**CHAPTER THREE**

**SYSTEM ANALYSIS AND DESIGN**

**3.1 INTRODUCTION**

System is methodology an evaluation of the old system and operations of an organization with the view of understanding the old system and the problems encountered in using it, and with a view to proposing the use computers to eradicate most of the problems associated with the current system. Techniques used during investigation are observation method and interview method.

**3.2 DETAILED ANALYSIS OF THE EXISTING SYSTEM**

The existing system is been done manually, the current system requires numerous paper works, when a customer bring clothes to the laundry shop, he/she have to give details of the number of cloths and the type of clothes to the staff, the staff in charge will then document the information in a notebook that will be used to retrieved information of the customer when he/she wants to collect the cloth, this information documented can be lost or wrongly documented.

When a customer wants to collect his/her clothe that have been dry cleaned, he/she will have to provide the specific information provided on the day the cloth was brought to the company; the number of cloths, type of cloth, etc. and the staff will have to go through the notebook to get the user information, all this takes lot of time to retrieve the information, thus leads to delay in collecting the clothes back.

**3.2.1 PROBLEM OF THE EXISTING SYSYSTEM**

The problem of the existing system includes the following:

1. Inaccurate Financial Record: Most Laundry firm cannot give proper account of financial flow in the company because no proper account keeping, most times some transaction is not recorded due to hurray the strength to right it in the company book.
2. Time Consumption: Manual systems are time consuming, as the business owner must keep track of Laundry sales on a daily basis, while updating the system manually at the end of the day.
3. Poor Communication: A manual Laundry system requires employees and managers to write down each time a service been processed in the Laundry. If one employee forgets to mention that the last cloths has been brought to the Laundry, a manager expects there is not cloths brought to the Laundry. Compared with a technical Laundry system, a manual Laundry system does not help the communication in the workplace.
4. Physical Counts: A manual Laundry system does not provide any number, as all numbers from the Laundry are gained through physical Laundry counts. One of the difficulties of two running a manual Laundry system is that physical Laundry counts must be performed frequently to control the services in the Laundry. This is time consuming and can cost the business money, if employees must come in to help out outside of business hours.

**3.3 METHODOLOGY**

This is the method of gathering facts about a situation, these include; interview, questionnaire, record inspection, and objective.

Each of these methods has a particular advantage, and also disadvantage, hence an Analyst may use two or more to complement each other, and help ensure a thorough Investigation.

**3.4 OBJECTIVES OF THE NEW SYSTEM**

The objective of the new system includes the following:

1. Accurate Financial Flow: the proposed system will store all transaction and also provide financial report for the management during decision making.
2. Computerized System: The proposed system will implement the computerized system which can perform a better managing process of financial information for the laundry. The data of the laundry service and the customer will be kept in the save manner without the problem of losing the data.
3. System and User Privileges: System and user privileges will be implemented in the proposed system to setting up the user level for each system user. This function is to provide the limitation of system accessing.
4. Increase time performance: The time management is very important for the laundry management to ensure the service performs in better condition and on time and it make the business process will be more effective and faster

**3.5 FEASIBILITY STUDY**

This is a brief look at the major factors that will influence the ability of the system to achieve the desired objectives. As feasibility study is a test of a system proposal according to its impact on the organization, workability, ability to meet user requirement and effective use of resources. In feasibility study, cost and benefits are estimated with greater accuracy, the key considerations are, technical feasibility, economic feasibility, operational feasibility.

**3.5.1 Technical Feasibility:** Technical Feasibility centers on the existing hardware, software and to what extent it can support the proposed system or whether the new application could overload the system or require additional hardware, which require financial considerations to accommodate technical enhancements.

The running costs of the proposed system, when adopted will claim down with respect to the present operational cost of evaluating growths and profits. With full automation of the entire management and information system, the entire cost of maintenance, running application will come down to half of the existing total operational cost and will increase efficiently by almost 50%.

**3.5.2 Operational Feasibility:** Operational or behavioral feasibility determines how much effort will go into the system in educating and training the user staff on a candidate system. As is evident in many real-life situations, people are inherently resistant to changes, and computers have been to facilitate changes. An estimate should be made of how strong is the reaction the user staff is likely to have towards the development of the computer system. It is a common knowledge the 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 proposed system requires special efforts to educate, sell and train staff on new ways of conducting business.

The data collection is a tedious exercise when an investigation is being carried out. The examination of the old system is an in-depth detailed and comprehensive study carried out with relevant facts that will be helpful in designing the system. It helps to find out relevant facts that will be of help in designing the new system.

**3.5.3 Economic Feasibility**: Economic Analysis is the most frequently used method for evaluating the effectiveness of a proposed system. More commonly known as cost-benefit analysis, the procedure is to determine the benefit & savings that are expected from a proposed system and compare them with costs. If the benefits are more than the costs, then the decision is made to design and implement the system, otherwise not. An economic feasibility study of the proposed Student administration system reveals that the software's proposed to be used for the system viz., Windows xp are easily available and affordable.

**3.6** **NEW SYSTEM STRUCTURE (PROGRAME STRUCTURE)**

**3.6.1 Context Diagram**

Aden laundry

**Figure 3.2 Context Diagram**

**3.6.2 Modularity**

You can think of modules as container for all program design. The new design is made up of four modules which include:

1. Home module: This is the welcome page of the web application.
2. About module: This is the page that informs the user what Aden Laundry is all about.
3. Login module: This is the authentication page that allows a user to enter is login details to be redirected to the dashboard.
4. Dashboard: This is the page that carries out the automatic system of Aden Laundry.

**3.6.3 System Flowchart**

Register

Login

Dashboard

Does user exist?

Yes

No

Fig 3.6: System flowchart**3.6.4 PROGRAM FLOWCHART**

Enter Password

Enter Username

Start

Is Login Validation Successful?

Login Successful

Yes

No

Stop

**Figure 3.2 Program flowchart**

**3.7 SYSTEM DESIGN/MENU SPECIFICATION**

By closely examining the old system and information needed by bookshop and staff, the following requirement, specification and design standards are put together for the new system.

Dashboard

Employee Data

Customer Data

Bill

Price

**Figure 3.2 Program flowchart**

**3.7.1 Output Design Specifications**

The output specification of the new system is a soft copy, which could be viewed through the monitor. If necessary, the output can still be print out as hard copy.

**3.7.2 Input Design Specifications**

The input specification of the new system is keyboard and mouse. It is an event driven. The mouse is use to enter some data to the system which include data of birth and clicking command button. The work of the keyboard is to enter data like hobbies.

**3.7.3 FILE/DATABASE SPECIFICATION**

For the implementation of online laundry management system, the software application must be capable of capturing data, information and also be able to retrieve information. The information must be stored permanently after process or are stored in a table format called database or data bank. The information stored by the system is required for the system to carryout and manage its operation and procedure well. As mentioned earlier, the database is designed using MS-SQL and its layout is ambiguous in nature, thus making it easy to use and understand the record stored in it.

**Admin login table**

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Field type** | **Field width** | **Field description** |
| Username | Text | 15 | Staff Username |
| Password | Text | 15 | Staff Password |

**customers information table**

|  |  |  |
| --- | --- | --- |
| **Field name** | **Field type** | **Field Width** |
| Name | Text | 30 |
| Phone Number | Numeric | 30 |
| Description of cloth | Text | 225 |
| Quantity of clothes | Numeric | 30 |
| Date received | Date | 11 |
| Amount | Numeric | 30 |

**3.7.4 SECURITY DESIGN SPECIFICATIONS**

The security design is the login page, only admin can access this system where the admin needs to enter his or her password before gaining access to the system.