Introduction

1.1 Introduction to the Organization

The Sri Lanka Standards Institution (SLSI) is a semi government organization operates under Ministry of Science and Technology. It was established as the national standards body under Act no .6 of 1984 having the prime objective to protect the consumers by promoting standardization and quality control in the industry and commerce.

SLSI has delegated its activities to ten divisions in following manner;

1. Product certification division – provide 'SLS' mark as the third party guaranty on quality of products for manufactures.

2. Quality assurance division – handle import inspection scheme.

3. System certification divisions – provide system certifications such as ISO 9001, 14001, ISO 27001, GMP, OSHAS 8000 for manufactures and service providers.

4. Metrology division – calibrate the measuring instruments.

5. Training division – conduct the training programs related to quality of products.

6. Laboratory section – provide the laboratory testing services.

7. Standardization division – formulate the standards.

8. Marketing and promotion division – promote SLSI activities and customer issues handling.

9. Finance division – handle financial activities.

10. Administration division – handle administration activities such as new recruitments, overseas trainings etc.

According to the organization structure of SLSI the directors have to report to the Deputy Director General and Director General, while Assistant Director, Standards Engineers, Standards testing officers and clerical staffs in each division are reporting to the relevant Directors. Responsibilities and authorities in each level have been defined and procedures for each task at necessary places have been documented in proper manner. SLSI provide profitable service and it generates considerable amount of income in each year including foreign currency.

1.2 Background and Motivation

1.2.1 Background

Product certification, which is popularly known as the "SLS Marks Scheme", is a third party guarantee on a quality of product. This scheme enables the SLSI to grant permits to local as well as overseas manufacturers producing goods conforming to Sri Lanka Standards to mark the "SLS" mark on their products. The regulations made there under empower the Sri Lanka Standards Institution to issue such permits to manufacturers.

The Product Certification Scheme is essentially voluntary in nature. However, certifications of 20 products locally manufactured or produced have been mandated through the Directions issued by the Commissioner of Internal Trade under the Consumer Protection Act No. 1 of 1979.

According to the organization structure of SLSI the director of product certification scheme has to report to the Deputy Director General and Director General, while Assistant Director, Standards Engineers, Standards testing officers and clerical staffs in Product Certification Scheme are reporting to the Director of Product Certification Scheme. Cooperation of all nine divisions are required to manage the activities in Product Certification Scheme, because project files of 'SLS' mark holders are distributed among the Standards Engineers and Standards Testing Officers in other divisions. Also when selecting auditors, auditors' pool has to be selected from the officers in other divisions. Details of the Project files, details of 'SLS' mark holders, auditors details, their specified fields and details of recovering of annual payments are not within the product

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certification division. Some of the valuable information such as: annual payment, audit arrangements, and product quality status have to be taken from the project officers and records for auditors details and project officers details are not available at all or still those distributed details are not centralized properly. These problems are detailed in chapter two further.

1.2.2 Motivation

Product certification division contributes one third of income from total income and requisitions from the trade sectors to register in this scheme have been increased remarkably. Therefore, product certification scheme was separated as another division in January 2008 and its services are expanded. Vision of the Sri Lanka Standards Institution (SLSI) is to provide the better service for the customers. But through the customer feed backs it is found that the most of the 'SLS' mark holders are not happy with delaying services and response. With the available resources SLSI can provide better services than this. These problems arise due to improper coordination of resources in SLSI as well as wrong direction. If we find solutions for the problems in problem domain, we can answer the customers' complaint too. As the executive officer in SLSI, I was motivated to find solutions for the problems to provide better services to customers.

1.3 Problems and Weaknesses of the Existing System

1. Uncontrolled processes. - In current system there are no methods to monitor the status of the allocated project files (free 'SLS' files), status of the post 'SLS' projects and annual fee status.

2. Improper record keeping. - Details of project officers to whom project files are allocated are not available.

3. Unavailability of necessary details. - Auditors' details and project officers' details are not available.

4. Unnecessary stationary usage. - Lot of papers are used to circulate audit schedules, audit plans, audit requisitions.

5. Unnecessary time taken. - Time is taken unnecessarily to transfer documents and to do the unorganized works (audit scheduling, project file allocating etc.).

1.4 Aim and Objectives

1.4.1 Aim

The aim of the proposed activity management and monitoring system is to find out solutions for all the problems weaknesses identified above.

1.4.2 Objectives

- Monitor whether quarter audits have been done.

- Monitor the project status.

- Monitor whether annual payments have been done.

- Retrieve the data when necessary to review the progress of performance of the division.

- Reduce the paper work save the money.

- Ensure the confidentiality of data.

- Delegate the work in fairway.

- Reduce the time taken for the processes of product certification division.

- Reduce the unnecessary human involvement utilizing them to a meaningful activity in an effective manner to minimize the error.

- Do the domain analysis for the managing & monitoring activities of the product certification scheme.

- Enhance the knowledge of database management system (MY SQL).

- Study and apply the knowledge of PHP, Java Script, HTML, Web Server (Apache 2.2).

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- Reads and extract the necessary information relevant to this project by referring journals, books and papers.

- Make the presentation on this project for the progressive meeting of SLSI.

- Develop the working photo type.

- Run the actual software system as appropriate to the client's requirements.

- Prepare the final documentation.

1.5 Chapter Breakdown

- Chapter - 2: Problem domain – current practices of product certification scheme, current system over view, problems and weaknesses of the current system.

- Chapter - 3: Technology adapted – This section has been covered Software process models, System analysis and design methodology, Unified Modeling Language, and Development environment.

- Chapter-4: My Approach – This chapter describes my approach to the project. This chapter structured from beginning to the end of the project.

- Chapter-5: Analysis and Design –Describes Analysis and Design – Existing system analysis with existing Use-Cases, Use-Case Descriptions, existing Activity Diagrams, existing system requirements, Architectural Design. Design stage with proposed system Software Requirement Specification (SRS), proposed system Over View, Use-Cases, Use-Case Descriptions, proposed   Activity Diagrams, Grammatical Analysis, Sequence Diagrams, Class Diagram, ER Modeling Diagram, and relational data bases schemas with normalization

- Chapter-6 : Describes Implementation – Software, Hardware installation & configuration, testing of database connectivity, Security measures implemented, Implementation of system facilities.

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- Chapter-7 : Describes Evaluation & Testing – two types of testing aspects, testing Approaches, Test Plan and Test cases, Test data and results.

- Chapter-8 : Describes Conclusion & Further Works - how the software systems can be used resolve the problems addressed in Chapter 1 and further works to be none and limitations.

1.6 Summery

Manufacturers' requisitions for "SLS" mark have increased remarkably and work load of the product certification division has become complex and congested parallel to that. Sri Lanka Standards Institution wanted to seek rapid solution for this problem. Therefore, aims and objectives of this project were set as they synchronized with the requirements of Sri Lanka Standards Institution.