

Introduction

1.1 Introduction to the organization

The Sri Lanka Standards Institution (SLSI) is the National Standards Body of Sri Lanka established under the Act No 06 of 1984[17] and the Sri Lankan representative for International Organization for Standardization (ISO). Currently this Institution is a statutory body coming under the Ministry of Science and Technology. The main objectives of the organization are promoting standardization and quality among different sectors of the country

The institution now consists of eleven divisions and services of major functional divisions are as follows

1. Product Certification Marks Division

The main responsibilities of this division are the promotion and implementation of Sri Lanka product certification Mark (SLS mark) for local and overseas products. The implementation of the product certification mark is done in two ways.

I. Mandating the Certification mark for products

Based on the impact that a particular product can create on the consumers , the commissioner – Internal trade from time to time identify products that requires SLS mark for sale locally. E.g. Ordinary Portland cement, Electric Switches etc. at present there are 33 products coming under this category

II. Voluntary means

At present the majority of mark holders are in this category. Once they get the SLS mark. They have a competitive advantage over others in their product marketing. Because they are permitted do display the “SLS” on their product and win the customers’ preference for quality.

2. Quality Assurance Division

The responsibility of the Quality Assurance Division is the Implementation of the compulsory Import Inspection scheme. At present there are 102 items imported to Sri Lanka that are assessed for product conformity by the SLSI. The objectives of

this scheme are, prevention of Sri Lanka being a dump yard for substandard products and ensure the customers to get quality products. The decision given by the SLSI based on the product conformity will be implemented by Sri Lanka Customs.

3. Laboratory

Sri Lanka Standard Institution has, at present five well equipped laboratories in the fields of Electrical testing, Chemical testing, Food testing, Microbiology testing, Material testing & Textile testing. Out of these five laboratories Chemical and Microbiology have international accreditation by Sweden Accreditation board. Most of Core Staff members of all these Laboratories are post Graduates in their respective fields.

4. Metrology Division

The Metrology Division of the SLSI contributes to the industry for the maintenance of precise measurement system. Currently the Metrology Division does the calibrations in the areas of Length, Mass, Force, temperature and pressure. This division also holds the International accreditation from Sweden Accreditation board.

5. Engineering Standards Division

The major responsibilities of Engineering Standards Division are preparation of Standards in the areas of Electrical, Mechanical and Civil and revision of existing standards as requiems changed in locally or globally. The process of Standard begins, in association with Other National, Regional and International Standards.

6. Scientific Standards Division

The major responsibilities of Scientific Standards Division are preparation of Standards in the areas of Food, Chemical based products and Textiels and revision of existing standards as requiems changed locally or globally. The process of Standard begins, in association with Other National, Regional and International Standards

7. System Certification Division

The major services of this are ISO 9001 Quality Management System Certification, ISO 14001 Environment Management system certifications, ISO 22000 Food Safety Management System certifications, OSHAS 18001 Occupational Health and Safety Management system certifications etc. The System Certification Division is accredited by Netherlands Accreditation board for assessing and certifying ISO 9001, ISO 14001 and ISO 22001 management systems.

Other divisions are Documentation and Information Division, Marketing Division, Administration Division and Finance Division



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1.2 Introduction to the System

Compulsory Import Inspection Scheme (CIIS) is one of the major regulatory schemes of Sri Lanka mandated by the Import and Export Control Act No 01 of 1969[9]. Under this scheme all designated products are subjected to conformity assessment before they enter into the domestic market. Controller Imports and Exports revise the list of products coming in the purview of IIS from time to time.

It is the responsibility of **Sri Lanka Standards Institution (SLSI)** to do the conformity assessment about the product quality and communicate the decision to the Sri Lanka Customs. Based on the decision given by the SLSI, Sri Lanka Customs takes the final decision whether to release the particular consignment of product or reject it.

This process is specifically implemented consignment wise and not a one time approval covering future consignments too.

In order to obtain the SLSI decision for any consignment of products, an Importer is required to submit a set of documents called a Notification at the **Quality Assurance (QA)** division of the SLSI. An Importer is required to submit the following documents in the Notification,

1. 3 copies of the Notification form (FM – II – 01) completed by the Importer
2. A copy of the bank stamped invoice of the consignment or any other valid document given by the customs
3. A copy of the packing list of the consignment
4. A copy of the Bill of Lading (BL) of the consignment

Optional Documents

5. any valid Quality Certificate/s or test report/s
6. A copy of the product catalogue

Following are the list of activities carried out in connection with implementing the scheme

- Notification receiving
- Entry allocation for perusing
- Perusing of Entries
- Decide method of approval
- Raising Invoices for charges
- Issue Importers copy of Notification Indicating the method of approval
- Convey the final decision to relevant parties

1.3 Problems and Weaknesses of the existing system in brief

1. High Cycle time
2. Contracted labor
3. Poor use of Organizational resources
4. No feedback to the Importer.
5. Document misplace
6. Difficulty in evaluating individual performance
7. Forged Notifications
- 8 Poor follow up activities
9. Higher operational and overhead cost

The above problems and weaknesses will be further described in the next chapter

1.4 Motivation in selecting the project

Sri Lanka Standards Institution is the only organization that organizes the National Quality Award for the public and private sector for the performance excellence. Therefore, the SLSI too needs to appear as a role model at every possible time in providing its services. The computerization of CIIS has a remarkable contribution towards this objective. It will increase both internal and external customer satisfaction relieving the staff from tedious unproductive activities and lowering the cycle time at least to one and half hours.

Also it is observed that due to the constant complaints made by importers about the losses incurred by them due to delay at the SLSI, there is a risk of changing

the way of implementing the CIIS by the Government. Such a decision invariably affects the income of the SLSI and finally the employees. So that it, is everybody's responsibility to contribute to minimize such customer complaints. The prime objective of CIIS is to protect the consumer from imported substandard goods and preventing Sri Lanka from being a dump yard for such products. However, it is a common doubt in everybody's mind whether this control is reaching the expected level. Therefore, one of the factors that motivated me to the computerization of the CIIS is to strengthen the effectiveness of the CIIS.

1.5 Project Aim and Objectives

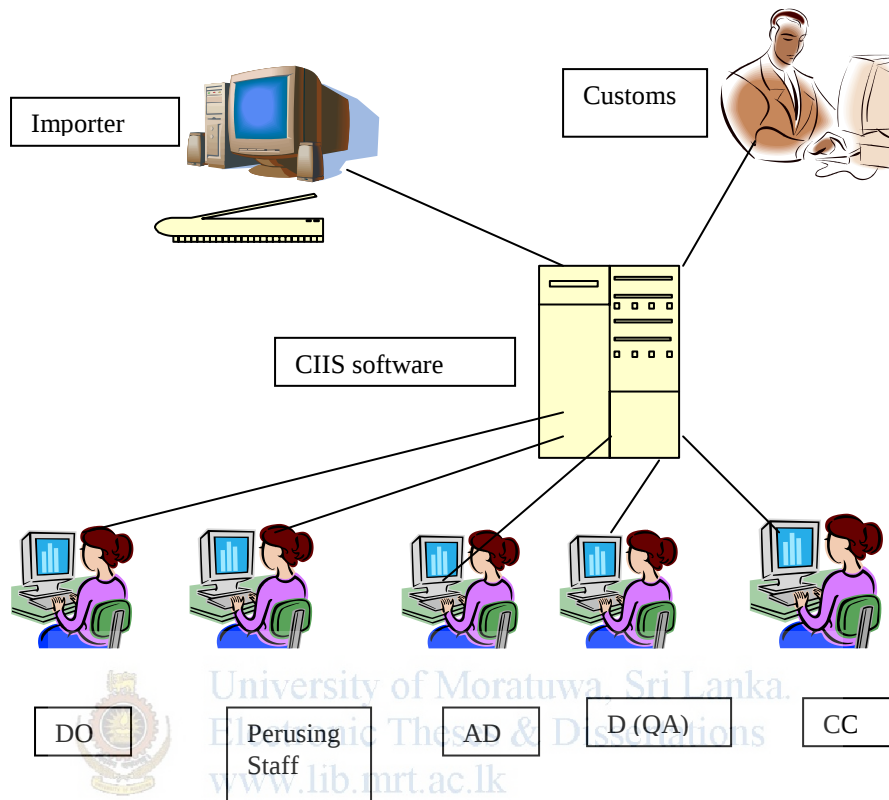
Project Aim:

The aim of the project is to find an ICT based solution to the above stated problems of the Compulsory Import Inspection Scheme.

Objectives:

1. To conduct a problem domain analysis of CIIS
2. To apply the Software Engineering knowledge in problem domain analysis and designing the proposed system
3. To apply the knowledge of UML in designing the proposed system
4. Study about JavaScript, PHP in developing software and user interfaces.
5. Study about Relational Database Management
6. Study about installation and use of MySQL database management system
7. Study about Installation and configuration of Apache web server
8. To conduct the interim presentation
9. Development of a working prototype
10. Preparation of final documentation.

1.6 Implementation view of the proposed system



1.7 System requirements

In order to assess the viability of the proposed system, a detail feasibility study was carried out covering the system requirements needed to implement the proposed system. (Please refer appendix A for feasibility study)

1.8 Chapter Breakdown

- Chapter - 2: Describes about problem domain – current Entry processing system, problems and weaknesses of the current system, other's approaches to solve the problem.
- Chapter - 3: Describes the technology selected – OOA and OOD, Unified Modeling Language, Development Methodology and Unified Development process.
- Chapter-4: Describe the approach selected – Selected Software Process Model, Selected System Analysis and Design Methodology, Development Environment: DBMS; Project Scope.
- Chapter-5: Describes Analysis and Design – Existing system analysis with Use-Cases, Use-Case Descriptions, existing system 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 schema with normalization & GUI design.
- Chapter-6: Describes implementation – Software, Hardware installation & configuration, testing of database connectivity, Security measures implemented, Implementation of system facilities.
- Chapter- 7: Describes evaluation & testing – Software product evaluation, 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 to resolve the problems addressed in Chapter 1 and further works to be done and limitations.