

**DESIGN AND IMPLEMENTATION OF A DATABASE MANAGEMENT
SYSTEM**

Case study: SPORTS VIEW HOTEL

BY

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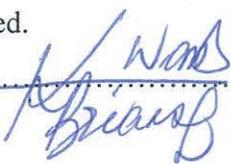
DECLARATION

I **NANDAWULA MARIA** hereby declare that the work contained in this report paper is our original work and has not been submitted or published for an award of a Diploma from any Institution or any other of learning with the exception of where work of other scholars has been used as reference but they have been fully acknowledged.

Signature.  Date. 25/08/09

APPROVAL

This report has been submitted for examination with my approval as the supervisor of the students named.

Signature.....  Date..... 

MR. Komaketch Brian S
(Supervisor)

DEDICATION

I dedicate this research study to my dear parents who saw the importance of my education since we started the journey of our academic carrier. They gave every thing for me while fore going the good things of the world. Thanks a lot and may the almighty God bless you. This research is also dedicated to brothers and sisters for the prayers and moral supports you always offered to me without complaining in any single moment. Bravo for all your efforts.

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May God bless all of you!

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LIST OF ACRONYMS

Attribute: This is a property or characteristic.

CD-RW: This stands for compact disc re-writable format.

Database: This is an organized collection of data that is related to a particular item or object.

DVD: Is a type of disc that's capable of storing data in huge amounts of digital format.

Entity: This is an item or object of interest about which information is stored.

ERM: Entity relationship model.

Form: This is an object that acts like a container for the controls in a graphical interface

Field: Is a group of related characters used to represent one character or attribute of an entity in a database.

ABSTRACT

The use of ICT offers great opportunities for improving the effectiveness and efficiency of many businesses in the processes of carrying out many transactions and in the processes of disseminating information. Information and communication technologies can make great contributions to the improvement of business and the handling and management of information. This has made many companies that deal in a number of businesses to adopt ICT use.

Unfortunately, few individuals or companies are willing to adopt ICT because of ignorance and lack of adequate finances to start up computer systems. This is attributed to the huge sums of money that is needed to put up an information system making the adoption of information and communication technology in areas related to hotel industry far slower than other sectors like the banking sector. This study therefore assessed how the adoption of ICT in the hotel business can facilitate access, dissemination and enhance better storage, retrieval, update and management of information with maximum safety hence improving on the time needed to process a particular piece of information.

However the use of ICTS comes along with its own challenges different to particular cases which must be addressed if any benefits are to be realized. Lack of clear information systems, low knowledge about computer and poor financing of the department are the major setbacks to the use of ICT. Information systems in Sports view Hotel is majorly Manual. It also depends on people to transfer information from one place to another and from one office to another. Problems like delay in the flow of information, difficulty in allocating information are a common phenomenon as a result decisions can be made basing on inadequate and inaccurate information.

This research therefore shows that a lot is to be done both by the government and the private sector in order to get maximum value out of the adoption of ICT.

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 Introduction

An emerging problem for sales management in many companies is the lack of organizational development behind technological changes.

The key factor which gained momentum in the 1990s has been the rise of sophisticated computer networks that disrupt old organizational arrangements and invade the sales management traditional economy. The computer world is organized and managed by the collection of information using a variety of media texts, moving images, still images, sounds or any combinations of these.

Information management systems represent a way of seeing sets of interacting components such as people, objects, and procedures aimed at provision of facts useful to company members or clients which could help it operate efficiently. Sales management systems were therefore established as essential tools in the support of effective services offered by organizations.

The need for companies to incorporate existing and future technologies in order to remain competitive has become a more pressing issue over the last several years. Computer and Database systems play a vital role in the technological direction of organizations.

Databases are used to plan, coordinate and direct research in various activities of companies. What people do as workers may be the initial source of the information economy.

The use of computer based database systems affects people in all kinds of jobs and ultimately affects their earnings, advancement potential, skill requirements and so on across organization

The apparent lack of appreciation of the benefits that could accrue from use of a database systems due to fear of automation drove me to create this database management system for Sports View Hotel. I plan to point out to them that it is meant to change the way they

perform and make decisions by making them more organized and able to offer timely services to their clients.

1.2 Background:

Sports View Hotel that was established on 24th December 1998 using a traditional manual sales management system. The Hotel deals in supplying and selling all kinds of food to potential customers all over Kampala and beyond. We have so many departments at the Hotel such as administration and sales.

The volume of data kept is high thus necessitating the use of a modern record keeping facility i.e. a data base management system as a systematic way of storing, updating and retrieving of information. Sports View hotel offices are located at Kireka heading to Namboole stadium on Jinja road in Kampala city. It is currently doing its sales work manually and it experiences a lot of problems, such as manual errors and data redundancy, to mention but a few. Using a modern record keeping facility, the computerized data base management system approach, would ensure proper data security, data integrity and interactive data entry.

1.3 Problem statement;

The currently used traditional manual records management system is inefficient and ineffective when it comes to handling the sales statistics. The sales department lacks the ability to keep track of its records, thus resulting into data inconsistency.

Sports View Hotel Kireka also faces lack of timely data acquisition. The traditional behavior of searching for the files from the book shelves costs the Hotel a lot of time to get the required information.

1.4 Research Questions

- What are the benefits of using a computerized Database System to Sports View Hotel?
- How can efficiency and effectiveness be attained?
- What challenges may result from using a computerized Records Database System to the Hotel?

- What is the relationship between usage of computerized records Database systems and employee performance?

1.5 Objectives

1.5.1 Main Objectives

This project plans to develop a database system that will be able to track the records of on all hotel income earning activities. This will be achieved by developing an application which is able to store, process and retrieve information about the hotel employees (waiters and waitresses), Sold foods and drinks. It should be able to manipulate data as entered in a query form and print all sorts of required outputs (hardcopies) for example forms, tables and charts.

1.5.1 Specific Objectives

- To design a records Database system that automatically calculates income, expenditure, profits and losses to the Hotel.
- To design a data repository or record keeping facility to ensure data integrity and security.
- To improve efficiency of sales report generation for the management so as to take quick decisions.
- To provide security to the Hotel information. This shall be achieved through issuing of passwords to authorized users only.

1.5 Scope of the study:

1.5.1 Subject scope

The study was carried out at Sports View Hotel Kireka. Sports View Hotel is a medium sized Foods and Drinks selling place with even Rooms for accommodation Data storage department was the Subject to the researcher.

The Study was limited only to the implementation of a computerized Records Database system to Sports View Hotel Kireka.

1.5.2 Geographical scope

The project study was carried out in Kampala at Sports View Hotel located at Kireka along Jinja road near Namboole stadium

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter gives a review of relevant literature on computerized hotel records management systems, the advancement to computerized hotel records management systems, its benefits to the employees' working and the challenges arising out of the system.

2.2 Definition

According to Littlefield and Peterson (1997) records management refers to control of records.

The records refer to reports, contracts, letters invoices, vouchers, pricelists, personnel records, CDs, video tapes, Diskettes. .

S.P Arora (1997) defined records management that it concerns itself with distribution, maintenance retention, preservation, retrieval, disposal.

Welsh and Short (1987) defines a Records Management System as a means of collecting, analyzing, and recording sales details in terms of the Statistics out of the sales, amounts sold, and the commodities sold. It provides information to managers and also a number of outsiders who have interest in the financial activities of a business or enterprise.

Meigs and Meigs (1986), go on further to say that a Records management system consists of methods, procedures and devices used by an entity to keep track of its records

2.3 TYPES OF RECORDS MANAGEMENT:

There are manual records management and computerized records management system.

2.3.1 Manual records management:

This employs the use of files to store records; the information is kept on papers and books and then preserved in files. The records are got for reports and comparisons any time their needed.

Due to the inefficiency of this type of recording the organizations have resorted to computerized way of storing, retaining and preserving records.

According to **James A.O' Brein (1997)** data may be logically organized characters, fields, records, files and databases.

2.3.2 Computerized records management system:

A Records Management System is a well organized collection of data that are related in a meaningful way which can be accessed in different logical orders but are stored only once. The data in the database is therefore integrated, structured, and shared. This employs the use of computers to record and preserve data in a database. It's as much a data processing to record and to keep hospital records. **Geoffrey Mills, Oliver standing ford and Robert. C. Appleby (1986).**

According to Horngren and Harrison (1982), accounting (sales) has benefited more than any other area of business since the emergence of computerized sales management system as it is prospective and requires accuracy. Wood (1993) goes further to say that the system consists of hard-ware and soft-ware.

Hardware refers to machines and related equipment used in the system. It includes input and output devices while software refers to materials used in selecting, installing and operating the system, it also includes programs which are instructions given to the computer. The most common applications are sales, payrolls, accounts receivable, nominal ledger, stock control and spread sheets (Wood 1993).

The most commonly used sales systems are Pastel, Sage and QuickBooks. Spreadsheets are also used on many occasions.

A spreadsheet is a matrix of locations, which can contain values, formulae and relationships. The key feature is that all elements in the matrix can be changed automatically when one or more of the key assumptions is changed (Lucey, 1996). The most commonly used spread sheets in Uganda are Excel, Lotus, and Access, among others. They can be used to produce sales statistics, payrolls, monthly expenditure reports, cash budgets and maintaining standard card records (Akabway, 2000).

Ramez Elmasri and Shamkant B. Navathe (1994) explains it as the collection of data that makes up a computerized database must be physically stored on some computer storage medium. The computer storage media form a storage hierarchy that includes two main categories.

- **Primary storage:**

This category includes storage media that can be operated on directly by the computer; primary storage usually provides fast access to data but is of limited storage capacity.

- **Secondary Storage**

Secondary storage devices include Magnetic disks, optical disks, tapes and drums usually of larger capacity, cost less and provide slower access to data than do primary storage devices, data in the CPU. It must first be copied into primary storage.

2.3.3 The main features of data in a database.

- It is well organized
- It is related
- It is accessible in different orders without great difficulty
- It is stored only once

Most databases are stored permanently on magnetic disk, secondary storage, for all the following reason.

- The cost of storage per unit of data is an order of magnitude less for disk than primary storage.
- Databases are too large to fit entirely in memory.
- The circumstances that cause permanent loss stored data arise less frequently for secondary storage than primary storage.

It is assumed that operations (update, insert, retrieve, etc.) on the database can be carried out in a simple and flexible way. Also since a database tends to be a long term resource of an organization, it is expected that planned as well as unplanned applications can (in general) be carried out without great difficulty.

In any modern organization, a large amount of data is generated about its operations. This data is sometime called *operational data*. The operational data:

- Includes the data an organization must necessarily maintain about its operation.
- Includes relationships linking basic entities.
- Excludes input, output data, work queues, temporary results or any transient information.

Since data is a valuable resource for any enterprise, often a great deal of money is spent collecting, storing and maintaining data. The running of an enterprise may depend on proper maintenance of its operational data. For example, a university's operational data may include the following:

- Student personal data (e.g. name, sex, current address, home address, date of birth, nationality)
- Student academic data (e.g. school results, academic history, current enrolment)
- Academic staff data (e.g. name, sex, current address, date of birth, nationality, academic qualifications, appointment history, current appointment, salary history, current salary, sabbatical leave information, recreational leave, sick leave, etc.)
- Non-academic staff data (e.g. name, sex, current address, date of birth, nationality, trade qualifications and experience, appointment history, current appointment, salary history, current salary, recreational leave, sick leave, etc.)
- Subjects offered data (e.g. subject name, department, syllabus, lecturer, quota if any)
- Financial data (e.g. budget information, receipts, expenditure etc.)

2.4 Database Management Systems

French 1996 define a Database system as a complex software system that constructs, expands and maintains a database. It is noted that a Database management system provides an interface between the user and the data in the database. He goes further to refer it to as a very large software package that carries out many different tasks including the provision of facilities to enable the user to access and modify information in the database. The database is an intermediate link between the physical database, the

computer and the operating system, and on the other hand, the users. To provide the various facilities to different types of users, a DBMS normally provides one or more specialized programming languages often called *Database Languages*. Different DBMS provide different database languages although a language called SQL has recently taken on the role of a de facto standard.

Lucey (1997) refers to DBMS as a collection of programs that enables the user to create and maintain the database. It is therefore a general purpose software that facilitates the process of defining, constructing and manipulating the database for various applications.

2.4.1 A database management system consists of

- The database (data)
- A DBMS (software)
- A DDL and a DML (Part of the DBMS)
- Application programs

2.4.2 Roles and functions of a DBMS

- **Security of data.**

The data should be only accessible by authorized users only. The DBMS should be capable of being kept confidential.

- **Flexibility.**

The DBMS should allow different users with a range of applications.

- **Integration of data needs.**

Data should be shared between the different applications using it. This means that the DBMS software should be sufficiently sophisticated to allow the different applications to access the data, and at the same time avoid confusion by controlling changes.

- **Evolutionary Capacity.**

The DBMS must be capable of evolving and adapting to the changing needs of the company without requiring extensive modifications to program applications.

However French goes ahead to say that when organizations first begin to use computers, they naturally adopt the peace-meal approach, i.e. one system at a time is studied,

redesigned and transferred to the computer. This approach is necessitated by the difficulties experienced in using a new and powerful management tool.

- **Minimum Redundancy.**

Duplication of data should be kept at a minimum. This minimizes the storage capacity and instances of inconsistency of data

2.4.3 Examples of database systems.

- Automated Teller Machines (ATMs) for Banks.
- Computerized inventory Systems
- Computerized Sales and Payroll Systems
- Computerized reservation Systems for instance in Airlines.
- Computerized telephone catalogue. Etcetera.

2.5 Employee performance

Evarand and Burrow (1984) define performance as a situation where a worker fulfils his duties or those offered to him competently. The work done should be of the required standard and should be completed in time. For an organization to achieve goals and objectives there must be an efficient and effective performance of employees.

Balunywa (1992) defines performance as a situation where a worker is able to fulfill his or her work obligations delegated to them within a specified time, resources and of the required standard.

In order to determine employee performance, performance appraisal should be carried out. Performance appraisal is done to ascertain the performance level of the employees of a particular organization so as to identify areas of further training needs by determining promotions and devising ways of improving job performance (Davar, 1998). Matulch and Heitzer (1980) suggested that methods of performance appraisal include the graphic rating scale, critical incident pattern and group rating among others.

2.5.1 A Computerized sales management system and employee performance.

People are a vital part of any system. When contemplating computerization, the reactions of users and people affected by the system must be considered. In general, people dislike

change and can feel threatened by new computerized systems that the designers would really like to acknowledge. If some or most staff is opposing the system to be introduced, it is most likely to be unsuccessful. A new system may involve recruitment of new staff, redundancy or the need for new skills for existing staff (ACCA, 2001).

Computerization of payroll system influences organizations in a number of ways. It alters skills requirements for individuals, changes jobs and the way they are done and alters relationships between individuals and departments within an organization.

Computerization may even cause some jobs to disappear. These eventually may lead to poor coordination among employees and this may cause loss of morale (Lucey, 1997).

Computerization of the Sales system requires training of employees so that they can acquire skills. The company accountant has to embrace the information revolution in order to compete. Many fail to learn new skills thus being incompetent, which eventually retards performance (ACCA, 2001).

2.6 Benefits of using computerized Hotel Management systems.

2.6.1 Accuracy

Lucey (1996) says that computers incorporate inbuilt checking features, which ensure 100% accuracy of all practical applications following a given program. Wood (1993) supplements that computerized systems are important where numerous calculations have to be worked out in a given time. This would lead to time wasting in case of a completely manual system when adding and cross checking the arithmetic.

2.6.2 Speed.

Wood (1993) asserts that computerized systems speed up the process of producing monthly and annual sales statistics which would otherwise have been time consuming. Businesses with many employees find it useful when it comes to regular processing of sales inputs. However, reasonable knowledge of the payroll systems is required. Meigs and Meigs (1986) add on that the time needed for a computer to post a transaction or determine an account is a few millionths of second.

2.6.3 Filing and Retrieval.

Lucey (1996) says that files are maintained on some type of disc storage and associated software. File handling systems permit rapid updating, amendment, cross referencing and retrieval of huge amounts of data. Computer based storage systems are becoming physically cheaper and permit faster access.

2.6.4 Internal controls.

Computers offer a high degree of control especially in cash expenditure and disbursements (Welsh and Short, 1987). Meigs and Meigs (1986) say that computer based systems are a means of improved internal control procedures.

2.7 Challenges most likely to arise from computerizing the sales system.

2.7.1 Programming.

Employees should note that computers can only do what they have been specifically programmed to do. Computers cannot make decisions in the sense of exercising judgment. They can choose from alternatives only by following the specific instructions contained in a program. When a computer encounters a situation for which it has not been programmed, it is unable to act. Computers therefore need to be carefully tested to determine that they provide adequate instructions for all aspects of data processing (Meigs and Meigs, 1986).

Transactions and amendment details have to be input into the process in the correct form, order and in a timely manner. This requires a good deal of human initiative and an organized way of doing things. On many occasions, computer systems do produce errors but investigations invariably show that these errors arise from such factors as errors contained in the data input or unforeseen combination of circumstances (Lucey, 1996). Data into computers should be carefully scrutinized for any errors.

2.7.2 Systems Maintenance.

It has been observed that 70% of software costs are incurred in maintaining existing systems. It is essential therefore, that systems maintenance is strictly controlled and effectively carried out.

Maintenance can be defined as the redoing of certain aspects of the systems development process. This implies that documentation and control procedures should be as carefully carried out as in the initial development of the software.

Management also needs to be aware that at times there is need for systems redevelopment, when existing systems become too unwieldy to run effectively or when aspects of the systems environment change drastically (ACCA, 2001).

2.7.3 Fraud

Unauthorized access and fraud are rampant in computerized accounting systems. Restricted data is vulnerable to unauthorized access especially by employees who want to manipulate it. This may be done through gaining access to computer terminals and passwords. Management should not only be concerned about crime and erasure of data but also protection of information stored on computers. It is believed that lack of security is a big problem to computerization.

2.7.4 Legal and Regulatory issues.

Hardware and software in Uganda are purchased from dealers working on their own. Management ought to be aware which country's laws (manufacturers) apply to an international purchase. For instance contact laws governing return of faulty goods vary in different countries.

2.8 Summary

Computerized Hotel Management systems can change the data management process most especially with accuracy and speed, which were not entirely met with manual systems. The employees are able to accomplish their tasks in time and are satisfied with their work. Extra care should be taken when using the system as several challenges have been cited including system errors and fraud.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This section is an account of how the research is to be carried out. It explains the processes, which the researcher intends to use to collect, interpret, and analyze the data. The study addresses the design, data collection instrument, data analysis, interpretation, data type and resources, research limitations used across sectional design to obtain data. We used qualitative methods of data collection because sustainability.

This application is being developed using the concept of software development where performance and quality assurance are of utmost importance in each of the development of the management information system.

There are so many methods through which to come up with data required to design an information system. There are many challenges that one goes through to design information system. These range from investment to business challenges. In order to capture the right data otherwise the system will be irrelevant to the Hotel. Thus the researchers had to have strategic plan on how to go about the task of gathering information.

The system development life cycle (SDLC) divides the life of information system two stages, which include system analysis and system development.

The process of the system development goes through the SDLC. This involves methods that impose a system on the development process by providing a number of well-defined and complimentary ways in which to represent information about assets of the system.

[French, 1992]

3.2 Analysis of the system.

This involved careful analysis and study of the existing system to understand how the proposed system would differ from the old system. It was meant to describe what system should do so as to satisfy the needs of the user.

System analysis is a problem-solving technique that decomposes a system into its component pieces for the purpose of studying how well those component parts work intact to accomplish their purpose.

A study of business problem domain is to recommend improvements and specify the Hotel business requirements for the solution. System analysis is done in order to subsequently perform a system design

A preliminary analysis was carried out to help gather information about the objectives of the organization and scope of the problem in the Hotel. To determine the nature of the problem, the researchers had to first study the goals of the Hotel by taking a look at specifics and then came up with proposal for the solution.

[Hofler A.J, George F.J, and valacich J, 2003 (11)]

3.2.1 Structured Analysis

Structured analysis is a model driven, process centered technique used to either analyze an existing system or define business requirements for a new system or both. The models are pictures that illustrate the system's processes and their associated inputs, outputs and files.

Structured analysis is simple in concept whereby a series of process models called data flow diagrams (DFD) that depict the existing or proposed processes in a system along with their inputs, outputs and files.

Ultimately, these process models serve as blue prints for both business process implemented and computer programs to be purchased or constructed.

3.3 Feasibility study

This study was actually carried out to analyze the practicability of the proposal to develop/build an effective management information system for Sports View Hotel. It involves problem study and requirement analysis. Feasibility study also covers the costs involved in the Database construction. The costs include the following;

3.3.1 Creating Database;

The charges for the design of the database, however, vary from company to company also measured by the size of the database and its interactivity. A database administrator is a person whose task is to ensure that the database is maintained and the content of the database is updated regularly and also up and running.

3.3.2 Maintenance of the database;

A number of ways employed to maintain a database are described below;

- Employment of a database administrator to make sure that the database is always up and running efficiently.
- Get in contact with potential IT firms that offer database maintenance solutions to help in maintaining the database.
- Cost of developing a database;

3.3.3 Requirement analysis

This is a crucial stage in any software development process. This determines the requirements for the entire project. All successful projects must have gone through the stage of the requirement analysis.

The database development needed the following requirements;

i) Software requirements

The system needs windows 2000 server and professional as the operating system to run it. This was chosen because the users of the system were familiar with it.

An object oriented programming language, visual basic was used for creating interfaces to be used. Visual basic was used because it is capable of producing software as sophisticated as any of the other data access techniques available.

The **DBMS** used was access. This is because MS access makes it possible to construct a powerful system for organizing information and more so emphasizes security.

ii). Hardware requirements

This describes the minimum hardware requirements for the development and installing the system. The computers require the following minimum specifications.

- • Processor intel-3o4GHZ
- • RAM 512MB
- • VGA monitor
- • 80 GB Hard Disk
- • CDROM 52X Drive
- • 1.44MB 3.5. Floppy drive
- • Mouse
- • Printer
- • Flash disk

iii). Technical skills required

- • Knowledge of Windows
- • Knowledge of Visual Basic
- • Word processing
- • MS Access

iv). User requirements

- The system should be easy to use.
- The system should avail data when needed.
- The system should enable timely acquisition of the data is also important.

- They should enable enough security of the system.
- The system should allow validation of data.

v) Functional requirements

- The system should enable the production of reports for management.
- The system should allow enforcement of data security.
- The system should enable easy modification of data.

vi). Non-functional Requirements:

These were meant to help the researcher to come up with a design that delivered the functional capabilities.

vii). Security requirements

Security can be ensured by use of password and user name. Passwords often help to protect the system by limiting access to the application. The system security requirements were identified in that only authorized users would have the right to again access database system. To log on to the system, the user will be required to enter a correct user name and password.

viii). Performance requirements

The system should enable timely acquisition of data. The performance of the system is rated by the speed at which it retrieves records or the speed at which it performs stores or manipulates data. Speed is also measured by the response time it t, perform a task or the time it takes to respond to a request from the user.

3.4 Data collection method

A preliminary investigation was carried out to help the researchers gather inform about the objectives and goals of the Hotel and the nature of the scope of the problem in the Hotel.

To identify the objectives of the radio station, the researchers had to read internal documents of the Hotel like annual reports, hotel procedures, manuals and also read external documents like: - regulatory rules for the hotel.

After the above, they carried out interviews within the hotel. Among the people interviewed were two directors, five employees and customers. These were chosen as a sample because they represented the rest in terms of understanding of the operations of Sports View Hotel.

To determine the nature of the scope of the problem, the researchers had to first find out the goals of the hotel by taking a closer look at the activities. This was done by first observing the activities being done and talking to people within the hotel.

Certain questions came up on whether too much time was spent on paperwork, employees working on non-essential tasks. And if so, what activities were affected. The researchers had to propose an alternative solution basing on the outcome preliminary investigation.

3.4.1 Questionnaires

The questionnaire involves open ended and closed ended questions. A questionnaire can be considered as structured interview since the cost involved in developing distributing is very high.

Questions were asked to the staff of the hotel station about the existing system. They gave their objectives and goals for Sports View Hotel and also they gave reasons for causes of the problems at hand.

Some gave suggestions to the problems that they were encountering at the Hotel.

A questionnaire can be considered as structured interviews since the cost involved determining and distributing is very high.

The following were in mind when designing the questionnaire:

- The objectives of the study must be clear.
- The structure must be useful for the study

- Questions had to be short, specific and easy to understand.

3.4.2 Interviews

This involved direct conversation where questions and answers were both included in the interview.

During interviewing, the end users were approached directly in order to obtain comments and answers about the current state of the Hotel. During this process, the recording of the actual facts was done identifying the methods and procedures that can be used in the new system.

The interview questions had to be in line with the objectives of the study. The interviewees mentioned the problems that were encountered through using the system that were existing and the interviewees gave the possible causes of the problems which were faced. They even suggested solutions to the problems.

3.4.3 Existing Information

The researchers were privileged to have been given some documentation on the Hotel. This helped a lot in understanding and thus being able to know the kind of work the Hotel does. The documentation included customers' annual reports, the hotel's annual reports and procedures.

3.4.4 Observations

The researchers spent two days trying to observe what was going on in the radio station. The researchers used this process to verify the data collected from the above methods and also to capture some more data that could have been ignored. They also observe activities that go on in the hotel data stores to know where and how the records were kept.

3.5 The current system.

The current system of Sports View Hotel is completely a manual system; it is a paper-based system. It involves entering the information pertaining to the customers' payments in

different paper files and finally transferred to the shelves when files are filled up, they buy new ones continuously.

Sports View Hotel's using manual traditional records management systems, means that the hotel records have been calculated manually.

3.5.1 Weaknesses of the current system.

The current system has a number of weaknesses among which we have the following:

- It is time consuming.
- A lot of errors are manual errors committed leading to under or over payments at times leading a hotel to loss. It is relatively costly since a number of employees are required to compute for each and every staff.

3.5.2 Solution to the problem

The project developer has solved the above problems by developing an integrated database application to combine both the existing systems.

All the various science subjects have been integrated and the system manages all the hotel information well and computation of hotel records is automated.

3.5.3 Limitation

The relevant software to make the database a sound one was not in full circulation for example ORACLE, Mysql etcetera.

The current system does not require a lot of training, in the short run, it is a bit cheaper compared to a computerized system which requires procurement of various computer accessories live alone the necessary training in order to operate the system.

3.6 Data flow diagram of the current system

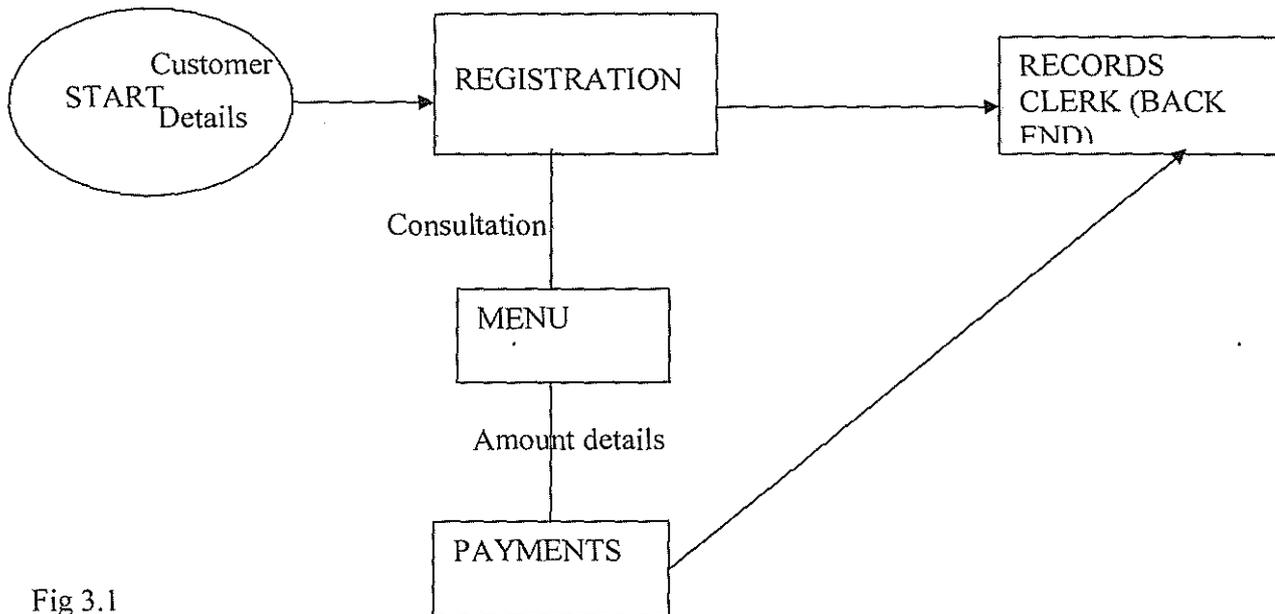


Fig 3.1

Level 1: Data Flow Diagrams

3.7 The proposed computerized records management system.

This section tries to look at the new system yet to be invented. A Records system that is just as popular as outsourcing is the in-house computerized system. Records keeping software is very inexpensive, as it is now handled with accounting software that costs just a few hundred dollars. More comprehensive systems that can be used for large numbers of customers are more expensive, but are a cost-effective solution for large entities.

A fully automated process involves the review and verification of customer membership and other changes as entered by the customers, followed by processing and printing of session reports, filing of direct deposit information and the distribution of purchase reports.

3.8 Controls for computerized records management system.

There is need for a number of controls in the new computerized system. And number of assumptions are made and among others will include the following. An assumption that a

computerized time keeping system is being used, we further assume that there are no controls required for time keeping activities.

3.9 Testing

To ensure that the records management system works as per its specifications, the system was tested so that performance or functional requirements are satisfied. Some data was entered in the forms then processed and the system worked as per expectations.

3.10 Conclusion

After a careful analysis of all the above, looking at the forms used, the database developed, the software performs to its expectations and there fore the above section of implementation has been done well.

CHAPTER FOUR

THE DESIGN OF THE PROPOSED SYSTEM

Different design techniques were used in the construction of the database for the records department of the Hotel. These included entity relationship models (ERM's) and flow diagrams (DFD's).

4.1 System Designs

These are models that are used to facilitate this communication and teamwork. Designs are simplification or picture of underlying business operations. The design models record the fundamental features, assumptions, and restrictions present in any business.

Information systems are complex, constantly changing, and expensive to create maintain. But well designed systems can generate enormous benefits to an organization. Building a useful system requires that you understand and communicate with the users. It requires organizing and controlling a team of developers.

4.1.1 Structured Design

Structures techniques helped in dealing with the size and complexity of systems. It process oriented technique for breaking up a large program into a hierarchy of modules that result in a computer program that is easier to implement and maintain

4.1.2 The Entity Relationship Model (ERM).

The entity relationship model is an entity model or logical data structure that provides an understanding of the logical data requirements of the database system. The management of the hotel needed a records management system that would be used to keep track of the activities of the records department. The data requirements for the records management system included the following entities and unique identifiers.

Entity Primary Key

Employee Empcode

Order Ordno

Product Pdtname

Employee Employee_ID

Department Dept_ID

The entity relationship model displays all the entities and data relationships identified during data analysis.

Below is the entity relationship model for the required database of the hotel records department.

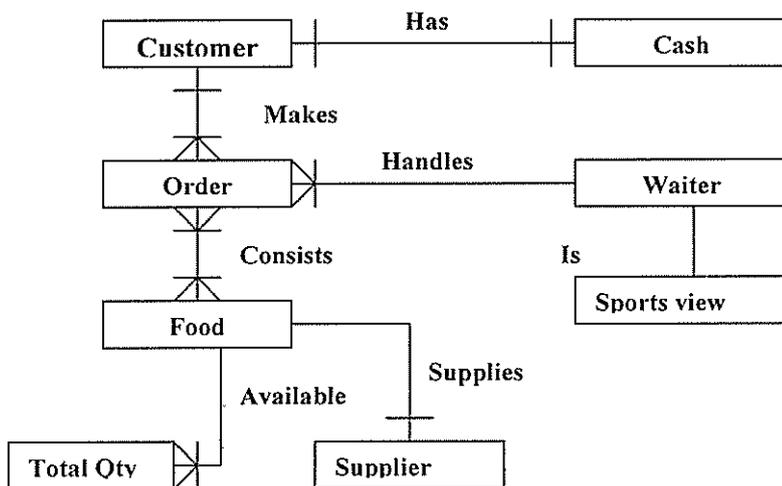


Fig 4.1

The model indicates the following:

A customer can place one or more orders, thus an order form can contain several order lines and that each line on the order form can only detail one item. Thus there is a one to many relationship between customer and Order entities.

Each order contains a minimum of one and a maximum of many products. Thus there is a many to many relationship between Order and Product entities.

Each Employee within the records department can handle one or more orders from the customers of the Hotel. Thus there is a one to many relationships between the department and the employee entities.

The Hotel consists of many employees. Thus there is a one to many relationships between the Hotel and the employee entities.

4.2 The Data Flow Diagram (DFD)

The data flow diagram is another professional tool that was used during the design of the new system. They were used to create a diagrammatic representation of data flow inside and outside of the Hotel.

The data flow diagrams contain the following graphical components.

❖ **Process**



This was used to transform incoming data flows into outgoing data flows.

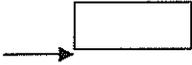
❖ **Sources and sinks**

A source is an external entity that supplies information to a system. It was represented by an arrow pointing out of a rectangle.



❖ **Sink**

This is an external entity that receives and uses data from the system. It was represented by an arrow pointing into the rectangle box.



The main function of the sources and sinks was to define the boundaries of the system that was being designed.

❖ **Data flow**

This is the route that enables information to travel from one point to another. Its represented with a single line with an arrowhead. The arrow head identifies the direction in which data is flowing.



4.3 Tables.

These are graphical diagrams in which information is stored in the database. Below are tables in the database:

➤ **Orders table**

The table will be used to keep track of all the details concerned with the customer orders. This table consists of the following attributes.

Field name	Datatype	Description
Ordno (primary key)	Text	Order number
Pdtcode	Text	Product code
Custname	Text	Customer name
Orddate	Date/Time	Order date

Qtyord	Number	Quantity ordered
Sellingprice	Currency	Selling price
Amtpaid	Currency	Amount paid
Bal_ord	Currency	Balance on order

➤ **Employee table**

The table will be used to list all the details about the different employees employed by the hotel. This table consists of the following attributes.

Field name	Data type	Description
Empcode(primary key)	Text	Employee code
Empname	Text	Employee code
Empadd	Text	Employee address
Empregdate	Date/time	Employee registration date
EmpSal	Text	Employee Salary

➤ **Supplier table**

The table will be used to list all the distributors of the different items that were sold within the Hotel. This table consists of the following attributes.

Field name	Data type	Description
Spcode(primaty key)	Text	Supplier's code
Spname	Text	Supplier's name
Spphyadd	Text	Supplier's physical address
Sppostadd	Text	Supplier's postal address
Spregdate	Date/time	Supplier's registration date

- **Foreign Key**

The idea of relationships of tables brings about what is called a foreign key.

A foreign key is a special field participating in a relation between two or more tables and acting as a permanent key in at least one of these tables. In this case the field custcode is the primary key in the customer table.

- **The primary key**

This is a unique field that is used to uniquely identify records within the tables.

- **Data type**

In database programming each field must have a data type associated with it. These include text, number date/time, and currency. The type specifies the type of data to be entered in that particular field.

4.4 Referential integrity

When two or more tables are related via a common field, this type of relationship is called Referential integrity. It stipulates that the records in one table should reference an existing record in another table. This option will enable the users in the records department of the Hotel to update the records.

The user of new system will have records deleted from the related tables whenever records in a primary table are deleted by selecting the cascade deleted related records.

4.4.1 Types of relationships

Relationships applied under the system design are one to many relationship and many to many relationships.

- **One to many relationships**

Under this kind of relationship a record in one table may correspond several records in another table e.g. under the customer and order table, one customer can make several orders.

- **Many to many relationships**

In this kind of relationship, none of the field is acting as the primary key in any of the tables under that kind of relationship. Therefore the users of the system will have certain records in one table matching many records in the second table.

4.5 Context level Data Diagram

A context level data flow diagram was used to give an overview of the Hotel's records department. It displays all the external entities that the Hotel interacts with as part of its day today operations. In addition, it also shows the data between the external entities and the main process. Below is the context level data flow diagram for the Hotel's records department that gives an overall picture of how the department conducts its business.

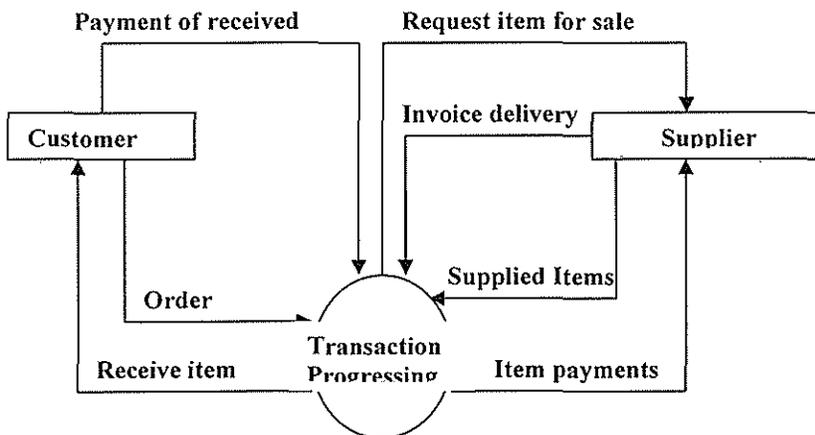


Fig 4.2

The database system used in the design of this application is MS Access. This database is a collection of information that's related to the records department of the hotel. It's divided into logically related data sets in form of tables. The tables form the information storage and retrieval system. These include

4.5.1 Queries

The system developer used the query object to assist the users of the new system to retrieve certain records pertaining to a particular interest in the database. Queries are powerful tools because they allow you to combine data from several tables into one query.

4.5.2 Removal of an item(s) from the database

When the Hotel no longer needs a certain product the name is erased from the Hotel database such that only those items that are sold within the Hotel remain. With the design of the new system, sales department will run the ItemDeleteQuery to remove that particular kind of item. This helps in the maintenance of up-to-date records.

4.5.3 Orders received by the Hotel

The hotel may wish to trace the orders, which have been made in between different time periods(dates)by certain customers of the Hotel.

Once an OrdDate Query is run, it prompts the user to enter the name of the customer whom the company wants for his orders. Once entered the user is further requested to enter the first and second dates which the system will use to analyze the orders of a certain customer which fall within the specified time periods. Once all the details have been entered, the query is run and only those orders of a particular customer that fall within the defined time periods are displayed.

4.5.4 Clearance of an order

Once the Hotel has cleared an order, it is removed fro the order table by running the RemoveOrderQuery. This helps in the updating of the orders table such that only those orders that are yet to be cleared remain.

4.5.5 Price updates

The prices of each product sold within the Hotel can be increased or decreased during different time periods.

This can be done by running the PriceUpdateQuery, which increases or decreases the price fo each item sold by a certain percentage decided upon by the Hotel.

4.5.6 Amount of items sold to a particular customer

The Hotel has to know how many items of a particular type a certain customer has purchased.

To do this, the user of the new system will have to run the Qty-Sold Query which keeps on updating the totals of each item that has been purchased by the customer.

4.6.6 Searching details of a particular supplier

The Hotel has got a number of companies that supply to it different products and may wish to know the details of each supplier. With the run of the Dist-Search Query, the user of the system will be prompted to enter the distributor's code and then the details pertaining to that particular supplier are displayed.

4.6.7 Expression builders

The use of the expression builders will enable the users of the new system to extract information from the queries via a form, for example Distributor-Details form contains only one text field. When a key field is entered, the entire record related to that key field is displayed on the screen and all other records are not displayed. This will help the users of the new system among other means to ensure data security.

This stage involves delivering the proposed system into operation. Testing of the new system, involves checking if the system is working as required in terms of efficiency, time aspects of input, processing and output, are all done.

4.7 FORMS

The form act as graphical user interfaces where data can be input into the database. The following are the forms in the database.

- The Supplier Registration form
- Main Menu
- Employee registration form
- The Customer Order form

The following controls have been used in the designing of the forms

- Command buttons
- Text fields
- Combo boxes
- Labels

The combinations of the controls listed above gives the users a working interface to enable them store the Hotel's records. Codes have been written to connect the forms to

the tables and to perform calculations to the requirements of the users. The uses of error handlers such as validation have been used to avoid errors and storage of incorrect data to the database.

4.7.1 Main Menu form

This acts as the front page or it's the interface for the data base. It's the main form which connects you to the rest of the forms within the database.

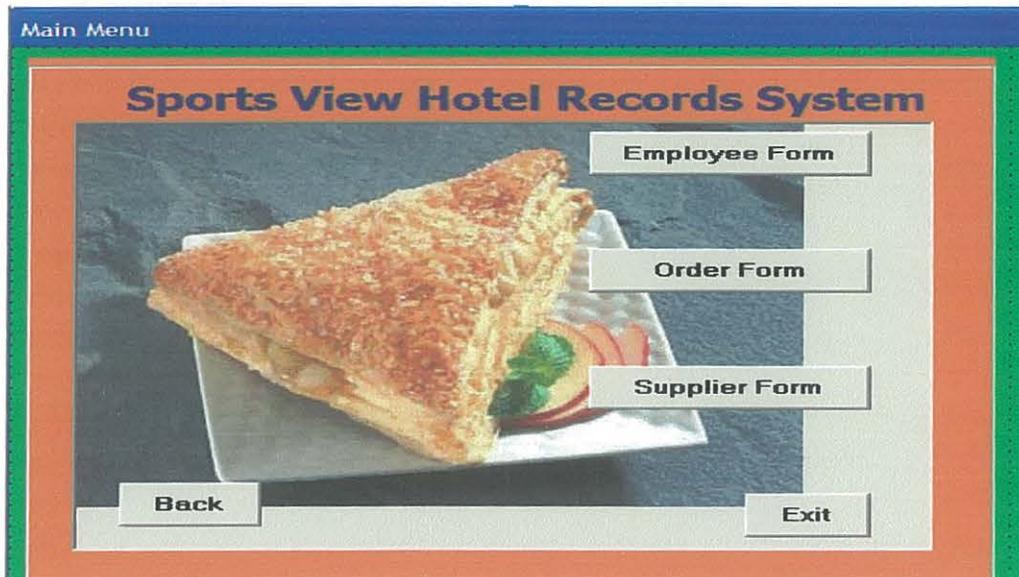


Fig 4.3

4.7.2 Supplier

This form enables the users within the Hotel to enter item details into the database tables. Different items being supplied to the Hotel by different supplier's codes. In case of any increase, the number of items in a stock table is updated due to an increase on the click of the enter Item button on the stock entry form. Payments to suppliers are recorded in here and other information.

The screenshot shows a web-based form titled "Supplier FORM" with a blue border. The form has a black header bar with the text "SUPPLIER FORM" in white. Below the header, there are five input fields arranged in two rows: "Supplier Code", "Post Address", "Name", "Registration Date", and "Tel". To the right of the "Tel" field is a button labeled "Click For Suppliers" with left and right navigation arrows. At the bottom of the form, there are two rows of buttons: the first row contains "Main Menu", "New", "Save", "First Rec", and "Next"; the second row contains "Delete", "Search", "Refresh", "Print Record", "Previous", and "Last Rec".

Fig 4.4

4.7.3 Employee registration form

Employee details such as Employee code, employee name, address, and employee registration date are all recorded in the employee table using the employee registration form. The same form is for entering the customer code and the employee name in the indebts table such that in case the employee buys any item on credit, his balance can be entered in the debt field in the indebts table.

The screenshot shows a software interface for an employee registration form. The window title is "Employee". The form itself has a green background and a dark header area with the text "Sports View Employee Form". The form contains several input fields arranged in two columns. The left column includes fields for "Emp Code", "First Name", "Last Name", "Sex", and "Age". The right column includes fields for "Registration Date", "Address", "Tel", and "Salary". Below the "Age" field, there is a button labeled "Browse for more employees" with navigation arrows on either side. At the bottom of the form, there are two rows of buttons. The first row contains "Main Menu", "New", "Save", "First Rec", and "Last Rec". The second row contains "Refresh", "Delete", "Search", "Print Record", "Previous", and "Next".

Fig 4.5

4.7.4 Customer orders form

Orders details such as order number, product code, product name customer code, quantity ordered, amount paid, and the balance are all recorded in the orders table using this form.

The screenshot shows a software window titled "Customer Form" with a subtitle "Sports View customer order form". The interface is green and contains several input fields for "Customer Name", "Telephone", "Product Code", and "Product Name". Below these fields are several buttons: "Main Menu", "Print Record", "New", "Save", "Search Record", "Delete", "Refresh", "First", "Next", "Previous", and "Last". A "Browse for more orders" button with navigation arrows is also present.

Fig 4.6

The forms have got a number of command buttons that are used for carrying out various tasks. These include adding a new record, updating records, deleting a record, searching for a record, clearing a record and closing the form

- **Adding a new record(s)**

The user enters the client, order and items details into the blank text boxes on the forms in order to store the records in the database tables.

- **Updating a record(s)**

It involves changing the contents of a variable(s) field for the Qty and the price of an item. These kinds of fields have contents, which change frequently after a certain period. The purpose is to produce records, which have accurate information that is current. The user clicks on the enter command button to update on already existing record.

- **Deleting a record**

This is done when the user gets rid of a record completely. the user opens the record which he wants to delete and then clicks the delete command button.

- **Searching a record**

This is used to search for records in the database. the user clicks on the verify command button after entering the primary key field of the record, which the user wants to search. If the record is available it displays its details or else a blank record.

- **Clearing a record**

The user clicks on the button in he doesn't want to have whatever he had entered into the form saved into the database.

- **Closing the form.**

The user will click on the close command button in order to quit the form he is currently using.

- **Input masks**

These have been used to customize the data that has been entered into the fields for example the user may be interested in entering the product code(Pdtcode) field as R001k which stands for the keyboard. In this case the input mask is >L000 l where L refers to a letter and 0 refers to a number. This helps in the prevention of entry of more characters for the product code. Therefore all the product code fields are of the same length and of the same format.

- **Combo box**

These have been used to enable a user to select the customer code from the customer orders form and the product code together with the customer name in the itemfind form. Thus the user does not have to re-type the customer code, product code or customer name whenever a record or transaction is too be done.

Therefore to increase the effectiveness and efficiency of the Hotel, validation checks and input masks have been applied within the system design.

CHAPTER FIVE

Summary, Discussions, Conclusions and Recommendations

5.1 Introduction

The majority of the organizations in Uganda have resorted to computerizing their records management systems. The study was carried out to design and develop a computerized records management system that would increase efficiency and effectiveness of the records storage staff of Sports View Hotel Kireka.

5.2 Summary of the major findings.

It was found out that with computerization of the records system, costs would be reduced since less than three staff would be required to manage the database unlike under the manual system where a number of staff are required to compute the regular changes in the Hotels information.

It was also found out that time taken to compute the payment for a given customer would be reduced to minimum.

It was further found out that errors formally committed while preparing the payroll would be reduced by a very big percentage for instance errors like underpayment, overpayment to mention but a few.

The major challenges faced by the employees are training and laxity to cope up with the modern system.

5.3 Recommendations

In order to keep with the rapidly changing world where IT is sweeping in almost all human endeavors, computerized systems need to be introduced in all areas of business that help generate certain information.

It is also recommended that a special back up system is set up to cater for any eventualities such as software or hardware failures that lead to massive data loss.

The new system should always be updated. This means that the insertion or deletion of records in a database system should always be made to reflect the current situation. This

is important because new information can be incorporated into the database and outdated information removed.

5.4 Limitations

- High costs were incurred for printing and traveling from one place to another.
- Some people were unwilling to provide the necessary information as they thought that computerization could lead them to losing their jobs.
- Most of the people at the company are always busy and therefore had little time to provide me with all the necessary information.
- Lack of resources especially papers and limited access to computers and printers.

5.5 Conclusions

A database system has been developed and is ready to maintain the records of the Hotel. The database is able to automatically update the items available in the hotel database store, the quantity of the items available, the price at which they have been sold, the debts of the customers of the Hotel who use hotel facilities on credit.

The hotel will be able to trace for any pending orders by the customers. In a nutshell the objectives of the Project have been achieved.

Appendices

Database design codes

Main Menu

```
Private Sub Command1_Click()
```

```
Form3.Show
```

```
Unload Me
```

```
End Sub
```

```
Private Sub Command2_Click()
```

```
FormSales.Show
```

```
Unload Me
```

```
End Sub
```

```
Private Sub Command3_Click()
```

```
Orders.Show
```

```
Unload Me
```

```
End Sub
```

```
Private Sub Command4_Click()
```

```
Form7.Show
```

```
Unload Me
```

```
End Sub
```

```
Private Sub Command5_Click()
```

```
Stock.Show
```

```
Unload Me
```

```
End Sub
```

```
Private Sub Command6_Click()
```

```
Form6.Show
```

```
Unload Me
```

End Sub

Private Sub Command7_Click()

Form1.Show

Unload Me

End Sub

Private Sub Command8_Click()

End

End Sub

Private Sub Picture1_Click()

End Sub

Employee Form

Private Sub cmdPrint_Click()

DataReport1.PrintForm

End Sub

Private Sub cmdRefresh_Click()

txt1.Text = ""

txt2.Text = ""

txt3.Text = ""

txt4.Text = ""

txt5.Text = ""

txt6.Text = ""

txt7.Text = ""

txt8.Text = ""

txt9.Text = ""

txt1.SetFocus

End Sub

Private Sub cmdSearch_Click()

Dim strsearch As String

strsearch = InputBox("Enter Customer code")

Adodc2.Recordset.MoveFirst

While Not Adodc1.Recordset.EOF

If UCase(strsearch) = UCase(Adodc2.Recordset.Fields(0)) Then

MsgBox ("Search successful!")

Exit Sub

Else

Adodc2.Recordset.MoveNext

End If

Wend

MsgBox ("Record not found")

End Sub

Private Sub Command1_Click()

Confirm = MsgBox("Are you sure you want to add new record?", vbYesNo, "Addition Confirmation")

If Confirm = vbYes Then

Adodc2.Recordset.AddNew

Else

MsgBox "Adding new Record Canceled!", , "Message"

End If

End Sub

Private Sub Command2_Click()

Confirm = MsgBox("Are you sure you want to save this record?", vbYesNo, "Save Confirmation")

```
If Confirm = vbYes Then
Adodc2.Recordset.Save
MsgBox "Record Saved!", , "Message"
Else
MsgBox "Record Not Saved!", , "Message"
End If
End Sub
```

```
Private Sub Command3_Click()
Confirm = MsgBox("Are you sure you want to delete this record?", vbYesNo, "Deletion
Confirmation")
If Confirm = vbYes Then
Adodc2.Recordset.Delete
MsgBox "Record Deleted!", , "Message"
Else
MsgBox "Record Not Deleted!", , "Message"
End If

End Sub
```

```
Private Sub Command4_Click()
Form2.Show
Unload Me
End Sub
```

```
Private Sub Command5_Click()
Adodc2.Recordset.MoveFirst
End Sub
```

```
Private Sub Command6_Click()
Adodc2.Recordset.MoveLast
```

End Sub

```
Private Sub Command7_Click()  
Adodc2.Recordset.MovePrevious  
End Sub
```

```
Private Sub Command8_Click()  
Adodc2.Recordset.MoveNext  
End Sub
```

Customer Form

```
Private Sub cmdPrint_Click()  
Repair.PrintForm  
End Sub  
Private Sub cmdSearch_Click()  
Dim strsearch As String  
strsearch = InputBox("Enter Item code")  
Adodc3.Recordset.MoveFirst  
While Not Adodc3.Recordset.EOF  
If UCase(strsearch) = UCase(Adodc3.Recordset.Fields(0)) Then  
MsgBox ("Search successful")  
Exit Sub  
Else  
Adodc3.Recordset.MoveNext  
End If  
Wend  
MsgBox ("Record not found")  
  
End Sub
```

```
Private Sub Command1_Click()  
Form2.Show  
Unload Me  
End Sub
```

```
Private Sub Command10_Click()  
Adodc3.Recordset.MoveNext  
End Sub
```

```
Private Sub Command11_Click()  
Adodc3.Recordset.MovePrevious  
End Sub
```

```
Private Sub Command3_Click()  
Confirm = MsgBox("Are you sure you want to add new record?", vbYesNo, "Addition  
Confirmation")  
If Confirm = vbYes Then  
Adodc3.Recordset.AddNew  
Else  
MsgBox "Adding new record Canceled!", , "Message"  
End If  
End Sub
```

```
Private Sub Command4_Click()  
Confirm = MsgBox("Are you sure you want to save this record?", vbYesNo, "Save  
Confirmation")  
If Confirm = vbYes Then  
Adodc3.Recordset.Save  
MsgBox "Record Saved!", , "Message"  
Else
```

```
MsgBox "Record Not Saved!", , "Message"  
End If  
End Sub
```

```
Private Sub Command6_Click()  
Confirm = MsgBox("Are you sure you want to delete this record?", vbYesNo, "Deletion  
Confirmation")  
If Confirm = vbYes Then  
Adodc3.Recordset.Delete  
MsgBox "Record Deleted!", , "Message"  
Else  
MsgBox "Record Not Deleted!", , "Message"  
End If  
End Sub
```

```
Private Sub Command7_Click()  
txt1.Text = ""  
txt2.Text = ""  
txt3.Text = ""  
txt4.Text = ""  
txt5.Text = ""  
txt6.Text = ""  
txt7.Text = ""  
txt8.Text = ""  
txt9.Text = ""  
txt10.Text = ""  
txt11.Text = ""  
txt1.SetFocus  
End Sub
```

```
Private Sub Command8_Click()
```

```
Adodc3.Recordset.MoveLast  
End Sub
```

```
Private Sub Command9_Click()  
Adodc3.Recordset.MoveFirst  
End Sub
```

Supplier Form

```
Private Sub cmdPrint_Click()  
Form6.PrintForm  
End Sub
```

```
Private Sub cmdRefresh_Click()  
txt1.Text = ""  
txt2.Text = ""  
txt3.Text = ""  
txt4.Text = ""  
txt5.Text = ""  
txt1.SetFocus  
  
End Sub
```

```
Private Sub cmdSearch_Click()  
Dim strsearch As String  
strsearch = InputBox("Enter Supplier code")  
Adodc1.Recordset.MoveFirst  
While Not Adodc3.Recordset.EOF  
If UCase(strsearch) = UCase(Adodc3.Recordset.Fields(0)) Then  
MsgBox ("Search successful")  
Exit Sub  
Else
```

```
Adodc1.Recordset.MoveNext
```

```
End If
```

```
Wend
```

```
MsgBox ("Record not found")
```

```
End Sub
```

```
Private Sub Command1_Click()
```

```
Confirm = MsgBox("Are you sure you want to add new record?", vbYesNo, "Addition  
Confirmation")
```

```
If Confirm = vbYes Then
```

```
Adodc1.Recordset.AddNew
```

```
Else
```

```
MsgBox "Adding New record canceled!", , "Message"
```

```
End If
```

```
End Sub
```

```
Private Sub Command2_Click()
```

```
Adodc1.Recordset.Save
```

```
Confirm = MsgBox("Are you sure you want to save this record?", vbYesNo, "Save  
Confirmation")
```

```
If Confirm = vbYes Then
```

```
Adodc1.Recordset.Save
```

```
MsgBox "Record Saved!", , "Message"
```

```
Else
```

```
MsgBox "Record Not Saved!", , "Message"
```

```
End If
```

```
End Sub
```

```
Private Sub Command3_Click()
```

```
Adodc1.Recordset.Delete
```

```
Confirm = MsgBox("Are you sure you want to delete this record?", vbYesNo, "Deletion Confirmation")
```

```
If Confirm = vbYes Then
```

```
Adodc1.Recordset.Delete
```

```
MsgBox "Record Deleted!", , "Message"
```

```
Else
```

```
MsgBox "Record Not Deleted!", , "Message"
```

```
End If
```

```
End Sub
```

```
Private Sub Command4_Click()
```

```
Form2.Show
```

```
Unload Me
```

```
End Sub
```

```
Private Sub Command5_Click()
```

```
Adodc1.Recordset.MoveFirst
```

```
End Sub
```

```
Private Sub Command6_Click()
```

```
Adodc1.Recordset.MoveNext
```

```
End Sub
```

```
Private Sub Command7_Click()
```

```
Adodc1.Recordset.MovePrevious
```

```
End Sub
```

```
Private Sub Command8_Click()
```

```
Adodc1.Recordset.MoveLast
```

```
End Sub
```

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