ISTANBUL KULTUR UNIVERSITY

INSTITUTE OF SCIENCES AND ENGINEERING

Tax System and Database Design in Libya

M.S.Thesis By

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Department: Mathematical and Computer Sciences

Program: Mathematical and Computer Sciences

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Table of Contents

List of Tables

List of Figures

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Chapter one

Introduction

The taxation system is considered one of the bases of any financial system all over the world.

The tax is defined as (the amount of money that government earns obligatory through one of the general departments according to approved legal laws.

Then it is apparent that tax is considered a financial tool through which earnings are transferred forming the private use to public usage, as it is the tool that extract a portion of individuals' incomes or wealth, and transfer it to the governmental budget in order to accomplish its financial, economical and social objectives.

The first taxation law in Libya has appeared in the Turkish era (Ottoman) as there were taxes earned on agricultural corps and commercial activities.

These taxes are paid to the government in a form of gifts or donations presented by the individuals to the governing authority started to demand it by itself from the individuals whenever the government goes through economical crises and natural disasters and wars.

Then tax has become regularly paid on constant bases, and then this elective contribution has been converted into a national duty which the society imposes through the government representing it.

Thus individuals has become obliged to pay part of their incomes or wealth as their contribution to undertake governmental burden, and the obligation element in this stage requires the approval of the donors to pay the tax, but it was the government that imposed it by its open choice and bond its payers, then tax is not imposed any further, but it is demanded according to laws issued by the legislative authority representing the people which is supposed to authorize this government to impose taxes , that is what is called the consent principle , wasn't but a game played by the governors and this tax

system has continued till 1968 and is considered the first integrated tax system applied in Libya till AlFATEH revolution .(1)

For the year 1973 . Subjected to judicial control on constitutionality of laws, which is still valid till the present time, with the addition of some amendments from time to time on this law in order to satisfy people's need.(1)

Chapter 2

2.1 Introduction

to study any system by all means that go by several phases from impotent's phases, initiative study phase detail in the existing system, include idea definition of the project , Problems of the exiting system , The importance of the project ,The feasibility study and working for solution this problems ,clarification for period of time that the new system needed to enforcement the map for this project .

2.2 Project Idea:

It include preparation of a system for tax office (yafren), this office is part of the general tax department on Aljamaheriya scale.
And that is to transfer the manual work to auto work in order to control the daily services and save time and effort.

2.3 Study the existing system

The study of the existing system includes:

2.3.1 Preparation of monthly reports which includes the following:

A- establish special listing of cash register book when the individuals pay any kind of taxes ,their names must be register in this register book, in serial numbers, and the type of this tax must be registered, also the total paid amount the number of the receipt, and the date of payment.
B- Establish a special listing for dilly register. Through this register the taxes will be classified alone. Where it must be written the paid amount for each type of tax, number of receipt, date of payment, and the total for each section. Also may register the total paid amount.

C- Establish a special register for the deposits:- the register contain the type of additional taxes (deposits) , which could be applied for certain time and for certain purposes, and dedicated from some specific tax payers ,in which tax value must be registered and the general total of this taxes.

D- Establish listing of the total taxes:- In this register all types of specific taxes is registered, where in it the value of each tax and general total amount of these taxes must be registered.

E- Establish special listing for G 82 form in this listing all individuals names must be written, who had paid the taxes of income and this listing concerns the commercial revenue department only.

F- Establish a special listing for G35 form:- It is financial listing resulted from the daily register, and it contains all types of taxes, the specific and the additional taxes, in which must determine the total amount of this taxes (for earlier months) and the total amount (For the existing and earlier months together) and determine the total amount for each tax.

2.3.2 Preparing a general reports, which include:

A-establishment of listing of individuals names who had paid the general income tax:-

In which registered the name of financiers who had paid the general income tax, where their names is registered with successive number the file no. each person, the value of paid tax, and also to register the receipt no. for each paying person, date of payment, and the total income of each financier, in additional to the general total value of taxes.

B- Establishment of special listing for contracts according to contract type or according to the name of notary public.

In which register the names of persons who had paid the contract tax and its and the registration of the second partner's name (in consecutive numbers), also the charge for the notary public, the amount of each contract tax and the document no, and the charge for delay if applicable date of payment, and the general total.

C- Establishment of resting showing the amount of stamp (temper) tax selling (stamp tax, official papers, bills)

In this listing the name of the licenses, owners are registered (consecutively). In addition the registration of receipt no. and its date, also the total amount of buying (withdrawal) for each license owner.

D-establishment of listing for the amount added to the stamp (temper) tax types. (Temper) tax types. (Temper, official papers, bills):- In this listing the, the names of importers (consecutively) is registered, also the registration of receipt no. and date, and the total amount of addition for each importer (depositor).

E- Establishment of listing showing the total balance of the type of detachment (stamp tax, official papers, bills):- In this listing the type of detachment can be registered either if (stamps, bills, official papers) and the value of this detachment for each and its and its balance.

2.4 System Components:

1- Commercial profits department or department of income on trade, industry and artisans.

2- Free artisans department.

3- Contracts department.

4- Department of fees and salaries.

5- Department of revenue deposits with banks.

6- Department of stamps and official papers sales.

7- Department of treasury.

2.4.1 Commercial profits department or department of income on trade , industry and artisans:

It is the department responsible on follow up various commercial activities and on the accountancy of activities owners with regards to profits that are accomplished during a specified period (or a specific year), work starts by opening files for the contributors whether they are (Tasharukiates) owners or individuals with commercial or industrial activities, also owners of vehicles for public transportation and obliging them to pay the

due taxes, this department also execute calculation of taxes that was not calculated from one financial year to another , in addition to determine Tasharukiates or individual establishments activities .
And provide notification about the activities terminated by their owner.(1)

2.4.2 Free professions department:

This department if concerned with the activities of the professional forms such as (Accountancy bureaus, notary publics, engineering bureaus etc…) are not listed with commercial and industrial activities.
Moreover this department open files for each contributor, and follow him up annually and keep accountancy on his income during the sixty days follow the tax year ending and that starting from the first year following profession practice.(1)

2.4.3 Contracts department:

This is fully responsible on contracts registration, also estimates of contracts with regard to vehicles , and estimates of invoices as they are authenticated after their payment and transmit a copy of which to the department of commercial profits in order to list it with commercial profits.
The departments also carry out the calculations of the contract tax value.(1)

2.4.4 Department of fees and salaries:

This is responsible on the method of auditing the taxes on fees and salaries issued by the public companies – private companies – banks, as a statement of this tax is sent to the department of fees and salaries , in this department the statement is audited to ensure the correctness of the data , the process of fees and salaries payment is not made for a specific month without having the tax settled by the contributing party, a file will be opened for each contributing party along with a monthly follow up.(1)

2.4.5 Department of revenue deposits with banks:

This department carries out the auditing of the statements issued by banks regarding the value of tax on deposits, as there are funds that are deposited in the banks as deposit in private accounts i.e. they are not current accounts and their taxes are collected annually or monthly, this department works on opening file for each bank follow up.(1)

2.4.6 Department of stamps and official papers Sales:

This department works on issuing licenses for those operating with it after the approval of the general administration of the department of taxes, in the process of stamps sale (stamps – bonds-official papers) and whenever there is shortage in some stamps this department of taxes to import an additional specific quantity of the stamps for this department.(1)

2.4.7 Department of treasury:

This department is considered the essential foundation in the taxes bureau, responsible on funds collection.

Whereas in this department get in touch with types various from taxes as follow:

2.4.7.1 Original taxes:

The income tax law was imposed for the year 1973, quality taxes as each type of income is subjected to separate tax started considering organizing each of them.

The nature of income and method of its estimate and the manner of collection the tax imposed on it and dividing these types of taxes in to:

A- Tax on commercial profits or department of income on commerce, industry and artisan.

B- Tax on private professions income.

C- Tax on contracts.

D- Tax on fees and salaries.

E- Tax on bank deposit interest.

F- Tax on stamp and official papers sales.

2.4.7.2 Additional taxes:

By this is meant those taxes that are imposed beside the original tax on temporary bases, and in order to face certain urgent task, or accomplishing some of the national or human aims such as natural disaster's and they include:

A-Contribution: - It is the tax that is calculated monthly on every contributor of those subjected to some quality tax and it is proportional or fixed whose value is transferred to the central bank of Libya to the benefits of the general Libyan stock companies in Aljamaheriya such as bank.(1)

B-Corporation funds:-These are relative additional taxes which are deducted from the contributor income or use the earnings of this tax to contribute the natural disasters, and transfer its value to the Central bank of Libya.

C-Diner deduction:-These are collected monthly per each contributor on bases of one diner per person, and it is transferred to Central Bank of Libya.

The implementation of the additional tax is terminated when it accomplishes those aims for which they are imposed. (1)

2.4.7.3 The general tax on income:

The general tax on income is not considered a quality tax, but it is considered as complementary to the quality tax, these taxes applies only to those with annual incomes (From all its sources which are subjected to quality tax) exceeds six thousand diners.

And as the general tax on income is a complementary tax to the quality tax, therefore the regulations concerning those two types of taxes are organized to unique tax legislation.

2.5 Tax Declarations:

2.5.1: The Tax Declaration and Its Characteristics:

By the tax declaration is meant those data and information that describes the earnings and expenditures and the result of different operations which the contributor has performed and are subjected to tax for the specified period of timer oblige the contributor or others to present to the department of taxes on specific sample.

Therefore the tax declaration is considered as a binding document to the contributor.

And characteristics of tax declaration are:

1- Tax declaration is considered as a written admission signed by the committed to present it.

2- The tax declaration covers a legal period of activity.

3- The tax declaration is presented to the specialized tax department during a legally specifies period.

4- The declaration is presented on a specific sample.

5- The declaration describes the result of different operations which is carried out by the declarations presenter during the period covered by the declaration, which means it describes the total earnings, profits and expenditures and costs to reach the net income profits or loss. (1)

2.5.2: Types of Declaration:

2.5.2.1 Tax Declaration on Commercial profits:

this is obliged to present declaration on all the individual contributors and mutual partners and simple recommendation companies and the shears recommendation with regard to the operating partners, whether it the declaration presenter owns regular accounts or not, and whatever the outcome of the operations profit or loss.

The declaration is presented to the tax department during sixty day’s from the date of tax year ending, or the end of the financial year with regard to the activity, if it has adopted bases to connect the tax according to the law. (2)

And in order that the mutual and operating partners enjoy the exemption decided by law, to present with the declaration presented the company a declaration regarding his –social status, and an assurance that he did not enjoy that exemption on any other income that is subjected to the tax, otherwise his right is dropped.
The individual contributor should indicate in his declaration to the fact whether he was joint partner in one of the joint liability companies or operating partner in one of the recommendation companies.

And in case of conceding the activity, the declaration should bond the conceder and the one to whom concession is made, to be presented to the tax department on all the contributor or the resulting company profits on the main activity or from any other activity subjected to the tax.

The declaration is presented on form NO-5, and to be attached with the declaration in case of regular accounts, the following documents:

- General Budget.
- Operating and merchandizing accounts.
- Profits and loss accounts.
- Consumption statements.
- Statement concerning the details of expenditures incoming to the profits and loss account.

These documents mentioned above should be prepared according to accountancy procedures, and signed by the declaration presenter or whoever representing him legally.
And if whoever has carried out the work is not committed legally ton present declaration about his income, in this case he should notify the department or the concerned tax bureau located in the specialization domain band location of his residency in the commercial work which he carried out, and the person and part who performed this work for their benefits.

And the funds that he gained for his performance, and the declaration should be on form No-5 taxes and that is during thirty Day’s from the date of finishing work , the

declaration presenter in this case should pay the due tax that he should pay during this period on bases of what is declared.(2)

2.5.2.2 Declaration of Tax Free professions and contracts Income:

Each of the contributors of free profession income tax should present to the tax department a written declaration about his income during the following sixty Day's of the tax year end, and that is from the beginning of the following year of practicing the profession.

The declaration should include data of the actually collected income during the year covered by the declaration, resulting from the operations related to the various types of professions, even if it was due of operations performed in previous years. or paid in advance during the year of presentation of the declaration about the operations that were not performed till the end of this year.

And also the total resulting income on sale of any asset of the material or immaterial activity assets and of the other income related to profession practice.

The declarations also include all the costs and expenses that are actually made in order to the income in relation to the declaration.

The declarations should be attached with all the documents and proofs, and that the mentioned documents or declaration should be signed by the declaration presenter or whoever represents him legally. (2)

2.5.2.3 Tax Declaration on Fess and Salaries:

Business owners and those committed to the income tax of companies and departments employing clerks, employees, workers or industrialist against any income subjected to tax.

Whether paid as salaries of fess or commissions or rewards or any cash or moral payments, to present detailed statements explaining in it names and surnames of persons

in their service, and the amount earned each of them from the income subjected to tax, and that is on every part of the year in which the right is proved on income.
Those statements should include the exemption amount which he enjoys.
And the amount subjected to tax and the amount of reserved tax.
Those committed to present the statements should hold the files for each of their workers in order to file all the documents related to his assignment and salary determination a, allowances and rewards and whatever financial penalties.

The mentioned statements are presented to the tax department on form No-7 taxes, and that is during sixty Day's from date of joining work.

the contributor who earn any income which is subjected to the tax from the work owner not residing in Libya or from any party, department company or work owner that can not be bounded to pay taxes for any reason, should present a declaration about the income he earns, and the name to whom it is paid on from No-7, and that is during sixty Day's from joining work.
And the contributor should pay tax due on the earned income during fifteen Day's from the date of earning. (2)

2.5.2.4- Tax Declaration on the Deposit Interest with Banks and Saving Accounts.

Banks which has deposits whatever its period is should deduct the tax on the profit of these deposits and providing them to the tax department.
The tax provision on the form No-9 taxes and that is during sixty Day's from the date of interest due on the deposit. (2)

2.6 Notifications and Taxes Data:

These notifications and taxes data are of two types:

1- Notifications and taxes data to which the contributor and others are committed.
2- Notifications and taxes data to which tax department are committed.

Firstly Notifications and taxes data to which the contributor and others are committed:

By this is meant those notifications and taxes data to which the contributors of quality and general taxes on income and companies are committed, as an execution of the income tax law and its executive regulations.

However those notifications and taxes data to which the others are committed, implies those notifications and taxes data which is obligatory to non contributing individuals whose condition permits him to know the contributor position and its inside truth.

Every contributor subjected to tax on tread, industry and artisans, or to the tax on private profession income, or to companies tax, to present a notification for that to the tax department during sixty Day's from the date of practicing the activity.(**)

Notifications are presented to the department of taxes on form No-1 taxes.

Each contributor subjected to the tax should present notification to the department of taxes in case of establishing a branch or bureau or an attorney for the activity or transferring its site to another location, and that should be during thirty Day's from date of establishing or transfer.

Notary publics and those responsible for the documentations in the legal courts and on the real estate registration administrations and bureaus, and others of those concerned with law of documenting.

Issued documents and its declaration should present to the department of taxes a notification for every conduct or contract or issued document on which an action is taken before them.

And should range an income subjected to the tax or a change in it and the notification should be presented immediately as soon as action is taken. (1)

Secondly Notifications and Taxes data to which Tax Department is Committed:

By these are meant notifications taxes data which are conveyed to the contributor by the tax department as an execution to the regulations of income tax law, its amendments and execution laws, the most important of these notifications and publicities are:

1- Notification of the contributor to asses quality and companies taxes on bases of his declaration, and is done through form No12 taxes, tax payment in this case on temporary bases, till the time of inspection of declaration and settle the tax finally.
2- Notification of the contributor to pay the general tax on income on bases of his declaration and that should be done form No 12A taxes, tax payment in this case on temporary bases, till the time of inspection of declaration and settle the tax finally.
3- Notification of the contributor about the final asses of quality, companies taxes on bases of his declaration and that is done on form No 13 taxes.(2)

The contributor is notified whit this forms in case when the department of taxes decides accepting his declaration, and accordingly his is notified about the temporary assignment of the tax which was already notified with on form No.12 taxes have become final and absolute.

2.6.1 Notification to Appear Before the First Instance or Appellate Committee:

The secretary of the first instance committee forward a notification to appear before the committee on form No.14 taxes to each of the contributor and department of taxes in order to look in to the matter of complaint which is raised by the contributor to the first instance committee regarding the income tax assessed by the contributor or the taxes, or to consider the subject matter of appeal raised by the contributor or the department of taxes or both of them to the committee in the decision of the first instance committee.(2)

2.6.2 Notification of Assessing the According to the First Instance or Appellate committee:

If the contributor complained from the settled tax done by the department of taxes, which was publicized by form No.13A taxes then this settlement the contributor is complaining off during the decided date legally, will not become final, then if the first instance committee make its decision in that regard, and the contributor declared it, then the department of taxes shall notify him by form No.15 taxes describing in it the income

according to the first instance committee and the exemption against the personal tasks as an execution of the regulation of article 36 of the law, and the new income subjected to the tax and the due tax and the temporary assessment on bases of the contributor declaration and the remittance of the due tax after settling the tax paid on the account.
And the contributor should pay the tax on bases determined by the committee and the due tax will be by notifying the contributor according to form No.15 taxes.(1)

2.7 Tax assessment and Collection:

Tax is assessed in the name of the contributor personally, and if he was not qualified or he was bankrupted publicly, or he is not residing in aljamaheriya, and if the contributor died tax is assessed in his name for the previous period on his death.
And in joint liability company tax is assessed in the name of each joint partner for the total he collects of the company income, whether it was in the form of profit or any after funds under the description he gained before distributing the income.

However in other companies and foreign companies a branch whether it was public or private, tax is assessed in each name.
And in case of multiple establishments owned by the contributor which are subjected to single quality tax and the department of the taxes carry out the tax assessment in the name of the contributor for it all as a single unit.

And in cases when tax is assessed according to a declaration presented by the contributor about his income, tax should be paid according to the actually of the previously mentioned declaration, if accepted by the department of taxes and the assessment in this case should final and unappeasable.

However if the contributor refused to presenter the previously mentioned declaration, or if the department of taxes didn't accept it has the right to estimate the income according to what it sees suitable and asses the tax according to this estimate.

Delay in paying the tax in its specified dates will be consequently followed a fine (1%) of the value of the due tax for every delay; its period is a month or part of a month but not less then fifteen Day's.

This fine happens the same time as the incurred tax.

And in cases when tax is assessed, and according to the declaration presented by the contributor, and that is what is known by the income direct estimate method to reach its truth.

The contributor pays the tax according to the actuality of this declaration during the specified dates, and this settlement will be on temporary bases till the department of taxes inspects the declaration, UN order to verify the correctness of this declaration on bases of the documents.

And if the department of taxes accepted the tax is assessed according to that, but if it didn't accepted it, or if the contributor didn't present the declaration, the department has the right to estimate his income as it sees suitable according to the documents in its possessions.

The law has granted the contributor the right to complain of tax assessment before the first instance committee for taxes conflicts.

The role to decide upon the complaints presented by those concerned according to the implementation of income taxes laws is made by first instance committee, for which a decision by the general people's committee for finance is issued to determine each committee domain of specialization, location, formation and rewards for their members.

And the first instance committee is concerned with judgment of all phases of conflicts between the contributor and the department of taxes. (1)

2.8 General Laws organizing the Quality Taxes:

Libyan legislators subjected normal individual's incomes to many and different taxes which vary according to the type of income and its source, for this reason the legislator has divide the income into the following type:

1 - Contracts income (real estates).

2 - Tread, industry and artisans income.

3 - Private professions income.

4 - Fess and salaries and whatever in its likes.

5 - Income resulting from depositing in banks and saving accounts.

The taxes imposed on this income attained b ordinary individuals is called quality taxes.

Some of these laws:

2.8.1 Exemption from the imposed taxes on income the followings:

a - Contract income (real estates) .

b - Tread, industry and artisans income.

c - Private professions income.

d - Fess and salaries and whatever in its likes.

e - Income resulting from depositing in banks and saving accounts.

Every ordinary individual, has annual income which is subjected to tax does not exceed (1200) diners if single or (1800) diners if married and doesn't have children's to care for, or (2400) diners of married and widow or divorced and has children to care for, and if his income exceeds the mentioned limits, tax is imposed on what is more than that.
Exemption limits mentioned applied to him more than one time during the tax year.
And if the income sources are many, the exempted amount is deducted for the tax vessel which is lower price.

And part of the exemption amount mentioned is calculated proportional with the period of tax assessment if the period less than a tax year.

And any change in social or family status of the contributor is not valid until the beginning of the following tax year of its occurrence.
If the tax year witnessed more than a change in the social or family status for the contributor then he will not look to other than the last change as from the beginning of the tax year following the date of its occurrence. (2)

2.8.2 Exempt from the taxes imposed on the following incomes:

a - Contract income (real estates) .

b - Tread, industry and artisans income.

c - Private professions income.

d - Fess and salaries and whatever in its likes.

The following amounts:

1- Life insurance premiums on life in the benefit of the contributor or his wife or sons, which he care for or whoever is caring for them, and that is by a maximum of 10% of the net income subjected to the tax or 250 diners annually.

2- Life insurance premiums such as fire and theft contracted in the benefit of the contributor and that is at a maximum of 5% of the net income subjected to tax or 200 diners annually.

3- Laws organized for quality taxes don't run on what is distributed of the income which is subjected to tax on companies, partners or shear holders in the company. (2)

2.9 Problems of the exiting system

Through the personal interviews and discussion with the secretary of the department (treasure) and from the observation of work progress, it has been reached to enumerate the following problems:

That the existing system is encounter, which includes:

1- The lack of staff in this department (treasure)

2- The total dependence on manual work causes the mental exhaustion, and this leads to the occurrence of errors.

3-absence of capability on reviewing the date easily

4- Absence of guarantee of softy and security principle for these dates.

The difficulties research processes problems on date.

2.10 The importance of the project

Importance of errors in date and the date and the saving of time and energy and simplify the work in general.

2.10.1 Scientific importance

Which includes the introduction of modern technology to the tax office and regulate the work in the department of treasure and its date treatment with an easy, fast, and precise method in work?

2.10.2 Practical importance

Which includes, the reduction of errors in date saving the time and energy, and simplifying the work in general

Aims of the project:-

1- To be free of the problems and defects of the old system (manual)
2- To save the time and energy in all works inside the department of treasure, and this will positively reflected on all departments.
3- To keep with the technology development in the field of office mechanization
4- To benefit from the advantages of the computer.

2.11 The feasibility study:-

It is necessary before staring work of any system to do feasibility study in order to change or develop to the better. The purpose of this feasibility study is the possibility of performing work or executing it successively and the work must be acceptable in organization and convenient economically and socially, and with the lowest cost. (3)

The feasibility study at the development any system divided into three parts namely

1) Economical feasibility
2) Social feasibility
3) Technical feasibility.

2.11.1 The economical feasibility

Which include the study of the predicted costs and also the ketene (benefits) expected from the development process:

1- Exacted costs.

A- Purchasing cost of computer

B- Purchasing cost of printer

C- Costs of development and maintenance

D- Purchasing cost of computer soft ware

2- The expected revenue

A- Reduction of the occurrence of errors

B- The resulted befits of saving time and energy (fast work completion, simplicity in date revision)

2.11.2 The social feasibility:

It the knowledge of the level of the office acceptance on the comprehension the new system and grant it the confidence in performance all the functions, also it specialized in knowing the level of personals readiness to use the computer and porter the new system.

2.11.3 The technical feasibility.

It is to study the possibility of improvement of the services preformed (by treasure dept.) using the computer technology, it is found the improvement and development can be done using computer techniques.

Chapter 3

Database analysis

3.1 Introduction

Data analysis is concerned with the NATURE and USE of data. It involves the identification of the data elements which are needed to support the data processing system of the organization, the placing of these elements into logical groups and the definition of the relationships between the resulting groups.

Systems analysts often, in practice, go directly from fact finding to implementation dependent data analysis. Their assumptions about the usage of properties of and relationships between data elements are embodied directly in record and file designs and computer procedure specifications. The introduction of Database Management Systems (DBMS) has encouraged a higher level of analysis, where the data elements are defined by a logical model or `schema' (conceptual schema). When discussing the schema in the context of a DBMS, the effects of alternative designs on the efficiency or ease of implementation is considered, i.e. the analysis is still somewhat implementation dependent. If we consider the data relationships, usages and properties that are important to the business without regard to their representation in a particular computerized system using particular software, we have what we are concerned with, implementation independent data analysis. It is fair to ask why data analysis should be done if it is possible, in practice to go straight to a computerized system design. Data analysis is time consuming;

it throws up a lot of questions. Implementation may be slowed down while the answers are sought. It is more expedient to have an experienced analyst `get on with the job' and come up with a design straight away. The main difference is that data analysis is more likely to result in a design which meets both present and future requirements, being more easily adapted to changes in the business or in the computing equipment. It can also be argued that it tends to ensure that policy questions concerning the organizations' data are answered by the managers of the organization, not by the systems analysts. Data

analysis may be thought of as the `slow and careful' approach, whereas omitting this step is `quick and dirty'.

From another viewpoint, data analysis provides useful insights for general design principals which will benefit the trainee analyst even if he finally settles for a `quick and dirty' solution.

The developments of techniques of data analysis have helped to understand the structure and meaning of data in organizations. Data analysis techniques can be used as the first step of extrapolating the complexities of the real world into a model that can be held on a computer and be accessed by many users. The data can be gathered by conventional methods such as interviewing people in the organization and studying documents. The facts can be represented as objects of interest. There are a number of documentation tools available for data analysis, such as entity relationship diagrams. These are useful aids to communication, help to ensure that the work is carried out in a thorough manner, and ease the mapping processes that follow data analysis. Some of the documents can be used as source documents for the data dictionary.

In data analysis we analyze the data and build a system representation in the form of a data model (conceptual). A conceptual data model specifies the structure of the data and the processes which use that data.

Data Analysis = establishing the nature of data.

Functional Analysis = establishing the use of data.

However, since Data and Functional Analysis are so intermixed, we shall use the term Data Analysis to cover both.

Building a model of an organization is not easy. The whole organization is too large as there will be too many things to be modeled. It takes too long and does not achieve anything concrete like an information system, and managers want tangible results fairly quickly. It is therefore the task of the data analyst to model a particular view of the organization, one which proves reasonable and accurate for most applications and uses. Data has an intrinsic structure of its own, independent of processing, reports formats etc. The data model seeks to make explicit that structure, Data analysis was described as establishing the nature and use of data. (11)

3.2 Analysis of Relations

The existing relations in the treasure department include

1- Internal Relations II – External relation

3.2.1 Internal Relations

It is the relation between the system (trees. dept) and other levels inside the office namely:

3.2.1.1 Office chairman

The relation include the director of the office with The monthly accounting review, which is prepared by treasure department, where after the revision and night results, the indorsing forms him.

3.2.1.2 The department s of (commercial benefits, business, companies)

The relation of these depart ment s includes nailing the indorsed form to the treasure department represented in (12) or (13) form where two copies of this form send from any of these departments of (according to the tax type

Needed to be paid) to treasure de apartment, who in turn

Take the needed date from this from and write it down in the receipt. After calculation both (temp of receipt and the late payment charge) if applicable) the date and to of the receipt must be written with the stamp and signature of the form done (Duties stamp). A copy of the form is to be returned to the issuing department, and the regional copy is to be given to the financier with original copy of the receipt endorsed from the dept. In which the payment date is written.

3.2.1.3 The department of general income tax.

The relation of this department includes. Sending two copies of (12- a form) endorsed from it with what it contains of fancier date and tails total income to the dept.(treasure),

which in turn calculate the value of the tax from the total income of the financier and calculable stamp tax and late payment chare if applicable , and then write all the needed data in the receipt and form (receipt no , payment date) and then the signature and stamp of this form (duties stamp) . The original copy of the form then forwarded to the financier with original copy of the receipt endorsed from the dept and written in it date of tax payment, the second copy of the form should be returned to the dept. of the general income tax.

3.2.1.4 The departments of (salaries, safe deposit benefits at the banks).

The relation of these departments to the teaser dept . Is resembled in sending a list of two copies endorsed which are issued from the place that each dept. of these departs mentis is dealing with, to the treasure dept. which in turn issues a receipt through the list date , and then record (receipt no . , payment date) in the list and the singe and stamp with (duties) stamp . A copy of list is to be send to the dept. which it was issued from , and the original copy be handed to the financier place with original copy of the receipt endorsed form the dept. and written payment date.

3.2.1.5 Contracts Departments:-

the relation of this dept to the department of the treasuries resembled in forwarding the written contract in two copies with what it contains of date accept the tax value , endorsed to the treasure dept . which in turn it calculate the tax value on the basis of the type of document recorded in the contract and the value of the document , and record the receipt date from the document , and then the contract stamping with (contracts)
Stamp and writing the stamp data which include (payment data, Reg . no , receipt of department) . A copy of the contact is then forwarded to contract is to be handed to the financier with an endorsed original copy of receipt from the department.

3.2.1.6 The department of stamps and official paper selling.

The relation of this dept. to the treasure dept. is doing the function of the treasure dept is doing the function of the department of (selling the stamps and official papers) in com pelt, because of the lack of the no. of staff employee of tax office.

3.2.2 THE External Relation

Which are the relations that being between the system and the other external entity's from outside the office which.

3.2.2.1 The financiers:

Where the money forms the financiers (investors) and deposits it in the treasure.

3.2.2.2 the bank :

in which the money collected is deposited this bank is (wahda bank yefren) where it is working (bank) to send the money of the additional taxes to accounts of Libyan central bank , and send the money for the specific tax to the account of the people's committee of finance of the popular , alter contacting him by the office.

3.3 The Analysis of the system out come which includes all the outcome of the system namely:-

3.3.1 Monthly Reports

Include constitute the following:

1- Box register: - And includes (serial no, receipt no . duet of payment name of the paying person, type of tax, total amount) in the attunement no. (1)

2- Daily Register: - Which includes (receipt no. date of payment types of specific and additional tax, total collected amount of each section, total general) as in the attachment no. (2)

3- Register of tax deposits (securities) which includes (tax name, tax value, genera total as in the attachment no (3)

4- Register of the tax. Total**: -** Which includes (tax name, tax value, and total general) as in the attachment no (4).

5- G82 form :- Which includes (receipt no , file no . , date of payment name of financier , tax year , income tax value Jihad tax value , total income tax , total Jihad tax) as in the attachment no (5)

6- G 35 form:- Which includes (types of additional and specific taxes , total taxes of precious months and present month together according to the type of each tax , the total taxes according to the months) as in at attachment no . (6)

Notes: All reports that have been mentioned include (date of payments from period – to period - to period) (except daily Register) date of the writing of the report).

3.3.2 General Reports (an additional)

Include

1- Special listing of contracts:

A- According to the name of the notary public which include (senile no , receipt no , contract date of writing name of first partner , name of the second partner , date of payments , tax value , registration no)

Receipt stamp tax, cement no. (7)

B-According to contract Type:- Which include (serial no . , receipt no . , date of contract writing , name of the notary public , name of first partner , name of second prater , date of payment , value of document , tax value , registration no . receipt stamp tax , charge , the total general) , as in the attachment no (8)

2- A list of the name of persons who paid the general income tax:-

Which include (serial no . , receipt no ., date of payment , name of the paying person , tax value , total income file no ., total value of tax) as in the attachment no . (9)

3- List showing the selling amount of stamp tax (stamps official papers, bills):-

And it includes (serial no., receipt no, receipt date, name of paying person, total with drawn amount) as in attachment no (10).

4- List of showing the added amount to stamp tax types (stamp tax, official papers, Bills):- Which includes (type of date cement, total selling amount, and added amount) as in attachment no (11)

5- List showing the total balance of detachment types (stamp tax, official papers Bills):- And includes (detachment type, value, balance) as in attachment no (12)

Note: All the reports mentioned above contains (payment date from perils – to period, date of report writs)

3.4 Analysis of system inputs:-

Which is all the data which have been in produced to the system via the introduction mean namely:-

Receipt date: where its date differs from one tax type to an other and for each tax type is as following

1- Contract tax: -

It includes (receipt no ., date of contract writing , name of first party , name of second party , type , of con tract , name of notary public , documentation no , date of payment , value of the document , value of tax , charge , stamp of reciprocal receipt , total amount)

2- Stamps and official papers selling tax

which is resembled in (receipt no . , receipt date , process type , name of license holder , or depositor , quantity of withdrawal or addition , type of detachment , total am aunt of selling or addition)

3- tax of (commercial profits , salaries , general on income , revenue of safe deposits at the banks) share the following receipt date :

(receipt no , receipt date , name of the financier , tax value , file no tax name , charge , stamp tax of the receipt , payment period (from – to) total general amount) .

In addition to the existence of difference in some interring receipt data, with respect to these namely:

A- Of the introduction the general in come tax is (total in come)

B- Of the introductions of salary tax, companies', banks safe deposits revenue (bank stamp tax).

C- Of the introductions of business tax, hire, salaries companies, commercial profits some or all (added tax)

Note: - the attachment no. (13) Shows a copy of receipt.

3.5 Work proceeding of the system:-

As we mentioned previously, the Treasure department is the responsible for money collecting, and after we our knowledge of how the work is preceding in this department we found that it is divided into three stays namely.

3.5.1 The stage of writing the receipt data

it is the stage which extend between the arrival the financier (investor) to the treasure dept until be receives the original copy of the receipt which is a proof of his payment of the requested tax value in cash (where one of the departments at the office will receive the needed data from the financier according to the tax type and start recording it in the form or contract , where it include all the data on the financier of which is (tax value) needed to be paid , collated in some departments , but in some otter departments it not calculate it , but the treasure dept .

3.5.1.1 Contract department:-

In this deportment forwarding each contract with what it contains of date , except the contract tax value , to the treasure dept , where the value may differ with the type of document , each document deduct from it a certain percentage according to its type and is as following :-

1- In case of bank lawn 1% will be deducted from the total amour

2- In case of invoice endorsement fees 2% will deducted form

3- In case of Auto – sale contract fees 4% will be deducted frond total amour

4- In case of real-estate sale fees 10 % will ducted form the total amour

5- In case of bill endorsement fees 0.5 % wills ducted form the total amour

6- In case of lawn endorsement fees from saving bank 0.5 % the total amour

7- Rent contracts 1 % will be deducted from the total amount

8- Import contracts 2 % will be deducted from the total amount

9- Contracts of Tasharokyat or companies foundation 5 % will be the value of tax could be change once in awhile.

3.5.1.2 The department of general income tax.

The value of this tax is calculated by (Treasure deportment), and it is determined according to the income of the financier within each year if his income equal or less than (6000 L. D) he will be accepted of this tax, but if he exceeds (6000 L .D) he will be taxed as follows.

1- The following three thousands Diners of in come 15 % will be deducted

2- The following five thousands Diners of in come 25% will be deducted

3- The following eight thousands Diners of in come 35% will be deducted

4- The following fifteen thousands Diners of in come 45% will be deducted

5- The following twenty five thousands Diners of in come 55% will be deducted

6- The following forty thousands Diners of in come 65% will be deducted

7- The following hundred thousands Diners of in come 75% will be deducted

8- The following exceeds two hundred diners of in come 90% will be deducted these form insult be send endorsed, water it contains the tax value calcite lour not to the (treasure dept) these form resembled in (12 a form) for payment of general income tax (12a or 13b form) for the payment of taxes of business , commercial profits , companies

Find for contracts tax payment, endorsed contract must be send to the (treasure office)

And for the tax payment on sealer , and hires , is done by sending a list form the companies , tasharokyat , public banks , or private banks dually , to the department of salaries and hires which in turn with endorsement to (the treasure department) .

Which in turn forward it with endorsement to (the treasure department) Both , the form or the contract being send , compose of two copies , which will be received by the (treasure dept) (alter recording the needed data) and calculation of both stamp tax and charge tax of applicable ,in addition to un calculate tax value from other department , the recording of all these data in the receipt will be done , in addition to the date of payment , and stamp and signature (collection stamp after receiving the total amount form the financier side .

And for the list, the treasure department will review the department concerned data only, where it contain all the needed data for the receipt, including (tax value , Reciprocal Receipt stamp , and the charge it applicable) which is calculated from the department of accounting in the financier firm , either if it is bank , company , or tasharokyat) , where the recording of all the data is done in the receipt , in addition the date of payment and signature and stamp (collection stamp) alter receiving the amount form the financier firm .

Note: - These data may differ from one tax type to another as bas been mentioned previously in (analysis of system introduces tortes)

3.5.2 The stage of Recording the data of lists, forms and contracts:-

At the stage of receiving the amount form the financier's firm , the no of Receipt will be recorded along with be signed and stamp (collection stamp) , and for the (contract) it will be stamped (contract stamp) and writing the stamp data including (date of payment , registration no receipt no , tax value in words and numbers , and the signature of the office chairman) . the forwarding a copy either of (form , list , or contract) to the issuing department , to inform about the payment completion , and the original copy of the receipt and the second copy of receipt will be kept at the treasure dept a third copy will be send to the archeries dept .

3.5.3 The stage of money Trustier:

In this stage the collected amounts from specific are added taxes will be transferred to (Bank Al Wanda – yfren this is done daily or monthly.)

For the payment of taxes of stamp selling and official papers because of lack of staff in the office therefore (Treasure department) is doing the job of the dept. of "stamp and official papers" which is derided into two stager

3.5.3.1 Selling stage

this stage starts , when the licensee hold present a proof of purchaser capability (license owner) to the Treasure department by presenting a request of purchase of any kind of detachments types either (stamp , official papers , or Bills) ,

also it will issue the licenses to the individuals , who are dealing with them in functional character (secretary of the department of stamp and official papers selling) , also will prepare a list of three copies showing the name of licensee holder (buyer) and the value of attachment which has been purchased of , either it was from the detachment of (stamps , official paper or Bills) , also will calculate the total amount of the purchased quantities , and alter receiving the amount , the treasure dept . will issue the receipt of three copies in which the name of license owner (buyer) and the kind of detached – mentis and the total amount of all detachments that have

been bought will be recorded , also date of payment is written along with the signature and the stamp (collection stamp) then will he recorded in the mentioned list , the no . of Receipt and stamp (collection stamp) , the requester and the secretary of the treasure will singe the request , An original of the list will be handed to the (buyer) with a original copy of the receipt , and the second copy will be kept in the treasure depart , with the second copy of the receipt but the third copy of the list and of the receipt are for worded to the archer department .

3.5.3.2 Addition Stage:

In this stage the department of treasure will send the request of addition of any kind of detached-ment types (stamps , official papers , or Bills) of needed (for the lack of the balance of these detachments) , where this request will be send to the general ad minis fraction of tax association , the licensed importer for this job (send the requests) from the General tax assoc action .

Will send or for ward the requested quantity wither it was of detachment of (stamps, official papers , or Bills) to the treasure department , where (the secretary of teaser) will writ a receipt of three copies in which will record the name of the requested quantity , type of sent detachment , and the total quantity which has of receiving (receiving the quantity) and the signature and stamp it with (collection stamp) .

The original copy of the receipt will then be handed to the importer as a proof of receiving the requested quantity, and the second copy will be kept in the treasure department, where the third copy is forwarded to the archeries department.

The treasure department at the end of each tax year will classify all the receipts and monthly and general reports, and keep these reports, and all the receipt (by conceptive no) away from the reports and receipts of the New Year.

Note: - It may be used late it need and without any adjust ment.

Chapter 4

SQL Databases

4.1 Introduction

SQL database is a type of database technology that is the most widely used in today's computing environment. Here the data is stored in a very structured format that provides high levels of functionality. SQL databases are generally more robust, secure and have better performance than other older database technologies. It provides for 'SQL' access to the data. So it is important to understand the term SQL before we proceed further.

4.2 What is SQL?

SQL pronounced either as "sequel" or "seekel" is an acronym for Structured Query Language, a language developed by IBM Corporation for processing data contained in mainframe computer databases. The relational model from which SQL draws much of its conceptual core was formally defined in 1970 by Dr. E. F. Codd, a researcher for IBM in his paper titled "A Relational Model of Data for Large Shared Data Banks". System/R project began in 1974 and developed SEQUEL or Structured English Query Language. System/R was implemented on an IBM prototype called SEQUEL-XRM during 1974-75. Later it included multi-table and multi-user features revised as SEQUEL/2 and renamed as "SQL".

SQL is used to create, maintain & query relational databases and uses regular English words for many of its commands, which makes it easy to use. It is often embedded within other programming languages. A fundamental difference between SQL and standard programming languages is that SQL is declarative. You specify what kind of data you want from the database; the RDBMS is responsible for figuring out how to retrieve it. (14)

4.3 SQL Standards

SQL, the most popular relational database language was first standardized in 1986 by the American National Standards Institute (ANSI). Since then, it has been formally adopted as an International Standard by the International Organization for Standardization (ISO) and the International Electro technical Commission (IEC). Although SQL is both an ANSI and an ISO standard, many database products support SQL with proprietary extensions to the standard language.

Database Language SQL is under continual development by the above mentioned standardization bodies. At present there are two committees that are working to ensure SQL standards - an International committee (ISO/IEC JTC 1/SC 32/WG 3) & an American committee (ANSI TC NCITS H2).

After 1986, a revised standard known commonly as SQL-89 or SQL1 was published in 1989. Due to partially conflicting interests from commercial vendors, much of the SQL-89 standard was intentionally left incomplete, and many features were labeled implementer-defined. In order to strengthen the standard, the ANSI committee revised its previous work with the SQL-92 standard ratified in 1992 also called SQL2. This standard addressed several weaknesses in SQL-89 and set forth conceptual SQL features, which at the time exceeded the capabilities of any existing RDBMS implementation. In fact, SQL-92 standard was approximately six times the length of its predecessor. In 1999, the ANSI/ISO released the SQL-99 standard also called SQL3. This standard addresses some of the more advanced and previously ignored areas of modern SQL systems such as object-relational database concepts, call level interfaces, and integrity management. Basically, SQL-99 replaces the SQL-92 levels of compliance (Entry, Intermediate, and Full) with its own degrees of conformance - Core SQL-99 and Non-core

(Enhanced) SQL-99. Recently, in 2003, ANSI/ISO released the SQL-2003 standard also called SQL-200n. The big SQL-2003 features are: more collection data types, cleaner object/relational specification, and references to new parts such as XML. The big missing SQL-2003 feature is the SQL-99 standard BIT data type.

From the above discussion, it is clear that the three editions that matter today are:

SQL-92 the previous standard
SQL-99 the current standard
SQL-2003 the evolving standard

Technology standards are important for several reasons - number one being that consumers are assured of what the product is supposed to do before they buy it. There are also several benefits to having a standard - for one, third-party vendors are able to create tools and utilities that apply to an entire market rather than to a specific platform. Similarly, individuals can become certified in a standard, increasing the size of your available resource pool. Product certification can help ensure quality functionality, as opposed to the pseudo-implementation of standards requirements by compliant, but not certified, solutions.

Daffodil DB presently conforms to most of the Entry - Level SQL92 standard, as well as many of the Intermediate- and Full-level features. (14)

4.4 SQL Server Database Structure

Now that we've looked at what SQL Server does for you as a database server, let's take a look at the components of a database in more detail. Most importantly, You use SQL Server to store one or more databases. In the Microsoft SQL Server environment, the term *database* refers to a collection of tables and other database objects such as indexes. A *table* consists of rows and columns; these rows and columns contain the data for the table. A database can contain a virtually unlimited number of tables; each table can contain a maximum of 1,024 columns (fields). You can also define up to 250 indexes per table. You create an index by specifying the columns with which you want to sort the data within a table.

You will typically create a database to contain all of the associated tables, indexes, and other database objects for a particular application. For example, let's say that you're planning to create a system for managing customer orders. In this scenario, your database might consist of tables for storing customer information, inventory, tax schedules, and invoices. You might also create indexes based on customer numbers, part

numbers, and invoice numbers. As you can see, a single database can contain multiple tables and indexes. We talk about creating many of the different database objects in detail later on in the course. (13)

4.5 Tables

One of the most critical components of a database is its tables. That's because SQL Server uses tables to store data. You create a table to contain a set of related information. When you create a table, you define its columns. Columns refer to the individual pieces of information (fields) you want to track for a specific table.

For example, if you want to create a table to store customer information, you should define columns to store such information as an account number, name, address, city, state, zip code, and telephone number for each customer.

You can control how information is stored in a particular column by configuring the following properties in the following table. (13)

4.6 Indexes

Because each table can contain anywhere from a few hundred rows up to millions of rows, you use indexes to speed up table searches. You can define indexes for your tables so that you can search faster for information within the tables. For example, if you have a customer information table, you can create an index on the customer's account number. When you create an index, you specify a key.

You use this key to identify the column or columns in the table on which you want to base your index.

You can create two types of indexes within SQL Server: *no clustered* and *clustered.* When you create a no clustered index, you specify a key for sorting the data. SQL Server creates the index as a separate object within the database; this index contains the sorted key information for each row in the table, and a pointer that identifies the row within the table. When you query a table for a specific row, SQL Server can search the index to find the row rather than searching the table itself—much like you use the index in the back of a book to find a specific page. When you create a no clustered index, you don't change the order of the data within the table.

If you create a clustered index, in contrast, you force SQL Server to store the data within the table in the order specified by the index. For example, you could create a clustered index for a customer information table by using the customer account number as the key. When you add data to the table, SQL Server automatically places the new rows in order by account number. A clustered index controls the order in which data is stored within a table. You can create only one clustered index per table. You should always create a clustered index for a table.

By creating a clustered index, you configure SQL Server to automatically store the data in a table in a specific order. Although both clustered and no clustered indexes enable you to search tables faster, the clustered index provides better performance because it is part of the table itself and not a separate database object.

Because SQL Server stores the rows in a table in order by its clustered index, you'll find that a clustered index improves the performance of queries that typically return a group of rows instead of a single row. For example, you might define a clustered index on a customer table based on the ZIP code column if you frequently retrieve customers' information by ZIP code. (13)

4.7 Views

You can define views within a SQL Server database. A view enables you to specify how you want to see the data within one or more tables. You define a view by choosing the tables within the database you want to view and then the columns within those tables. For example, if you create a customer order database that contains customer, inventory, and invoice tables, you might want to create a view that contains the customer account number and name from the customer table and the orders placed by that customer from the invoice table. Views help you secure your server by enabling you to grant users permissions to a view without having to grant them permissions to the tables on which a view is based.

In a sense, you can think of a view as a “virtual” table, because each view uses the same format as a table (meaning it consists of columns and rows). In addition, you query a view just as you would a table. For example, you can use the statement

SELECT * FROM object_name, where object_name

is either a table or a view name. SQL Server retrieves the columns and rows that make up a view each time you query the view. This process is called *materializing* the view; and depending on the view and the tables on which it’s based, the process can place quite a heavy load on your server. For this reason, one of the enhancements Microsoft added to SQL Server 2000 is support for creating indexes on a view.

A clustered index on a view forces SQL Server to store the view’s results set in a database just like it stores tables. We’re going to talk more about how you create indexed views later on in the course.

4.8 Stored Procedures

Another type of database object you can create within a SQL Server database is a stored procedure. You can create a stored procedure to perform a series of Transact-SQL commands on your server. You can execute a stored procedure within SQL Server tools such as SQL Query Analyzer, or call a stored procedure from a custom program such as one written in Visual Basic. SQL Server compiles and caches a stored procedure the first time you run it to improve its performance.

4.9 Triggers

You can configure SQL Server to perform specific Transact-SQL statements when a user adds, deletes, or changes the contents of a table. Because these Transact- SQL statements are run only when an action is performed against a table, Microsoft refers to these statements as triggers. You use a trigger to perform such tasks as verifying the accuracy of the data in your table or keeping records of changes.

4.10 Relational SQL Database Management Systems

Full-featured client/server relational database management systems separate the database management application (server or back-end) from the individual (client) applications that display, print, and update the information in the database. Client/server RDBMSs, such as Microsoft SQL Server 6.0, run as a process on the server computer.

The client/server RDBMS is responsible for the following activities:

* Creating new databases and one or more files to contain the databases. (Several databases may reside in a single fixed disk file.)
* Implementing database security to prevent unauthorized persons from gaining access to the database and the information it contains.
* Maintaining a catalog of the objects in the database, including information on the owner (creator) of the database and the tables it contains.
* Generating a log of all modifications made to the database so that the database can be reconstructed from a prior backup copy combined with the information contained in the log (in the event of a hardware failure).
* Preserving referential integrity, maintaining consistency, and enforcing domain integrity rules to prevent corruption of the data contained in the tables. Most client/server RDBMSs use preprogrammed triggers that create an error when an application attempts to execute a query that violates the rules.
* Managing concurrency issues so that multiple users can access the data without encountering significant delays in displaying or updating data.
* Interpreting queries transmitted to the database by user applications and returning or updating records that correspond to the criteria embedded in the query statement. Virtually all client/server RDBMSs use statements written in SQL to process queries—thus the generic name, SQL RDBMS.
* Executing stored procedures, which are precompiled queries that you execute by name in an SQL statement. Stored procedures speed the execution of commonly used queries by eliminating the necessity for the server to optimize and compile the query. The Remote Data Object (RDO) included with the Enterprise Edition of Visual Basic 4.0 is designed expressly for executing server stored procedures.

Separate database applications (front-ends) are responsible for creating the query statements sent to the database management system and for processing the rows of data returned by the query. Front-ends.

One of the primary advantages of using an SQL RDBMS is that the features in the preceding list, such as security and integrity, are implemented by the RDBMS itself. Therefore, the code to implement these features doesn't need be added to each different front-end application. (13)

4.11 Creating Database Diagrams

One of the wonderful tools included in SQL Server Enterprise Manager is its Create Database Diagram Wizard. You use this wizard to create a diagram containing some or all of the tables in a database, the structure of those tables, and their relationships with other tables. For example, in the “commercial profits” database, the activity table has a relationship with the “activity” table that’s based on the serial_no column.

You create a database diagram by expanding the database in SQL Server Enterprise Manager. Next, right-click on the Diagrams icon below the database, and choose New Database Diagram. Use the Create Database Diagram Wizard to select the tables you want to view in your diagram. After you create your database diagram, you can use the Query Designer to build queries based on the tables in your database. You can also use the Query Designer to join tables in the query based on the relationships between the tables.(13)

Chapter 5

Introduction to Structured Query Language

5.1 Introduction

SQL stands for Structured Query Language. SQL is used to communicate with a database. According to ANSI (American National Standards Institute), it is the standard language for relational database management systems. SQL statements are used to perform tasks such as update data on a database, or retrieve data from a database. Some common relational database management systems that use SQL are: Oracle, Sybase, Microsoft SQL Server, Access, Ingress, etc. Although most database systems use SQL, most of them also have their own additional proprietary extensions that are usually only used on their system. However, the standard SQL commands such as "Select", "Insert", "Update", "Delete", "Create", and "Drop" can be used to accomplish almost everything that one needs to do with a database.

5.2 SQL Database Tables:-

A database most often contains one or more tables.

Each table is identified by a name (for example in department of free artisans department we have Fifteen tables “for example customers table or ”activity” table.

Tables contain records (rows) with data.

Below is an example of a table called “customers”

Table 5.1 Table of customers

Serial _no	Personality _card _no	Customer_ name	Customer_ quality	State _no
1	575321	Ali	Employee	1
2	31352	Hani	Manager	3
3	45214	Ali	Employee	1

The table above contains three records.

5.3 SQL Queries:-

With SQL, we can query a database and have a result set returned.

A query like this:-

SELECT Personality _car _no from Customers

Gives a result set like this:-

Personality _card _no
575321
31352
45214

Table 5.2 result of SQL query

5.4 SQL Data Manipulation Language (DML):-

SQL (structured Query Language) is syntax for executing queries. But the SQL language also includes syntax to update, insert, and delete records.

These query and update commands from the Data Manipulation Language (DML) part of SQL:

Select- extracts data from a database table.

Update – updates data in a database table.

Delete – deletes data from a database table.

Insert into- insert new data into a database table.

5.5 Data Definition Language Statements

The primary DDL statements are `CREATE`, `ALTER`, and `DROP`. You'll always use these statements in conjunction with an object type and an object name. The general syntax for these statements is:

```
CREATE object_type object_name
```

You replace object_type with the type of object you're creating. For example, you create a table by using the statement

```
CREATE TABLE table_name.
```

You might need to specify other parameters as part of the `CREATE` statement, depending on the object type. For example, when you create a table, you'll need to not only specify the new table's name, but also the columns you want to define in that table. So, to create a new table named ***permission*** *in* the commercial profits database, you might use the following syntax:

```
USE commercial profits
CREATE TABLE permission
(
per_no char(8), per_side_em char(20), mer_re_no char(10),
con_nu int(4
)
```

Be aware that you must be a member of either the sysadmin server role or the dbcreator, db_owner, or db_ddladmin database roles to use any of the DDL Transact-SQL statements. Although we talk about this in more detail later in the course, we want to point out that you'll see better performance with SQL Server if all of your objects have the same owner. When objects that depend on each other (such as a view based on a table) have different owners, SQL Server must evaluate a user's permissions for both objects before the user can access the view. For this reason, if you have more than one user creating objects, you should make sure that the object owner is the same for both objects. If necessary, you can change an object's owner by using the `sp_changeobjectowner` stored procedure. (13)

The most important DDL statements in SQL are:

Create table - create a new database table

Alter table - alters (changes) a database table

Drop table - deletes a database table

Create index - creates an index (search key)

Drop index - deletes an index

5.6 Select statement:

You can use the SELECT Transact-SQL statement to display the contents of a table.

At its most basic, you use SELECT to display all columns and all rows in the table by executing the following query:

SELECT *

FROM table_name

In contrast, if you want to display only selected columns for a table, execute this query instead:

SELECT column_list

FROM table_name

In this query, you replace column_list with a list of column names separated by commas.

For example like this

SELECT Personality _card _no from Customers

The result set like this:

Personality _card _no
575321
31352
45214

Table 5.3 result for select a column

SELECT serial _no, Personality _card _no, customer _name FROM customers

the result is:

Serial_ no	Personality_ card _no	Customer_ name
1	575321	Ali
2	31352	Hani
3	45214	Ali

Table 5.4 result for select a column_list

5.6.1 Select all columns:

To select all columns from the “customers “table, use a (*) symbol instead of column names, like this:

SELECT * FROM customers

The result is:

Serial _no	Personality _card _no	Customer_ name	Customer_ quality	State _no
1	575321	Ali	Employee	1
2	31352	Hani	Manager	3
3	45214	Ali	Employee	1

Table 5.5 result for select all columns

5.6.2 Select distinct statement:

The distinct keyword is used to return only distinct (different) values.

The select statement returns information from table columns. But what if we only want to select distinct elements? (7)

With SQL, all we need to do is to add a distinct keyword to the select statement:

Syntax

SELECT distinct column _name(s) FROM table _name

5.6.3 Using the distinct keyword:-

To select only different values from the column named “ customers” we used a select distinct statement like this:

SELECT distinct customer _name from customers

The result is:

Customer _name
Ali
Hani

Table 5.6 result for select distinct elements

Now “Ali “is listed only once in the result- set.

5.6.4 The where clause:-

You can create more powerful SELECT queries by using a WHERE clause to choose specific rows in a table. When you use a WHERE clause, you can specify a value to identify one or more rows in the table. Use the following syntax to execute a SELECT query with a WHERE clause:

SELECT column_list

FROM table_name

WHERE column_name conditional_operator value

If the column you use in the WHERE clause is one of the character data types, you must enclose the value in quotes. In contrast, if the column you use is one of the numeric data types, you can’t enclose the value in quotes. (9)

With the WHERE clause, the following operator can be used:

Operator	Description
=	Equal
< >	Not equal
>	Greater than
<	Less than
>=	Greater than or equal
<=	Less than or equal
Between	Between an inclusive range
Like	Search for a pattern

Table 5.7 operator

To select only the customers have “state _no” “1” we add a WHERE clause to the select statement:

SELECT * FROM customers WHERE state _no=’1’

Result :

Serial _no	Personality _card _no	Customer_ name	Customer_ quality	State _no
1	575321	Ali	Employee	1
3	45214	Ali	Employee	1

Table 5.8 result for where clause

5.6.4 The like condition:

The like condition is used to specify a search for a pattern in a column.

Syntax

SELECT column from table

where column like pattern

A "%" sign can be used to define wildcards (missing letters in the pattern) both before and after the pattern.

5.6.6 Using like:-

The following SQL statement will return "customers "with "customer _ name" that start with an 'a':

SELECT * from customers where customer _ name like '% a'

The following SQL statement will return customers with customer _ name that contain the pattern 'al':

SELECT * from customers where customer _ name like '% al %'

5.6.7 The insert into statement:-

The insert into statement is used to insert new rows into a table. (9)

Syntax:

Insert into table _ name

Values (value1, value2,…)

You can also specify the columns for which you want to insert data:

Insert into table _ name (column1, column2,…)

Values (value1, value2,…)

5.6.8 Insert a new row:-

Insert into customers

Values (‘ 4 ‘ , ‘ 65287 ‘ , ‘ omer ‘, ‘ employee ‘, ‘ 2 ‘)

Will give this result :

Serial _no	Personality_ card _no	Customer_ name	Customer_ quality	State _no
1	575321	Ali	Employee	1
2	31352	Hani	Manager	3
3	45214	Ali	Employee	1
4	65287	Omer	Employee	2

Table 5.9 result for insertion new row

5.6.9 The update statement:

You can use the UPDATE Transact-SQL statement to modify the contents of a row.

Use the following syntax:

UPDATE table_name

SET column_name= value, ... column_name = value

WHERE column_name conditional_operator value

In this example, you replace *table_name* with the name of the table you want to update. Replace *column_name* with the name of the column you want to update, followed by the new value for the column. Finally, you must identify which row in the table you want to update by using the WHERE clause. In the WHERE clause, you must specify a column name, a conditional operator (such as =), and a value for that column. (9)

5.6.10 Update one column in a row:

We want to add a customer _name to the customers with a personality –card _no:

Update customers set personality _card _no = ‘ 57585 ‘

Where customer_ name = ‘ hani ‘

Result:

Serial _no	Personality_ card _no	Customer_ name	Customer_ quality	State _no
1	575321	Ali	Employee	1
2	57585	Hani	Manager	3
3	45214	Ali	Employee	1
4	65287	Omer	Employee	2

Table 5.10 result for update one column in a row

5.6.11 Update several columns in a row:

We want to change the "customer_ quality" and state _no:

Update customers

Set customer_ quality = ' manager', state_ no = '2'

Where personality_ card _no = ' 45214'

Result:

Serial _no	Personality_ card _no	Customer_ name	Customer_ quality	State _no
1	575321	Ali	Employee	1
2	57585	Hani	Manager	3
3	45214	Ali	Manager	2
4	65287	Omer	Employee	2

Table 5.11 result for update several columns in a row

5.6.12 The Delete statement:

You can use the DELETE Transact-SQL statement to delete a row from the table. Here's the syntax:

DELETE FROM table_name

WHERE column_name = 'value'

You replace *table_name* with the name of the table. Identify the row you want to delete by replacing *column_name* with the name of a column and *value* with a value that identifies one or more rows in the table. (6)

" 4 " is going to be deleted

delete from customers where serial_ no = '4'

result:

Serial _no	Personality_ card _no	Customer_ name	Customer_ quality	State _no
1	575321	Ali	Employee	1
2	57585	Hani	Manager	3
3	45214	Ali	Manager	2

Table 5.12 result for delete a row

Chapter 6

Database design:

6.1 Introduction:

The goal of any information system is to add value for the users to achieve this goal requires answering two important questions:

Who are the users?

How can an information system help them?

Both of these questions can be difficult to answer and usually require research and interviews.

Before spending large amounts of money on a project, most organizations perform a feasibility study to provide initial answers to these two questions.

Organizations are particularly interested in evaluating benefits in three key areas:

1- Reduction of costs

2- Increase in sales or revenue.

3- Competitive advantage or long-term benefits completing a project on time and within the budget is a challenge.

Small projects that involve a few users and one or two developers are generally straightforward.

However, you still must carefully design the database so they are flexible enough to handle future needs likewise; you have to keep notes so that future developers can easily understand the system, its goals, and your decisions.

Large projects bring additional complications, with many users and several developers; you need to split the project into smaller problems, communicate ideas between users and designers, and track the team's progress. (3)

6.2 Getting started

Today's DBMS tools are flashy and alluring it is always tempting to jump right in and start building the forms and reports that users are anxious to see.

However, before you can build forms and reports, you must design the database correctly. If you make a mistake in the database design it will be hard to create the forms and reports, and it will take considerable time to change everything later.

Before you try to build anything, determine exactly what data will be needed by talking with the users.

Occasionally, the users know exactly what they want. Most times, users have only a rough idea of what they want and a vague perception of what the computer is capable of producing communication with users is a critical step in any development project.

The most important aspect is to identify (1) exactly what data to collect, (2) how the various pieces of data are related, and (3) how long each item needs to be stored in the database. Figure 2-1 outlines the initial steps in the design process

Once you have identified the data elements, you need to organize them properly. The rules for arranging data into tables are straightforward. However, one problem that developers always face is that the database structure ultimately depends on the business rules.

To build business applications, you must understand the business details. The task is difficult, but not impossible and almost always interesting. Although every business is different, many common problems exist it the business world. (3)

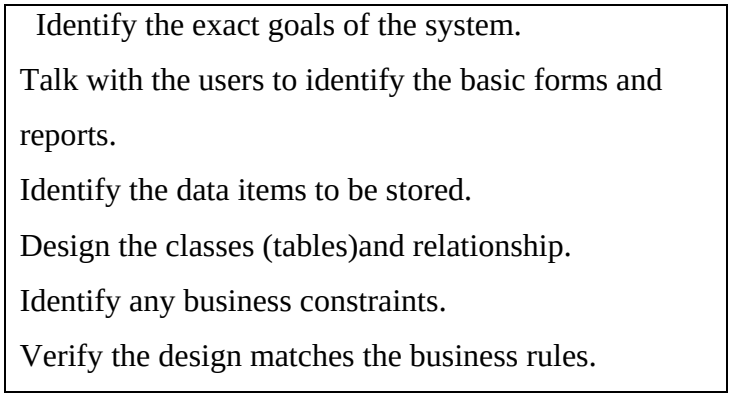

Figure 6-1

Initial steps in database design. A database design represents the business rules of the organization. You must carefully interview the users to make sure you correctly identify all if the business rules.

6.3 Designing systems:

Information systems are complex, constantly changing, and expensive to create and maintain. But a well design system can generate enormous benefits to an organization. Building a useful system requires that you understand and communicate with the user. It often requires organizing and controlling a team of developers. System designs are models that are used to facilitate this communicate and teamwork. Designs are a simplification or picture of the underlying business operations. The design models also record the fundamental features, assumptions, and restrictions present in any business.

6.4 Identifying user requirements:-

One challenging aspect of designing a system is to determine the requirements.

You must thoroughly understand the business needs before you can create a useful system. A key step is to interview users and observe the operations of the firm.

Although this step sounds easy, it can be difficult - especially when users disagree with each other. Even in the best circumstances, communication can be difficult.

Excellent communication skills and experience are important to becoming a good designer.

One of the most important tasks in designing a database application is to correctly identify the data that needs to be stored. As long as you collect the data and organize it carefully, the DBMS makes it easy to create and modify reports. As you talk with users, you will collect user documents, such as reports and forms. These documents provide information a bout the basic data and operations of the firm.

You need to gather three basic pieces of information for the initial design:

The data that needs to be collected.

The data type (domain).

The amount of data involved.

This basic information is used to create a model of the data. A class diagram displays the key elements and associations. The class diagram is used to communicate with users and with other designers. (3)

It presents a visual picture of the data needed by the system. The initial goal is to identify the business entities or objects and describe how they are related to each other.

6.5 Inputs Designs:

The preliminary and basis stage in the design stage is the logic designed process of the system, which is the process of defining and deterring the system introductory, through which the data can be specified and deter mined and preparation of the handling, and it storing and keeping in mined, taking all needed precautions to prevent errors also simplify the process of in trod ion of adjustment, and all other process on the data.

And the introductions are resembled in all what is introduced to the system via introductory means as:

The data of the tax of (contracts, companies, businesses, commercial profits, salaries, banks safe deposit revenues, selling of stamps, and official papers) as follows:

1- Introductory for tax of contracts , include (Receipt no . , data of writing of contract , name of first party (seller) , name of second party (buyer) , contract no , notary public no , documentation no , tax value notary value , charge , reciprocal receipt stamp tax , total amount) .

2- Introductory for the selling tax of stamps , official papers , include (receipt no , receipt date , license holder name or the importer, no, quantity of withdraw or addition , no of detachment balance of detachment , total amount of withdraw or addition)

3- Introductory of tax of (comitial (pretties hires and salaries and bank safe deposits revenue) and these taxes share the following introductory),

(receipt no , receipt date , tax value , file no , tax no , charge . receipt stamp tax , period of payment (form – to) general total amount) .

There are some differences in introductory data of the system in some cases, namely:

A – Of the taxes of hire salaries and banks safe deposits revalue tax (stamp tax of entrust)

B – Of the tax of business, salaries, hires, commercial profits the stamp tax (added taxes).

6.6 Outputs Designs:

The out come is resembled in all what come out of the system, printed on a typing machine or displayed on the screen. the system out com has been designed in priciest level in order to enable understating what it has the system designed for , which is the system outcome and its results , which we will obtained in a simple and easy way which include:

A – Monthly Reports, including

1- Box register list

2- Dally register list

3- Tax deposits (securities) list

4- Tax total list

5- 82 form

6- 35 B form

B – General repots, including

1- Contract list (by notary public name, or by contract type)

2- List of persons who had paid the general income tax

3- List showing the quantity of stamp tax selling (stamp tax, official papers, and Bills)

4- List of showing the total balance of the detachments type (stamp tax, official papers, and Bills)

6.7 data normalization:-

6.7.1 What is normalization?

Normalization is the process of taking data from a problem and reducing it to a set of relations while ensuring data integrity and eliminating data redundancy

- Data integrity - all of the data in the database are consistent, and satisfy all integrity constraints.

- Data redundancy – if data in the database can be found in two different locations (direct redundancy) or if data can be calculated from other data items (indirect redundancy) then the data is said to contain redundancy.

  Data should only be stored once and avoid storing data that can be calculated from other data already held in the database. During the process of normalization redundancy must be removed, but not at the expense of breaking data integrity rules.

  If redundancy exists in the database then problems can arise when the database is in normal operation:

- When data is inserted the data must be duplicated correctly in all places where there is redundancy. For instance, if two tables exist for in a database, and both tables contain the employee name, then creating a new employee entry requires that both tables be updated with the employee name.
- When data is modified in the database, if the data being changed has redundancy, then all versions of the redundant data must be updated simultaneously. So in the employee example a change to the employee name must happen in both tables simultaneously.

The removal of redundancy helps to prevent insertion, deletion, and update errors, since the data is only available in one attribute of one table in the database.

The data in the database can be considered to be in one of a number of `normal forms'. Basically the normal form of the data indicates how much redundancy is in that data. The normal forms have a strict ordering:

1. 1st Normal Form
2. 2nd Normal Form
3. 3rd Normal Form
4. BCNF

There are other normal forms, such as 4th and 5th normal forms. They are rarely utilized in system design and are not considered further here.

To be in a particular form requires that the data meets the criteria to also be in all normal forms before that form. Thus to be in 2nd normal form the data must meet the criteria for both 2nd normal form and 1st normal form. The higher the form the more redundancy has been eliminated.

6.7.2 First Normal Form:-

- A relation is in 1NF if it contains no repeating groups
- To convert an unorganized relation to 1NF either:
- Flatten the table and change the primary key, or
- Decompose the relation into smaller relations, one for the repeating groups and one for the non-repeating groups.
- Remember to put the primary key from the original relation into both new relations.
- This option is liable to give the best results.

6.7.3 Second Normal Form

- A relation is in 2NF if it contains no repeating groups and no partial key functional dependencies
- Rule: A relation in 1NF with a single key field must be in 2NF
- To convert a relation with partial functional dependencies to 2NF. create a set of new relations:
- One relation for the attributes that is fully dependent upon the key.
- One relation for each part of the key that has partially dependent attributes

6.7.4 Third Normal Form

- A relation is in 3NF if it contains no repeating groups, no partial functional dependencies, and no transitive functional dependencies
- To convert a relation with transitive functional dependencies to 3NF, remove the attributes involved in the transitive dependency and put them in a new relation
- Rule: A relation in 2NF with only one non-key attribute must be in 3NF

- In a normalized relation a non-key field must provide a fact about the key, the whole key and nothing but the key.

Relations in 3NF are sufficient for most practical database design problems. However, 3NF does not guarantee that all anomalies have been removed. (12)

6.8 Relationships:-

Relationships ‘connect’ tables. In other words they link the data in one table to the data in another. Relationships are
Established using a common field that is present in both the tables to be related. Data can be linked via three types of relationship - one-to-one, one-to-many and
Many-to-many.

In a one-to-one relationship each record in one table has at most one related record in another table. This type of relationship is rare.

A one-to-many relationship is by far the most common. Here one record in one table can be related to many records in another table.
In the rolodex example each contact can have many appointments and many children.

A many-to-many relationship means that for each record in one table there can be many records in another table and for
Each record in the second table there can be many in the first. Many-to-many relationships can not be directly represented
In relational database programs and have to be built by using two or more one-to-many relationships. (8)

6.9 tables Design

After the process of naturalization and reaching the third natural form, we obtain the employ data form reputation, rational relations, or Trans ferule relations.

That means obtaining the ready data for its representation in the computer in order to compete its organization process in a tables, which become later the mean data storage, and the aim of all the processes that would be run on the data, either addition or adjustment or at hers, and after Naturalization of our system's data we have obtained the following tables:

6.9.1 Commercial profits department or department of income on trade, industry and artisans:

1- Table of activity:

Fields name	Data type	length	Symbol fields
Serial no	char	8	ser_no
File tax no	char	8	file_tax_no
Finance name	Char	30	fin_name
Personality card no	char	8	Pers_cd_no
Finance address	Char	15	fin_add
Finance quality	Char	15	Fin_qu
State social	Char	22	st_so
Activity type	Text	16	act_ty
Activity name	Char	25	act_name
Activity start date	datetime	8	act_st_date
Activity state	char	15	act_sta
Activity address	char	25	act_addr
Legal shape	Char	15	leg_sha
Permission no	Char	8	per_no
exertion	Text	16	exer

Table 6.1 Table of activity

2-table of the permission

Fields name	Data type	length	Symbol fields
Permission no	char	8	per_no
permission side emanation	char	20	per_side_em
mercantile record number	char	10	mer_re_no
contributor number	int	4	con_nu

Table 6.2 Table of permission

3- Table of the contributor

Fields name	Data type	length	Symbol fields
Serial no	char	8	ser_no
Contributor no	char	8	con_no
Permission no	char	8	per_no
Contributor number	char	4	con_nu
Contributor name	char	35	con_name
Personality card no	char	8	per_cd_no
Contributor quality	char	15	con_qu
Contributor address	char	25	con_addr
State social	char	15	st_so

Table 6.3 Table of contributor

4- Table of the cars

Fields name	Data type	length	Symbol fields
File tax no	char	8	file_tax_no
Serial no	char	8	ser_no
undercarriage no	char	8	und_no
board no	char	22	boar_no

Table 6.4 Table of cars

5- Table of the declaration

Fields name	Data type	length	Symbol fields
Serial no	char	8	ser_no
File tax no	char	8	file_tax_no
Bout from	datetime	8	bout_from
Bout to	datetime	8	bout_to
Presentation date	datetime	8	ackn_pr_date
Declaration value	money	8	dec_value
expenditure total	money	8	expe_tot
proceeds total	money	8	proc_total
Bill no	char	10	bill_no
Bill date	datetime	8	bill_date
Employee name	char	20	employee_name

Table 6.5 Table of declaration

6- Table of the stopping activity

Fields name	Data type	length	Symbol fields
File tax no	char	8	file_tax_no
Serial no	char	8	ser_no
Activity type	char	20	activity_type
Legal shape	char	20	Legal_ shape
Arrest activity date	datetime	8	Arrest_ activity_ date
Activity state	char	15	Activity_ state
Arrest reason	char	30	arrest _reason

Table 6.6 Table of stopping activity

7- Table of the connection tax

Fields name	Data type	length	Symbol fields
Serial no	char	8	ser_no
Connection no	char	8	con_no
File tax no	char	8	fil_tax_no
Connection type	char	15	con_type
Connection date	datetime	8	con_date
Bout from	datetime	8	bout_from
Bout to	datetime	8	bout_to
Income according	char	15	inco_accor
Income value	money	8	inco_value
Bill connection date	char	10	bill_conn_date
Employee name	char	23	employee_nam

Table 6.7 Table of connection tax

8- Table of the income

Fields name	Data type	length	Symbol fields
Serial no	char	8	ser_no
Income no	char	8	inco_no
Income according	char	15	inco_acco
Income value	money	8	inco_val
recipient name	char	25	recip_name
recipient quality	char	14	recip_qu
Declaration date	datetime	8	dec_date

Table 6.8 Table of connection tax

9- Table of the basically connection

Fields name	Data type	length	Symbol fields
File tax no	char	8	fil_tax_no
Tax no	char	2	tax_no
Serial no	char	8	ser_no
Declaration value	money	8	dec_value
Tax exemption value	money	8	tax_exe_val
Taxable income	money	8	taxa_inco
Jihad tax	money	8	jiha_tax
Tax total	money	8	tax_tot
residuum income	money	8	resid_inco

Table 6.9 Table of the basically connection

10- Table of the final connection

Fields name	Data type	length	Symbol fields
File tax no	char	8	fil_tax_no
Tax no	char	2	tax_no
Serial no	char	8	ser_no
Declaration value	money	8	dec_value
Tax exemption value	money	8	tax_exe_val
Taxable income	money	8	taxa_inco
Income value	money	8	inco_val
Tax according behalf	money	8	tax_accor_beh
according declaration	money	8	tax_accor_dec
Tax different	money	8	tax_diff
residuum income	money	8	resi_inco
Payer tax	money	8	payer_tax

Table 6.10 Table of the final connection

11- Table of the committee connection

Fields name	Data type	length	Symbol fields
File tax no	char	8	fil_tax_no
Tax no	char	2	tax_no
Serial no	char	8	ser_no
Declaration value	money	8	dec_value
Tax exemption value	money	8	tax_exe_val
Taxable income	money	8	taxa_inco
Income value	money	8	inco_val
Tax according behalf	money	8	tax_accor_beh
according declaration	money	8	tax_accor_dec
Tax different	money	8	tax_diff
Payer tax for complain	money	8	payer_tax_for_complain
Income value according committee	money	8	Inco_val_accor_commi
tuneup income	money	8	Tun_inco

Table 6.11Table of the committee connection

12- Table of the payments

Fields name	Data type	length	Symbol fields
File tax no	char	8	fil_tax_no
Tax no	char	2	tax_no
Tax total	money	8	tax_tot
Tax year	int	4	Tax_year
Payment date	datetime	8	Payment_date
Bill no	Char	8	bill_no
Connection type	Char	20	conn_type
Employee name	Char	25	employee_name

Table 6.12Table of the payments

13- Table of the taxes

Fields name	Data type	length	Symbol fields
File tax no	char	8	fil_tax_no
Tax no	char	2	tax_no
Tax year	int	4	tax_year
Tax name	char	25	tax_nam
Tax type	char	20	tax_type
Tax value	money	8	tax_val
Tax calculate state	char	20	tax_cal_sta
penalty	money	8	penalty
Tax activity	char	20	tax_activ
Tax total	money	8	tax_tot

Table 6.13Table of the taxes

Diagram for department of commercial profits:-

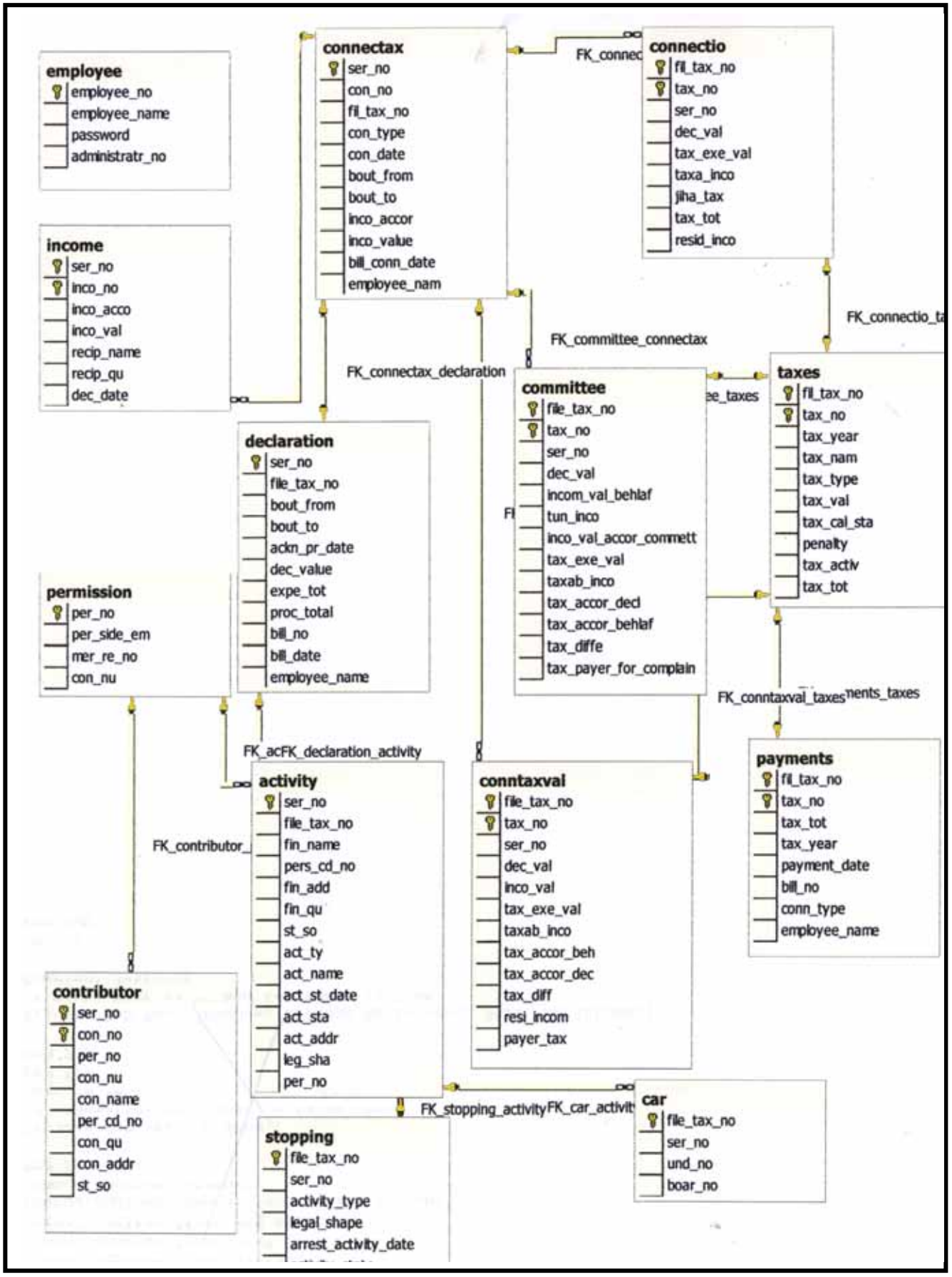

Figure 6-2 Diagram for department of commercial profits

6.9.2 Free professions department:

1- Table of activity:

Fields name	Data type	length	Symbol fields
Serial no	char	8	ser_no
File tax no	char	8	file_tax_no
customer name	Char	30	cus_name
Personality card no	char	8	Pers_cd_no
customer address	Char	15	cus_add
customer quality	Char	15	sus_qu
State social	Char	15	st_so
Artisans type	Text	16	art_ty
Artisans name	Char	25	art_name
Artisans start date	datetime	8	art_st_date
Artisans state	char	15	art_sta
Artisans address	char	25	art_addr
Legal shape	Char	15	leg_sha
Permission no	Char	8	per_no

Table 6.14Table of activity

2-table of the permission

Fields name	Data type	length	Symbol fields
Permission no	char	8	per_no
permission side emanation	char	20	per_side_em
mercantile record number	char	10	mer_re_no
contributor number	int	4	con_nu

Table 6.15Table of the permission

3- Table of the contributor

Fields name	Data type	length	Symbol fields
Serial no	char	8	ser_no
Contributor no	char	8	con_no
Permission no	char	8	per_no
Contributor number	char	4	con_nu
Contributor name	char	35	con_name
Personality card no	char	8	per_cd_no
Contributor quality	char	15	con_qu
Contributor address	char	25	con_addr
State social	char	15	st_so

Table 6.16Table of the contributor

4- Table of the declaration

Fields name	Data type	length	Symbol fields
Serial no	char	8	ser_no
File tax no	char	8	file_tax_no
Bout from	datetime	8	bout_from
Bout to	datetime	8	bout_to
Presentation date	datetime	8	ackn_pr_date
Declaration value	money	8	dec_value
expenditure total	money	8	expe_tot
proceeds total	money	8	proc_total
Connection no	char	8	con_no
Bill no	char	10	bill_no
Bill date	datetime	8	bill_date
Employee name	char	20	employee_name

Table 6.17Table of the declaration

5- Table of the stopping artisans

Fields name	Data type	length	Symbol fields
File tax no	char	8	file_tax_no
Serial no	char	8	ser_no
Artisans type	char	20	art_ty
Legal shape	char	20	Leg_ sha
Arrest activity date	datetime	8	Arres_ art_ date
Artisans state	char	15	Art_ state
Arrest reason	char	30	arrest _reason

Table 6.18 Table of the stopping artisans

6- Table of the connection tax

Fields name	Data type	length	Symbol fields
Serial no	char	8	ser_no
Connection no	char	8	con_no
File tax no	char	8	fil_tax_no
Connection type	char	15	con_typ
Connection date	datetime	8	con_date
Bout from	datetime	8	bout_fro
Bout to	datetime	8	bout_to
Income according	char	15	inco_accor
Income value	money	8	inco_valu
Bill connection date	char	10	bill_conn_date
Employee name	char	23	emplo_name

Table 6.19 Table of the connection tax

7- Table of the income

Fields name	Data type	length	Symbol fields
Serial no	char	8	ser_no
Income no	char	8	inco_no
Income according	char	15	inco_accor
Income value	money	8	inco_val
recipient name	char	25	recip_name
recipient quality	char	14	recip_qu
Declaration date	datetime	8	dec_date

Table 6.20 Table of the income

8- Table of the basically connection

Fields name	Data type	length	Symbol fields
File tax no	char	8	fil_tax_no
Tax no	char	2	tax_no
Serial no	char	8	ser_no
Declaration value	money	8	dec_value
Tax exemption value	money	8	tax_exe_val
Taxable income	money	8	taxa_inco
Jihad tax	money	8	jiha_tax
Tax total	money	8	tax_tot
residuum income	money	8	resid_inco

Table 6.21Table of the basically connection

9- Table of the final connection

Fields name	Data type	length	Symbol fields
File tax no	char	8	fil_tax_no
Tax no	char	2	tax_no
Serial no	char	8	ser_no
Declaration value	money	8	dec_value
Tax exemption value	money	8	tax_exe_val
Taxable income	money	8	taxa_inco
Income value	money	8	inco_val
Tax according behalf	money	8	tax_accor_beh
tax according declaration	money	8	tax_accor_dec
Tax different	money	8	tax_diff
residuum income	money	8	resi_inco
Payer tax	money	8	payer_tax

Table 6.22Table of the final connection

10- Table of the payments

Fields name	Data type	length	Symbol fields
File tax no	char	8	fil_tax_no
Tax no	char	2	tax_no
Tax total	money	8	tax_tot
Tax year	int	4	Tax_year
Payment date	datetime	8	Payment_date
Bill no	Char	8	bill_no
Connection type	Char	20	conn_type
Employee name	Char	25	employee_name

Table 6.23Table of the payments

11- Table of the committee connection

Fields name	Data type	length	Symbol fields
File tax no	char	8	fil_tax_no
Tax no	char	2	tax_no
Serial no	char	8	ser_no
Declaration value	money	8	dec_value
Tax exemption value	money	8	tax_exe_val
Taxable income	money	8	taxa_inco
Income value	money	8	inco_val
Tax according behalf	money	8	tax_accor_beh
according declaration	money	8	tax_accor_dec
Tax different	money	8	tax_diff
Payer tax for complain	money	8	payer_tax_for_complain
Income value according committee	money	8	Inco_val_accor_commi
tuneup income	money	8	Tun_inco

Table 6.24 Table of the committee connection

12- Table of the taxes

Fields name	Data type	length	Symbol fields
File tax no	char	8	fil_tax_no
Tax no	char	2	tax_no
Tax year	int	4	tax_year
Tax name	char	25	tax_nam
Tax type	char	20	tax_type
Tax value	money	8	tax_val
Tax calculate state	char	20	tax_cal_sta
penalty	money	8	penalty
Tax activity	char	20	tax_activ
Tax total	money	8	tax_tot

Table 6.25 Table of the taxes

Diagram for Free professions department:-

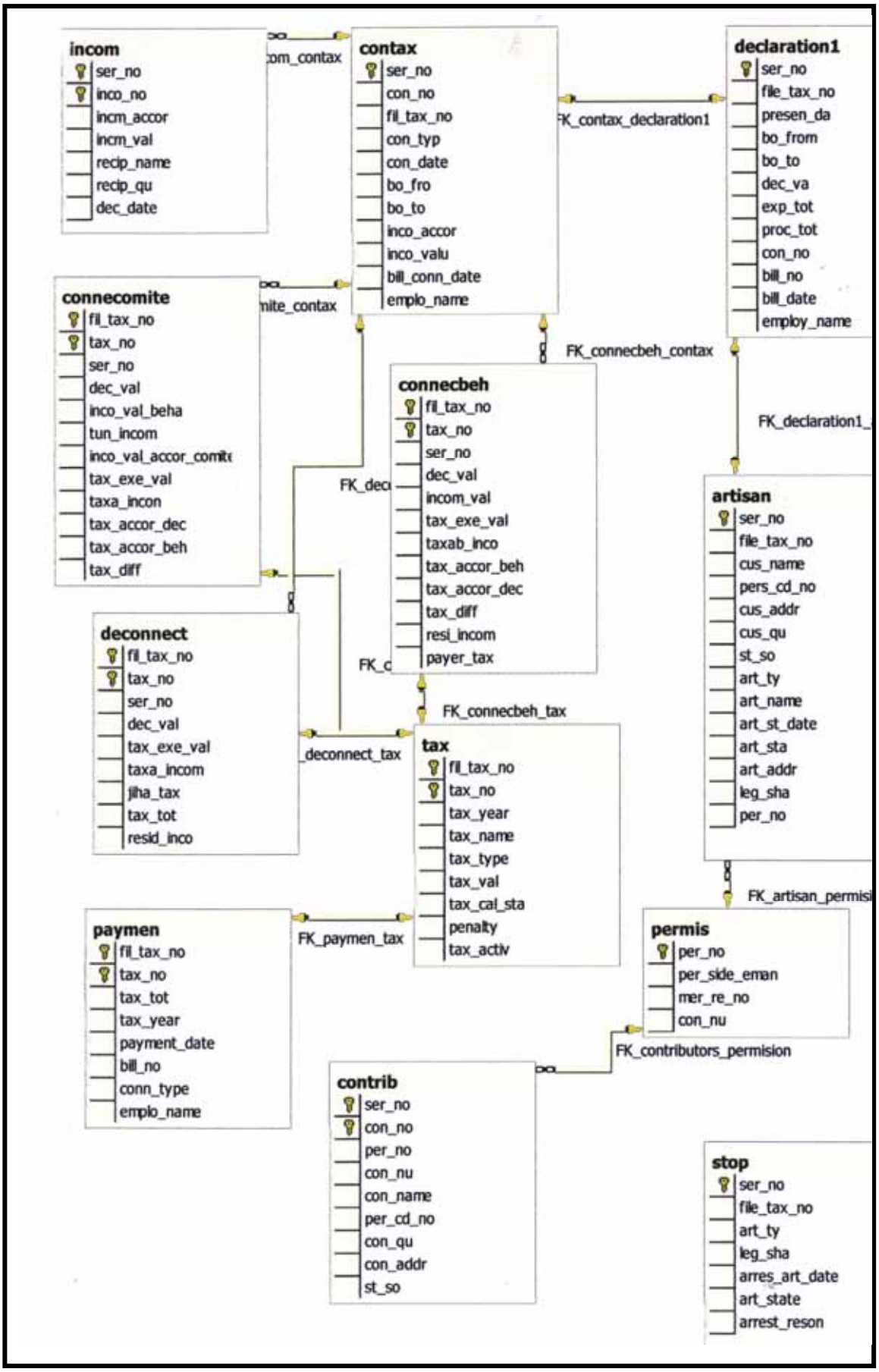

Figure 6-3 Diagram for Free professions department

6.9.3 Department of the contracts:-

1- Table of contracts:-

Fields name	Data type	length	Symbol fields
Bill no	Char	10	bill_no
Contract no	Char	10	Conl_no
Notary name	Text	16	Not_name
Notary value	Money	8	Not_val
Tax value	Money	8	Tax_val
Stamp bill	Money	8	Stam_bi
penalty	Money	8	pental
sell	Char	40	Sell
Buy	Char	40	Buy
liberation contract date	datetime	8	Lib_cont_date
registry no	Char	10	Regist_no

Table 6.26 Table of contracts

2 - table of contract type:-

Fields name	Data type	length	Symbol fields
Contract no	Char	10	Conl_no
Contract type	Char	35	Cont_type
ascription	numeric	9	ascri

Table 6.27 Table of contract type

2- Table of taxes:-

Fields name	Data type	length	Symbol fields
File tax no	char	8	fil_tax_no
Tax no	char	2	tax_no
Tax year	int	4	tax_year
Tax name	char	25	tax_nam
Tax type	char	20	tax_type
Tax value	money	8	tax_val
Tax calculate state	char	20	tax_cal_sta
penalty	money	8	penalty
Tax activity	char	20	tax_activ
Tax total	money	8	tax_tot

Table 6.28 Table of taxes

4- **Table of payments**

Fields name	Data type	length	Symbol fields
Bill no	Char	8	bill_no
Tax no	char	2	tax_no
Bill date	datetime	8	bill_date
Tax total	money	8	tax_tot
Employee name	Char	25	employ_name

Table 6.29 Table of payments

Diagram for department of the contracts:-

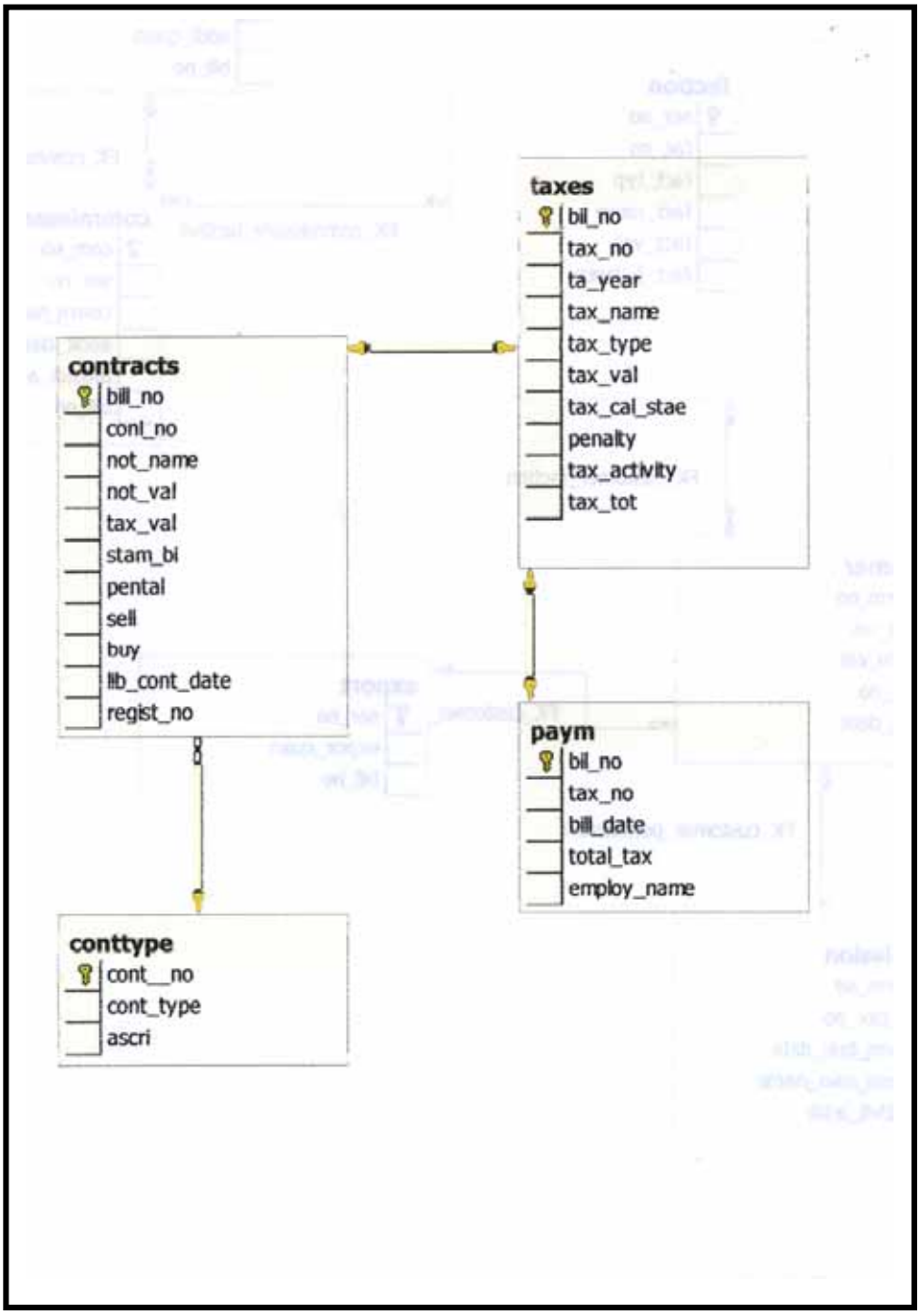

Figure 6-4 Diagram for department of the contracts

6.9.4 Department of the fess and salaries:-

1-table of the finance:-

Fields name	Data type	length	Symbol fields
File tax no	char	10	file_tax_no
Finance name	char	45	Finan_nam
Finance address	char	20	Fin_addr
Create date	datetime	8	Creat_date

Table 6.30 Table of the finance

2- Table of the calculate:-

Fields name	Data type	length	Symbol fields
File tax no	char	10	file_tax_no
month	int	4	month
Tax total	Money	8	Total_tax
Salary total	Money	8	Total_salar

Table 6.31 Table of the calculate

3- Table of the payments:-

Fields name	Data type	length	Symbol fields
File tax no	char	10	file_tax_no
Tax total	Money	8	total_tax
Payment date	datetime	8	payment_date
Bill no	Char	10	bill_no

Table 6.32 Table of the payments

4- Table of taxes:-

Fields name	Data type	length	Symbol fields
File tax no	char	8	fil_tax_no
Tax no	char	2	tax_no
Tax year	int	4	tax_year
Tax name	char	25	tax_nam
Tax type	char	20	tax_type
Tax value	money	8	tax_val

Table 6.33 Table of taxes

Diagram for department of the fess and salaries:-

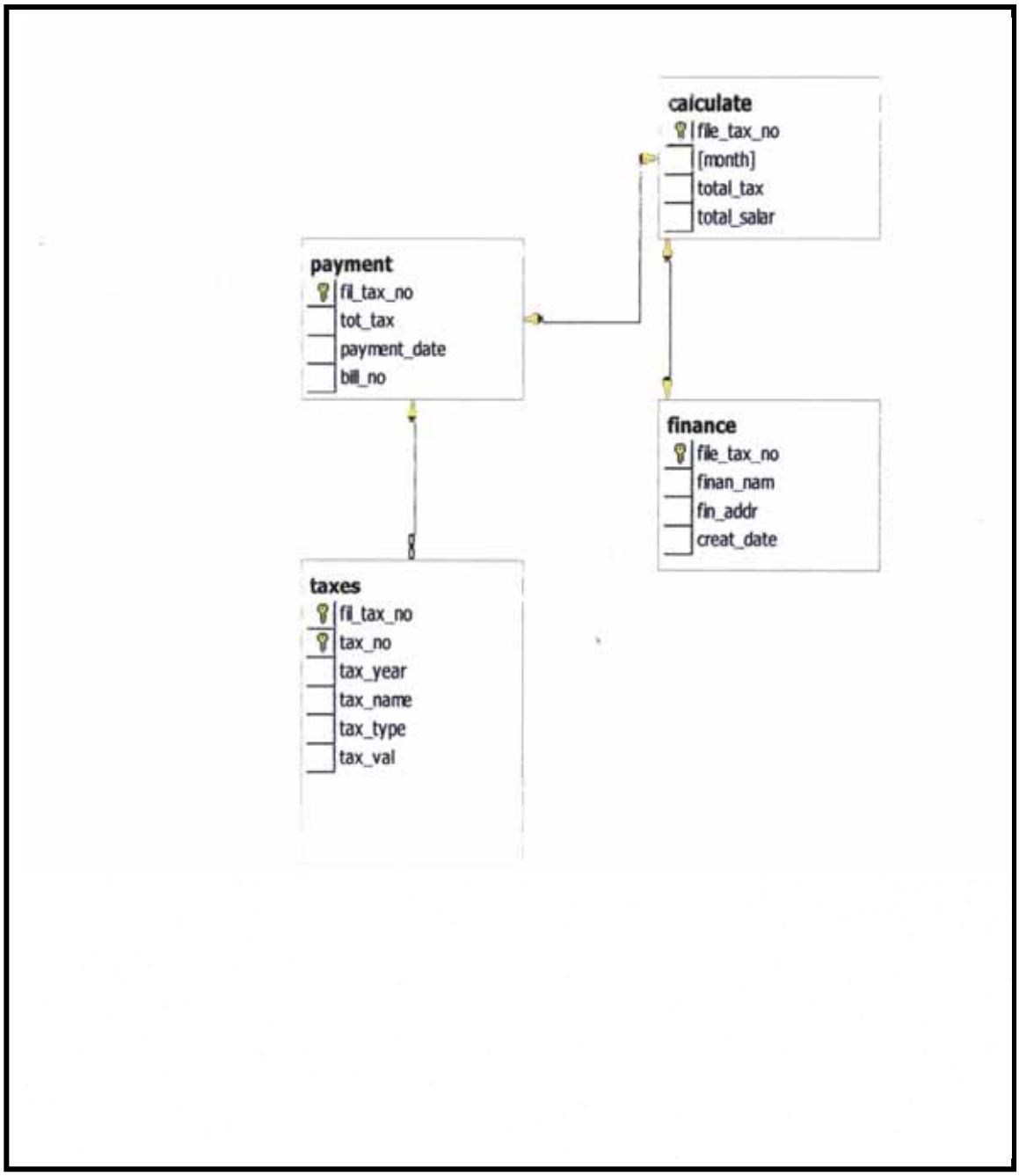

Figure 6-5 Diagram for department of the fess and salaries

6.9.5 Department of revenue deposits with banks:-

1-table of the banks:-

Fields name	Data type	length	Symbol fields
File tax no	char	10	file_tax_no
Bank name	ntext	16	bank _name
create date	datetime	8	creat_date
Bank address	Char	30	ban_addr

Table 6.34 Table of the banks

2-table of the finance:-

Fields name	Data type	length	Symbol fields
Serial no	Char	10	Ser_no
File tax no	char	10	file_tax_no
finance name	text	16	fin _nam
finance address	Char	25	fin_addr
Account no	Char	10	Account_no
Deposit value	Money	8	Deposit_val
Deposit date	datetime	8	Depo_date
ascription benefits Mont	Int	4	Ascrip_ben_mon

Table 6.35 Table of the finance

3- Table of the calculation:-

Fields name	Data type	length	Symbol fields
serial no	char	10	ser_no
benefits value	Money	8	ben_val
worth date	datetime	8	worth _date
Tax value	money	8	tax_val

Table 6.36 Table of the calculate

4- Table of the payments:-

Fields name	Data type	length	Symbol fields
File tax no	char	10	file_tax_no
Tax total	Money	8	total_tax
Payment date	datetime	8	payment_date
Bill no	Char	10	bill_no

Table 6.37 Table of the payments

4- Table of taxes:-

Fields name	Data type	length	Symbol fields
File tax no	char	8	fil_tax_no
Tax no	char	2	tax_no
Tax year	int	4	tax_year
Tax name	char	25	tax_nam
Tax value	money	8	tax_val
Total tax	Money	8	tot_tax

Table 6.38 Table of taxes

Diagram for Department of revenue deposits with banks

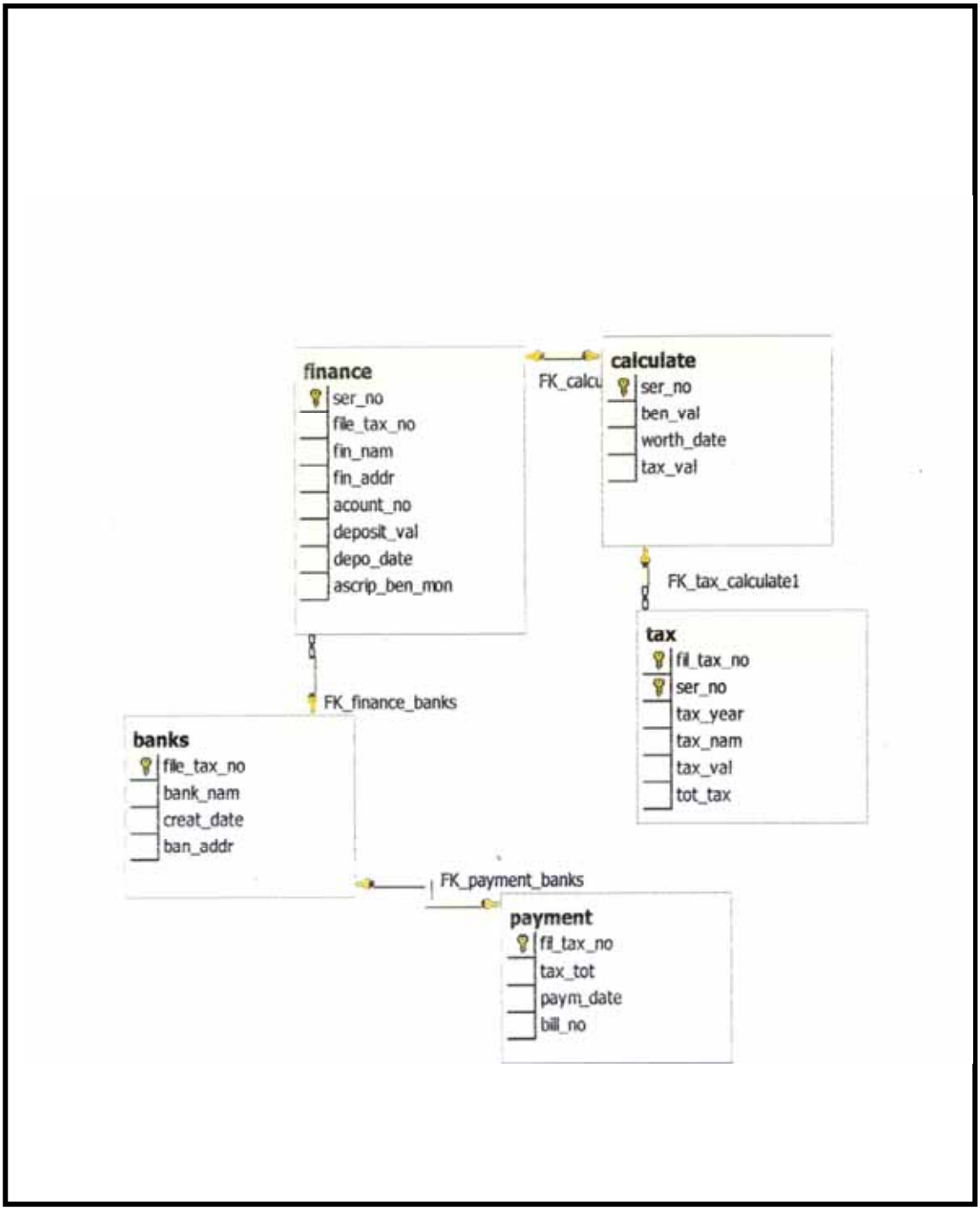

Figure 6-6 Diagram for Department of revenue deposits with banks

6.9.6 Department of treasury:-

1-table of the taxes

Fields name	Data type	length	Symbol fields
From date	Datetime	8	Fr_dat
To date	Datetime	8	To_dat
Commercial profits	Money	8	Comm_pro
Free artisan	Money	8	Free_arti
Fees salaries	Money	8	Fees_salar
General income	Money	8	Gener_income
Deposit and saving account	Money	8	Deposit_bank
Stamps	Money	8	Stamps
Contracts	Money	8	Contr
Fight	Money	8	Fight
Contribution	Money	8	Dister
Discount diner	Money	8	Los_diner
Fine	Money	8	fine

Table 6.39 Table of taxes

2-table of the bills

Fields name	Data type	length	Symbol fields
Bill no	Char	10	Bill_no
Bill_date	Datetime	8	Bil_date
Tax type	Char	35	Tax_typ
Tax value	Money	8	Tax_val
Fine	Money	8	Fine
Payer name	Char	35	Payer_name

Table 6.40 Table of bills

3- Table of the payment

Fields name	Data type	length	Symbol fields
Bill no	Char	10	Bill_no
Tax name	Char	35	Tax_nam
File tax no	Char	10	Fil_no
Paymen from	Datetime	8	Payme_fro
Payment to	Datetime	8	Paymen_to

Table 6.41 Table of payment

4- Table of the tax

Fields name	Data type	length	Symbol fields
Bill no	Char	10	Bill_no
Contribution	Money	8	Dister
Discount diner	Money	8	Los_diner

Table 6.42 Table of tax

Diagram for Department of treasury:-

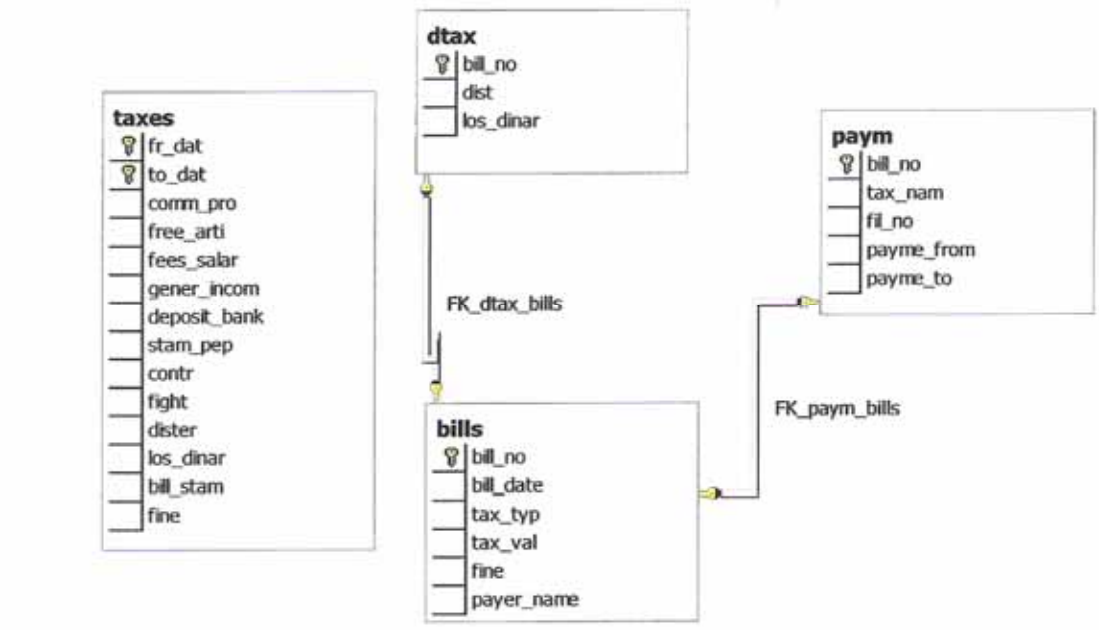

Figure 6-7 Diagram for Department of treasury

Chapter 7

Database Programming

7.1 VB Database Programming

There are several ways of connecting to a database (for example, Access), via data bound controls, DAO or ADO. On the whole I do not use data bound controls because I like to keep control of what is happening to the data so the rest is about DAO/ADO.
To start with you need to create a few variables of the following types
Workspace ADODB.Connection - This is required if you are using Transaction Processes (I will explain later)
Database - This connects to the database Recordset
ADODB.Recordset - This is the table/query level variable
Field ADODB.Field - This allows us to get info about the fields. (10)

7.2 Connecting to a Database

With an Access database it is possible to connect to the database in 2 ways, JET or ODBC. Personally I use ODBC because the file management is easier; to change the filename or path just uses the ODBC administrator in the control panel.
Note: These examples are here to show what to do very simply, some of the commands have more options than are shown so please review the help files for more details.

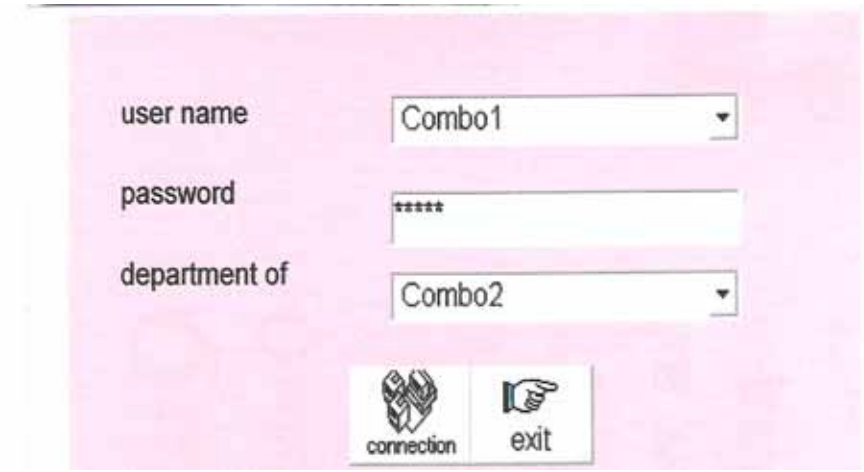

Figure 7.1 connection form

ODBC Connection code

```
Private Sub Command1_Click()
Set cnconn = New ADODB.Connection
 Set rs = New ADODB.Recordset
On Error GoTo ProcError
With cnconn
 .Provider = "SQLOLEDB.1"
.Properties("Data Source").Value = "EMHIMED"
.Properties("User ID").Value = (Combo1.Text)
 If Combo1.Text = "" Then
      MsgBox ("be sour  for the insert database for the user name  "), vbMsgBoxRight +
vbExclamation, "the mssege is rong"
       Text1.SetFocus
  Exit Sub
      End If
.Properties("Password").Value = (Text1.Text)
If Text1.Text = "" Then
      MsgBox ("be sour  for the insert database for the and password "), vbMsgBoxRight
+ vbExclamation, "the mssege is rong"
       Text1.SetFocus
```

```
  Exit Sub
       End If
.Properties("Initial Catalog").Value = (Combo2.Text)
.CursorLocation = adUseClient
.ConnectionTimeout = 1
.Open
 End With
  If Combo2.Text = "commercial" Then
list.Show
ElseIf Combo2.Text = "free" Then
 freelist.Show
  ElseIf Combo2.Text = "contracts" Then
  contr.Show
  ElseIf Combo2.Text = "fess" Then
  fess.Show
   ElseIf Combo2.Text = "deposit" Then
   bank.Show
    ElseIf Combo2.Text = "stamps" Then
   stamps.Show
   ElseIf Combo2.Text = "treasury" Then
   treasury.Show
 End If
ProcError:
MsgBox Err.Description
End Sub
Private Sub Command3_Click()
Unload Me
End
End Sub
Private Sub Form_Load()
Combo1.Text = ""
```

```
Combo1.AddItem "ali"
Combo1.AddItem "mhamed"
Text1.Text = ""
Combo1.Text = ""
Combo2.AddItem "commercial"
Combo2.AddItem "free"
Combo2.AddItem "contracts"
Combo2.AddItem "fess"
Combo2.AddItem "deposit"
Combo2.AddItem "stamps"
Combo2.AddItem "treasury"
End Sub
```

7.3 Opening a Table/Query for Viewing

Now we have the database connection established it is time to look at the data. The following example show how to open a table/query and move through it.

7.4 Change a Record

To edit/add/delete a record we can do it either using SQL or directly. Both DAO and ADO use the execute method for doing updates by SQL.

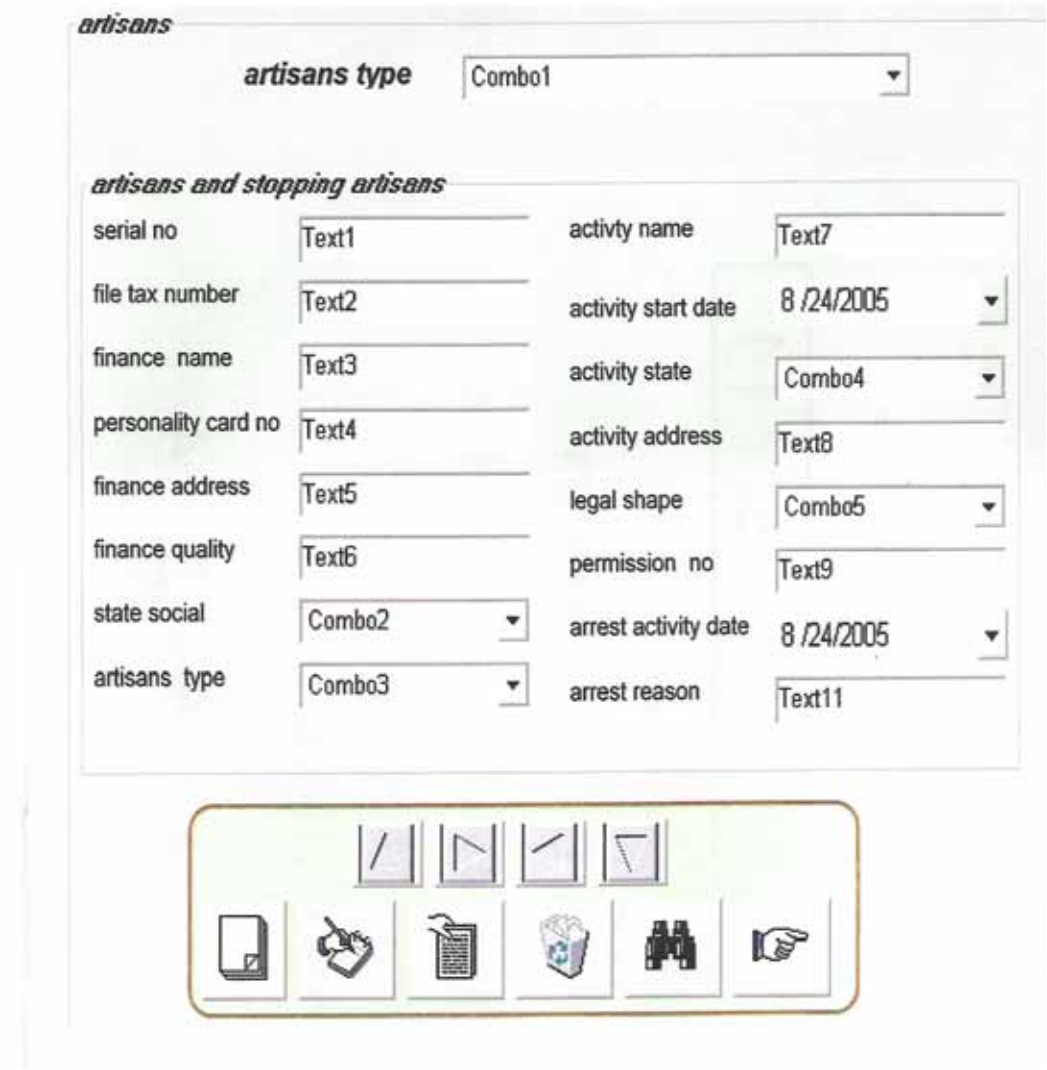

Figure 7.2 opening tables and Change a Record

Code of opening tables and Change a Record

```
Private Sub Combo1_Change()
If IsNumeric(Combo1.Text) = False Then
Combo1 = ""
End If
End Sub
Private Sub Combo1_KeyDown(KeyCode As Integer, Shift As Integer)
If Combo1.Text <> "" And KeyCode = 13 Then
Text1.SetFocus
```

```
If Combo1.Text = "artisans" Then
Text11.Visible = False
Label17.Visible = False
Label22.Visible = False
DTPicker2.Visible = False
ElseIf Combo1.Text = "stopping artisans" Then
Label17.Visible = True
Label22.Visible = True
DTPicker2.Visible = True
Text11.Visible = True
End If
 End If
End Sub
Private Sub Command1_Click()
On Error GoTo ProcError
If Text1.Text = "" Or Text2.Text = "" Or Text3.Text = "" Or Text4.Text = "" Or
Text5.Text = "" Or Text6.Text = "" Or Combo2.Text = "" Or Combo3.Text = "" Or
Text7.Text = "" Or Combo4.Text = "" Or Text8.Text = "" Or Combo5.Text = "" Or
Text9.Text = "" Then
MsgBox "be sour  for the insert database for all data"
Text1.SetFocus
Exit Sub
End If
If Text1.Text <> "" Or Text2.Text <> "" Or Text3.Text <> "" Or Text4.Text <> "" Or
Text5.Text <> "" Or Text6.Text <> "" Or Combo2.Text <> "" Or Combo3.Text <> ""
Or Text7.Text <> "" Or Combo4.Text <> "" Or Text8.Text <> "" Or Combo5.Text <>
"" Or Text9.Text <> "" Then
'MsgBox ("this data dose not correct")
End If
If Combo1.Text = "artisans" Then
rs11.AddNew
```

```
 rs11.Fields(0) = Text1.Text
 rs11.Fields(1) = Text2.Text
 rs11.Fields(2) = Text3.Text
rs11.Fields(3) = Text4.Text
rs11.Fields(4) = Text5.Text
rs11.Fields(5) = Text6.Text
rs11.Fields(6) = Combo2.Text
rs11.Fields(7) = Combo3.Text
rs11.Fields(8) = Text7.Text
rs11.Fields(9) = DTPicker1
rs11.Fields(10) = Combo4.Text
rs11.Fields(11) = Text8.Text
rs11.Fields(12) = Combo5.Text
rs11.Fields(13) = Text9.Text
rs11.Update
rs11.MoveFirst
ElseIf Combo1.Text = "stopping artisans" Then
rs12.AddNew
rs12.Fields(0) = Text1.Text
 rs12.Fields(1) = Text2.Text
 rs12.Fields(2) = Combo3.Text
 rs12.Fields(3) = Combo5.Text
 rs12.Fields(4) = DTPicker2
 rs12.Fields(5) = Combo4.Text
 rs12.Fields(6) = Text11.Text
 rs12.Update
rs12.MoveFirst
Else
MsgBox (" pleas enter your data")
End If
ProcError:
```

```
MsgBox Err.Description
End Sub
Private Sub Command10_Click()
Unload Me
freelist.Show
End Sub
Private Sub Command11_Click()
Text1.Text = ""
Text2.Text = ""
Text3.Text = ""
Text4.Text = ""
Text5.Text = ""
Text6.Text = ""
Combo2.Text = ""
Combo3.Text = ""
Text7.Text = ""
Combo4.Text = ""
Text8.Text = ""
Combo5.Text = ""
 Text9.Text = ""
 Text11.Text = ""
End Sub
Private Sub Command13_Click()
Dim i As Integer
If Not rs11.EOF Then
i = MsgBox("Are you sour?", vbYesNo + vbMsgBoxRight, "this repate")
If i = vbNo Then
Exit Sub
End If
rs11.Delete
End If
```

```
End Sub
Private Sub Command2_Click()
If Combo1.Text = "artisans" Then
rs11.MoveFirst
text_to_fields
ElseIf Combo1.Text = "stopping artisans" Then
rs12.MoveFirst
text1_to_fildes
End If
End Sub
Private Sub Command18_Click()
If Combo1.Text = "artisans" Then
Set rs11 = cnconn.Execute("select * from artisan  where artisan.file_tax_no= " &
Text2.Text & "")
rs11.Find "  file_tax_no = '" & Text2.Text & "'"
Do Until rs11.EOF
text_to_fields
  rs11.Find "  file_tax_no = '" & Text2.Text & "', 1
 Loop
 ElseIf Combo1.Text = "stopping artisans" Then
 Set rs12 = cnconn.Execute("select * from  stop  where stop.file_tax_no= " &
Text2.Text & "")
rs12.Find "  file_tax_no = '" & Text2.Text & "'"
Do Until rs12.EOF
text1_to_fildes
  rs12.Find "  file_tax_no = '" & Text2.Text & "', 1
 Loop
 End If
End Sub
Private Sub Command5_Click()
If Combo1.Text = "artisans" Then
```

```
rs11.MoveNext
If rs11.EOF Then
If rs11.EOF Then MsgBox "this record is last record"
rs11.MoveFirst
text_to_fields
'Combo5.Text = rs1.Fields(1)
Else
text_to_fields
End If
ElseIf Combo1.Text = "stopping artisans" Then
rs12.MoveNext
If rs12.EOF Then
If rs12.EOF Then MsgBox "this record is last record"
rs12.MoveFirst
text1_to_fildes
'Combo5.Text = rs1.Fields(1)
Else
text1_to_fildes
End If
End If
End Sub
Private Sub Command6_Click()
If Combo1.Text = "artisans" Then
rs11.MovePrevious
If rs11.BOF Then
If rs11.BOF Then MsgBox "this record is first record"
rs11.MoveLast
text_to_fields
Else
text_to_fields
End If
```

```
ElseIf Combo1.Text = "stopping artisans" Then
rs12.MovePrevious
If rs12.BOF Then
If rs12.BOF Then MsgBox "this record is first record"
rs12.MoveLast
text1_to_fildes
Else
text1_to_fildes
End If
End If
End Sub
Private Sub Command7_Click()
If Combo1.Text = "artisans" Then
rs11.MoveLast
text_to_fields
ElseIf Combo1.Text = "stopping artisans" Then
rs12.MoveLast
text1_to_fildes
End If
End Sub
Private Sub Command8_Click()
On Error GoTo ProcError
If Combo1.Text = "artisans" Then
 rs11.Fields(0) = Text1.Text
 rs11.Fields(1) = Text2.Text
 rs11.Fields(2) = Text3.Text
rs11.Fields(3) = Text4.Text
rs11.Fields(4) = Text5.Text
rs11.Fields(5) = Text6.Text
rs11.Fields(6) = Combo2.Text
rs11.Fields(7) = Combo3.Text
```

```
rs11.Fields(8) = Text7.Text
rs11.Fields(9) = DTPicker1
rs11.Fields(10) = Combo4.Text
rs11.Fields(11) = Text8.Text
rs11.Fields(12) = Combo5.Text
rs11.Fields(13) = Text9.Text
rs11.Update
ElseIf Combo1.Text = "stopping artisans" Then
rs12.Fields(0) = Text1.Text
 rs12.Fields(1) = Text2.Text
 rs12.Fields(2) = Combo3.Text
 rs12.Fields(3) = Combo5.Text
 rs12.Fields(4) = DTPicker2
 rs12.Fields(5) = Combo4.Text
 rs12.Fields(6) = Text11.Text
 rs12.Update
End If
ProcError:
MsgBox Err.Description
End Sub
Private Sub Form_Load()
Set rs11 = New ADODB.Recordset
Set rs12 = New ADODB.Recordset
SQL11 = "select * from artisan "
SQL12 = "select * from  stop "
rs11.Open SQL11, cnconn, adOpenDynamic, adLockOptimistic
rs12.Open SQL12, cnconn, adOpenDynamic, adLockOptimistic
Combo1.Text = ""
Combo1.AddItem "artisans"
Combo1.AddItem "stopping artisans"
Text1.Text = ""
```

```
Text2.Text = ""
Text3.Text = ""
Text4.Text = ""
Text5.Text = ""
Text6.Text = ""
Combo2.Text = ""
Combo2.AddItem "single"
Combo2.AddItem "married"
Combo2.AddItem "married and children"
Combo3.Text = ""
Combo3.AddItem "engineer"
Combo3.AddItem "medicine"
Combo3.AddItem "legal profession"
Combo3.AddItem "account"
Combo3.AddItem "chemical analysis"
Combo3.AddItem "authorship"
Combo3.AddItem "translation"
Combo3.AddItem "artistry"
Text7.Text = ""
Combo4.Text = ""
Combo4.AddItem "continuous"
Combo4.AddItem "stopping"
Text8.Text = ""
Combo5.Text = ""
Combo5.AddItem "personal"
Combo5.AddItem "communion"
Text9.Text = ""
Text11.Text = ""
End Sub
Sub text_to_fields()
  Text1.Text = rs11.Fields(0)
```

```
 Text2.Text = rs11.Fields(1)
 Text3.Text = rs11.Fields(2)
Text4.Text = rs11.Fields(3)
Text5.Text = rs11.Fields(4)
Text6.Text = rs11.Fields(5)
Combo2.Text = rs11.Fields(6)
Combo3.Text = rs11.Fields(7)
Text7.Text = rs11.Fields(8)
DTPicker1 = rs11.Fields(9)
Combo4.Text = rs11.Fields(10)
Text8.Text = rs11.Fields(11)
Combo5.Text = rs11.Fields(12)
Text9.Text = rs11.Fields(13)
'Combo6.Text = rs.Fields(14)
End Sub
Sub text1_to_fildes()
Text1.Text = rs12.Fields(0)
Text2.Text = rs12.Fields(1)
 Combo3.Text = rs12.Fields(2)
 Combo5.Text = rs12.Fields(3)
 DTPicker2 = rs12.Fields(4)
 Combo4.Text = rs12.Fields(5)
 Text11.Text = rs12.Fields(6)
End Sub
```

Figure 7.3 form for contracts department

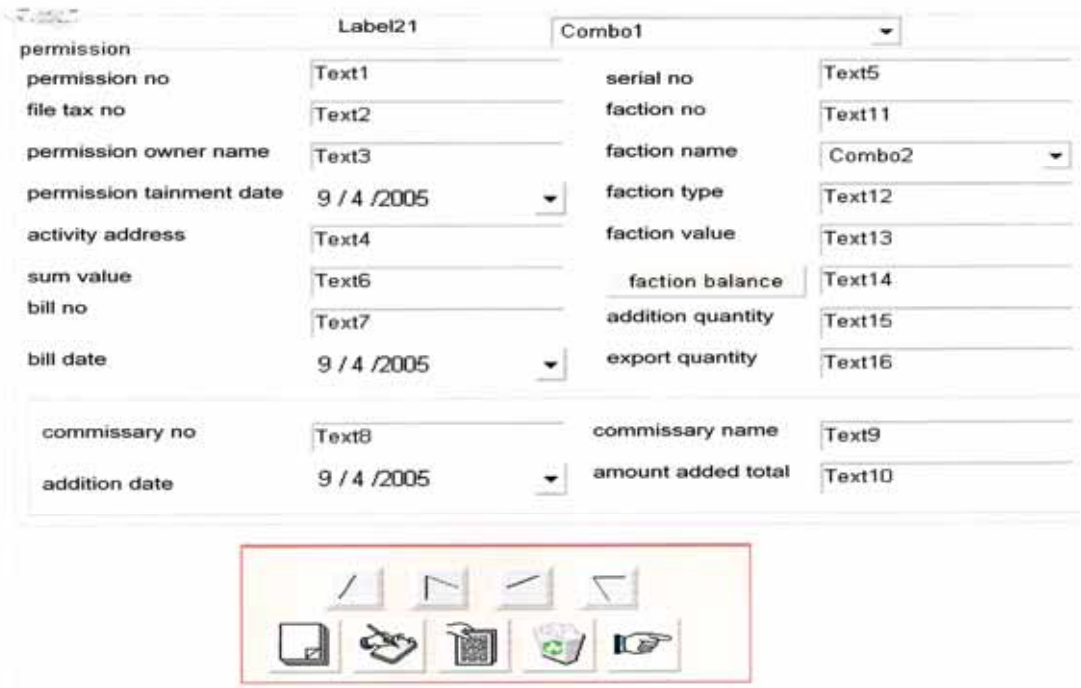

Figure 7.4 form for stamps and officer papers department

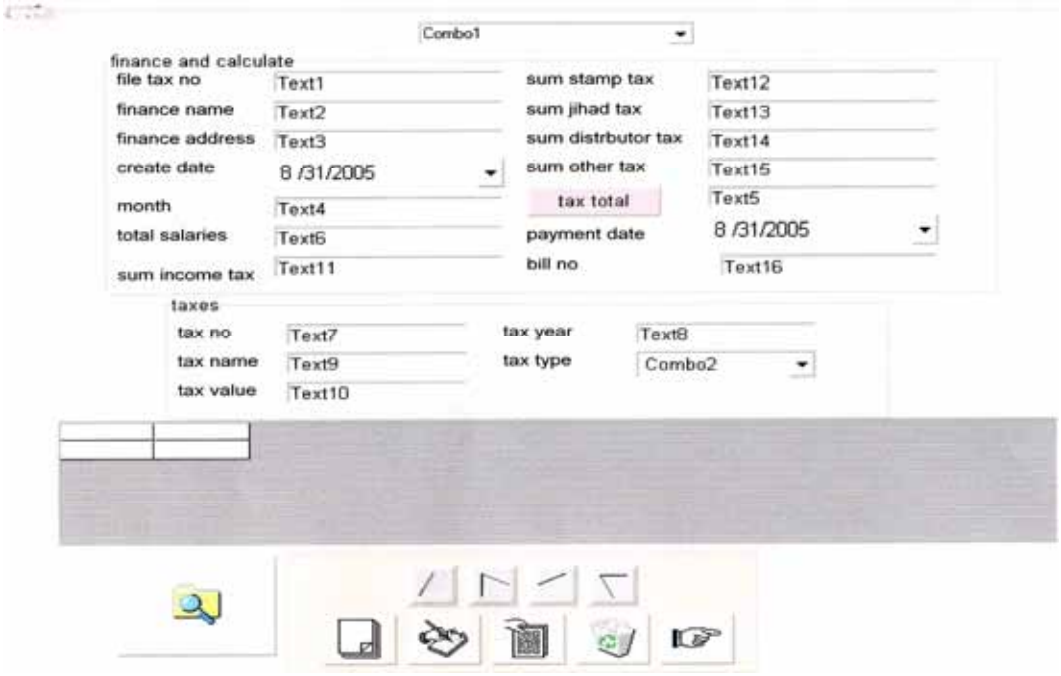

Figure 7.5 form for fess and salaries department

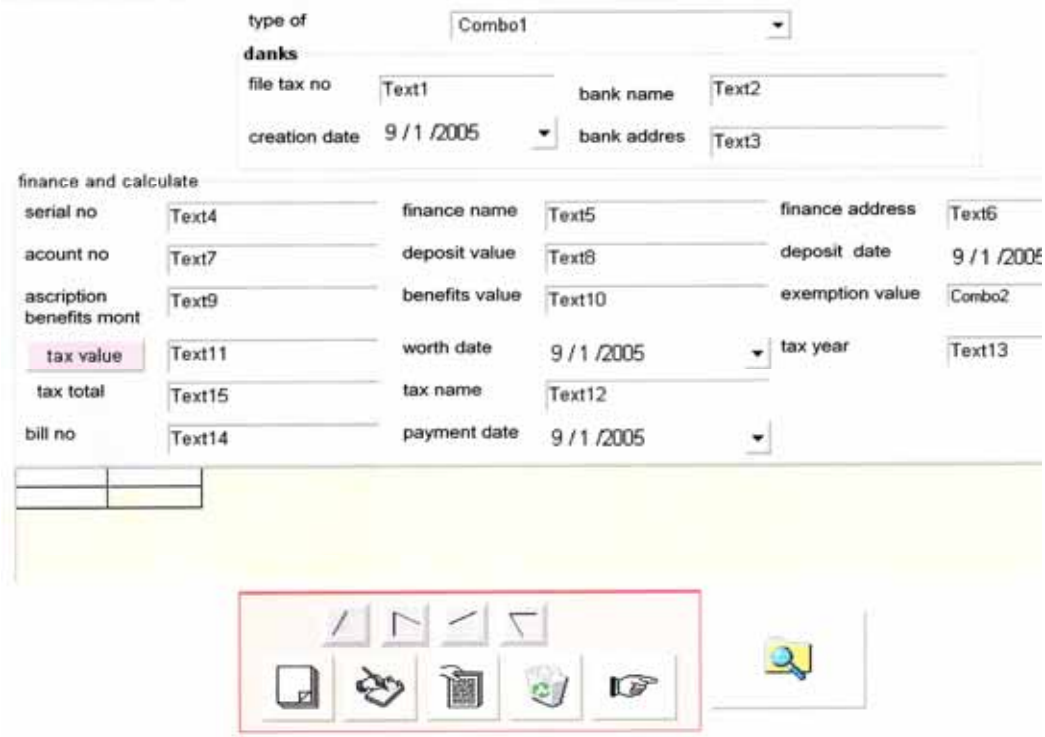

Figure 7.6 form for deposit and saving accounts department

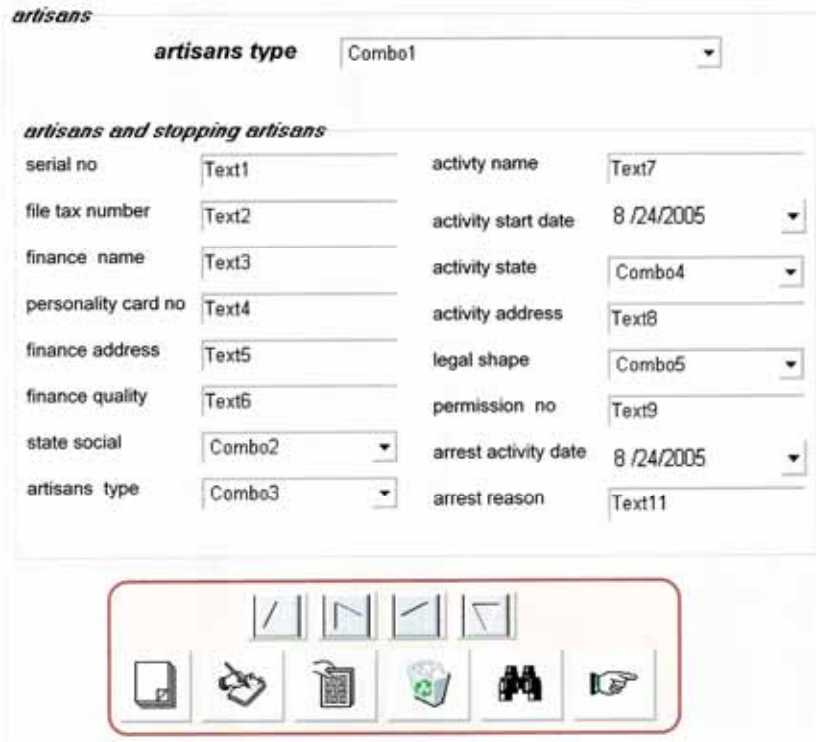

Figure 7.7 artisans form for free artisans department

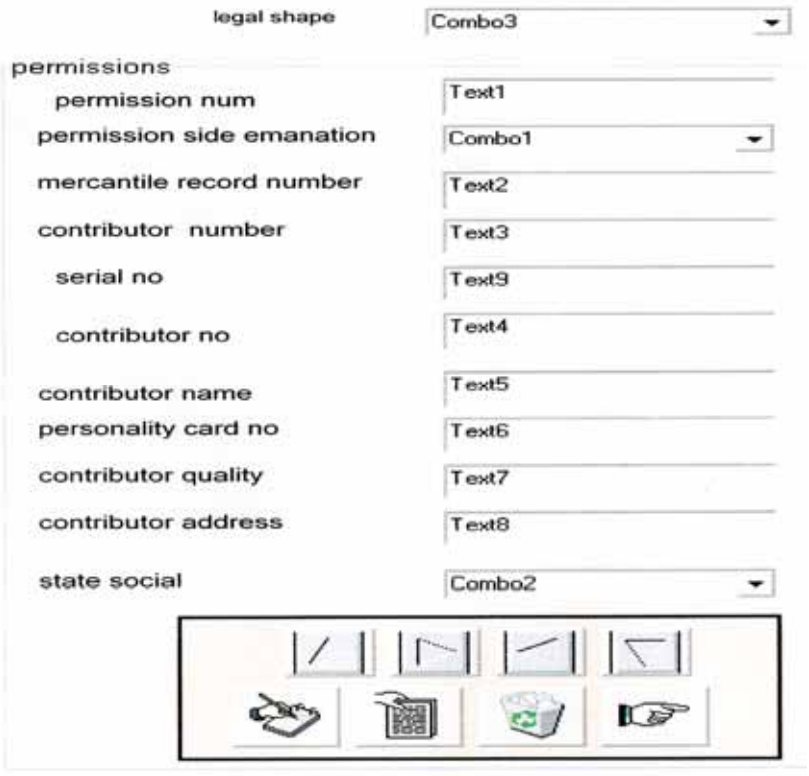

Figure 7.8 permission form for free artisans department

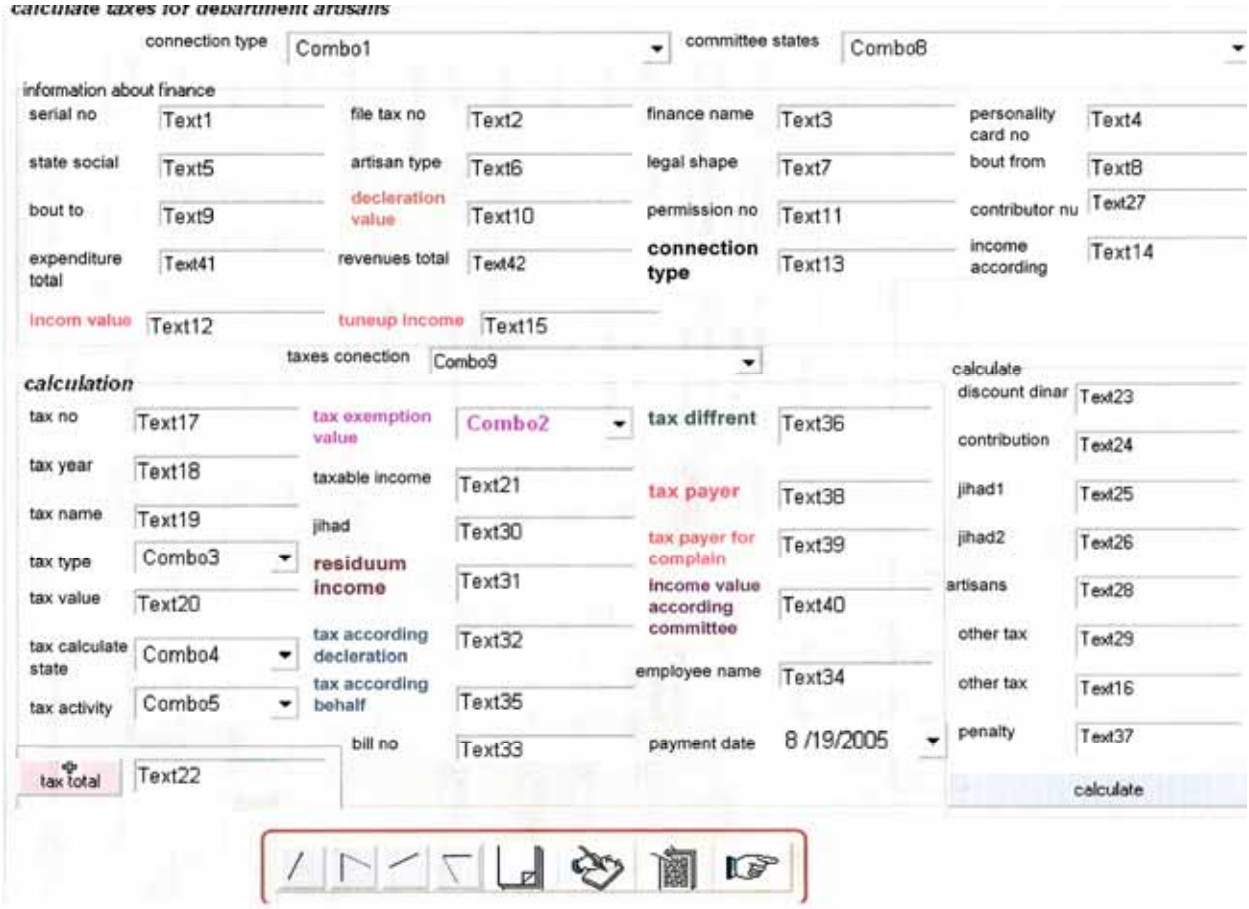

Figure 7.9 taxes form for free artisans department

Conclusion

1- The tax system is considered one of the bases of any financial system all over the word.

2- In Libya there are many offices which has parts of the general tax department. For this reasons this study have been made.

3- The tax system difficulte to research processes problems on date by manual, but by computer programming you can do that mor exactly and easy to use tax system.

4- We recommend conducting make studies in this area.

5- In the future (Phd), I will develop this program by use network programming like (Php, Asp) in all tax departments in Libya.

Appendix

List of Box register

✧ **Form (1)**

Include this List to the following information's

The General People's Committee for Finance

List of Box register during the period
……20 to period ……..20

Received					
serial no	bill no	payment name	payment date	tax type	contracted sum
Total amount sum					

date / / 20

List of the Daily Register

✧ Form (2)
Include this List to the following information's

Total amount	Corporation funds	Diner Deduction	contribution	Total for the chapter two	Chapter two		Total for the chapter one	Chapter one						Bill date	Bill no
					penalty	stamps and official paper selling		Tax for the deposits with banks	Tax for the general tax on income	Tax for the free artisans	Tax for the fess and salaries	Tax for company	Tax for commercial profits		

List of tax deposits (securities)

Form (3)
Include this List to the following information's

The great socialist peoples Libyan Arab Jamahiriya

The General People's Committee for Finance

Department of taxes

Office **……**

Security……..

List includes all of the Received revenues
From the period……20 to period …….20

Tax value		Tax name	Tax no
	dirham diner	dirham	diner 1
		Diner Deduction	
		contribution	2
		Corporation funds	3
		Total……..	

date / /20
sign
.....

List of the Total tax

✧ **Form (4)**

Include this List to the following information's

The great socialist peoples Libyan Arab Jamahiriya

The General People's Committee for Finance

Department of taxes

Office **……**

Security……..

List includes all of the Received revenues
From the period……20 to period …….20

Tax no	Tax name	Tax value	
		diner	dirham
1	Tax for commercial profits		
2	Tax for company		
3	Tax for the fess and salaries		
4	Tax for the free artisans		
5	Tax for the deposits with banks		
6	stamps and official paper selling		
Total ……			

date / /20
sign
……

G82 form

✧ **Form (5)**

Include this List to the following information's

The great socialist peoples Libyan Arab Jamahiriya

The General People's Committee for Finance

Department of taxes

Office / **……**

Received List from the tax of the commercial profits

For the month……year……..

Bill no	file no	customer name	date	tax year	tax value	
					diner	dirham
					Total/	

date / / 20

Sign

…….

G 35 form

✧ **Form (6)**

Include this List to the following information's

The great socialist peoples Libyan Arab Jamahiriya

The General People's Committee for Finance

Department of taxes

Management taxes ……

List of the actuality revenues for the period from 20……to 20……..

serial no	taxes type	actuality revenues for the precedent months		Actuality revenues for the current month		revenues from the start of the year until finish the current month	
		diner	dirham	diner	dirham	diner	dirham
1	Tax for commercial profits						
	Tax for company						
2	Tax for the fess and salaries						
3	Tax for the free artisans						
4	Tax for the deposits with banks						
	Total for chapter one						
5	Tax stamp						
6	stamps and official paper selling						
	Total for chapter two						
	penalties						
	Total for all the chapters						
8	Diner Deduction						
9	Contribution						
10	Corporation funds						
	Total amount						

Date / / 20……

Special listing of contracts

According to the name of the notary Form (7)
Include this List to the following information's

The great socialist peoples Libyan Arab Jamahiriya

The General People's Committee for Finance

Department of taxes
Include list of the contracts revenue, name of the notary……

Period from 20…… period to 20……..

Serial no	Bill no	Registration no	Payments date	contract date	contract type	receipt stamp tax	penalty	name of first partner	name of second prater	value of notary	Tax value	
											diner	dirham
											Total for the tax value	

Date / / 20

Sign of the Manager

……..

Special listing of contracts

According to contract Type Form (8)
Include this List to the following information's

The great socialist peoples Libyan Arab Jamahiriya

The General People's Committee for Finance

Department of taxes

Include list of the contract revenue ……

Period from 20…… period to 20……..

Serial no	Bill no	Registration no	Payments date	contract date	name of the notary	receipt stamp tax	penalty	name of first partner	name of second prater	value of notary	Tax value	
											diner	dirham
											Total for the tax value	

Date / / 20

Sign of the Manager

……..

A list of the name of persons who paid the general income tax

✧ **Form (9)**

Include this List to the following information's

The great socialist peoples Libyan Arab Jamahiriya

The General People's Committee for Finance

Department of taxes

Management taxes ……taxes office……

Declaration of the general income tax

for the period from 20……to 20……..

Serial no	Bill no	File tax no	Payments date	Payments name	Income total		Tax value	
					diner	dirham	diner	dirham
					Total for the tax value			

Date / / 20

Sign of the Manager

……..

List showing the selling amount of stamp tax (stamps official papers, bills)

✧ **Form (10)**

Include this List to the following information's

The great socialist peoples Libyan Arab Jamahiriya

The General People's Committee for Finance

Department of taxes

List of the all revenues Received from the permission owner for the

Period from …….. 20…. Period to ……20….

Serial no	Bill no	date	name of permission owner	Received sum	
				diner	dirham

Date / / 20

List of showing the added amount to stamp tax types

(stamp tax, official papers, Bills)

✧ **Form (11)**

Include this List to the following information's

The great socialist peoples Libyan Arab Jamahiriya

The General People's Committee for Finance

Department of taxes

Include the list for the added amount for the tax stamp types

From period……20….. to period ……20…..

Serial no	Bill no	date	name of license holder	Addition amount	
				diner	dirham

Date / / 20

List showing the total balance of detachment types

(Stamp tax, official papers Bills)

✧ **Form (12)**

Include this List to the following information's

The great socialist peoples Libyan Arab Jamahiriya

The General People's Committee for Finance

Department of taxes

List showing the total balance of detachment types

(Stamp tax, official papers Bills)

From period 20…….…… To period .20……..

At date / / 20

Detachment type	value	balance

Receipt data

✧ **Form (13)**

The great socialist peoples Libyan Arab Jamahiriya

The General People's Committee for Finance

Department of taxes

Office / …….

Receive from……..

Characters amount…….

Serial no	account	Value	
		diner	dirham
	Total		
	Penalty		
	Tax stamp		
	Total		

Date / / 20

Sign

……..

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