1. INTRODUCTION

A **photo studio** is a workspace to take, develop, print and duplicate photographs. Photographic training and the display of finished photographs may also be accommodated in a photographic studio. The studio may have a darkroom, storage space, a studio proper where photographs are taken, a display room and space for other related work.

A photo studio is often a business owned and represented by one or more photographers, possibly accompanied by assistants and pupils, who create and sell their own and sometimes others' photographs.

Since the early years of the 20th century the business functions of a photographic studio have increasingly been called a photographic agency leaving the term "photographic studio" to refer almost exclusively to the workspace.

The history of photographic studios and photography dates back to 19th century with the first camera. The earliest photographic studios made use of painters' lighting techniques to create photographic portraits. During that era the nothing was better than the sunlight with open window as the primary source of light of painters. The first use of a "flash" dates back to 1839 when L. Ibbetson used limelight to photograph very small objects. Limelight was produced by placing a piece of lime into a flame fuelled with oxy-hydrogen. Photographic studios started using flashes in 1840 and in 1864 the next technological breakthrough, magnesium wire, became the new artificial light source. However, not everyone could afford it as they were quite expensive and dangerous. These flashes were also known as 'hot lights' and could have exploded. By 1860s they were in common use in professional studios. 'Tungsten

Lights' or 'Hot Lights' were still in use. In around 70s even smaller studios got access to flash lights or strobes.

People tried many things from time to time when setting up studios to cope up with different hurdles in photography. However lighting was a big hurdle. Flash powder was the first means of artificial lighting that allowed to produce sufficient brightness to capture the action of the film . However this industry developed at a faster rate. With advancement in camera lenses, lighting and other techniques and equipment, studio photography gained hold and it became quite easier to produce images within a studio.

The first commercial use of photography was in the production of portraits. Photography replaced painting completely by 40s. with fully equipped studios in existence. The photography process was much shorter and simple as compared to painting, in which the subject and even the painter used to suffer.

'Calotypes' was introduced in 1840s. With the introduction of calotypes the production of negative enabled the photographers to print as many copies as customer required, hence strengthening the very base for the studios. In 1850s small portraits called 'Ambrotypes' were being produced. The exposure time varied between 2 and 20 seconds in comparison to 8 hr long exposure when the first still portrait photograph was taken in 1826. With the time passing by, saw the advancement in the photography. However, trick photography has always been around from as long as photography is. Trick photography was later replaced by Photoshop.

1.1 ORGANIZATION PROFILE

Dina Color Lab Started as a Kodak Collection centre, Dina Color Lab started its first retail center in the year 1991 by Mrs Vijayalakshmi (Late). Later under the guidance of Mr. Mani and execution by Mr. Dinakaran, the company has grown multi-fold in the last 27 years and now has branches in more than dozen madurai districts of Tamil Nadu with 200+ machines from Konica Minolta, HP. Dina Color Lab is the Industry leader in the Wedding Album with over 50% market share across Tamil Nadu and also recognised by various Honourable Consulates in India as their preferred partner for Passport and Visa photos.

Dina Color Lab has a strong array of machines including the UV inkjet Konica Minolta's KM1 - the only available unit in India and also the MGI Spot UV and foiling machine which can be used in various digital printing requirements like Invitations, Packaging and day-to-day digital prints. With over 200+ machines and 500+ staffs, Dina Color Lab has a total capacity of 15,000+ paper output(A3 size) per minute and various finishing and binding options.

A leading company, which is placed in Madurai to provide best training for **Networking, Server Administration, VMWare Administration and Internet Security**. IT Navigation Ltd gives importance to take care of students career and provide high quality training to all class of people. Our organization not only provide the platform to build up the bright professional career in networking, Server Administration, VMWare Administration and Internet Security but also provides the placement support in reputed companies.

We are proud to be the pioneers in **"Hardware and Networking"**. Just when everyone was bent upon Software, we foresaw the tremendous potential in Hardware and Networking, and successfully emerged as one of the best IT Company for Hardware and Networking Solutions and the best institute for Hardware and Networking Training. Today the two sides of its business are equally balanced. The expertise of its training is coupled with a strong commitment to provide the best Hardware and Networking solutions. This has put IT Navigation Ltd in the unique position of deriving synergies between Network Solutions and IT Training.

Services includes: Professional Web Design, Internet Marketing, Link Building, Ecommerce Solution, Web Application Development, Multimedia Presentations, Customized Software Development, and Business Process Outsourcing- IT/IT

On-line Interactive Learning

We believe in On-line Interactive learning. That is to say, the problems, or doubts which students often face, while sitting before a system, is cleared by our staff as soon as they surface. This way our students learn more.

Get experienced while learning

After extensive learning, we subject our students to some Real Time situations (which is often created by our staff) and student left alone, to handle the situation, to overcome the problem, with his own solutions in this way, he is getting experienced, even before the completion of course and is very much ready to seek the job with tremendous confidence.

Teaching Strategy

There is a saying, which goes like "It takes lot of beatings to make a pot". here we literally follow this method of beatings; Beatings it is now in the beginning to beat the world later. Our training is vigorous. At IT Navigation Ltd we run strict schedules and conduct several crucial tests so as to prepare you for the challenges you are going to face in the IT world as soon as you step out of IT Navigation Ltd.

1.2 PROJECT OVERVIEW

Photography is a colorful business today that everyone likes to do. Photo plays an important role in our day to day life like Ration cards, Banks Accounts, Application forms, Ceremonies, Function, Tour etc. Main function of a studio is Developing and printing.

This project **"Photo Studio Management System"** developed in VB as front – end and MS access as back – end. This project is aimed at developing for ROJA Photo Studio in Madurai.

Previously developing and printing was done by manual process. But nowadays new computerized machineries are use for that purpose.

Since, Camera users are many; the input to studio is many. Maintaining the records manually is a time consuming process and errors may occur.

This project aims at make the job easier for a photo studio.

This project contain various module

- Photos to be taken and printed in different sizes.
- Outdoor photos
- Industrial Photos
- Developing the film rolls
- Printing the developed film rolls

1.3 PROJECT DESCRIPTION

Photography is a colorful business today that everyone likes to do. Photo plays an important role in our day to day life like Ration cards, Banks Accounts, Application forms, Ceremonies, Function, Tour etc. Main function of a studio is developing and Printing. Previously developing and printing was done by manual process. But nowadays new computerized machineries are use for that purpose. Since Camera users are many the input to studios are many. Maintaining the records manually is a time consuming process and errors may occur. This project "**ORDER PROCESSING IN A PHOTO STUDIO**" be developed using Visual Basic as front end and MS-Access as backend. This computerizes the existing manual system. This project aims at make the job easier for a photo studio. The job is divided as following modules.

MODULE DESCRIPTION

ORDER ACCEPTANCE

- Photos to be taken and printed in different sizes.
- Outdoor photos
- Industrial Photos
- Developing the film rolls
- Printing the developed film rolls
- Modifying the existing Black & White Photos to color photos
- CD conversion

Secondly the customer details such as Customer type (Studio, credit customer etc), Address are to be recorded. Next the nature of job work like whether developing or printing or both are to be recorded. The details of Number of Rolls to be developed. The serial numbers of the photos printed and how many copies and the required details are all recorded here with customer address.

The Advance amount received the commission given also recorded here. The Order sheet is prepared here.

PROCESS

The Accepted order is sent to the various departments. If the order is for 'Taking photos' the order sheet should go to the studio with details like black & white or color and the size. If the job is for 'Developing' the order sheet should be seen to developing section. If the order is for 'Printing' the order is to be sent to Computer printing department with required details.

DELIVERY

This module prepares invoice and delivery notes.

The Lab is maintaining different types of bills such as

- Outdoor billing
- Industrial billing
- CD conversion
- Labor work billing

The bill amount is collected and accounted.

REPORT

This module is helps to generate various reports like customer wise, order wise.

2. SYSTEM ANALYSIS

2.1SYSTEM ANALYSIS AND FUNDAMENTALS

What is system?

The term system is derived from the greek work systema, which means an organized relationship among functioning units or component. A system is an orderly grouping of interdependent components' linked together according to a plan to achieve a specific objective. The word component may refer to physical parts, managerial steps or a subsystem in a multilevel structure. The components may be simple or complex, basic or advanced.

Analysis is detailed study of the various operations performed by a system and their relationships within and outside of the system. One aspect of analysis is defining the boundaries off the system and determining whether or not a candidate system should consider other related systems. During analysis, data are collected on the available files, decision points and transactions should handle by the system.

Initial Investigation

This is a user's request to change, improve to enhance an existing system. The initial investigation is likely to be a stream of such requests standard procedures must be established to deal with them. The objectives of the initial investigation is to determine whether the request is valid and feasible before a recommendation is reached to do nothing, improve or modify the existing system or build a new one.

Function requirement

As data are collected, they must be organized and evaluated and conclusions drawn for preparing functional requirement. Many tools are used for

data organization and analysis. The function analysis identifies the elements that are related to the inputs and outputs of given system. The functional requirement can be very effective in setting that post of few constraints on the development or modification of the system under study.

Information gathering

Information gathering is an art and a science. The approach and manner in which information is gathered require persons with sensitivity, common sense and knowledge of what and when to gather and what channels to use in securing information. Addionally, the methodology and tools for information gathering require training and experience that the analyst is expected to have. This means that information gathering is neither easy nor routine. Much preparation, experience and training are required.

Feasibility study

An initial investigation culminates in a proposal that determine whether an alternative system is feasible. To do a feasibility study, the analyst needs to consider the economic, technical and operational feasibility.

Economic feasibility

Economic analysis is the most frequently used method for evaluating the effectiveness of a system. More commonly known as cost/benefit analysis, the procedure is to determine and savings that are expected from a proposed system and compare them with costs.

Technical feasibility

Technical feasibility centers around the existing computer system (hardware, software etc.) and to what extent it can support the proposed addition.

If the current computer is operating at 80 percent capacity an arbitrary ceiling then running another application could overload the system or require additional hardware. This involves financial considerations to accommodate technical enhancements. If the budget is a serious constraint, then the project is judged not feasible.

Operational feasibility

People or inherently resistant to change and computer have been known to facilitate change an estimate should be made of how strong a reaction the user staff is likely to have toward the development of a computerized system. It is common knowledge that computer installations have something to do with turnover, transfers, retraining and changes in employee job status. Therefore, it is understandable that the introduction of a candidate system requires special effort to educate, sell and train the staff on new ways of conducting business.

2.2 EXISTING SYSTEM

In present system every work is carried out manually which is time consuming and leads to miss entry of details. Searching and updating records is tedious as many books are to be traversed. Storage of data needs separate and provide to store the books if not so; it leads to loss of data. This system is also much time consuming and expensive.

Drawbacks:

- Any small mistake in any process may include much confusion.
- The existing system is time consuming.
- The maintenance process takes long time.
- Lack of accuracy

The above result in these factors leads to formulate a new system, which could help the organization in all aspects to make things easier, faster and efficient than the existing manual system.

2.3 PROPOSED SYSTEM

The drawbacks, which are faced in the existing system, can be eradicated by using this project, which has been computerized. The system, which is proposed now to computerize all the details, is maintained manually in previous days. The proposed system is an effective menu driven package. This package used is much powerful and large number of is much powerful and large number of data required. The package also aims to provide faster service to the Management proposed system thus aim at removing all the complexities in the existing system

Advantage of proposed system:

- Proposed application developed in user friendly manner and enriched facility GUI development
- Fast and efficient system makes easy the work of administrator
- Stock maintenance and customer Management is easy compared with manual system
- Developed in VISUAL BASIC and implementation for the customer is also low in cost
- Have the facility to extend modules in future based on their requirements

SCOPE OF THE PROPOSED SYSTEM

- Provides a highly secure environment for carrying out all sales and purchase activities.
- Monitoring the overall order details.
- Keep track of the order information for each customer.

FEATURES OF THE PROPOSED SYSTEM

- User friendly
- Ease of access.
- Fast retrieval.
- Reduce manpower and stationary charges.

3. SYSTEM SPECIFICATION

3.1 HARDWARE SPECIFICATION

Processor	: Core 2 Duo
Speed	: 2 GHz
Hard disk capacity	: 500 GB
RAM capacity	: 2GP RAM
Keyboard	: 104 keys
Mouse	: Logitech
Monitor	: 15” Monitor

3.2 SOFTWARE SPECIFICATION:

Operating system	: Windows 7
Front end	: Visual Basic 6.0
Back End	: MS Access

3.2.1About Windows 7

Windows 7 is a line of operating systems developed by Microsoft for use on general-purpose computer systems, including home and business desktops, notebook computers, and media centers. The name "7" stands for experience. It was codenamed "Whistler", after Whistler, British Columbia, as many Microsoft employees skied at the Whistler-Blackcomb ski resort during its development [citation needed].

Windows 7 is the successor to both Windows 2000 Professional and Windows Me, and is the first consumer-oriented operating system produced by Microsoft to be built on the Windows NT kernel (version 5.1) and architecture. Windows 7 was first released on October 25, 2001, and over 400 million copies were in use in January 2006, according to an estimate in that month by an IDC analyst. It is succeeded by Windows Vista, which was released to volume license customers on November 8, 2006, and worldwide to the general public on January 30, 2007.

The most common editions of the operating system are Windows 7 Home Edition, which is targeted at home users, and Windows 7 Professional, which has additional features such as support for Windows Server domains and two physical processors, and is targeted at power users and business clients. Windows 7 Media Center Edition has additional multimedia features enhancing the ability to record and watch TV shows, view DVD movies, and listen to music. Windows 7 Tablet PC Edition is designed to run the ink-aware Tablet PC platform. Two separate 64-bit versions of Windows 7 were also released, Windows 7 64-bit Edition for IA-64 (Itanium) processors and Windows 7 Professional x64 Edition for x86-64.

Windows 7 is known for its improved stability and efficiency over the 9x versions of Microsoft Windows. It presents a significantly redesigned graphical user interface, a change Microsoft promoted as more user-friendly than previous versions of Windows. New software Management capabilities were introduced to avoid the "DLL hell" that plagued older consumer-oriented 9x versions of Windows. It is also the first version of Windows to use product activation to combat software piracy, a restriction that did not sit well with some users and privacy advocates. Windows 7 has also been criticized by some users for security vulnerabilities, tight integration of applications such as Internet Explorer 6 and Windows Media Player, and for aspects of its default user interface. Later versions with Service Pack 2, and Internet Explorer 7 addressed some of these concerns.

New and updated features:

- Faster start-up and hibernation sequences
- The ability to discard a newer device driver in favor of the previous one (known as driver rollback), should a driver upgrade not produce desirable results
- A new, arguably more user-friendly interface, including the framework for developing themes for the desktop environment
- Fast user switching, which allows a user to save the current state and open applications of their desktop and allow another user to log on without losing that information
- The Clear Type font rendering mechanism, which is designed to improve text readability on Liquid Crystal Display (LCD) and similar monitors

- Remote Desktop functionality, which allows users to connect to a computer running Windows 7 from across a network or the Internet and access their applications, files, printers, and devices
- Support for most DSL modems and wireless network connections, as well as networking over FireWire, and Bluetooth.

User Interface:

Windows 7 features a new task-based graphical user interface. The Start menu and search capability were redesigned and many visual effects were added, including:

- A translucent blue selection rectangle in Explorer
- Drop shadows for icon labels on the desktop
- Task-based sidebars in Explorer windows ("common tasks")
- The ability to group the taskbar buttons of the windows of one application into one button,
- The ability to lock the taskbar and other toolbars to prevent accidental changes
- The highlighting of recently added programs on the Start menu

Shadows under menus (Windows 2000 had shadows under mouse pointers, but not menus) Windows 7 analyses the performance impact of visual effects and uses this to determine whether to enable them, so as to prevent the new functionality from consuming excessive additional processing overhead. Users can further customize these settings. Some effects, such as alpha blending (transparency and fading), are handled entirely by many newer video cards.

However, if the video card is not capable of hardware alpha blending, performance can be substantially hurt and Microsoft recommends the feature should be turned off manually. Windows7 adds the ability for Windows to use "Visual Styles" to change the user interface. However, visual styles must be cryptographically signed by Microsoft to run. Luna is the name of the new visual style that ships with Windows7, and is enabled by default for machines with more than 64 MB of video RAM. Luna refers only to one particular visual style, not to all of the new user interface features of Windows7 as a whole. Some users "patch" the uxtheme.dll file that restricts the ability to use visual styles, created by the general public or the user, on Windows7.

In addition to the included Window7 themes, there is one previously unreleased XP theme with a black taskbar and window bars similar to Windows Vista titled "Royale Noir" available for download, albeit unofficially. Microsoft officially released a modified version of this theme as the "Zune" theme; the only difference being the color of the start button (from black to orange). Additionally, the Media Center "Royale" theme is also available for download on non-Media Center PCs.

3.2.2 SOFTWARE FEATURES

Visual Basic is a tool that allows you to develop Windows (Graphic User Interface - **GUI**) applications. The applications have a familiar appearance to the user.

Visual Basic is **event-driven**, meaning code remains idle until called upon to respond to some event (button pressing, menu selection,). Visual Basic is governed by an event processor. Nothing happens until an event is detected. Once an event is detected, the code corresponding to that event (event procedure) is executed. Program control is then returned to the event processor.

Some Features of Visual Basic

Full set of objects - you 'draw' the application

Lots of icons and pictures for your use

Response to mouse and keyboard actions

Clipboard and printer access

Full array of mathematical, string handling and graphics functions

Can handle fixed and dynamic variable and control arrays

Sequential and random access files support

Useful debugger and error-handling facilities

Powerful database access tools

ActiveX support

Package & Deployment Wizard makes distributing your applications simple

Visual Basic 6.0 versus Other Versions of Visual Basic

The original Visual Basic for DOS and Visual Basic for Windows were introduced in 1991. Visual Basic 3.0 (a vast improvement over previous versions)

was released in 1993. Visual Basic 4.0 released in late 1995 (added 32 bit application support). Visual Basic 5.0 released in late 1996. New environment, supported creation of ActiveX controls, deleted 16 bit application support. And, now Visual Basic 6.0 - some identified new features of Visual Basic 6.0:

Faster compiler

New ActiveX data control object

Allows database integration with wide variety of applications

New data report designer

New Package & Deployment Wizard

Additional internet capabilities

16 Bits versus 32 Bits

Applications built using the Visual Basic 3.0 and the 16 bit version of Visual Basic 4.0 will run under Windows 3.1, Windows for Workgroups, Windows NT, or Windows 95.

Applications built using the 32 bit version of Visual Basic 4.0, Visual Basic 5.0 and Visual Basic 6.0 will only run with Windows 95 or Windows NT (Version 3.5.1 or higher).

In this class, we will use Visual Basic 6.0 under Windows 95, recognizing such applications will not operate in 16 bit environments.

Application (Project) is made up of:

Forms - Windows that you create for user interface

Controls - Graphical features drawn on forms to allow user interaction (text boxes, labels, scroll bars, command buttons, etc.) (Forms and Controls are **objects**.)

Properties - Every characteristic of a form or control is specified by a property. Example properties include names, captions, size, color, position, and contents. Visual Basic applies default properties. You can change properties at design time or run time.

Methods - Built-in procedure that can be invoked to impart some action to a particular object.

Event Procedures - Code related to some object. This is the code that is executed when a certain event occurs.

General Procedures - Code not related to objects. This code must be invoked by the application.

Modules - Collection of general procedures, variable declarations, and constant definitions used by application.

Visual Basic Functions

Visual Basic offers a rich assortment of built-in **functions**. The on-line help utility will give you information on any or all of these functions and their use. Some examples are:

Function	**Value Returned**
Abs	Absolute value of a number
Asc	ASCII or ANSI code of a character
Chr	Character corresponding to a given ASCII or ANSI code
Cos	Cosine of an angle
Date	Current date as a text string
Format	Date or number converted to a text string
Left	Selected left side of a text string
Len	Number of characters in a text string

Mid	Selected portion of a text string
Now	Current time and date
Right	Selected right end of a text string
Rnd	Random number
Sin	Sine of an angle
Sqr	Square root of a number
Str	Number converted to a text string
Time	Current time as a text string
Timer	Number of seconds elapsed since midnight
Val	Numeric value of a given text string

3.2.3INTRODUCTION TO BACK END

Microsoft Access is a relational database used on desktop computers to manage information on different levels for different purposes. Microsoft Access can be used for personal information Management, in a small business to organize and manage all data, or in an enterprise to communicate with servers.

Database Management System:

A database is an organized collection of data. Organization means method, it assumes discipline, it also anticipates efficient manner in using that information. Unless you are creating small applications for your personal use, you will usually need to share your data either with other people (users, database developers, etc) or other machines. To make your job easier, Microsoft Access provides in one package the database information and the tools you need to use your database. To be organized, you will divide your database in different related parts.

When you create a database in Microsoft Access, you create a file that will include different parts of your database. These are referred to as tables queries, forms, reports, etc.

Microsoft Access as a Software Product

Microsoft Access is a classic computer application and it gets launched like the usual products you have probably been using. As such, to start this program, you could click Start -> Program -> Microsoft Access. As a regular member of the Microsoft Office suite of applications, if your installation created a sub-menu on the Start menu, you could click Start -> New Office Application and proceed from the new dialog box.

Although Microsoft Office 97 and Microsoft Office 2000 get installed in the C:\Program Files\Microsoft Office folder, they treat the shortcuts that launch them differently. The applications that are part of Microsoft Office 97 designate their shortcuts with full names and these are installed in the Microsoft Office folder. Microsoft Office 2000 (Premium) uses shortcut names to designate its shortcuts and they are installed in the Microsoft Office\Office folder. This means you could launch an application from Windows Explorer or My Computer. Therefore, in order to launch Microsoft Access, locate its shortcut in Windows Explorer or My Computer and double-click it.

If you have a Microsoft Access database such as an E-Mail attachment, a file on a floppy disk, on the network, or in any other means, once you see its icon, you can double-click it. Not only will this action launch Microsoft Access, but also it will open the file.

You can also launch Microsoft Access from a shortcut. If you happen to use the software on a regular basis, you can create a shortcut on your desktop or on the Quick Launch area. Many users also take advantage of the Microsoft Office Shortcut Bar. Sometimes, the icon you need will not be there; in that case you should insert it manually.

When Microsoft Access starts, you are presented with a special dialog box that inquires about your intentions. From this dialog, you can do one of four things: create a database using one of the sample files, create a database from scratch, open an existing database, or open a "raw" program.

4. SYSTEM DESIGN

System design is the process or art of defining the architecture, components, modules, interface, and data for a system to satisfy specified requirements. One could see it as the application of systems theory to product development.

There is some overlap and synergy with the disciplines of system analysis, system architecture and system engineering. System design is therefore the process of defining and developing a system to satisfy specified requirement of the market or a customer.

The system design document describes how to transform the requirements and the functional design into more technical system design specification. This design involves conceiving and planning out in the mind and making a drawing, pattern, of sketch of.

It includes three types of activities: External Design, Architectural Design, and Detailed Design. The architectural design and detailed design collectively referred to as internal design.

The external design involves specifying the externally observable characteristics of a software product and the internal design involves specifying the internal structure and processing details of the system.

The fundamental concepts of the system design include abstraction, structure, information hiding, modularity, concurrency, verification, and design aesthetics.

Architectural Design

Architectural design involves identifying the software components, decoupling, and decomposing them into processing modules and conceptual data structure, and specifying the interconnection among components.

System architecture is the design or set of relations between the parts of a system. There is no strict definition of which an aspect constitutes system architecture, and various organizations define it in different ways.

System architecture is primarily concerned with the internal interfaces among the system’s components or subsystem, and the interface between the system and its external environment, especially the user.

The internal structure of the software product and tests that attempt to break the system are open during implementation. The architectural design is also called as internal design. The goal of this design is to specify the internal structure and processing details, to record design decisions.

4.1INPUT DESIGN

Internal design involves conceiving, planning out and specifying the internal structure and processing details of the software product.

The goals of internal design are to specify the internal structure and processing details, to record design decisions and indicate why certain alternatives and tradeoffs were chosen, to elaborate the test and plan, and to provide a blueprint for implementation, testing and maintenance activities. The work products of internal design include a specification of architectural, the details of algorithms and data structures, and the test plan.

For example, the customer master details form is designed with the following field to get input about the customer. Customer Id, Customer name, Customer Address, Contact number and their Mail ID. This simple customer details form reads input from the data entry operator, and stores the valuable customer details into database.

Likewise, the product master and the transaction details like purchase and sales are also store the information regarding their activity. It will be helpful when computing the values in later.

4.2 OUTPUT DESIGN

Output design is the process of converting computer data into hard copy that is understood by all. The various outputs have been designed in such a way that they represent the same format that the office and Management used to display the data.

Computer output is the most important and direct source of information to the user. Efficient, intelligible output design should improve the systems relationships with the user and help in decision making. A major form of output is the hardcopy from the printer.

Output requirements are designed during system analysis. A good starting point for the output design is the Data Flow Diagram (DFD). Human factors educe issues for design involves addressing internal controls to ensure readability.

4.3 SYSTEM FLOW CHART

4.3.1.1DATA FLOW DIAGRAM

A **data flow diagram** (**DFD**) is a graphical representation of the "flow" of data. DFD can also be used for the visualization of data processing(structured design).

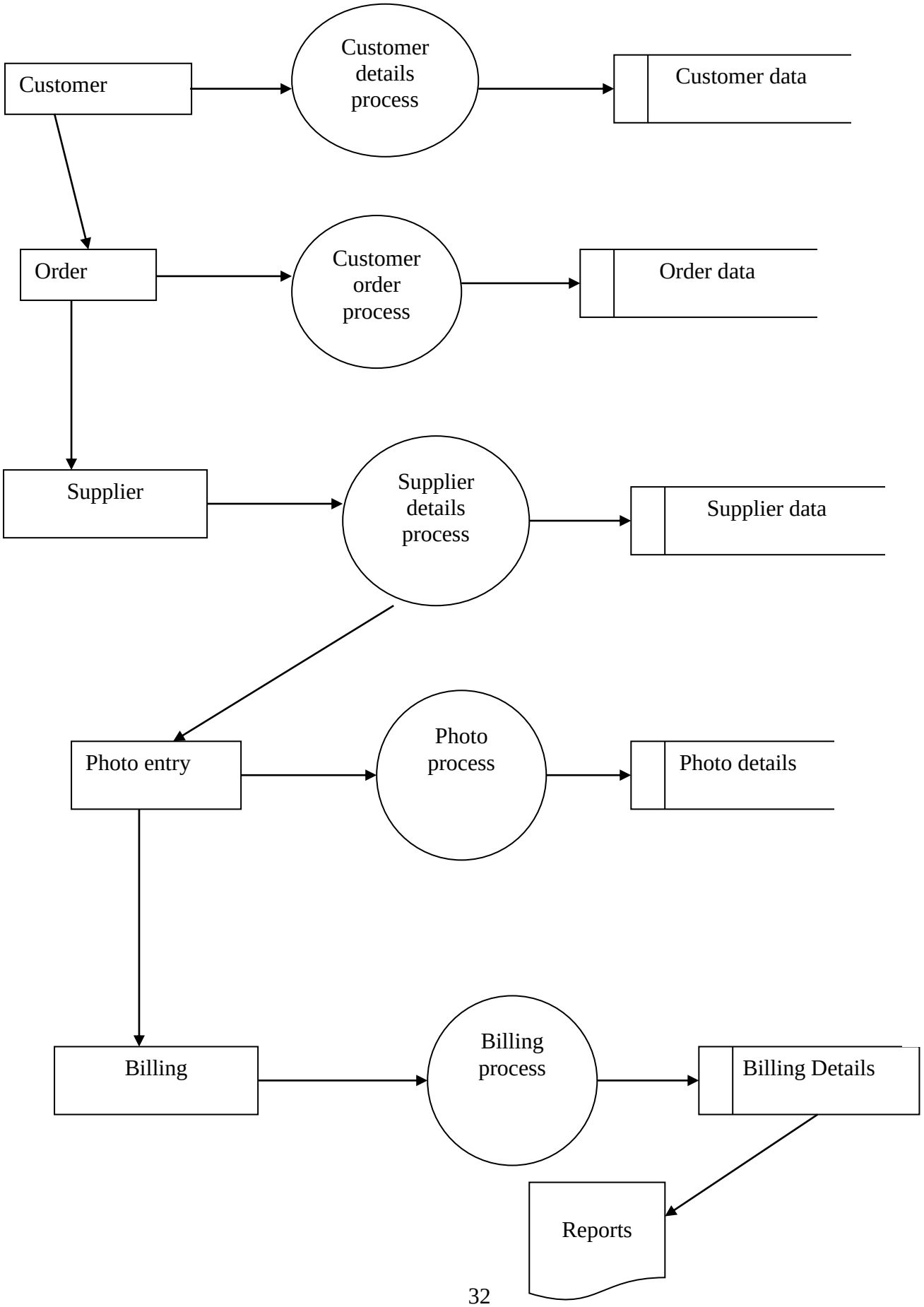
A DFD shows what kinds of data will be input to and output from the system, where the data will come from and go to, and where the data will be stored. It does not show information about the timing of processes or information about whether processes will operate in sequence or in parallel (which is shown on a flowchart).

Dataflow diagram is also known as bubble chart that has the purpose of clarifying system requirements and identifying major transformations in system design. It is a starting point of the design phase that functionality decomposes the requirements specification down to the lowest level of detail. It is the pictorial way of showing the flow of data into, around and out of system.

Dataflow diagram is easily understands to the user and is less prone to misinterpretation than textual description. A complete set of data flow diagram provides a compact top down representation of a system, which makes it easier for users and analysts to understand the system as a whole.

Dataflow diagram is used as a graphical tool to depict information flow. There are two different types in the data flow diagram. They are *transform flow and transaction flow*. The transform flow is used to give the initial idea of the flow of the program. The transaction flow is used to give the detail idea of the flow of the control.

DATAFLOW DIAGRAM:



4.4 DATA BASE DESIGN

A database is a collection of stored data organized in such a way that all the data requirements are satisfied. In order to design the database and the tables used in the system, MS Access provides extra optional facilities which aid and control each user's access to use the database for adding, modifying and retrieving data and facilitate data independence, integrity and security.

Data Co-ordination

In a database, information from several files are coordinated, accessed and operated upon as though it is in a single file. Logically the information is centralized. Physically the data may be located on different devices and in widely scattered geographically locations, connected through data communication facilities.

Data Integrity

This ensures the correctness and completeness of the data in the database. When the contents of the database are modified the integrity of the database is lost. To maintain the consistency of data integrity of constraints is required.

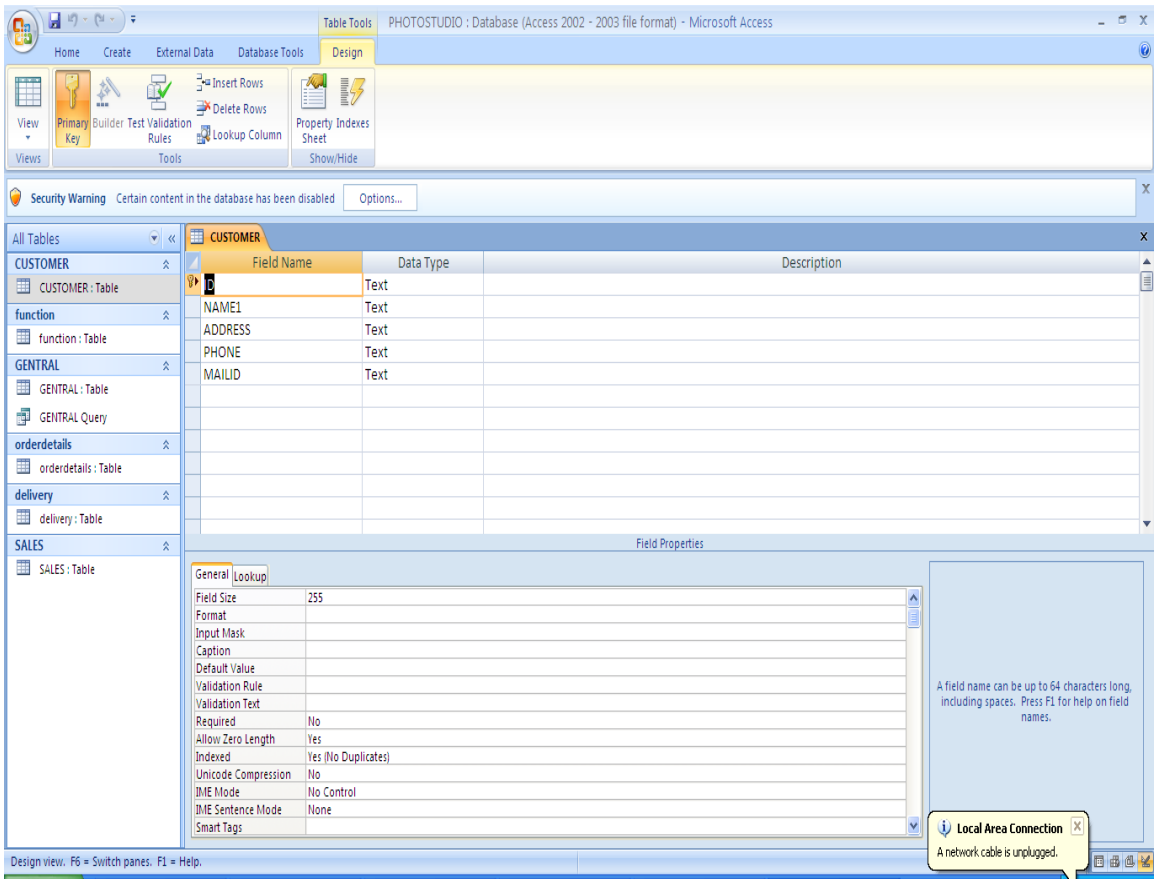
Some of the integrity constraints are

- Domain constraints specify NULL or NOT NULL.
- Validity integrity - checks for data type and range.
- Entity integrity - uniqueness and primary key.
- Reference integrity - foreign key relation

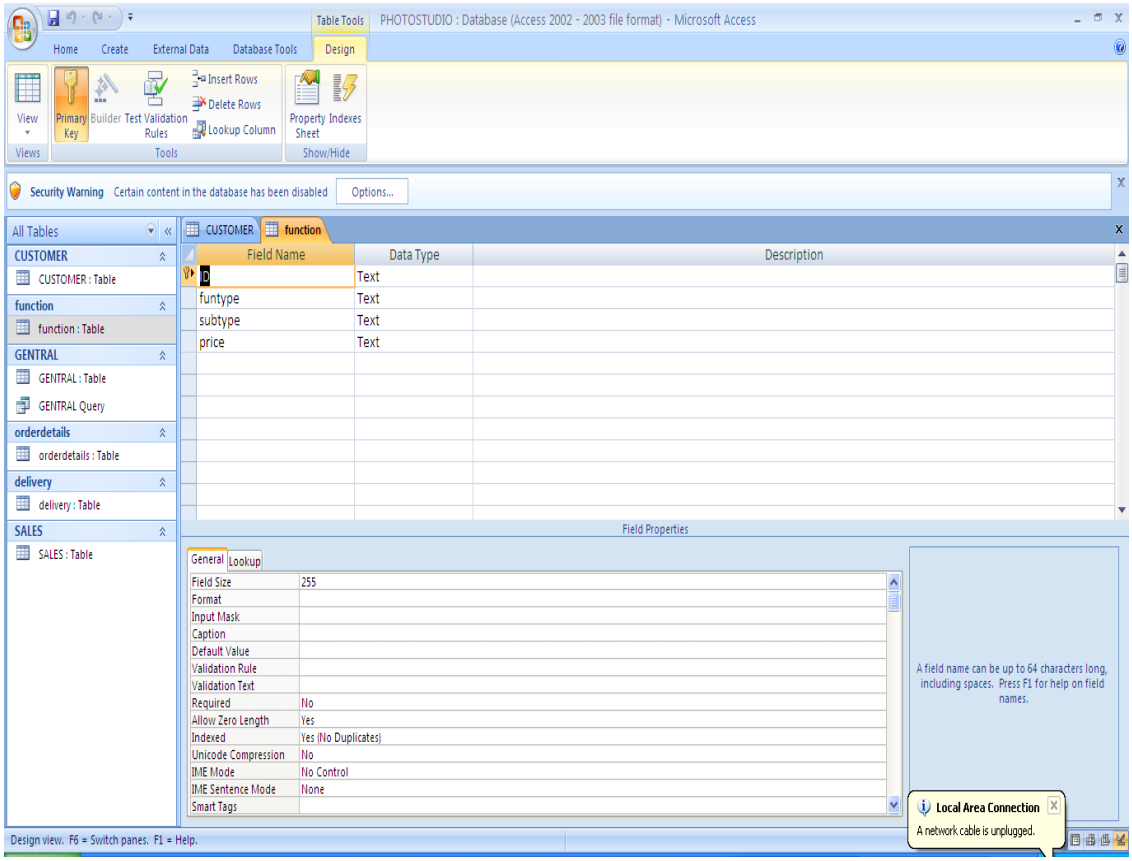
Data Independence

Data independence is the insulation of application programs from changing aspects of physical data organization. This objective seeks to allow changes in the content and organization of physical data without reprogramming of applications and to allow modifications to application programs without reorganizing the physical data.

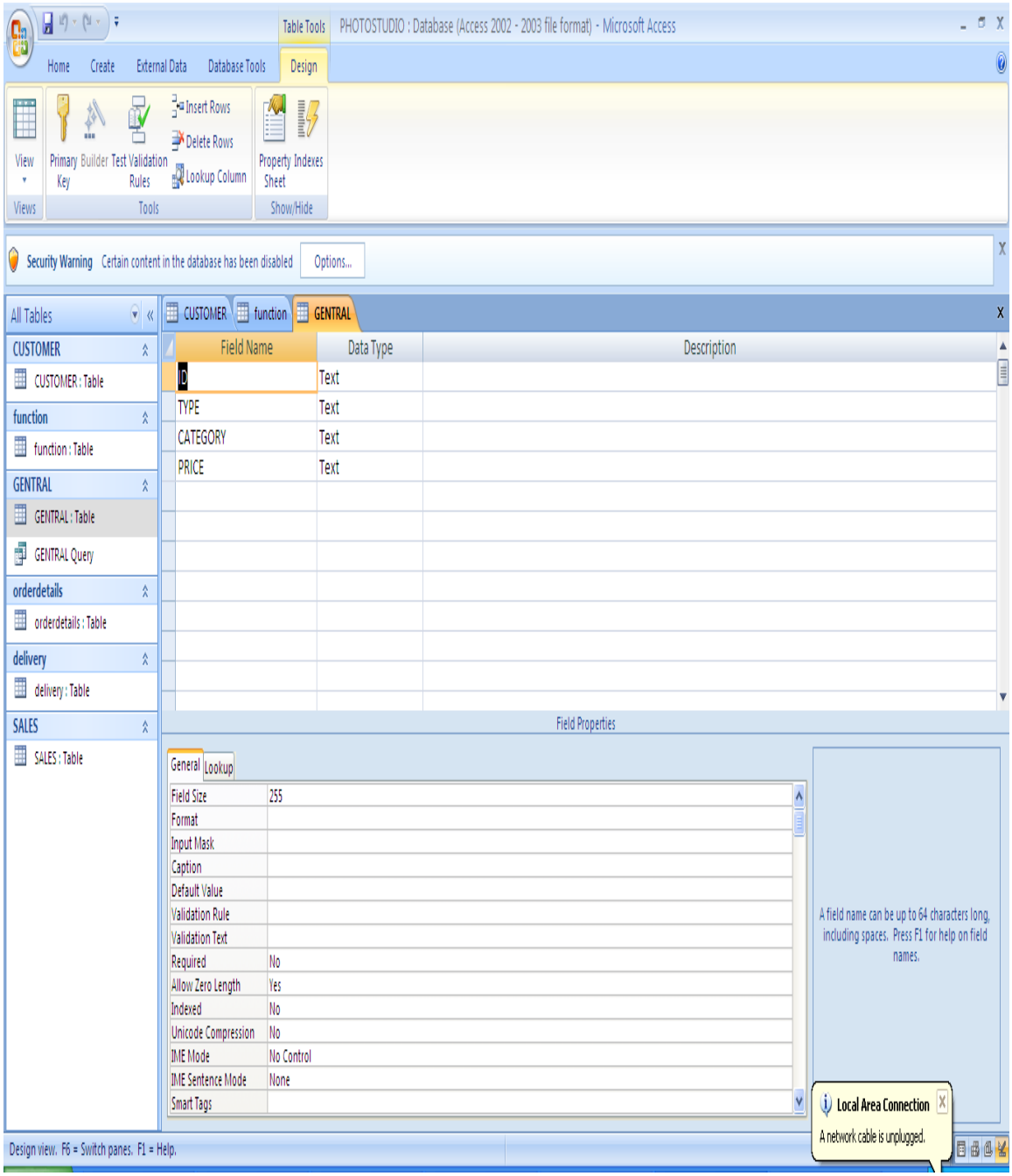
Customer table design:



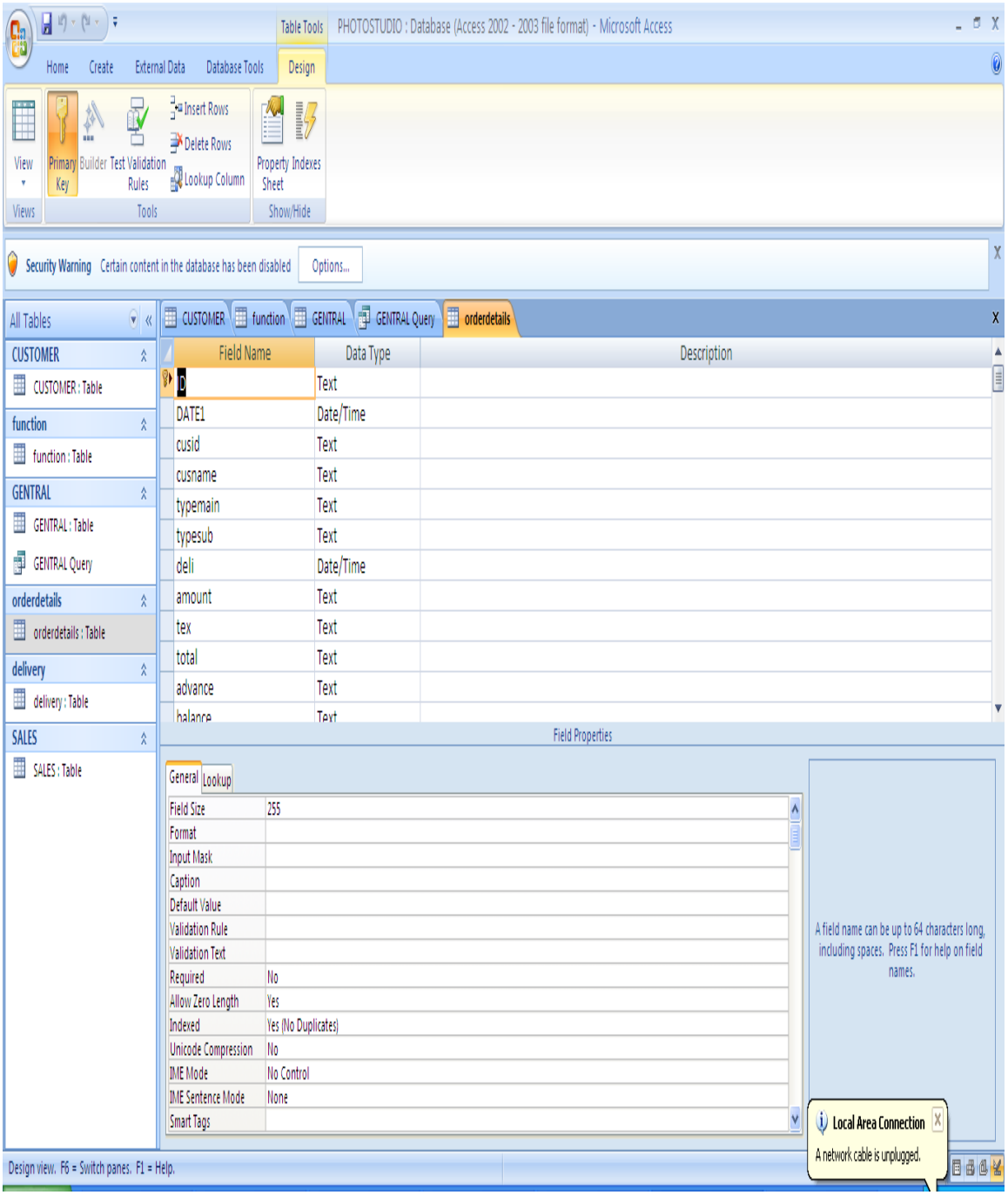
Function table design:



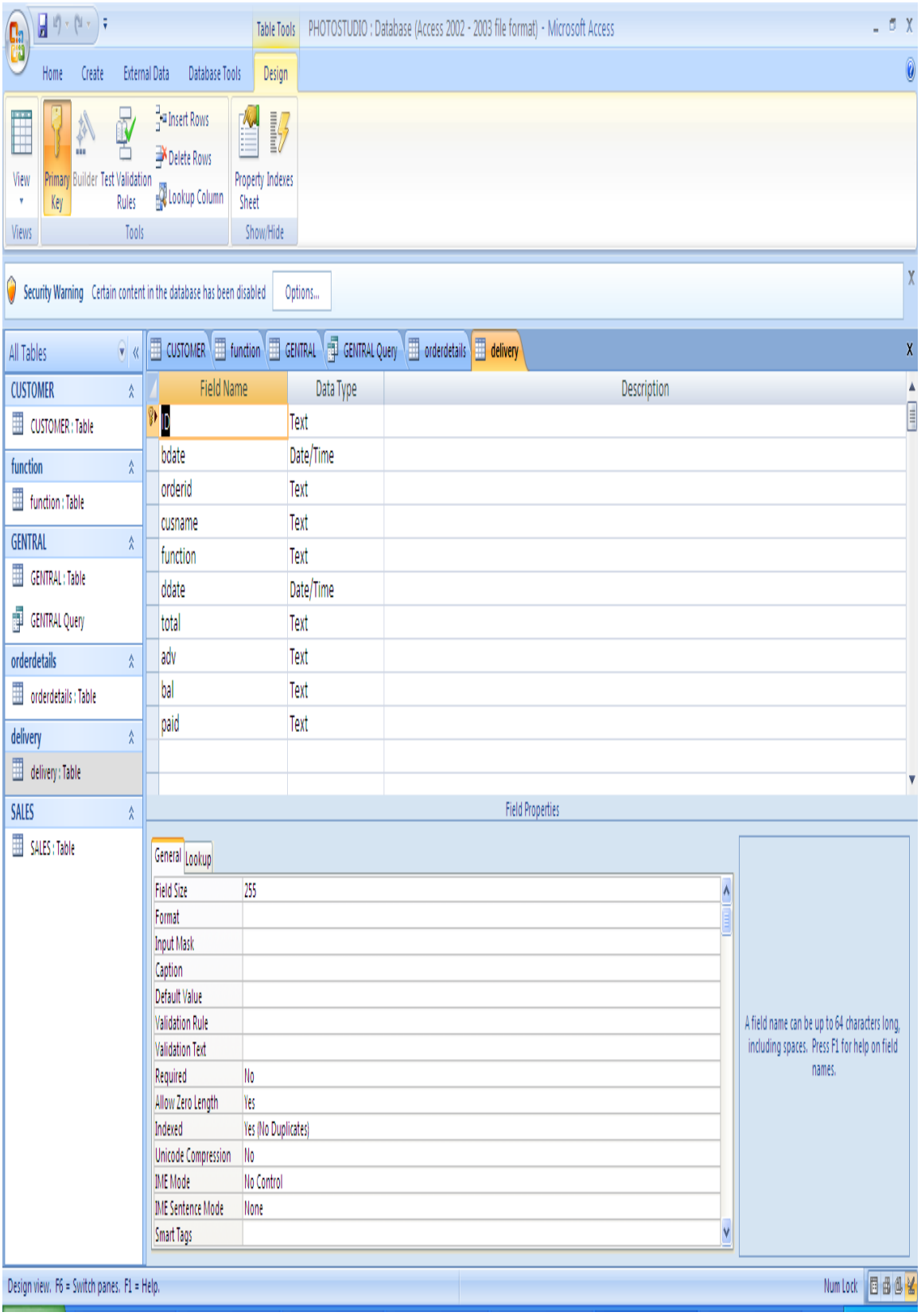
General table design:



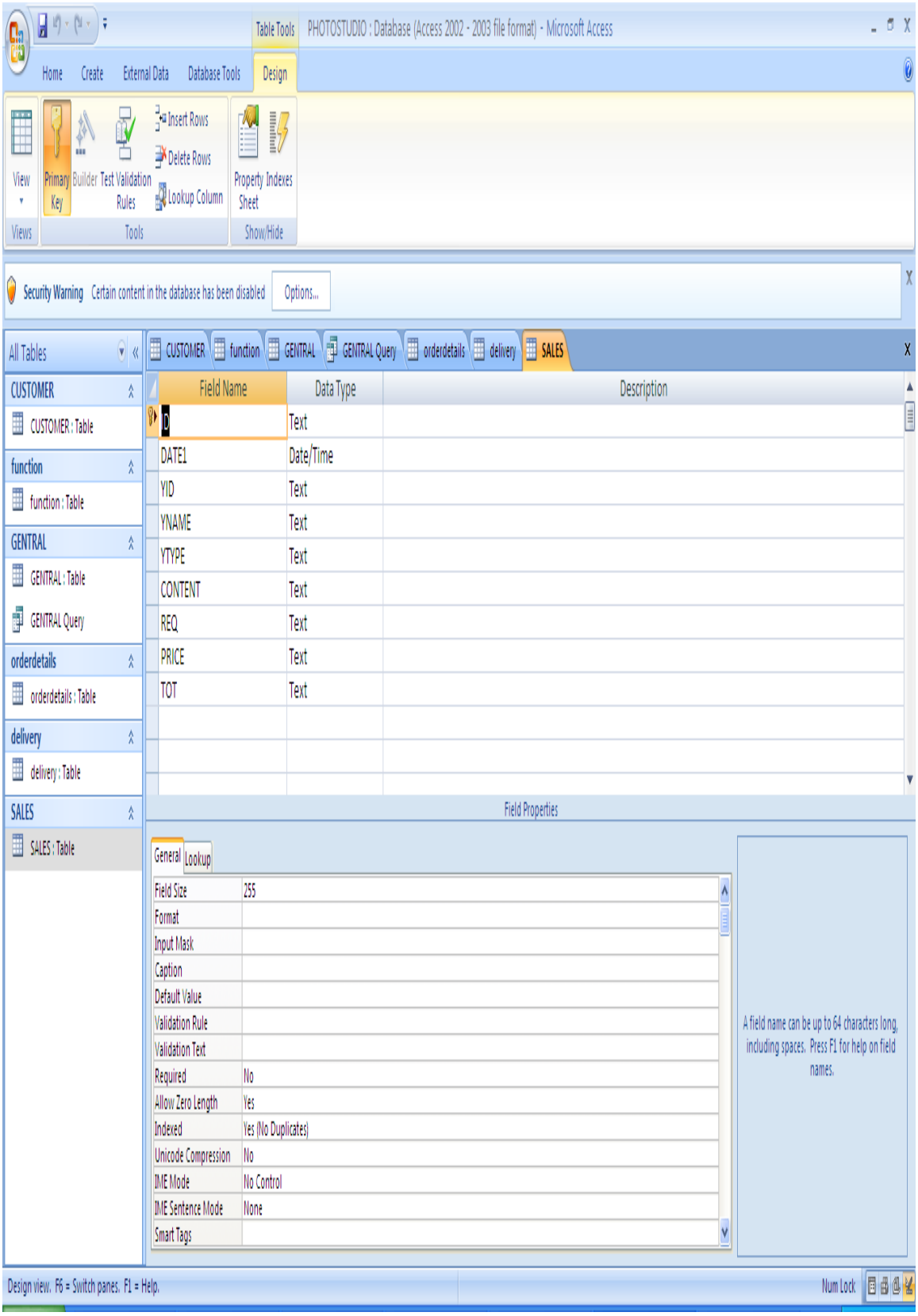
Order Details table design:



Delivery table design view:



Sales table design view:



5. SYSTEM TESTING AND IMPLEMENTATION

5.1 SYSTEM TESTING

After each program passes its own test, it is linked to together program and scrutinized with a program integration test. This ensures that the program work together as intended. Before implementation phase the designed system should be tested with raw data to ensure that all modules of the system work correctly and satisfactorily. If some bug is found they can be removed before the implementation phase. The testing has four kind of testing that is as follows:

White box testing

White box testing, sometimes called glass-box testing is a test case design method that uses the control structure of the procedural design to design to derive test cases. Using white box testing methods, the software engineer can derive test cases.

1. Guarantee that all independent paths within a module have been exercised at least once.
2. Exercise all logical decisions on their true and false sides.
3. Execute all loops at their boundaries and within their operational bounds.
4. Exercise internal data structures to ensure their validity.

Black box testing

Black box testing, also called behavioral testing, focuses on the functional requirements of the software. That is, black box testing enables the software engineer to derive sets of input conditions that will fully exercise all functional requirements for a program. Black box testing is not an alternative to white box

techniques. Rather it is a complementary approach that is likely to uncover a different class of errors than white box methods.

Black box testing attempts to find errors in the following categories.

a. Incorrect or missing functions
b. Interface errors
c. Errors in a data structures or external database access
d. Behavior or performance errors
e. Initialization and termination errors.

5.2 SYSTEM TEST PROCESS

It is the stage of implementation, which ensures that system works accurately and effectively before the live operation commences. It is a confirmation that all are correct and opportunity to show the users that the system must be tested with text data and show that the system will operate successfully and produce expected results under expected conditions.

Software testing is a crucial element of software quality assurance and represents the unlimited review of specification, design and coding. Testing represents an interesting anomaly for the software. During earlier definition and development phase, it was attempted to build software from an abstract concept to a tangible implementation.

The testing phase is responsible for ensuring that the system performs the way that the detailed design documentation specifies. Testing involves testing of developed system using various test data. Preparation of test data plays a vital role in system testing. After preparing the test data, the system under study was

tested using those test data. During this stage, the errors are detected and corrected.

Before implementation, the proposed system must be tested with raw data to ensure that the modules of the system work correctly and satisfactorily. The system must be tested with valid data to achieve its objective.

Thus a series of tests are performed for the proposed system before the system is ready for implementation. The various **types of testing** involved are:

- Unit testing
- Validation testing
- Output testing
- Integration testing

UNIT TESTING

Unit tests perform basic tests at component level and test a specific business process, application, and/or system configuration. Unit tests ensure that each path of a business process performs accurately to the documented specifications, functionality and contains clearly defined inputs and expected and expected results.

The unit testing is conducted by preparing the following reports

UTP – unit test plan

UTP Preparation (Test Scenarios)

UTP Review

UTP Results

For example we can take the login page and test by unit testing.

In UTP Preparation Test Scenarios all the links in the page is taken for test. In UTO review all the links are tested for its target page or the result. In UTP

result the testing results for all the links tested is given as passed or failed and if any error then it is noted to the particular developer and corrected.

A program represents the logical elements of a system. For a program to run satisfactorily, it must compile and test data correctly and tie in properly with other programs. Achieving an error free program is the responsibility of the programmer. Program testing checks for two type of errors: syntax and logical.

Syntax error is a program statement that violates one or more rules of the language in which it is written. An improperly defined field dimension or error messages were generated by the computer.

Logic error deals with incorrect data fields, out-of range items, and invalid combinations. Since diagnostics do not determine logic errors the programmer must examine the output carefully.

The modules covered under Unit Testing are

- Login testing
- User creation testing
- Setup testing
- Task entry testing
- Timesheet testing
- Test Reports

Validation testing

Validation succeeds when the developed system functions as per the requirements of the customer. Software validation is achieved through a series of black box that demonstrate the conformity with the requirements. Deviations or errors in this step are corrected.

The validation testing is performed for all the data in the system. The data are completely validated according to the companies requested and requirement.

In these testing, software is completely assembled as package, interfacing errors have been uncovered and correction testing begins after each one of the two possible conditions exists.

OUTPUT TESTING

Various outputs have been generated by the system. The system generated output and the desk-calculated values have been compared. All the output is perfect as the company desires. It begins with low volumes of transactions based on live tone. The volume is increased until the maximum level for each transaction type is reached. The total system is also tested for recovery and fallback, after various major failures to ensure that no data are lost during the emergency time.

INTEGRATION TESTING

Integration tests are done to test integrated software components were individually satisfactory, as shown by successful unit testing; the combination of components is correct and consistent. Integration testing is specifically aimed at exposing the problems that arise from the combination of components.

The same procedure as the unit testing is followed for integration testing. After completing the unit testing successful, the components are integrated into one system and tested for success. All the functional features of the modules are tested. Since the project involves tacking and maintenance, the overall structure of the functionality is taken in to consideration. The focus is on valid and invalid users and special cases. All possible combinations of the input data have been taken in to consideration.

5.2 VERIFICATION AND VALIDATION

This system has been verified and validated by using the

- Test Data
- Live Data

Verified with Test Data

In this case of testing, the data were developed artificially and these data are applied to the system. The result of the system was checked, whether it satisfies the specification of the system. Each module in this system has been tested independently and finally tested as a package.

Verified with live data

In this case, the real data are applies to the system and its result was checked with original results that was calculated manually.

The goals of verification and validation activities are to access and improve the quality of the work products generated during development and modification of software. Quality attributes of interest include correctness, completeness, consistency, reliability, usefulness, usability, efficiency to standards and overall cost effectiveness.

Verification is a rigorous mathematics demonstration that source code confirms to its specification. Validation is the process of evaluating software at the end of the software development process to determine the compliance with requirements.

5.3 SYSTEM IMPLEMENTATION

System implementation is the important state of the project when the theoretical design is turned into practical system. The most commonly used implementation methods are pilot and parallel.

Implementation Procedures:

Pilot Running:

Processing the current data by only one user at a time called the pilot running process. When one user is accessing the data at one system, the system is sets to be engaged and connected in network. This process is useful only in system where more then one user is restricted.

Parallel Running:

Processing the current data by more then one user at a time simultaneously is said to be parallel running process. This same system can be viewed and accessed by more then one user at the time. Hence the implementation method used in the system is a pilot type of implementation.

Implementation is the stage in the project where the theoretical design is turned into a working system. The most crucial stage is achieving a successful new system & giving the user confidence in that the new system will work efficiently & effectively in the implementation state.

The stage consists of,

- Testing the developed program with sample data.
- Detection's and correction of error.
- Creating whether the system meets user requirements.

- Making necessary changes as desired by the user.
- Training user personnel.

User Training:

A thorough training on the new system is given to a representative from each of the user area and an overall demo given to the entire team. The configuration details and troubleshooting methodologies were explained. The source of various possible exceptions and the possible causes for it, from the user are explained.

An analysis of user training focuses on two factors:

- User capabilities.
- The nature of the system being installed.
- User range from the native to the highly sophisticated. The training level and the duration are basic and brief.

Operational Documentation:

User manual prepared reflexively because it is an item that they must accompany every system. The important point is that the manual should be prepared only if it will serve the user.

User manual includes functions available to the user and what each can be done and how they are executed and how diagnostics message should be handled.

6. MAINTENANCE

The maintenance phase of the software cycle is the time in which a software product performs useful work. After the system is successfully implemented, it should be maintained in a proper manner.

6.1 Corrective Maintenance

Even with the best quality assurance activities, it is likely that they customer will uncover defects in the software. Corrective maintenance changes the software to correct defects.

6.2Adaptive Maintenance

System maintenance is an important aspect in the software development life cycle. The need for system maintenance is for it to make adaptable to the changes in the environment. There may be social, technical and other environmental changes that affect the system, which is being implemented.

6.3 Enhancement Maintenance

Software product enhancements may involve providing new functional capabilities, improving user displays and mode of interaction, upgrading the performance characteristics of the system. Only through proper system maintenance procedures, the system can be adopted to cope up with these changes.

This project is also requires maintenance on the system side. These should be analyzed for the correctness of its interaction among themselves.

Utmost in the software maintenance is an understanding of program variables. The software maintenance cannot be performed without a complete

understanding of program variables. PAT processes to locate and highlight the variables used in the source code. This process is extended to all variables. PAT output includes system configuration details variables impact analysis and can save valuable resources (time).

7. FUTURE ENHANCEMENT

SCOPE FOR FUTURE DEVELOPMENT

The world of computers is not static. It is always subject to change. The technology today will become outdated the very next day. To keep abstract of the technological improvements the system need refinements, so it is concluded, it will be improved for further enhancements, whenever the user needs an additional feature into it.

This system totally ends on the data that has been entered by the personnel. Any false information in the order entry will lead to wrong decision. This package has been designed such that this can be extended to any extent that could help it being more efficient system. Hence this package gives good scope for further development. Performance of the system can be monitored; optimization may be done wherever necessary for efficient functioning of the system.

8. CONCLUSION

The system fully reconciles with the need of the organization. It has been designed according to the convenience of the user. The documentation of "**PHOTO STUDIO MANAGEMENT SYSTEM**" is made simple for the operator to under the operation of the package easier and under clearly. The manual system involves its own disadvantages which can be overcomes through the implementation of computerization.

The system is very flexible and can be used even for other branches of the same Photo Printing Lab (Studio) with a minor change. After testing the system with the sample data it was found that all the inconveniences of the existing system have been removed.

The software is presently being used in the Photo Printing Lab for generating invoice and for maintaining the stock control.

And the system is designed in such a way that it is capable of including more operations requirements by the end users of the system.

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