**CHAPTER 1**

**INTRODUCTION**

**1.1 NEED FOR COMPUTERIZATION**

All organizations rely on computer and information technology to conduct business and operate more efficiently. The rapid spread of technology across all industries has generated a need for highly trained workers to help organizations incorporate new technologies.

The tasks performed by workers known as computer systems analysts evolve rapidly, reflecting new areas of specialization or changes in technology, as well as the preferences and practices of employers.

Computer systems analysts solve computer problems and apply computer technology to meet the individual needs of an organization. They help an organization to realize the maximum benefit from its investment in equipment, personnel, and business processes. Systems analysts may plan and develop new computer systems or devise ways to apply existing systems’ resources to additional operations.

Systems analysts discussed the systems problems with managers and users to determine its exact nature. Defining the goals of the system and dividing the solutions into individual steps and separate procedures, systems analysts use techniques such as structured analysis, data modelling, sampling, and cost accounting to plan the system. They specify the inputs to be accessed by the system, design the processing steps, and format the output to meet users’ needs. They also may prepare cost-benefit and return-on-investment analyses to help management decide whether implementing the proposed technology will be financially feasible.

It might be possible that it should be called Small Industry Management Software instead of Free Accounting! As a business owner or manager you know how complex managing small Industry can be and you know how important Industry management is. Proper Inventory Management is the key to running a successful business. In most case s of small Industries run by a small management team and highly influenced by the founder. Who dreamed to make his Industry into Corporate?To achieve global standard quality and production.

The Industry management functionality starts with the ability to define and nest product groups. Properly defining your Industry Departments items relationships in your Industry Management Software allows you to better track and control related your Industry functions.

**CHAPTER 2**

**ANALYSIS AND SYSTEM REQUIREMENTS**

**2.1 Literature Survey**

A literature survey includes various analyses and research made in the field of database management system whose results are studied and published.

Jitendra Mahajan, Ganesh Mahajan, Vivek bhuvad, Prof Reena Chaudhari [1] proposed that Real estate management system is extended by the operating status of homes and estate strategy on the basis of existing real estate management system in accordance with the actual needs of the homes, by weights converting from result oriented to process control, system control, link control, result assessment, to make the homes automatically manage and optimised. It is also proposed that the sales of homes and estates, so as to facilitate the management and decision of sales, and reduce a big burden of owners [3].

**2.2 COLLECTION OF REQUIREMENTS**

Requirements analysis is done in order to understand the problem, which is to be solved. That is very important activity for the development of web application system. The requirements and the collection analysis phase produce both data requirements and functional requirements. The data requirements are used as a source of web design. The data requirements should be specified in as detailed and complete form as possible.

In parallel with specifying the data requirements, it is useful to specify the known functional requirements of the application. These consist of user defined operations that will be applied to the database (retrievals and updates). The functional requirements are used as a source of application software design.

**CHAPTER 3**

**SOFTWARE REQUIREMENT SPECIFICATION**

**3.1 Hardware and Software requirements**

3.1.1 Software requirements

Requirements that can be included are:

• MYSQL

• PHP

• HTML

3.1.2 Hardware requirements

• Operating System: Windows 9x, 2000, XP SP2

• CPU: Celeron or Pentium class Processor

• RAM: 128 or 256 MB

• Hard Disk Space: 1 GB Free.

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**CHAPTER 4**

**SYSTEM ANALYSIS AND DESIGN**

**4.1 FEASIBILITY ANALYSIS**

The major work done in this project is maintaining the Personal Details like Customer Details and Supplier Details, production details.

In the General Information module there are three sub modules are in. These are namely Supplier Details, Customer Details and Party Details. The Supplier Details module all the Supplier Details like Name, Address, Company Name etc., are stored and maintained.

The Customer Details module used to maintain the full information of customer like Customer Name, Address and Department Details. The Party Details Sub Module maintained the Party personal details like Name, Type, Address, phone number.

The product details module maintains the product availability of the company namely product name, model and rate. The invoice details module maintains invoice details.

The service details module maintains the service details, problem status and representative for the corresponding services. The Sales details module maintains the Order details given by the customer and also maintained the invoice details. The delivery details module used to maintain the product delivery details and we have maintain the expenses details.

The Service details like service starting date, service starting time, service complete date and time, Delivery details like delivery date, time and service details like type, nature, payment.

Inaccurate input data are the most common cause of errors in data processing. Errors entered by the data entry operators can be controlled by input design. Hence the input design is the process of converting user- oriented inputs to a computer-based format. So input interface design takes an important role in controlling errors. Therefore, the input interface design should be made in such a way that it is easily understandable to the data entry operators by using meaningful and appropriate words.

When the user of each module wants to enter into their department page through the login page using the user id and password .If the user gives the wrong password or user id then the information is provided to the user like “you must enter use rid and password”. If the users enter the wrong password then an alert message is display like “Password is wrong try again”.

The input for “**Software Solution for Small scale Furniture Industry**” is an input screens by V.B Dot Net. All the input data is accepted via keyboard. Validations are provided at each and every stage. In case of errors, provisions are made to correct the errors at that point of time itself. Users can proceed to enter further only if the existing errors have been removed or corrected. Thus the integrity of database is ensured.

There are many input modules in the system. Some are used for master data entry others are used for transaction entry. In both the cases the necessary validation checking are provided. The designs of input screen are carried out using V.B Dot Net forms mainly. The input screens are depicted in the report section.

The output design has been done in this project by screen or by hard copies. Output design aims at communicating the results of the processing to the users. So that the results of the processing should be communicated to the users in a clean form. Effective output design will improve the clarity and performance of output. The reports are generated to suit the needs of the users. The reports have to be generated with appropriate labels. Report generation is a heavy work in the manual system. With the help of Access report writing tasks is made easy. Sample reports are shown in appendix.

The output generation is aesthetic looking and presented in a clear manner. This allows to analyses all or at least a large number of related data at the same time. All the reports of the system were designed in a way which provides information in more clear and next format. The designs of the reports were done as suggested by the users. Further value was added to it whenever happens requires.

Computer output is the most important and direct source of information to the user. Output design shows all information of the data after processing the input data. Efficient intelligible output design should improve the systems relationship with the user and helps in decision-making.

**CHAPTER 5**

**IMPLEMENTATION**

Implementation is the phase where the developed component is installed in the working place. The operation of the software was monitored and the results were recorded. Implementation is the stage of the project where the theoretical design is turned into a working system. This involves careful planning, investigation of the current system and it’s constrains on implementation, design of methods to achieve the change over and evaluation of change over methods.

The problems encountered are converting files training users, creating accurate files and verifying print outs for integrity. The objective is to put the tested system into operation while holding costs, risks and personnel irritation to a minimum. It involves creating computer compactable files, training the operational staff and installing terminals and hardware. Maintenance activities begin where conversion leaves off.

Maintenance is handled by the same planning and control used in a project. Maintenance can be classified as corrective, adaptive or perceptive. Corrective measures means repairing process of performance failures or making changes because of previously in corrected problems or false assumption. Adaptive Maintenance means changing the program functions. Perceptive Maintenance means enhancing the performance or modifying the programs to respond to the user’s addition or changing needs.

The implementation view of software requirements presents the real world manifestation of processing functions and information structures. In some cases, physical representation is developed as the first step in software design. The analyst must recognize the constraints imposed by the pre-defined system elements and consider the implementation view of the function and information when such view is appropriate.

**4.1 FRONT END**:

HTML, CSS, JAVA SCRIPTS are utilized to implement the frontend.

* **HTML (Hyper Text Markup Language):**

HTML is a syntax used to format a text document on the web. It is the standard [markup language](https://en.wikipedia.org/wiki/Markup_language) for creating [web pages](https://en.wikipedia.org/wiki/Web_page) and [web applications](https://en.wikipedia.org/wiki/Web_application). With [Cascading Style Sheets](https://en.wikipedia.org/wiki/Cascading_Style_Sheets) (CSS) and [JavaScript](https://en.wikipedia.org/wiki/JavaScript), it forms a triad of cornerstone technologies for the [World Wide Web](https://en.wikipedia.org/wiki/World_Wide_Web). [Web browsers](https://en.wikipedia.org/wiki/Web_browser) receive HTML documents from a [web server](https://en.wikipedia.org/wiki/Web_server) or from local storage and [render](https://en.wikipedia.org/wiki/Browser_engine) the documents into multimedia web pages. HTML describes the structure of a web page [semantically](https://en.wikipedia.org/wiki/Semantic_Web) and originally included cues for elements are delineated by tags, written using [angle brackets](https://en.wikipedia.org/wiki/Bracket#Angle_brackets).

* **CSS (Cascading Style Sheets):**

CSS is a style sheet language used for describing the look and formatting of a document written in a markup language.CSS is a [style sheet language](https://en.wikipedia.org/wiki/Style_sheet_language) used for describing the [presentation](https://en.wikipedia.org/wiki/Presentation_semantics) of a document written in a [markup language](https://en.wikipedia.org/wiki/Markup_language) like [HTML](https://en.wikipedia.org/wiki/HTML). CSS is a cornerstone the appearance of the document.

[HTML elements](https://en.wikipedia.org/wiki/HTML_element) are the building blocks of HTML pages. With HTML constructs, [images](https://en.wikipedia.org/wiki/HTML_element#Images_and_objects) and other objects such as [interactive forms](https://en.wikipedia.org/wiki/Fieldset) may be embedded into the rendered page. HTML provides a means to create [structured documents](https://en.wikipedia.org/wiki/Structured_document) by denoting structural [semantics](https://en.wikipedia.org/wiki/Semantics) for text such as headings, paragraphs, lists, [links](https://en.wikipedia.org/wiki/Hyperlink), quotes and other items. HTML

technology of the [World Wide Web](https://en.wikipedia.org/wiki/World_Wide_Web), alongside HTML and [JavaScript](https://en.wikipedia.org/wiki/JavaScript).

CSS is designed to enable the separation of presentation and content, including [layout](https://en.wikipedia.org/wiki/Page_layout), [colors](https://en.wikipedia.org/wiki/Color), and [fonts](https://en.wikipedia.org/wiki/Typeface). This separation can improve content [accessibility](https://en.wikipedia.org/wiki/Accessibility), provide more flexibility and control in the specification ofpresentation characteristics, enable multiple [web pages](https://en.wikipedia.org/wiki/Web_page) to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content.

* **JS(Java Script):**

Java Script JS is a dynamic computer programming language. It is most commonly used as part of web browsers, whose implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed.

* **PHP:**

PHP is a server-side scripting language designed for web development but also used as a general-purpose programming language. PHP code is interpreted by a web server with a PHP processor module, which generates the resulting web page: PHP commands can be embedded directly into an HTML source document rather than calling an external file to process data. PHP code may be embedded into [HTML](https://en.wikipedia.org/wiki/HTML) code, or it can be used in combination with various [web template systems](https://en.wikipedia.org/wiki/Web_template_system), web content management systems, and [web frameworks](https://en.wikipedia.org/wiki/Web_framework).

PHP code is usually processed by a PHP [interpreter](https://en.wikipedia.org/wiki/Interpreter_(computing)) implemented as a [module](https://en.wikipedia.org/wiki/Plugin_(computing)) in the web server or as a [Common Gateway Interface](https://en.wikipedia.org/wiki/Common_Gateway_Interface) (CGI) executable. The web server combines the results of the interpreted and executed PHP code, which may be any type of data, including images, with the generated web page. PHP code may also be executed with a [command-line interface](https://en.wikipedia.org/wiki/Command-line_interface) (CLI) and can be used to implement [standalone](https://en.wikipedia.org/wiki/Computer_software) [graphical applications](https://en.wikipedia.org/wiki/Graphical_user_interface).

* 1. **BACK END**:

The back end is implemented using MYSQL or phpMyAdmin which is used to design the Databases.

* **MySQL:**

MySQL is the world’s second most widely used open-source relational database management system (RDMS). The SQL phrase stands for structured query. The MySQL server software itself and the client libraries use [dual-licensing](https://en.wikipedia.org/wiki/Dual_license) distribution. They are offered under GPL version 2, beginning from 28 June 2000 (which in 2009 has been extended with a [FLOSS](https://en.wikipedia.org/wiki/Alternative_terms_for_free_software) License Exception) or to use a proprietary license.

Support can be obtained from the official manual. Free support additionally is available in different IRC channels and forums. Oracle offers paid support via its MySQL Enterprise products. They differ in the scope of services and in price. Additionally, a number of third party organisations exist to provide support and services, including [MariaDB](https://en.wikipedia.org/wiki/MariaDB) and [Percona](https://en.wikipedia.org/wiki/Percona).

MySQL has received positive reviews, and reviewers noticed it "performs extremely well in the average case" and that the "developer interfaces are there, and the documentation (not to mention feedback in the real world via Web sites and the like) is very, very good".It has also been tested to be a "fast, stable and true multi-user, multi-threaded sql database server".

* **phpMyAdmin :**

phpMyAdmin is a free and open source administration tool for MySQL and MariaDB. As a portable web application written primarily in PHP, it has become one of the most popular MySQL administration tools, especially for web hosting services.

**CHAPTER 6**

**DEVELOPMENT OF SYSTEM AND TESTING**

System development is done in many different ways. It forms the basis of all methodologies. The approach that is being implemented for this project is structured approach. Structured programming, structured analysis, structured design are the technique for structured approach. This is implemented for this system development.

Structured programming is one that begins with one beginning and one ending, and each step in the program execution consists of one of the three programming constructs. One of the concepts of structured programming is implemented in this project. (i.e.) top down approach is implemented. Through this complex programming is divided into hierarchy of modules.

Two main principles of structured design are the program module should be designed so they are loosely coupled or highly cohesive out of which highly cohesive is being used.

Structured analysis defines system-processing requirements by identifying by all of the events that will cause a system to react in some way. Each event leads to a different system activity. These activities are then taken and data flow diagram is created showing the processing details including inputs and outputs.

The most important development activity is preparation of computer program needed for the system. The system flowcharts, input charts, output charts, are transferred into program. In each stage of preparation, the program has been tested and errors are corrected if any. All accuracy measures falls into account while testing the program.

While preparing the program, to avoid the error message, if one button is functioning for particular record might be formatted, as other has been enabled.

The changeover method is the process where the existing manual system is to be replaced by the new computerized system.

The following changes are made during the changeover plan; Change over plan has to be made carefully, so as to minimize the problem that may arise from human errors.

The activities to be performed during the changeover plan have to be identified and the responsibilities should be assigned to individuals in the organizations.

**TESTING**

Software testing is the last phase of the software development cycle. Testing is very important for the success of a system. System testing makes a logical assumption that if all parts of the system are correct, then the goal has been achieved.

The testing should be done at the end of all development steps. Even though the final testing and verification are inevitable for better life and functionality of the software.

The major phases in testing are design of test plan, setting up test case and test candidate and test procedure, testing and correction. This is a cycle process and the software will circulate through all the steps till it attains the required quality. The testing is carried in the following steps,

* Unit Testing
* Validation Testing
* System Testing
* Acceptance Testing
* Regression Testing
* Database Testing

**Unit Testing**

Unit testing refers testing of all the individual programs. This is sometimes called as program testing. This test should be carried out during programming stage in order to find the errors in coding and logic for each program in each module. Unit test focuses verification effort on the smallest unit of software design module. In this project, the user must fill each field otherwise the user to enter values.

**Validation Testing**

Valid and invalid data should be created and the program should be made to process this data to catch errors. When the user of each module wants to enter into the page by the login page using the use rid and password .If the user gives the wrong password or use rid then the information is provided to the user like “you must enter user id and password”. Here the inputs given by the user are validated. That is password validation, format of date are correct, textbox validation. Changes that need to be done after result of this testing.

**Input Testing**

Here system is tested with all variable combination of inputs. User may type data in situations like entering password, numerical details etc. The system is tested with all the cases and it responded with appropriate error messages.

**Output Testing**

Here the output is tested to view whether that the screen is what which is desired. It is also checked whether it is to the satisfaction of the user. Changes that need to be done can be done after the result is seen.

**System Testing**

System testing is used to test the entire system (Integration of all the modules). It also tests to find the discrepancies between the system and the original objective, current specification and system documentation. The entire system is checked to correct deviation to achieve correctness.

**Acceptance Testing**

Acceptance testing is performed on a collection of business functions in a production environment and after the completion of functional testing. This is the final stage in the testing process before the system is accepted for operational use. This testing should be done with original data and with the presence of the users. This test confirms the system ready for production.

**Regression Testing**

Regression testing refers to the retesting components / functionality of the system to ensure that they function properly even after and change has been made to parts of the system. As detects are discovered in a component, modification are made to correct them.

**Database Testing**

The purpose of database testing is to determine how well the databases are meets requirements. This is an on-going process because no database is static. When table is created, a mirror of the same should be created and stored. The original one should be left alone and its mirror images go through the various tests. This process continues until changes can be implemented in the original table.

**CHAPTER 7**

**CONCLUSION**

The “Software Solution for Small scale Furniture Industry” is successfully designed and developed to fulfilling the necessary requirements, as identified in the requirements analysis phase, such as the system is very much user friendly, form level validation and field level validation are performing very efficiently.

The new computerized system was found to be much faster and reliable and user friendly then the existing system, the system has been designed and developed step by step and tested successfully. It eliminates the human error that are likely to creep in the kind of working in which a bulk quantity of data and calculations as to be processed.

The system results in quick retrieval of information that is very vital for the progress any organization. Cost is minimized in case of stationary. Burden of manual work is reduced as whenever transaction takes place, there is a no need to record it in many places manually.

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