computer assisted learning software just as we have seen in accounting package, medical control systems, project management planning and legal proceedings.

3. To increase the familiarization of Customs officers with the computer, especially those in strategic area that needs current information regarding vital decision-making.

4. Lastly, as we are about entering into another era of information technology, vital information regarding other Customs Service in other countries can be obtained from or via the use of the computer (by accessing the INTERNET) and as time goes on the proposed system can be integrated with the world website on Internet.

3.2 CHOICE OF PROGRAMMING LANGUAGE

3.2.1 PREFERENCE FOR CONVENTIONAL PROGRAMMING LANGUAGE

The earliest computer assisted learning and expert system were developed in symbolic programming languages. These languages are structured to facilitate the processing of symbols rather than the processing of numbers. For example, a symbolic program can be written to prove trigonometric identities ($Sin^2 x + Cos^2 x = 1$) or to solve fundamental integration problems in calculus. In addition to such formal logic problems, these languages can be used to write a computer assisted learning program and an expert system program.

While there are many symbolic languages, two have gained most prominence. LISP (for list Processor) was developed in early 1960s by John McCarthy, one of the pioneers of Artificial Intelligence (A. I.). One major strength of this language is that programs and data are structured in the same way. This means that LISP program can be written to accept another LISP program as data. Thus one program can be written to change another. In fact, a LISP program can accept itself as data and modify itself while it is in execution. The chief disadvantage of LISP program is that they are hard to understand.

PROLOG is a second language that has received wide spread use for symbolic programming. It was developed about 1970 by Alain Colemeraner at the University of Merseilles. It enjoys wide popularity worldwide. However, developing Expert System or Computer Assisted Learning in symbolic programming language requires expertise of sophisticated (and expensive) computer scientiest.

It is also very slow labour intensive and expensive. Therefore, these languages were not normally used for the development of expert system in the commercial world and hence, the preference for conventional programming languages are now very slim as there are more and more database programming languages especially with the advent of the 5th generation languages that proves simpler and user friendly.

3.2.2 DATABASE MANAGEMENT SYSTEM.

The milestone of early database management system software was the COBOL (Common Business Oriented Language). This implementation were found to need a number of additions in the control of the report writers (a program that provides many facilities for editing, totalling and formatting data, and performing other related tasks).

By late 1960s and early 1970s, there was an improvement in data management as high-level file organization emerged to alleviate the mismatch between the increasing, complex multi-task into retrieval system.

3.2.3 CONCEPTS OF DATABASE MANAGEMENT SYSTEM

The concept of database system will be discussed in terms of the objectives of database, which reflect the present needs of the modern data processing community. The overall objective in the development of database technology has been to treat as organizational resources and as an integrated whole.

Furthermore, database systems allow the data to be protected and organized separately from other resources (e.g. Hardware, Software and program). Specifically, the choice of programming language is *Dbase IV and Clipper 2.0* both which are typical examples of Database Management for the following reasons:-

1.   Data integration is achieved

2.   Data redundancy is reduced or eliminated

3.   Data independence can be achieved

4.   Data integrity can be maintained and are centrally controlled

5.   It is suitable for transaction processing application

6.   It is easy to use and understand

7.   It is easy to develop user friendly applications, hence data entry and updating can be easily performed.

8.   It is easy to make corrections

9.   With clipper 2.0, your program can be compiled to executable file such that it can run independent of the Dbase environment.

3.3 THE DESIGN OF THE PROPOSED SYSTEM

The proposed system is made up of a pull-down menu system which comprises of other submenus.

Basically, the main menu has three (3) options. The format of the main menu is as shown in fig. 1.0

below.

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE (A Case study of Nigeria Customs Service)		
CAL TUTOR	QUESTION AND ANSWERS	EXIT
USE UP AND DOWN ARROW KEY TO HIGHLIGHT THE DESIRED OPTION		
AND PRESS ENTER KEY TO EXECUTE		
Fig. 1.0 Main Menu System		

At the main menu, the system will require the operator to use the Up & Down arrow key to highlight

the desired option with a press on the Enter/Return key to execute the procedural program concerned.

A.   THE CAL TUTOR

The CAL tutor is the first option of the main menu system. It also serve as the engine room (that is

the knowledge base) of the proposed computer assisted learning tutorial. Here, the text that is

information are stored in text files in form of a knowledge base program which now teaches the users

or operators more about GATT VALUATION CODE. The format of CAL tutor submenu is as

shown in fig 2.0 below

34

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE		
(A Case study of Nigeria Customs Service)		
CAL TUTOR	**QUESTION AND ANSWERS**	**EXIT**
1. CHAPTER 1 2. CHAPTER 2 3. CHAPTER 3 4. CHAPTER 4 5. CHAPTER 5		
USE UP AND DOWN ARROW KEY TO HIGHLIGHT THE DESIRED OPTION		
AND PRESS ENTER KEY TO EXECUTE		
Fig. 2.0 CAL TUTOR Sub Menu Option		

However, within the CAL tutor submenu users are expected to use the arrow keys to highlight any of the desired chapter by pressing the enter key and the procedural program (i.e text file) involved is activated. This procedure is applicable to all options within the CAL submenu.

B.   THE QUESTION AND ANSWER OPTION

This is the second option of the main menu system. This option is an avenue for the user to test his/her efficiency and capability on the GATT VALUATION CODE, and the only way the user can confirm his/her knowledge is through the use of questions and answers.

Since the tutorial is covering five chapters, each chapter has six questions with suggested answers with which the user can highlight or pick from in form of objectives. The format of questions and answers (Q & A) is as shown below in fig 3.0

```
+-----------------------------------------------------------------------+
|        COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE              |
|               (A Case study of Nigeria Customs Service)               |
+------------------+----------------------------------+-----------------+
| CAL TUTOR        |   QUESTION AND ANSWERS           |      EXIT       |
+------------------+----------------------------------+-----------------+
|                  +----------------------------------+                 |
|                  | 1.  Q & A  ON  CHAPTER 1         |                 |
|                  | 2.  Q & A  ON  CHAPTER 2         |                 |
|                  | 3.  Q & A  ON  CHAPTER 3         |                 |
|                  | 4.  Q & A  ON  CHAPTER 4         |                 |
|                  | 5.  Q & A  ON  CHAPTER 5         |                 |
|                  +----------------------------------+                 |
+-----------------------------------------------------------------------+
|   USE UP AND DOWN ARROW KEY TO HIGHLIGHT THE DESIRED OPTION            |
+-----------------------------------------------------------------------+
|            AND PRESS ENTER KEY TO EXECUTE                              |
+-----------------------------------------------------------------------+
|      Fig. 3.0 QUESTION AND ANSWER Sub Menu Option                     |
+-----------------------------------------------------------------------+
```

c.   **THE EXIT**

This is the last option of the main menu system. By pressing the Enter key or Letter {C}, implies that the computer should close all activated database file, clears the computer screen and return to either the windows environment or DOS prompt.

3.4   FEATURES OF COMPUTER ASSISTED LEARNING (CAL)

For any CAL to be successfully implemented and used, it is necessary that the system performs at least almost as well as the Human tutor in the field. If it does not, then the systems efffort does not worth it. It will obviously be desirable to have the CAL perform better than the Human tutors. The CAL can only achieve these through the following.

1.   *Simplicity*

Simple to understand with an indepth explanation.

2.   *Subject to Reasonable Time Response*:

If the CAL takes an unreasonable time between questions and answers, then the CAL will not be used and the end users will not be encouraged.

3.   *Subject to Modification*

Human tutors is changing all the time. New facts, techniques and research are being carried out often and various methods devised just like new tests and rules come to light. A computer assisted learning (CAL) is also subjected to these changes with a similar level of flexibility as human tutors in modifying its knowledge base

4.   *An Active User Interface*

For any CAL to be well accepted by its users, it has to be user interface friendly and menu driven.

CAL Expertise has shown that no matter how brilliant, simple and user friendly a CAL tutor is, if the social aspects of the CAL (both on a personal level as is found in the user interface, and on an organizational level like the Nigeria Customs Service) are not dealt with properly, the CAL will not be popular and fully accepted by the end users. This facts has often been overlooked with some authors arguing that "the quality of knowledge base is the ultimate determinant of the usefulness and effectiveness of the application" (Bryant, 1988).

3.5   DATABASE STRUCTURE

Since the choice of the programming language is Dbase IV and clipper 2.0 both of which are typical examples of database management packages, it is of good importance to emphasize on the nature of database structure involved in the case study. A database structure shows the physical structure of the database file and show clearer the data needed for the computerization of CAL. However, the database structure incudes the design and descriptions of the contents of the files used.

Specifically, the proposed CAL has one master database file which is linked together with the text file that serves as the knowledge base.

MASTER FILE

A master file is a permanent file containing records considered vital to the running of the organization. Because the data contained within a master file are of vital importance, it follows that it must reflect the up to date record of the data types, and of course, the data occurrence must be correct. The database used is a shown below"

SECURITY DBF

This database file keeps records of all those who should have access right to the proposed software package. It comprises of four fields that is the registration date, time, user name and password. Hence anybody who want to use the CAL and does not have a password cannot run the program. Below is the physical structure of the file.

S/No	Field Name	Field Type	Width
1.	REGDATE	DATE	8
2.	REGTIME	CHR	8
3.	USER NAME	CHR	30
4.	USERCODE	CHR	7

TEXTFILES

Text files are those files that contains alphabetical characters that are typed and saved under particular filename that has an extension TXT, indicating that it is a text file. In most cases, text files serve as a guide, introduction, instruction, note or tutorial that act as human being on the field.

However, text files are used here to act as a note or tutorial that teaches Customs personnel or end-users the "GATT Valuation Code" that is about to be implemented by the year 2000. The reason for these is to bring a kind of familiarisation and to further increase the knowledge of Customs personnel on GATT Valuation before its implementation.

Specifically, the CAL is divided into five (5) chapters containing text files with each of the text file under control from the main menu system.
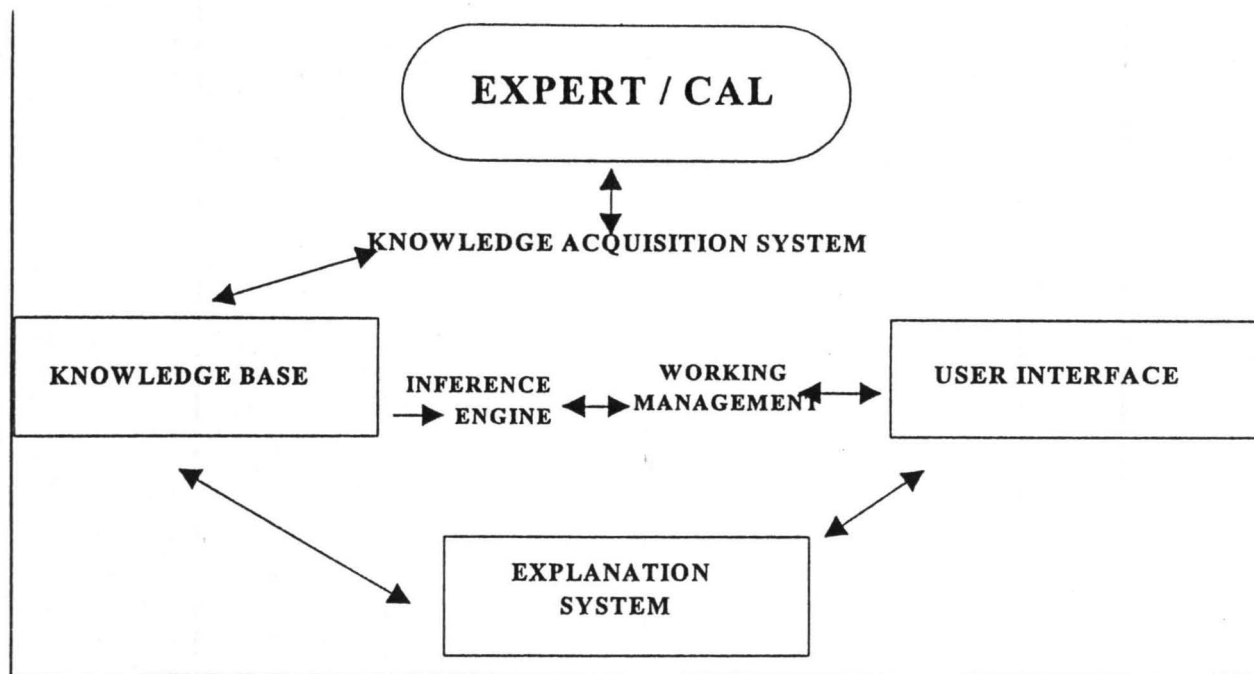
As you highlight any desired option by pressing the enter key, the procedural text file concerned are then displayed on the computer screen for reading purposes. Apart from the above mentioned purposes of the text file, it also act as a knowledge base, because it is strong vital information which can later be modified/updated with time.

In this project design, a total of five (5) text file was created and the names are as follows:-

1.   **Chapter1. TXT**

2   **Chapter2. TXT**

3.   **Chapter3. TXT**

4.   **Chapter4. TXT**

5.   **Chapter5. TXT**

3.6   THE SIMPLE CAL MODEL

The simple CAL model will be explained in relation to the expert system since it is a fraction of an Artificial Intelligence. The simple CAL model consist of the following basic features.

```
                        ┌─────────────────┐
                        │   EXPERT / CAL  │
                        └─────────────────┘
                               ↕
                KNOWLEDGE ACQUISITION SYSTEM
            ↖                                  ↙
┌──────────────────┐                      ┌──────────────────┐
│                  │    WORKING           │                  │
│ KNOWLEDGE BASE   │ INFERENCE MANAGEMENT │  USER INTERFACE  │
│                  │ → ENGINE ←→          │                  │
└──────────────────┘                      └──────────────────┘
          ↖                                    ↗
                    ┌──────────────────┐
                    │   EXPLANATION    │
                    │     SYSTEM       │
                    └──────────────────┘
```

1.   THE KNOWLEDGE BASE

An expert system make use of the knowledge of an expert to provide the user with useful
information about the domain. This knowledge is stored in a set of file known as the base
or knowledge in the form of IF-----THEN---ELSE production line. But because of the
attendant problem of modification and updating, knowledge are now stored in the form of
facts and data.

2.   THE INFERENCE ENGINE

The Inference Engine process the knowledge base and draw reasonable judgement based on
the user's enquiries (Via the user interface) presented back to the user via the user interface.

3.   THE KNOWLEDGE ACQUISITION SYSTEM

This is a program written by the knowledge engineer who consults experts in the problem
area to be able to create, add to, or change the knowledge base.

4. **EXPLANATION SYSTEM**

This helps the user by describing the need for certain information or by explaining the basis for taking certain action and the recommendation therefrom.

5. **THE WORKING MEMORY**

The working memory contains details of the state of system knowledge at a particular time. Thus at the start the working memory is empty, while part of the way through the interaction it will contain sets of facts which are known to be true and facts that are known to be false.
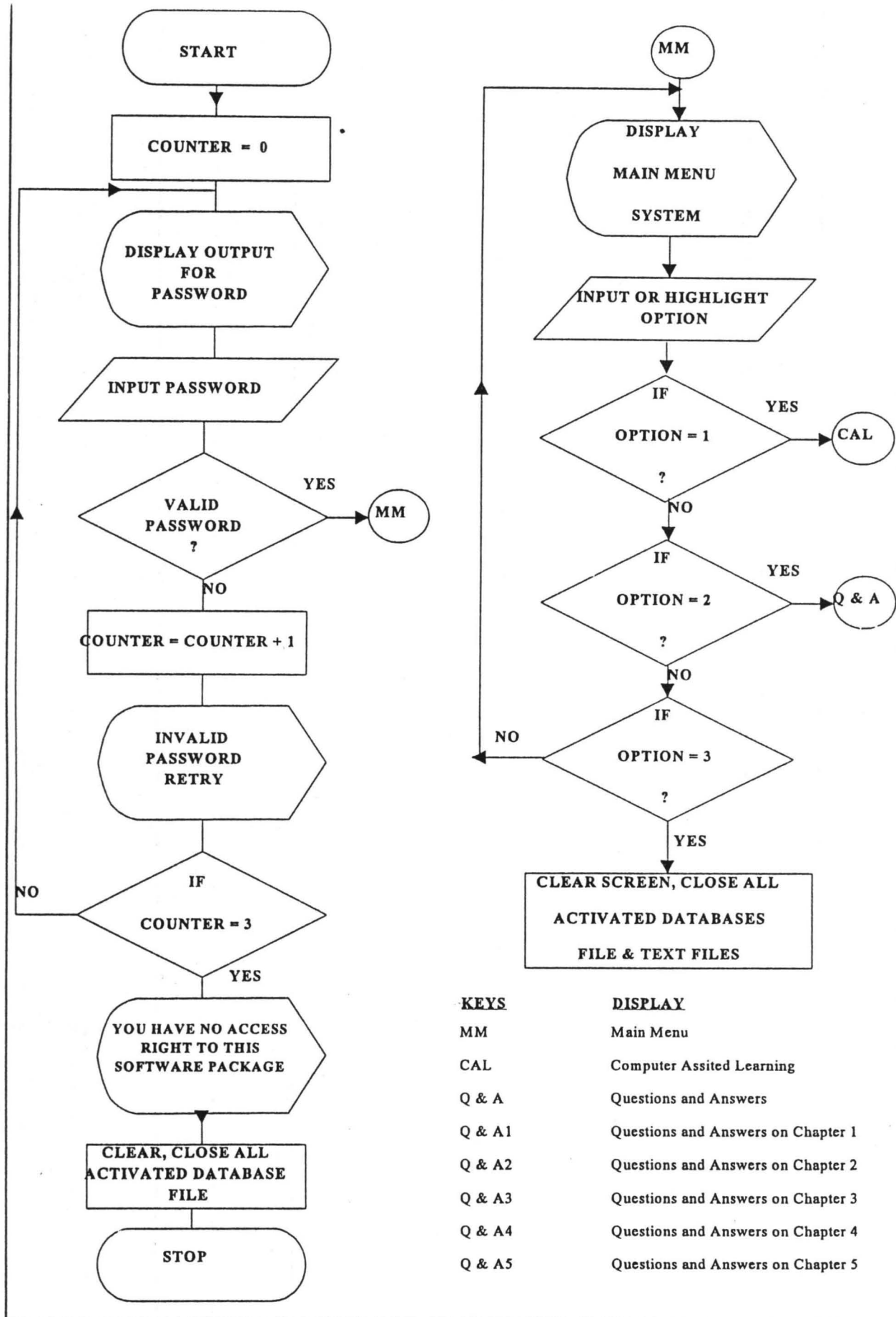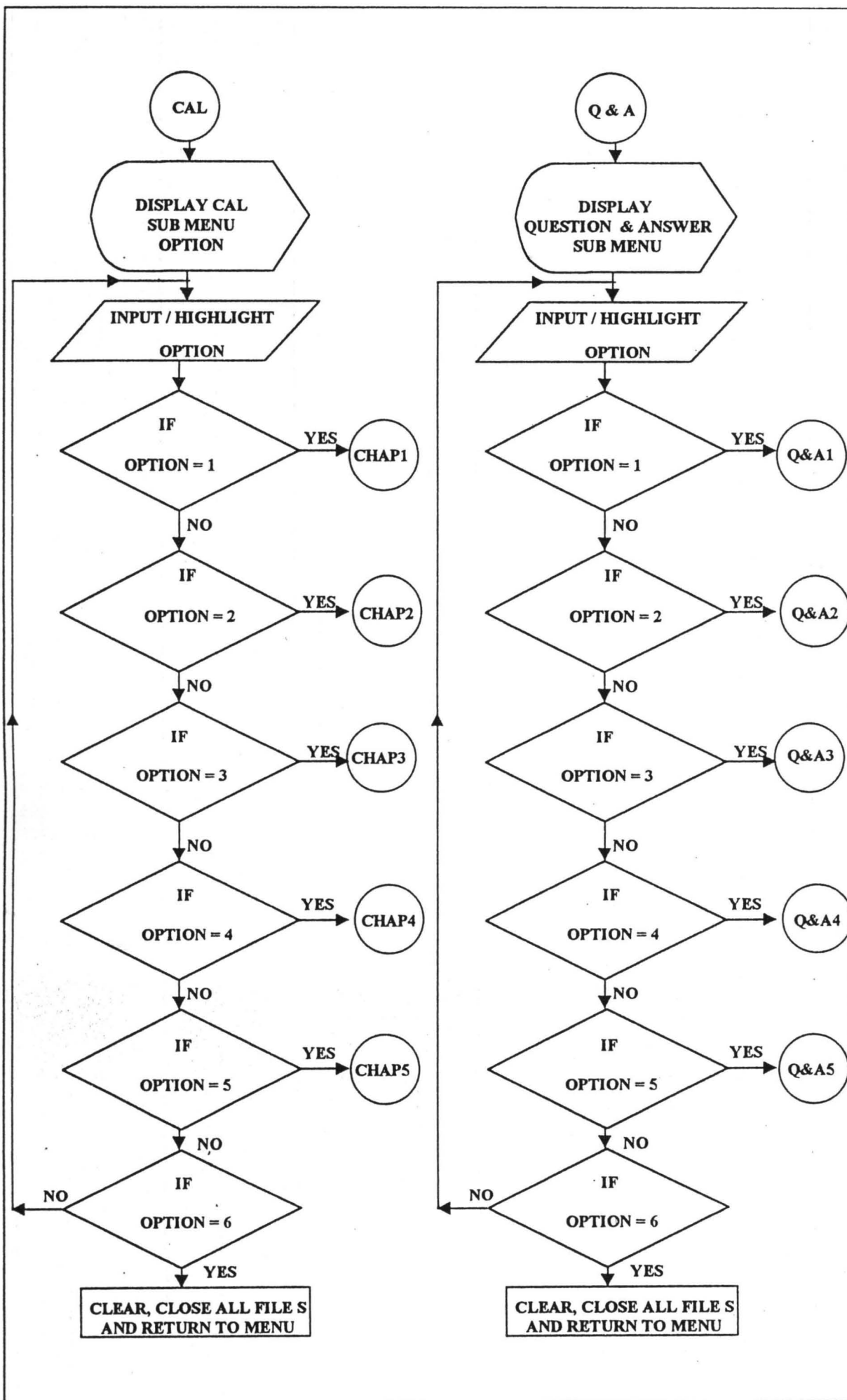
6. **THE USER INTERFACE**

For a computer assisted learning or an expert to be of any use, it must communicate with the user. This is either done directly via the screen and keyboard, or indirectly via external links to machines and monitoring devices or even the ultimate user.

3.7 **SYSTEM PROCEDURE (FLOWCHAR)**

The system procedures show the diagrammatical presentation of the proposed system. Below are system procedures (flow chart).

41

```
                                                    ┌─────────┐
      ┌─────────────┐                                │   MM    │
      │    START    │                                └────┬────┘
      └──────┬──────┘                                     │
             │                                            ▼
             ▼                               ╱─────────────────────╲
      ┌─────────────┐                        │       DISPLAY        │
      │ COUNTER = 0 │                        │     MAIN MENU        │
      └──────┬──────┘                        │      SYSTEM          │
             │                               ╲─────────┬───────────╱
             ▼                                         │
     ╱───────────────╲                                 ▼
     │ DISPLAY OUTPUT │                      ╱───────────────────╲
     │      FOR       │                      │ INPUT OR HIGHLIGHT │
     │   PASSWORD     │                      │       OPTION       │
     ╲───────┬───────╱                       ╲─────────┬─────────╱
             │                                         │
             ▼                                         ▼
     ╱───────────────╲                            ╱─────────╲        YES
     │ INPUT PASSWORD │                          ╱    IF     ╲──────────────► ( CAL )
     ╲───────┬───────╱                           ╲ OPTION = 1 ╱
             │                                     ╲    ?    ╱
             ▼                                       ╲──┬──╱
        ╱─────────╲      YES                            │ NO
       ╱  VALID    ╲─────────► ( MM )                   ▼
       ╲ PASSWORD  ╱                               ╱─────────╲       YES
        ╲    ?    ╱                               ╱    IF     ╲──────────────► ( Q & A )
          ╲─┬─╱                                   ╲ OPTION = 2 ╱
            │ NO                                    ╲    ?    ╱
            ▼                                         ╲─┬─╱
  ┌───────────────────────┐                            │ NO
  │ COUNTER = COUNTER + 1 │                            ▼
  └───────────┬───────────┘               NO      ╱─────────╲
              │                         ◄─────────╱    IF     ╲
              ▼                                   ╲ OPTION = 3 ╱
      ╱───────────────╲                            ╲    ?    ╱
      │    INVALID     │                             ╲─┬─╱
      │   PASSWORD     │                               │ YES
      │    RETRY       │                               ▼
      ╲───────┬───────╱               ┌──────────────────────────────┐
              │                       │ CLEAR SCREEN, CLOSE ALL       │
              ▼                       │ ACTIVATED DATABASES           │
         ╱─────────╲                  │ FILE & TEXT FILES             │
   NO   ╱    IF     ╲                 └──────────────────────────────┘
  ◄────╱             ╲
       ╲ COUNTER = 3 ╱
        ╲    ?      ╱
          ╲─┬─╱
            │ YES
            ▼
   ╱─────────────────╲
   │ YOU HAVE NO ACCESS│
   │ RIGHT TO THIS     │
   │ SOFTWARE PACKAGE  │
   ╲────────┬─────────╱
            │
            ▼
   ┌──────────────────┐
   │ CLEAR, CLOSE ALL │
   │ ACTIVATED DATABASE│
   │      FILE        │
   └────────┬─────────┘
            │
            ▼
      ┌─────────────┐
      │    STOP     │
      └─────────────┘
```

KEYS	DISPLAY
MM	Main Menu
CAL	Computer Assited Learning
Q & A	Questions and Answers
Q & A1	Questions and Answers on Chapter 1
Q & A2	Questions and Answers on Chapter 2
Q & A3	Questions and Answers on Chapter 3
Q & A4	Questions and Answers on Chapter 4
Q & A5	Questions and Answers on Chapter 5

42

CAL

DISPLAY CAL
SUB MENU
OPTION

INPUT / HIGHLIGHT
OPTION

IF
OPTION = 1 → YES → CHAP1
NO

IF
OPTION = 2 → YES → CHAP2
NO

IF
OPTION = 3 → YES → CHAP3
NO

IF
OPTION = 4 → YES → CHAP4
NO

IF
OPTION = 5 → YES → CHAP5
NO

IF
OPTION = 6
NO
YES

CLEAR, CLOSE ALL FILE S
AND RETURN TO MENU

Q & A

DISPLAY
QUESTION & ANSWER
SUB MENU

INPUT / HIGHLIGHT
OPTION

IF
OPTION = 1 → YES → Q&A1
NO

IF
OPTION = 2 → YES → Q&A2
NO

IF
OPTION = 3 → YES → Q&A3
NO

IF
OPTION = 4 → YES → Q&A4
NO

IF
OPTION = 5 → YES → Q&A5
NO

IF
OPTION = 6
NO
YES

CLEAR, CLOSE ALL FILE S
AND RETURN TO MENU

CHAPTER FOUR

4.0 GENERAL IMPLEMENTATION REVIEW

4.1 SYSTEM IMPLEMENTATION & REQUIREMENT

System implementation is the stage of system development when the conceptual requirement of the new system and the overall objectives are to be transferred into physical reality. This stage is very important because it is the most crucial stage in achieving a successful new system in giving the users confidence that the new system will work and be effective.

However, the system requirement has to do with the hardware configuration needed for the proposed system. A computer configuration is a collection of hardware which forms a complete system.

The choice of computer configuration is done to suite both the current and the future needs of the organization with respect to the volume and types of data to be processed. In summary, a computer system with the following minimum requirement is required.:-

- Pentium 166 MHZ

- 16MB RAM

- 2.1GB HDD

- 4.44MB FDD

- Microsoft Mouse & PAD

- Un-interrupted Power Supply (UPS)

- Stabilizer

- Colour Monitor & Printer EPSON LQ2070.

4.2 SYSTEM INSTALLATION & TESTING

System installation is the process of transferring the designed system (cal) into the computer system.

To install the software package (CAL) is as follows:-

1.   Insert the External Storage Device floppy disk containing the source program into the desired drive (A)

2.   Change the Default Drive to A by typing C:\>A: **(Enter)**

3.   At the default drive A:\> type install as shown below   A:\> install >**(Enter)**

It is important to note that there is a batch program written that will copy all the necessary executables files, database files and text files into the created directory. Once the installation is completed, the application diskette (CAL) should be put in safe place for future need.

On the other hand, system testing is often seen as a means of establishing that a program is error free and that it does what is required. This is a very dangerous point of view. It is virtually impossible to test a program so thoroughly that it can be claimed to be free of errors. In most cases, fixing one error gives rise to a host of others which in turn have to be corrected and exhaustively tested. It is much more realistic to think of testing as a *"process of finding errors"*.

When a stage is reached when the program appears to run perfectly, this does not mean that there are no more errors in the program, it simply means that those errors have not been discovered. Hence, therefore, the system developed (CAL Tutor) has been fully test run and found to be error free for now.

4.3 SYSTEM CONVERSION/HAND OVER

Once all the planned testing procedures have been completed satisfactorily, the system can be handed over and changeover from the old to the new system put into effect. There are several ways of carrying out the changeover, the method chosen will depend on such factors as the type of system that is being installed with preference to the establishment involved.

The changeover will require careful planning on the part of both the developer and the organization to ensure maximum efficiency and minimum disruption to the normal working of the concerned organization.

The following are the various types of changeover that is common:-

a.   Direct changeover (CUT OVER)

B.   Parallel changeover (parallel running)

C.   Pilot changeover

d.   Phased changeover (staged changeover).

Given the above four methods of changeover, phased changeover is chosen for this system because of the following reasons:-

1.   The system (CAL TUTOR) on Customs valuation code system is installed gradually so that the concerned organization i.e the Nigeria Customs Service can become accustomed to one area of the (GATT VALUATION CODE that is about to be implemented come the year 2000) at a time. Hence, the CAL TUTOR is going to be installed chapter by chapter.

2.   In phased changeover, part of the system can be (and often is) installed before the rest of the system has been completed. This gives the opportunity of valuable feedback from the users while the system is being developed. It also takes some of the pressure off the developer since small parts of the system can be delivered when they are ready without waiting for completion of the whole system.

4.4   **COST BENEFIT ANALYSIS**

This involves the total cost that will be needed to put the whole system in place - i.e from the system implementation and requirement that is needed for the computer assisted learning on Customs GATT Valuation Code.

However, the cost benefit of the minimum systems requirement is as shown in Appendix I and Appendix II - i.e the cost of the software development and training of at least five key officers.

APPENDIX I

S/NO	DESCRIPTION OF SYSTEM COMPONENTS	QTY	UNIT COST	AMOUNT
1.	A Complete System with the following features (a). Speed & Processor - Pentium 166MHZ (b). RAM - 16MB (c). Hard Disk - 2.1 GB HDD (d). Floppy Disk Drive - 1.4MB FDD	1	85,000	85,000.00
2.	Epson Printer LQ 2070	1	65,000	65,000.00
3.	Laser Jet Printer (HP Laser Jet 6L)	1	45,000	45,000.00
4.	Installation of Application Packages	Lot	25,000	25,000.00
TOTAL AMOUNT ON APPENDIX I				**220,000.00**

APPENDIX II

S/NO	DESCRIPTION OF SYSTEM COMPONENTS	QTY	UNIT COST	AMOUNT
1.	System Analysis & design of the proposed System	Lot	40,000	40,000.00
2.	Programming and Implementation	Lot	50,000	50,000.00
3.	Training of at least five (5) key officers	5	50,000	50,000.00
TOTALAMOUNT ON APPENDIX II				**140,000.00**
TOTAL COST ON APPENDIX I & II				**360,000.00**

To put the proposed system in place, a total of *Three Hundred and Sixty Thousand Naira* is needed as the cost of implementation.

CHAPTER FIVE

5.0 ACHEIVEMENT OF THE SYSTEM

5.1 SYSTEM INTEGRATION INTO THE NIGERIA CUSTOMS SERVICE AND PERSONNEL REACTION

When chosing a method of changeover, one of the most important factors for the system developer and the concerned organisation (Nigeria Customs Service) that is to be considered, is that of personnel reactions to the new system.

However, it is eminent that all personnels will be affected by the system to some degree and will in turn be able to influence the systems success or failure.

One the positive side, many personnel will welcome modernisation of the strategic area of the Nigeria Customs Service. This is because they will enjoy learning new skills and be keen to try out the new system and other facilities that are available on the system like the APPLICATION SOFTWARE PACKAGES and the INTERNET. They will also be keen to use it to carry out repetitive and tedious tasks and fully come to appreciate its ability to work rapidly and accurately.

On the other hand, many personnel in the Nigeria Customs Service may feel hostile towards the new system. They may be reluctant to acccept change in their pattern of work and be opposed to the idea of retraining. In some cases, personnel may see the new system as a threat to their jobs, and may feel vulnerable to redundancy, enforced early retirement or transfer. Even if their job descriptions and salaries remain the same, the personnel are afraid that the most interesting part of their work will be taken over by the new system so what they will actually be doing is much less skilled than before.

Hence, therefore the system integration into the Nigeria Customs Service and staff reaction will give an avenue for discussion with the two parties involved that is the program developer and the Nigeria Customs Service Personnel, to discuss vital issues regarding the benefits, limitations and the negative aspects. This is because no matter how well designed and efficient the new system may be, if the staff/officers will not work with it, it will be a failure.

5.2 PERFORMANCE AND ASSESSMENT OF THE SYSTEM

An application that performs well is one that accomplishes its operational objectives within a given time and resource constraint. The two most common used measure of performance and assessment of systems are :

- **THROUGHPUT**

  The throughput refers to the capacity of the system rather than its speed. Throughput can be defined as the amount of work that the system can process in a unit time.

- **TURNAROUND**

  This is also referred to as the response. It is the elapse time between the initiation of an activity and the availability of the result. The response time is a function of volume of information and speed or capacity of the underlying components.

5.3 SUGGESTION AND CONCLUSION

The use of personal computer in the selection of a good and well designed software have received increased attention in recent years. Also, the continuous substitution of manual procedures for computer based systems has in modern days become a worldwide phenomenon.

This is due to its relevance in virtually all aspects of human endevour. This interest is intensified by the capability of computer in performing a given set procedures with all the necessary accuracy. It is not subjected to committing errors, and its ability to accomplish any task with high speed and within a reasonable time makes it applicable in recent times.

However, because of the mass production of computers with its relative low demand and fear of the millennium bug, this has indeed set the price of computers coming down.

I therefore suggest and concluded for the implementation of Computer Assisted Learning (CAL) which is a Computer Based Program, just like we have seen in Accounting Software, Stock Control, Medical Record System, Legal Proceedings and Project Management Planning Systems and the Nigeria Customs Service (Computer Assisted Learning on GATT Valuation Code).

5.4 **RECOMMENDATION**

Going by the computer operations from the application programs and customized software perspective, it does substantially appear that no meaningful computerization or computer operation can take place without data being manipulated in one way or the other. That a computer machine is a wonderful system is based on its ability to process data fast and accurately. It is because of this fact that a Computer Assisted Learning (CAL) program on Customs GATT VALUATION CODE was picked as my project title and also recommended for Nigeria Customs Service.

However, if this program is implemented, the Nigeria Customs Service will derive the following benefits from the newly designed systems:

- Efficient operation of the personnel having gone through the CALTUTOR.

- As a result of familiarization with the CAL, it will solve or reduce problems as being experienced with the existing manual method.

- If the implementation takes effect immediately, personnel will be fully familiar with the CAL before the actual implementation of the proceeding of GAT VALUATION CODE by the year 2000 (Y-2K) millennium.

REFERENCE

1. BADAMASI R. A. (CPT 716)   -   System Analysis and Design
                                    (Unpublished)

2. CAROL B. & JILL D (1996)   -   Software Systems Development
                                    2nd Edition, Published by McGraw Hill
                                    International.

3. D. E. AVISON & G. FITZGERALD (1988)

                                -    Information System Development 1st
                                     Edition, Published by Blackwell
                                     Scientific Publications, Oxford London,
                                     Edinburgh Boston Melbourne.

4. LEBCOW G.T.   -   Dbase IV, the Complete Reference,
                                     Osborne, McGraw Hill, USA.

5. I.E.S. Amdii (els)   -   "100 years of Nigerian Customs and
                                     Excise 1891-1991" A Publication of
                                     Department of Custom & Excise,
                                     Nigeria, 1991, PP. 91 - 92.

   SENIOR OFFICERS SEMINAR -   Report of Senior Officers Seminar for
                                     1990 - Held at Zaranda Hotel, Bauchi,
                                     Bauchi State. Prepared by E.R.R & P,
                                     Directorate Abuja.

APPENDIX

```
*---------------------------------------------------------------------------
AUTHOR            :       KWAJAFFA  A. A
PROJECT TITLE     :       COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE
*---------------------------------------------------------------------------
Set Talk off
Set Echo off
Set Bell off
Set Stat off
Set Scor off
Set Safe off
Set Conf off
Set Esca off
SET COLOR TO W+/B
SET PROCEDURE TO CLAP
DO CCARPET
@21,40 clea to 23,77
@21,40 to 23,77 doub
@22,42 say "Enter Your Password : "
 do while .t.
   xpassword=space(07)
   @22,66 get xpassword pict "@!" color "n/n"
   read
   if xpassword=space(07)
     clear
     return
   else
     set path to c:\windows
     use security
     index on password to password
     seek xpassword
     if .not. found()
       @11,10 clea to 13,64
       @11,10 to 13,64 doub
       @12,12 say "INVALID PASSOWRD, Press Any Key & Good Bye.....!!!"
       set cons off
       wait " "
       set cons on
       clear
       return
     endif
       use
       set path to c:\ppmc
       clea
   endif
   exit
   enddo
```

```
  do warn
  do gatt
return
*------------------------PROCEDURE PROGRAMS---------------------------
PROCEDURE CARPET
ccpt=79
do whil ccpt>=0
 rcpt=0
 do whil rcpt<=24
   @ rcpt,ccpt say "±"
   rcpt=rcpt+1
 endd
 ccpt=ccpt-1
 LIMIT = 1000
 COUNTER = 1
 DO WHILE COUNTER <= LIMIT
   COUNTER = COUNTER + 1
 ENDDO
endd
RETURN
```

```
g=0
@00,00 clear to 04,79
@00,00 to 04,79 color "w+/r"
cus1="COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE"
cus2="(Chapter One - STATUTORY DEFINITION OF VALUE)"
@01,(80-len(cus1))/2 say cus1
@03,(80-len(cus2))/2 say cus2
xpage=1
if xpage=1
   g=g+1
 endif
@02,63 say "CAL Page No.: "+ltrim(str(xpage))
@07,05 clea to 19,75
@07,05 to 19,75 doub
do action
  set proc to chapter1
  do pager1
i=0
do while .t.
  i=inkey(0)
  if (i = 18) .or. (i = 3)
    exit
  endif
enddo
  *Pager1="page"+ltrim(str(xpage))
  *on key label PgUp do Pager1 && -------------- Previous Page -------------
  *on key label PgDn do pager  && --------------   Next Page   -------------

 *Pagerg="page"+ltrim(str(xpage+))  && Next Page

 *Pagerg="page"+ltrim(str(xpage+g))  && Next Page



*------------------------ Actual Page Movement --------------------------
if (i = 18) .and. xpage=1
  xpage=1
  @02,63 say "CAL Page No.: "+ltrim(str(xpage))
  do pager1
Endif

if (i = 3) .and. xpage=1
  xpage=xpage+1
```

```
  @02,63 say "CAL Page No.: "+ltrim(str(xpage))
  do pager2
Endif

if (i = 18) .and. xpage=2
  xpage=1
  @02,63 say "CAL Page No.: "+ltrim(str(xpage))
  do pager1
Endif
if (i = 3) .and. xpage=1
  xpage=xpage+1
  @02,63 say "CAL Page No.: "+ltrim(str(xpage))
  do pager2
Endif

if (i = 3) .and. xpage=2
  xpage=xpage+1
  @02,63 say "CAL Page No.: "+ltrim(str(xpage))
  do pager3
Endif

if (i = 18) .and. xpage=3
  xpage=1
  @02,63 say "CAL Page No.: "+ltrim(str(xpage))
  do pager1
Endif

if (i = 3) .and. xpage=3
  xpage=4
  @02,63 say "CAL Page No.: "+ltrim(str(xpage))
  do pager4
Endif

if (i = 3) .and. xpage=3
  xpage=5
  @02,63 say "CAL Page No.: "+ltrim(str(xpage))
  do pager5
Endif
*------------------------- End of Chapter One ---------------------------
  set cons off
  wait
  set cons on
```

```
return

   @00,00 clear to 04,79
   @00,00 to 04,79 color "w+/r"
   cus1="COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE"
   cus2="(Chapter Two - EVIDENCE OF VALUE FOR THE PURPOSE OF CHECKING
AD-VOLEREM DUTY)"
   @01,(80-len(cus1))/2 say cus1
   @03,(80-len(cus2))/2 say cus2
   @02,63 say "CAL Page No.: "

   @07,05 clea to 19,75
   @07,05 to 19,75 doub
   do action
   wait " "
retu

   @00,00 clear to 04,79
   @00,00 to 04,79 color "w+/r"
   cus1="COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE"
   cus2="(Chapter Three - COST, CHARGES & EXPENSES INCIDENTAL TO THE
DELIVERY OF GOOD)"
   @01,(80-len(cus1))/2 say cus1
   @03,(80-len(cus2))/2 say cus2
   @02,63 say "CAL Page No.: "

   @07,05 clea to 19,75
   @07,05 to 19,75 doub
   do action
   wait " "
retu
   @00,00 clear to 04,79
   @00,00 to 04,79 color "w+/r"
   cus1="COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE"
   cus2="(Chapter Four - DEDUCTIONS)"
   @01,(80-len(cus1))/2 say cus1
   @03,(80-len(cus2))/2 say cus2
   @02,63 say "CAL Page No.: "

   @07,05 clea to 19,75
   @07,05 to 19,75 doub
   do action
```

```
wait " "
retu
   @00,00 clear to 04,79
   @00,00 to 04,79 color "w+/r"
   cus1="COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE"
   cus2="(Chapter Five - TRANSACTION VALUE DATA SHEETS & VALUE
CERTIFCATE)"
   @01,(80-len(cus1))/2 say cus1
   @03,(80-len(cus2))/2 say cus2
   @02,63 say "CAL Page No.: "

   @07,05 clea to 19,75
   @07,05 to 19,75 doub
   do action
   wait " "
retu
```

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)

WELCOME TO COMPUTER ASSISTED LEARNING

(Chapter 1 - Statutory Definition of Value)

BEGIN HERE.

HOLD DOWN ALT+F TO ACTIVATE FILE MENU OPTION

PRESS {X} TO EXIT CHAPTER ONE

===== Action Bar =====
Use Page Up = > Previous Page / Page Down = > Next Page

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 1

1.0 INTRODUCTION TO STATUTORY DEFINITION OF VALUE
   The Customs value of imported goods shall be transaction

value that is the price actually paid or payable for the goods

when sold for export to Nigeria adjusted in accordance with the

provision of Nine (9) code irrespective of whether the price is

above or below prices for identical or similar goods, provided:

===== Action Bar =====
Use Page Up = > Previous Page / Page Down = > Next Page

i)   there are no restriction as to the disposition or use of

the goods by the buyer other than certain specific restrictions

which :

    (a). are imposed or required by law in Nigeria (e.g goods
        subject to license

    (b). limit the geographical area in which the goods may be
        resold (e.g Sole Distributors)

    (c). do not substantially affect the value of the goods e.g
        (prohibition on reselling a new   model   of   motor   car
        before a specified date)
Only these three types of restrictions concerning the disposi-

tion or use of the goods are admissable, any other will entail

rejection of the transaction value method.Since they may affect

the price of the goods.

ii) The sale or price is not subject to some condition or cons-

ideration for which a value cannot be determined with respect

to the goods being valued;

iii) No part of the proceeds of any subsequent resale, disposal

or use of the goods by the buyer will accrue directly or indi -

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 6

rectly to the seller, unless an appropriate adjustment can be

made in accordance with provisions of the Nine (9) code.

iv). The buyer and seller are not related or where the buyer

and seller are related, that the transaction value is accepted

for Customs purposes.

1.2. CHARGES TO BE INCLUDED

The law further directs that the value shall include all charges up to the point of delivery of the goods at the port or place of importation. For identical purposes, this may be taken as the point where the goods on discharge from the importing aircraft or ship are deposited on the quay, waggon or lighters

alongside and placed at the disposal or the importer by unloo-sing the crane slings. All costs, charges abd expenses whether for purchase or delivery of goods up to that point are inclu-sive in the value. This simply means, cost charges and expenses occur at the country of exportation. Some of these inclusive

expenses are specified in the viz. freight and insurance and in addition there may be expenses for foreign carriage, loading and unloading, containers, packing, port dues royalties, etc.

All expenses for treatment of the goods subsequent to unload-ing are exclusive, although where, in certain cases e.g postal

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 10

certain 'free house' or 'free store' importation, the importer could not have obtained his goods any cheaper at whatever place within Nigeria he had taken delivery, such post importation deductions are not in practice allowed.

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 11

Thus while an invoice may provide a satisfactory basis of value in that it represents transaction value, it may not cover one or more of these charges e.g in the case of f.o.b. (free on board) invoices, and arrangments must be made to ascertain what additions should be made to arrive at the statutory value.

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 12

1.3 VALUATION OF GOODS FOR CUSTOMS PURPOSES
    All officers are to note and be guided in the discharge of their duties by the following in determining the transaction value for customs purposes :

(a). The treatment of inadvertent errors occurring in the dec-
    lared value of goods. Officers are to be lenient in the

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 13

treatment of certain errors committed in goods faith having
regard to the declaration of value of goods for customs purpose
Such errors are those of transcription, arithmetical mistakes
in declaration, inadvertent omissions of elements of the normal
price, inadvertent errors in the conversion of foreign currency

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 14

incorrect deductions and similar errors arising from misappre-
hension of the principles of the definition of value.
 The rectification of such errors if they occur at all should
be subject to the payment of the difference in duty involved
and there should be no additional charge of interest. To deter-

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 15

mine the margin below which no penalty should be imposed and
above which the penalty to be imposed should be moderate and
commensurate to the gravity of the error, officers should be
guided by the limit fixed for mnior and major irregularities
in paragraphs 9 of the Detention and Seizure Code.

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 16

(b). Treatment in Valuation of goods of the right of reputation in Nigeria. Where an idea or an original work is incorporated in or refelected by imported goods, the value of the right to reproduce that idea or work in other goods by using the impor- ted goods should not be included in the dutiable value of the imported goods.

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 17

(c). The application of value in respect of trade marks. In order to ensure uniformity in valuation in cases in which trade marks are involved, the right to use trade mark should not be included in the dutiable value of goods.

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 18

1.4 ASSESSMENT:The assessment of value will therefore depend on (a). Whether the invoice price, having regard to the trading relations of the importer and supplier, affords a satisfactory basis of value and if not what other price should be adopted.

(b). Whether the price adopted as the basis of value needs addition in respect of pre-importation charges.

1.5 METHODS FOR THE DETERMINATION OF CUSTOMS VALUE - There are

six different methods of determining the customs value of

imported goods :

(i). The transaction value of imported goods

(ii). The transaction value of identical goods

(iii). The transaction value of similar goods

(iv). The deductive method

(v). The computed value method and

(vi). The fall-back or "reasonable means" method.

Neither the imported nor the Customs administration is entiled

to select the valuation method to be used. The order set out

above is binding, that is, when valuing imported goods, the

first method to be applied is that of the transaction value of
the goods imported.Only if for any reason or other, this method

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 22

proves   inapplicable, can   be valued   the third   one should be

tried, then the fourth, until Customs value can be determined.

The only   exception to this rule that   the importer may request

that the order in   which the   deductive method and the computed

value are applied be reversed.

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 23

1.6. APPLICATIONS OF THE METHODS

i). THE TRANSACTION VALUE METHOD OF THE IMPORTED GOODS

    (a). The basis for valuation of goods for Customs purposes

    should, to the greatest extent possible, be the transaction

    value of the goods being valued.In the definition of trans-

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 24

    action value at the paragraph 4,   the expression   "Customs

    Value of the imported goods" appears in all the articles of

the Agreement which set out valuation method. It should be noted that only goods are concerned. If something other than goods is imported, the agreement does not apply.

(b). GOODS WHEN SOLD - This expression in the definition, purposes the existence of a sale prior to the valuation operation. In the absence of such there is no transaction value hence cannot be applied. This would be the case e.g if the goods were imported on consignment or for hire.

(c). FOR EXPORT TO NIGERIA - Only transactions entitling actual trnasfer of goods at international level any be used Sufficient for the sale to have taken place at the time of valuation. Consequently, the transaction value must be accepted without account being taken of the time lapsed

between the conclusion of the contract of sale and the time

of Customs valuation. Nor should account be taken of fluc-

ations in the market which may have occurred after the date

on which the contract was concluded.

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 28

(d). "Price actually paid or payable" - is the real price

which is actually made or to be made as a condition of sale

of the imported goods, by the buyer to the seller or by the

buyer to a third party to satisfy an obligation of the

seller. If the goods are paid for prior to valuation, then

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 29

that valuation will be based on the price paid. Where that

is not the case the price payable will be used. The payment

need not necessarily take the form of a transfer of money.

It could be made by way of letters of credit or negotiable

instruments. It may be made directly or indirectly.

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 1 - Statutory Definition of Value)   CAL Page 30

An example of an indirect payment would be settlement by the buyer, whether in whole or part, of a debt owed by the seller. The flow of dividends or other payments from the buyer to the seller that do not relate to the imported goods are also excluded from the Customs value.

The price actually paid or payable may be as a result of a reduction (cash, trade and quantity discounts etc).
Any price reduction obtained by the buyer will therefore be when the Custom value is determined. However, credits in respect of earlier transactions have to be included in the transaction value.

ii). TRANSACTION VALUE OF IDENTICAL GOODS

**   Identical goods are goods which are the same in all respects, including physical characteristics, quality and reputation. Minor differences in appearance would not preclude goods otherwise conforming to the definition from

being regarded as identical. The following example would

be regarded as "Identical" :

* A red 1989 "Peugeot 405 DSR" car;
* A blue 1989 "Peugeot 405 DSR" car.

Goods are regarded as identical only if produced in the

same country, if possible by the same person, as the goods

being valued;they must have been imported and valued under

the first valuation method and exported about the same

time as the goods being valued.

** The method can be envisaged if the transaction value

has been rejected for any reason or if none exist. It may

indeed be impossible in some cases to find a transaction

value for the imported goods e.g :

a). Where the sale took place between related persons and

the relationship influenced the price :

b). Where the buyer and seller are not related but the

price actually paid or payable call for adjustment, and
objective and quantifiable data are not available to efect
the requisite increase;

c). Where the price is still subject to restrictions or to
conditions prohibiting the use of the price.

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 2 - Checking AD-VALOREM Duty Entries)

WELCOME TO COMPUTER ASSISTED LEARNING

(Chapter 2 - Examination of Evidence of Value for the Purpose
of Checking AD-VALOREM Duty Entries)

BEGIN HERE.

HOLD DOWN ALT+F TO ACTIVATE FILE MENU OPTION

PRESS {X} TO EXIT CHAPTER TWO

================ Action Bar ================
Use Page Up = > Previous Page / Page Down = > Next Page

2.0 ENTRY
    Directions relating to the entry of Goods generally and the

thereof are contained in the long-room code (now referred to as

Customs Processing Centre(CPC)) which is to be read in conjuc-

tion with the following paragraphs below :

================ Action Bar ================
Use Page Up = > Previous Page / Page Down = > Next Page

(a). GENERAL
    The Boards requirements in respect of invoices and cer-

    tificates relating thereto are set out in paragraph 8

    of Customs and Excise Notice No. 13 (Government Notice

    1989/1970)as amended.In addition a declaration of value

    form (see annex "D" for specimen)is to be completed and

================ Action Bar ================

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 2 - Checking AD-VALOREM Duty Entries   CAL Page 53

submitted by the Importer or his Customs Clearing Agent

along with the Bill of Entry and other relevant import

documents.

(b). DEVIATION FROM PRESCRIBED FORMS OF INVOICES
Normally no deviation from the prescribed of invoice

and or certificate of value is permitted, and no final

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 2 - Checking AD-VALOREM Duty Entries   CAL Page 54

approval of any such deviation is to be given unless it

has been approved by Headquarters.No such approval will

be given by Headquarters unless the applicant has supp-

llied sufficient number of copies for distribution to

the Customs Processing Centre (CPC) at all Ports, and
Border Areas.

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 2 - Checking AD-VALOREM Duty Entries   CAL Page 55

(c). UNAPPROVED INVOICES
An invoice which is not in conformity with Customs req-

uirement is by law not acceptable and is to be rejected

even where the trader offer monetary deposit to produce

the proper invoice at a late time.

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 2 - Checking AD-VALOREM Duty Entries   CAL Page 56

2.1 INCOMPLETE OR UNSATISFACTORY EVIDENCE OF VALUE
(a). Where there is no reason to suspect fraud :- Where the

evidence of value is incomplete or unsatifactory, but there

is no reason to suspect a fraud, the releasing officers

should inform the Area Valuation branch for checking the

declared value with a view to talking an appropriate action

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 2 - Checking AD-VALOREM Duty Entries   CAL Page 57

If the Area Valuation branch could not resolve the matter,

it could then be referred to the valuation Headquarters for

resolution.
(b). Where there is no reasonable evidence of fraud :- If

fraud suspected, the valuation branch should after investi-

gation, refer the matter to the Investigation Department

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 2 - Checking AD-VALOREM Duty Entries   CAL Page 58

for proper investigation and prosecution where necessary.

(Long-room (CPC) code paragraph 59)

2.2 LOW VALUE SUSPECTED
When an officer as a result of his examination of goods

liable to ad - volarem duty is of the opinion that the values

declared are low but no definite information is available on

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 2 - Checking AD-VALOREM Duty Entries   CAL Page 59

which the value can be challenged, a report of the facts, toge-

ther with entry, should be necessary. In such cases the goods

may be released on condition that the balance import duty is

secured with an appropriate bond from either a reputable bank

or a reputable insurance Company pending the ruling by the

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 3 - COST, CHARGES AND EXPENSES)

WELCOME TO COMPUTER ASSISTED LEARNING

(Chapter 3 - Cost, Charges And Expenses Incidental To The
Delivery of The Goods)

BEGIN HERE.

HOLD DOWN ALT+F TO ACTIVATE FILE MENU OPTION

PRESS {X} TO EXIT CHAPTER THREE

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

3.0 GENERAL
    The amounts to be included for Carriage, Freight, Insurance

etc. in the dutiable value of Ad-Volarem goods are in all cases

to be the sums actually charged to the importers for such ser-

vices and not the smaller sums disbursed by their agents.

Officers accepting entries must satisfy themselves that the

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

charges declared are those to be debited to the importers.

And charges from the last point covered by the terms of the

invoice to the place of landing should be supported by valid

documentary evidence and care is to be taken to see that no

items is omitted. Thus, in the case of F.O.B invoice, evidence

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 3 - COST, CHARGES AND EXPENSES)   CAL Page 71

in respect of the charge for freight and insurance must be pro-
duced, while in the case of an ex-factory invoice, the cost to
the impoter of carriage abroad and loading and stowing in the
vessel must also be shown.

WELCOME TO COMPUTER ASSISTED LEARNING

(Chapter 4 - Deduction)

BEGIN HERE.

HOLD DOWN ALT+F TO ACTIVATE FILE MENU OPTION

PRESS {X} TO EXIT CHAPTER FOUR

===== Action Bar =====
Use Page Up = > Previous Page / Page Down = > Next Page

4.0. GENERAL
   Apart from the costs, charges and expenses incidental to the purchase and delivery of the goods (dealt with in Part IV) adjustment may be made as in paragraphs below.

4.1. DUTY - Where it is claimed that the price to the consignee includes the duty payable, the amount of duty may be allowed as

===== Action Bar =====
Use Page Up = > Previous Page / Page Down = > Next Page

from the invoice value. This will normally arise only in the case of goods imported on free house terms through a forwarding agent in Nigeria when the latter enters the goods.

4.3. TRADE DISCOUNT
(a). Trade discount shown on the invoice may be allowed if the rates are reasonable having regards to the practice in the

===== Action Bar =====

```
================= Action Bar =================
Use Page Up = > Previous Page / Page Down = > Next Page
```

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 4 - DEDUCTIONS)

WELCOME TO COMPUTER ASSISTED LEARNING

(Chapter 4 - Deduction)

BEGIN HERE.

HOLD DOWN ALT+F TO ACTIVATE FILE MENU OPTION

PRESS {X} TO EXIT CHAPTER FOUR

4.0. GENERAL
Apart from the costs, charges and expenses incidental to the purchase and delivery of the goods (dealt with in Part IV) adjustment may be made as in paragraphs below.

4.1. DUTY - Where it is claimed that the price to the consignee includes the duty payable, the amount of duty may be allowed as

from the invoice value. This will normally arise only in the case of goods imported on free house terms through a forwarding agent in Nigeria when the latter enters the goods.

4.3. TRADE DISCOUNT
(a). Trade discount shown on the invoice may be allowed if the rates are reasonable having regards to the practice in the

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 4 - DEDUCTIONS)   CAL Page 98

particular trade concerned. Quantity discount may, in the absence of special circumstances, be allowed where, following trade practice, such a discount is tantamount to a reduction in price for a larger order. Where however, discounts are given in respect of special considerations such

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 4 - DEDUCTIONS)   CAL Page 99

as breakages or standing the facts are to be reported to the valuation Headquarters.
(b). The term "Discount"is also sometimes used to describe what is really commission payment to an agent or associated house.Such payments are of course,not allowable discounts. Various other instances occur where "discount" is used in

COMPUTER ASSISTED LEARNING ON GATT VALUATION CODE

(Chapter 4 - DEDUCTIONS)   CAL Page 100

special sense. For example, some foreign exporters of lace and other textile goods allowed discounts called "trade discounts" (usually 2 percents) as a deduction from gross invoice prices,in lieu of providing samples of their goods free or at a special sample discount. This deduction is a