1. INTRODUCTION

1.1. ABSTRACT

Traveling is a large growing business across all countries. Automation of Bus reservation system deals with maintenance of records of details of each passenger. It also includes maintenance of information like schedule and details of each bus.

We observed the working of the bus reservation system and after going through it, we get to know that there are many operations, which they have to do manually. It takes a lot of time and causing many errors while data entry. Due to this, sometimes a lot of problems occur and they were facing many disputes with customers. To solve the above problem, and further maintaining records of passenger details, seat availability, price per seat, bill generation and other things, we are offering this proposal of computerized reservation system.

By using this software, we can reserve tickets from any part of the world, through telephone lines, via internet. Customer can check availability of bus and reserve selective seats. The project provides and checks all sorts of constraints so that user does give only useful data and thus validation is done in an effective way.

A **bus** is a large wheeled vehicle meant to carry many passengers along with the driver. It is larger than a car. The name is a shortened version of **omnibus**, which means "for everyone" in Latin. Buses used to be called omnibuses, but people now simply call them "buses". Buses are an important part of public transport in places all over the world. Many people who do not have cars, especially the third world countries, use buses to get around. Buses make it easy for them to get to where they want to go.

1.2 ORGANIZATION PROFILE

Transport on roads can be roughly grouped into the transportation of goods and transportation of people. In many countries licensing requirements and safety regulations ensure a separation of the two industries.

The nature of road transportation of goods depends, apart from the degree of development of the local infrastructure, on the distance the goods are transported by road, the weight and volume of the individual shipment, and the type of goods transported. For short distances and light, small shipments a van or pickup truck may be used. For large shipments even if less than a full truckload a truck is more appropriate. In some countries cargo is transported by road in horse-drawn carriages, donkey carts or other non-motorized mode. Delivery services are sometimes considered a separate category from cargo transport. In many places fast food is transported on roads by various types of vehicles. For inner city delivery of small packages and documents bike couriers are quite common.

The **"BUS RESERVATION MANAGEMENT SYSTEM"** has been developed for STAR TRANSPORT one of the main transport operators, which deals with very vast varieties of goods transportation.

The company has been in this field for several years. The agency is situated at Madurai, in one of the busiest market area in Madurai. It is dealing with all types of customers, from small company to big concerns.

In any organization, small or big, a major portion of the time goes in data collection, processing, documenting and communicating it to the people. Hence, a major portion of the overheads goes into this kind of unproductive work in the organization. Every individual in an organization is continuously looking for some information with is needed to perform

his/her task/ Hence, the information is people-oriented and it varies with nature of the people in the organization.

Stock control, the processing of sales orders, forecasting and subsequent planning are additional areas in which the computer assists in business and commercial organizations. In all these cases the company can benefit from the immediate availability of information which the computer provides.

The difficulty in handling this multiple requirement, we wanted to develop a software product to satisfy their needs.

1.3 PROJECT OVERVIEW

This project is meant for maintaining goods transport organization administration, which deals with huge amount

This "**BUS RESERVATIONMANAGEMENT SYSTEM" system** has ten main modules. They are

- Employee
- Salary
- Vehicle
- Private Booking
- Regular Customer
- Regular Booking
- Report and
- Exit

In first module consists of a form for entering employees working in the concern. The following information are used to be given in this form, EMPLOYEE_ID, NAME, ADDRESS, DOB, QUALIFICATION, DESIGNATION, DATE_OF_JOIN, CONTACT_NO. This form has options for New, Edit, Update, Find and Delete record and Grid View option to view all records. The grid view form has options for Filter by which required record/records can be viewed and Sort option can be used to view all records in sorted manner for a particular column.

Second module shows a form for salary information. The following information are used to be given in this form, EMPLOYEE_ID, NAME, DESIGNATION, BASIC_SALARY, OVER_TIME_SALARY, NET_SALARY, MONTH. This form has options for New, Edit, Update, Find and Delete record and Grid View option to view all

records. The grid view form has options for Filter by which required record/records can be viewed and Sort option can be used to view all records in sorted manner for a particular column.

The third module depicts a form for vehicle details such as Vehicle_name, Registration_no which are available with the concern. This form has options for New, Edit, Update, Find and Delete record and Grid View option to view all records. The grid view form has options for Filter by which required record/records can be viewed and Sort option can be used to view all records in sorted manner for a particular column.

Fourth module, Private Booking, gives booking of goods from private customer entry information. The following information are used to be given in this form, LLR_NO, SEND_NAME, SENDER_ADDRESS, RECEIVER_NAME, RECEIVER_ADDRESS, DATE_BOOK, WEIGHT, AMOUNT. This form has options for New, Edit, Update, Find and Delete record and Grid View option to view all records. The grid view form has options for Filter by which required record/records can be viewed and Sort option can be used to view all records in sorted manner for a particular column.

The fifth module, Regular Customer, shows the data pertaining to regular customers' information of different companies in and around Madurai city. The following information are used to be given in this form, CUSTOMER_ID, COMPANY_NAME, CONTACT_NAME, ADDRESS, PHONE_NUMBER, EMAI. This form has options for New, Edit, Update, Find and Delete record and Grid View option to view all records. The grid view form has options for Filter by which required record/records can be viewed and Sort option can be used to view all records in sorted manner for a particular column.

The sixth module, Regular Booking, shows the information for goods booking by different regular customers. The following information are used to be given in this form, LLR_NO, SEND_NAME, SENDER_ADDRESS, RECEIVER_NAME, RECEIVER_ADDRESS, DATE_BOOK, WEIGHT, AMOUNT, AMOUNT_RECEIVED, AMOUNT_RECEIVED_DATE. This form has options for New, Edit, Update, Find and Delete record and Grid View option to view all records. The grid view form has options for Filter by which required record/records can be viewed and Sort option can be used to view all records in sorted manner for a particular column.

The seventh module, Report, has reports for Employee, Salary, Customer, and booking.

And the final module is for exiting from the software.

2. SYSTEM ANALYSIS

2.1SYSTEM ANALYSIS AND FUNDAMENTALS

System Analysis and Design, is the process of gathering and interpreting facts, diagnosing problem and using the information to recommend improvement to the system. Before development of any project can be pursued, a system study is conducted to learn the details of the current business solution. Information gathered through the study forms the basis for creating alternative design strategies. Virtually all organizations are systems that interact with their environment through receiving input and producing output.

It is a management technique used in designing a new system, improving an existing system or solving problem. System analysis does not guarantee that the user will derive an ideal solution to a problem. This depends solely on the way one design a system to exploit the potential in the method. To put it in another way, creativity is as much as must pre-design the study and problem solving process and evaluates every successive step in the system analysis.

Taking all these factors into account and with the knowledge of the inter-relationship between the various fields and section and their potential interactions, they are consider for developing the whole system in and integrated manner, this project is developed to meet all the criteria in the

The management technique is also helps us in develop and design of the new system or to improve the existing system.

The following Objectives are kept in mind:

- Identify the customer's need.
- Evaluate the system concept for feasibility.

- Perform economic and technical analysis.
- Allocate functions to hardware, software, people, database and other system elements.
- Establish cost and schedule constraints
- Create a system definition that forms the foundation for all subsequent engineering work.

Identification of the need:

In this, there are certain expressions that are being used in the development of the project. And, it is used to identify our needs or source in the project.

- Defining a problem
- Finding the various need for the problem
- Formalizing the need
- Relating the need

Thus, it is the first step for system development life cycle.

Initial Investigation

It is one way of handling the project, it is used to know about the user request and the modification of the system should be done.

The user's request for this project is as follows:

1. Assigning separate work area for different users.
2. Nature of the work
3. Regular update and delete of record
4. Regular calculation of Net Asset Value

5. Supplying the data with the time required.

The user request identifies the need for change and authorizes the initial investigation. It may undergo several modifications before it become a written commitment. Once approved the activities are carried out into action. The proposal, when approved, it initiates a detailed user-oriented specification of system performance and analysis of the feasibility of the evaluating alternative candidate systems with a recommendation of the best system for the job.

2.2. EXISTING SYSTEM

Initially, customers used to book tickets manually by queuing in lines at bus stations or go to travel agents who in turn used to book tickets for them. This was actually a tedious process and was leading to wastage of time. It also had issues like having incorrect names or other information used to book tickets.With the development of technology, the utilization of computer is widened in many sectors. As it is easier and effective to promote the business using computer and internet, it is being more popular day by day in business sector. Since, it is not possible to explain all the features of mobile handsets in mobile shop, it is essential to implement computerized mobile shop project for enhancing shopping process.

2.3. PROPOSED SYSTEM

The system is very simple in design and to implement. The system requires very low system resources and the system will work in almost all configurations. It has got following features:

- Needs a lot of working staff and extra attention on all the records.
- Ensure data accuracy.
- Records are efficiently maintained by DBMS.
- DBMS also provides security for the information.
- Any person across the world, having internet can access this service.
- Availability of seats can be enquired very easily.
- Passengers can also cancel their tickets easily.
- Minimum time needed for the various processing
- Better Service
- Minimum time required
- This would help the corporation prepare and organize its schedules more efficiently on the basis of traffic demand.

2.4. FEASIBILITY STUDY

The objective of the feasibility study is not only to solve the problem but also to acquire a sense of its scope. The reason for doing this is to identify the most beneficial project to the organization.

There are three aspects in the feasibility study:

1. Technical Feasibility
2. Financial Feasibility
3. Operating Feasibility

Technical Feasibility

Technical feasibility is the study of the software and how it is included in the study of our project. Regarding this there are some technical issues that should be noted they are as follows:

- Is the necessary technique available Theand how it is suggested and acquired?
- Does the proposed equipment have the technical capacity to hold the data required using the new system?
- Will the system provide adequate response that is made by the requester at an periodic time interval
- Can this system be expanded after this project development
- Is there a technique guarantees of accuracy, reliability in case of access of data and security

The technical issues are raised during the feasibility study of investigating our System. Thus, the technical consideration evaluates the hardware requirements, software etc. This system uses VB as front end and MS Access as back end. They also provide sufficient

memory to hold and process the data. As the company is going to install all the process in the system it is the cheap and efficient technique.

This system technique accepts the entire request made by the user and the response is done without failure and delay. It is a study about the resources available and how they are achieved as an acceptable system. It is an essential process for analysis and definition of conducting a parallel assessment of technical feasibility.

Though storage and retrieval of information is enormous, it can be easily handled by MySql. As the MySql can be run in any system and the operation does not differ from one to another. So, this is effective.

Economical Feasibility

An organization makes good investment on the system. So, they should be worthful for the amount they spend in the system. Always the financial benefit and equals or less the cost of the system, but should not exceed the cost.

- The cost of investment is analyzed for the entire system
- The cost of Hardware and Software is also noted.
- Analyzing the way in which the cost can be reduced

Every organization wants to reduce their cost but at the same time quality of the Service should also be maintained. The system is developed according the estimation of the cost made by the concern. In this project, the proposed system will definitely reduce the cost and also the manual work is reduced and speed of work is also increased.

Operational Feasibility

Proposed project will be beneficial only when they are turned into an information system and to meet the organization operating requirements. The following issues are considered for the operation:

- Does this system provide sufficient support for the user and the management?
- What is the method that should be used in this project?
- Have the users been involved in the planning and development of the projects?
- Will the proposed system cause any harm, bad result, loss of control and accessibility of the system will lost?

Issues that may be a minor problem will sometimes cause major problem in the operation. It is the measure of how people can able to work with the system. Finding out the minor issues that may be the initial problem of the system. It should be a user-friendly environment. All these aspect should be kept in mind and steps should be taken for developing the project carefully.

Regarding the project, the system is very much supported and friendly for the user. The methods are defined in an effective manner and proper conditions are given in other to avoid the harm or loss of data. It is designed in GUI interface, as working will be easier and flexible for the user.

They are three basic feasibility studies that are done in every project.

3. SYSTEM SPECIFICATION

3.1 HARDWARE SPECIFICATION

Processor	:	DUAL CORE
Speed	:	2.5 GHz
Hard disk	:	80 GB
RAM	:	512MB
CD-ROM drive	:	52x speed
Keyboard	:	104 keys
Mouse	:	Logitech
Monitor	:	15” Color Monitor

3.2 SOFTWARE SPECIFICATION:

Operating system	:	Windows 7
Front end	:	Visual Basic 6.0
Back end	:	Microsoft 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 XP 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 XP 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

3.2.3 INTRODUCTION 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

4.1 ARCHITECTURAL DESIGN

DESIGN FUNDAMENTAL

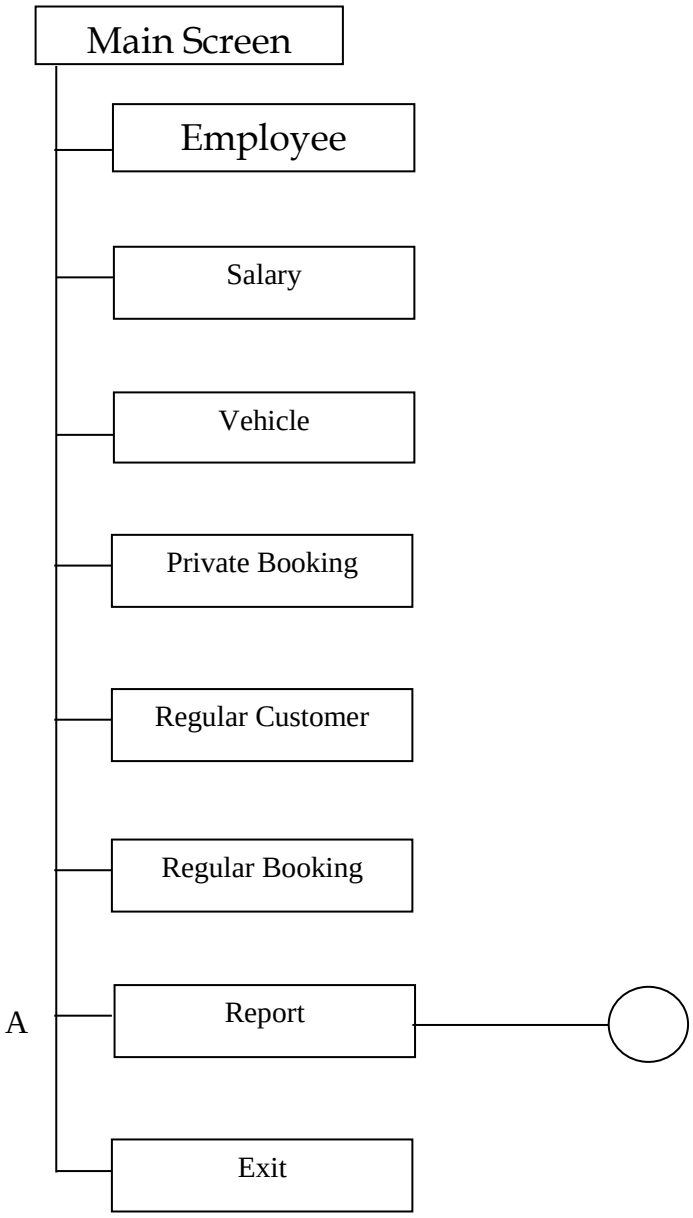
The word system is possibly the most overused and abused term in the technical lexicon. System can be defined as the "a set of fact, principles, rules etc., classified and arranged in an orderly form so as to show a logical plan linking the various parts" here the system design defines the computer based information system. The primary objective is to identify user requirements and to build a system that satisfies these requirements.

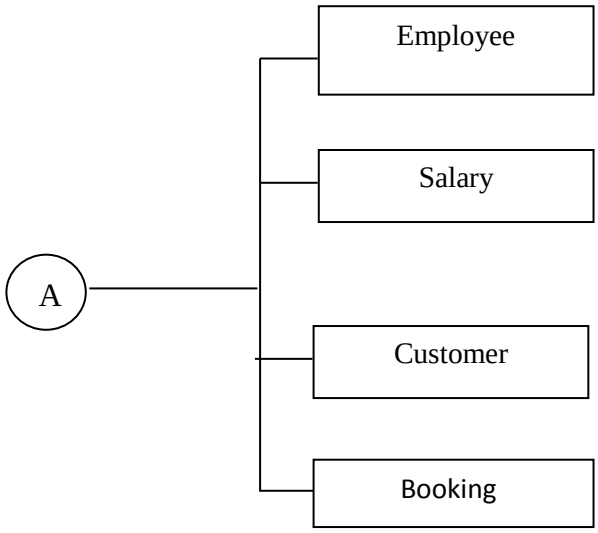
Design is much more creative process than analysis. Design is the first step in the development of any system or product. Design can be defined as "the process of applying various techniques and principles for the purpose of defining a device, a process or a system in sufficient detail to permit its physical realization".

Data Flow Diagram

This is a analysis tool to architect's blueprint as for system design. The DFD presents a picture of what is being specified and is a conceptually easy-to-understand presentation of the application. The process is partitioned so that a clear picture of the progression from general to specific in the system flow.

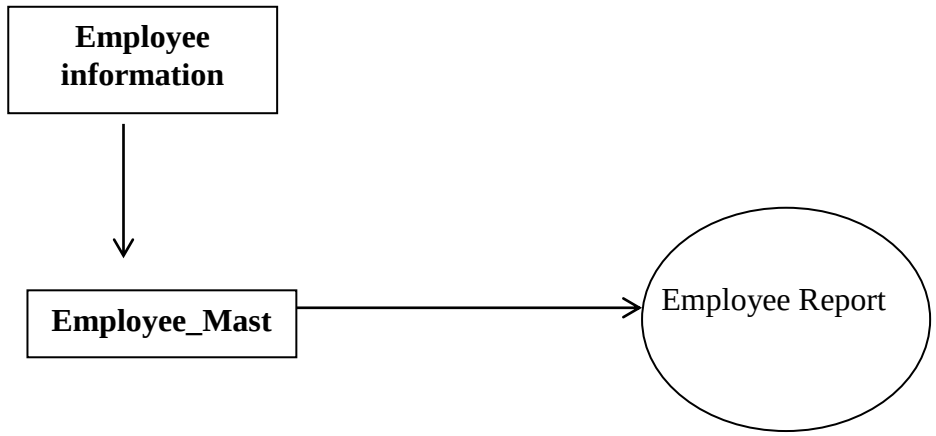
4.1.1 SYSTEM FLOW CHART



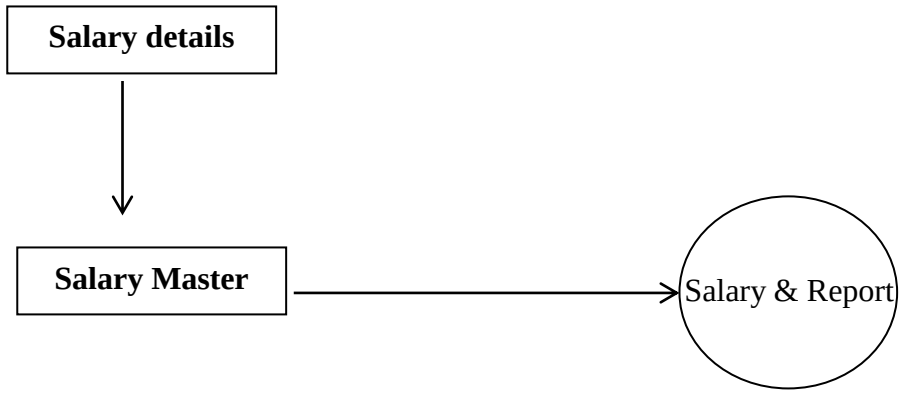

Employee
Salary
A
Customer
Booking

4.1.2 DATA FLOW DIAGRAM

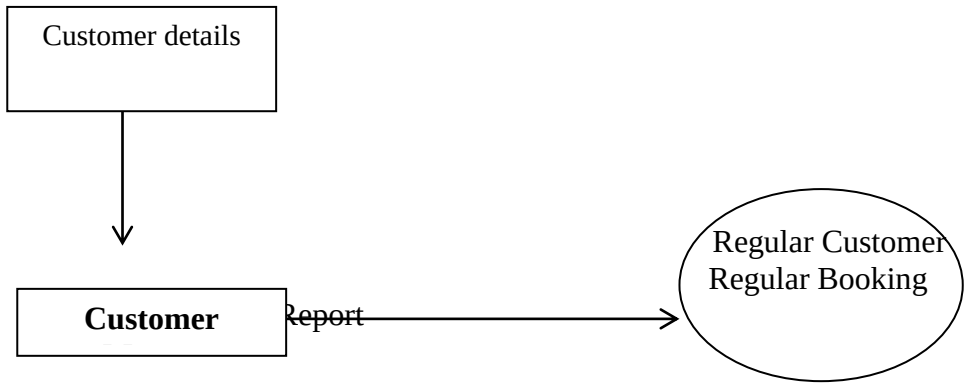
Employee Master



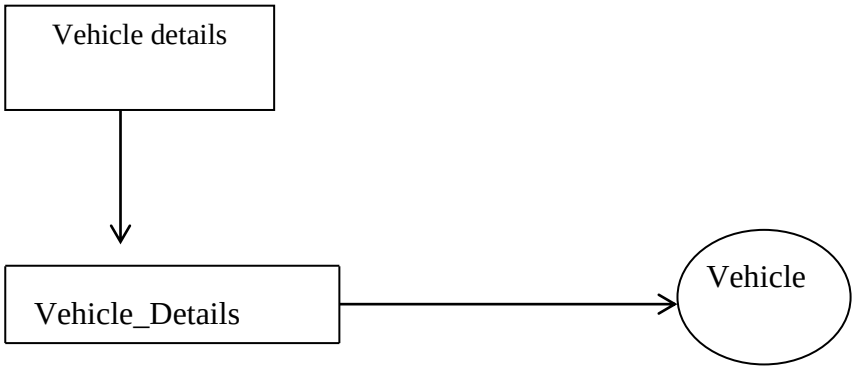
Salary Master

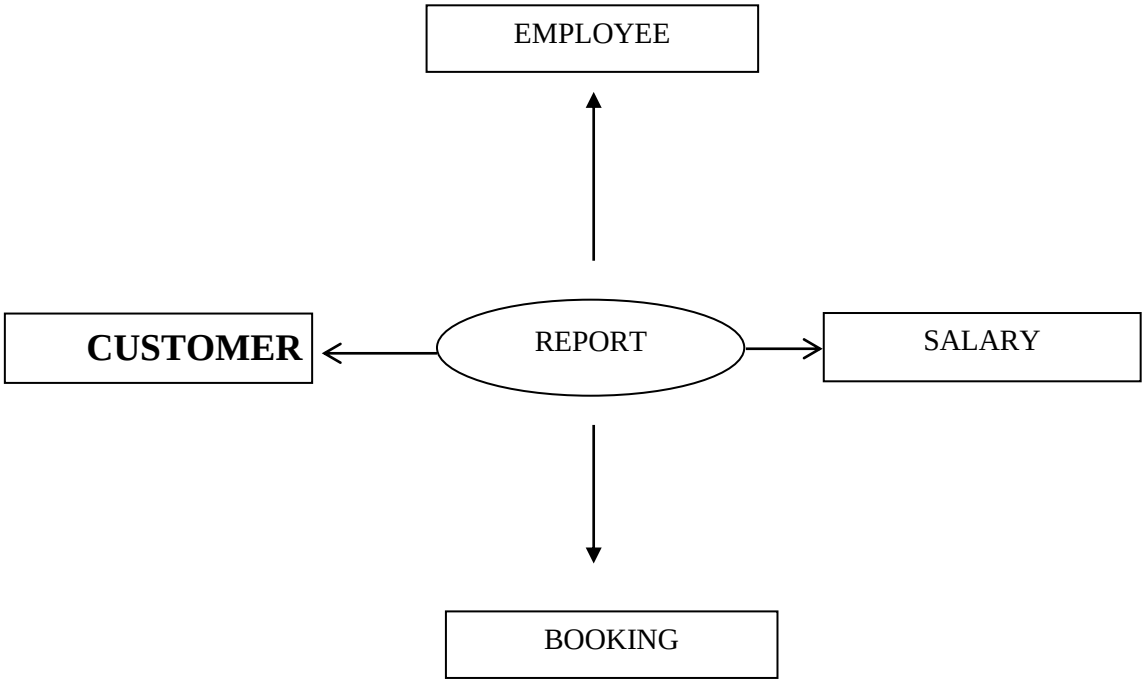


Customer Master



Vehicle Detail





4.2 DATA BASE DESIGN

EMPLOYEE_MASTER

FIELD NAME	TYPE	DESCRIPTION
Employee_id	Integer	Number of the employee
Name	Text	Name of the employee
Address	Text	Address of the employee
Dob	Date	Date of birth of employee
Qualification	Text	Qualification of the employee
Designation	Text	Employee designation
Date_of_join	Date	Joining date of employee
Contact_no	Text	Employee contact number

This table contains the details of the Employee and their relating fields.

SALARY_MASTER

FIELD NAME	TYPE	DESCRIPTION
Employee_id	Integer	Number of the employee
Name	Text	Name of the employee
Designation	Text	Qualification of the employee
Basic_Salary	Single	Basic salary for employee
Over Time Salary	Single	OT salary for employee
Net Salary	Single	Net salary for Employee
Month	Text	Monthly salary for employee

This table contains the details of the Employees Salary and their relating fields.

CUSTOMER_MASTER

FIELD NAME	DATA TYPE	DESCRIPTION
Customer_id	Integer	Number of the customer
Company_name	Text	Name of the company
Contact_name	Text	Name of the customer
Address	Text	Address of the customer
Phone_number	Text	Customer contact number
Email	Text	Customer Email id

This table contains the details of the Customer and their relating fields.

BOOKING

FIELD NAME	DATA TYPE	DESCRIPTION
LLR_No	Text	LLR Number of the customer
Sender_name	Text	Name of the sender
Sender_address	Text	Address of the sender
Receiver_name	Text	Name of the Receiver
Receiver_Address	Text	Address of the receiver
Date_book	Date	Customer Email id
Weight	Text	Weight of the parcel
Amount	Single	Amount of the parcel
Amount_received	Boolean	Amount received for parcel
Amount_received_date	Date	Amount received date of the parcel

This table contains the details of the Booking of the parcel and their relating fields.

VEHICLE_DETAILS

FIELD NAME	**TYPE**	**DESCRIPTION**
Registration_no	Text	Registration number for vehicle
Vehicle_name	Text	Name of the vehicle

This table contains the details of the Vehicle and their relating fields.

5. SYSTEM TESTING AND IMPLEMENTATION

5.1 SYSTEM TESTING

TESTING FUNDAMENTALS

Software testing is an important element of S/W quality assurance and represents the ultimate review of specification, design and coding. The increasing visibility of S/W as a system element and the costs associated with a S/W failure are motivating forces for well planned, through testing.

Though the test phase is often thought of as separate and distinct from the development effort--first develop, and then test--testing is a concurrent process that provides valuable information for the development team.

Internal Testing

The software testing was given equal priority to the system study phase. The question raised during system study was “how to do?” and during testing the importance was given to the question that “how it should be done?”.

Each and every user screen, database structures etc., have been designed after consulting the considering the user requirements.

Unit Testing

For successful implementation each and every module of the new system was tested separately to rectify the error within its boundaries. Detail design description was used as a guide in the process. The database was checked with sample data to ensure its normal form. Each query result and reports were also checked for their integrity.

The tests that were done under the unit testing are,

(a) Interface Testing

To assure that the information properly flows into and out of program unit.

(b) Data Structure Testing

To ensure that the data are stored properly in the underlying tables.

(c) Independent Path Testing

All independent paths through the module were executed at least once to assure that they are behaving as per expectations.

Integration Testing

It is a system technique for construction of the program structure while at the same time conducting tests to uncover errors associates with interfacing. The objective is to take unit-tested modules and build a program structure as specified by the system design.

All the modules that go under the unit testing are integrated together to get the whole software as a single module. Integration separate modules are done in a systematic manner. This integration is a formal procedure that must be executed carefully and according to the need.

Validation Testing

To cover functional errors ie., to check whether functional characteristic confirm to the specifications or not. The goal of validation testing is to demonstrate the software traceability to the requirements. Validation test confirms whether the software is functional.

Testing plays a vital role to reach the cent percentage perfectness in any system. It is the major quality control measure used to determine the status and usefulness of the system. Its basic function is to find the errors in the software by examining all the possible loop hones.

The goal of testing is top find out uncovered requirements, designs or coding errors or invalid acceptance or storage of data etc.

Testing of the new system has been done successfully in different levels. There are so many testing activities that help to find the errors and to reach a safer state in the system implementation.

In the case of on-line response it is found out that the response time is normal. In volume testing even when the number of records increased the software and hardware was found to be functioning satisfactorily. By stress testing, it gives good response to the volume testing and also takes only short time interval to finish. Hence passes the stress test too.

5.2 VERIFICATION AND VALIDATION

This system has been verified and validated by using the

(a). Test data

(b) . 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 applied to the system and its result was checked with original result 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

The new system was started to operate along with existing system. The result of the new system was compared with the old system. Suppose the result is wrong, the error must be debugged. After the acceptance of the user, the existing system will be placed by the new system. This software package has been made user friendly and menu driven. So any user can handle this package very easily and it does not require any intensive training for the user.

Documentation

Before implementing the system two important documents should be proposed.

User Manual

It leans the user about the guidelines and procedures to use various functions available in the system. It includes the complete list of error message and the appropriate action to be taken.

System Manual

It leans all the aspects of design, which is useful mainly for the further maintenance of the system.

User Training and Documentation

After successful completing of acceptance testing, the application project is ready to use. In order to put new application system into use, following activities should be completed.

- Preparation of User & System documentation
- User training kit
- Test run for a period of one month to ensure smooth switching over.

A presentation of the project will be made to user followed by demonstration learning about the usage of the software. General training would be given to the user of the system. The main aim of the training would to furnish the user with a working knowledge of newly developed system. User manuals describing the procedures for invoking the function listed on menu will be circulated to user departments.

6. MAINTENANCE

6.1. CORRECTIVE MAINTENANCE

The term “software maintenance” is used to describe the software engineering activities that occur following delivery of a software product to the customer. The maintenance phase of the software life cycle is the time period in which a software product performs useful work.

Maintenance activities involve making enhancement to software products, adapting products to new environments and correcting problems. Software product enhancement may involve providing new functional capabilities, improving user display and modes of interaction, and upgrading external documents. Adaptation of software to a new environment may involve moving the software to a different machine. Problem correction involves modification and revalidation of software to correct errors.

The enhancement of this project can be accomplished easily. That is, any new functional capabilities can be added to the project by simply including the new module in the homepage and giving a hyperlink to that module. Adaptation of this project to a new environment is also performed easily.

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.

6.2. ADAPTIVE MAINTENANCE

An activity that modifies the software to properly interface with a changing environment. The system has been modified so that various change include to the new system.

In case of Fund Transfer, adoptive maintenance has been performed, that is in earlier system (character based UNIX system) changes are fixed and if any new changes are to be included, was a difficult task. Now provisions are given so that the user can define various changes. Such as it designed to accommodate the new change in further.

As software is used, the customer/user will recognize additional functions that will provide benefit. Perceptive maintenance extends the software beyond its original functional requirements.

7. FUTURE ENHANCEMENT

The computerized system has been designed and developed flexibly for the current requirements of the user. The reports modules contain options for creating various reports needed by the Company.

In future new reports can be added in this module when the user requirement changes. This software is not providing budget allocations. In future budget allocations may be added as additional features in the system.

- The application can be enhanced by many extra features. Some of these features can be summarized as follow:
- Improving the user interface, because the user interface always can be improved
- Back end the system to EBS to achieve the payment process-Develop mobile application, since it is more easy to use
- Develop a version for fees collection in public transport

8. CONCLUSION

This has been developed to efficiently manage the cargo transportation administration at Star Transport. The new system has to run successfully.

The goals that have been achieved by this new system are as follows

1. User friendly screens for data entry and other operations.
2. Less processing time.
3. Database Security.
4. The reports can be produced easily and very fast.
5. Only the correct data can be given as input. If the data are invalid, they cannot store at all.
6. It is also flexible, easy and reliable.
7. Higher level authorities can easily ascertain the man power utilization.

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