System Requirement Specification

Description	Development of Information Website and e-Service Portal (Web Application)
Prepared for	Sri Lanka Standard Institution

LankaCom
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Service first. Always.

30 YEARS SINCE 1991

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Revision History

Date	Remarks	Version	Author
26/11/2021	• Initial Version	V 1.0	Hashitha Silva (Tech Lead)
22/08/2022	• Added data entry interface for Search Module under Service e-Portal (Administrative Area) which includes SLS Standards, System Certified Companies, SLS Certified Products and Energy Labeling Certifications) • Updated Terminologies in the overall document. • Updated Section "11 - Deployment Schedule (Page 31 -32)". • Included provision for two signatories (Page 33) • New clause added – "6. Third-Party Integrations" • Updated sub-clause 7.1 and 7.2 to clearly state that SLSI will only furnish the required English content and LankaCom will facilitate the translation to local languages by way of external translators subjected to additional charges and payment settlement. • Modified the proposed website structure under sub-clause 8.1.9 - Removed Application Download from the Media Center section as it is already included under the Downloads section.	V 2.0	Hashitha Silva (Tech Lead)

Table of Contents

	Definitions, Acronyms, and Abbreviations	Page 4
1.	Introduction	Page 5
2.	Product Perspective	Page 8
3.	Operating Environment	Page 10
4.	Design and Implementation Constraints	Page 10
5.	Assumptions	Page 11
6.	Dependencies	Page 11
7.	External Interface Requirements	Page 11
8.	Functional Requirement Specifications	Page 12
9.	Security	Page 30
10.	Software Quality Attributes	Page 30
11.	Deployment Schedule	Page 31
12.	Entire Understanding	Page 32

Definitions, Acronyms, and Abbreviations

Term	Definitions
SRS	Software Requirements Specification. An SRS is a document covering a detailed description of the technical specifications and requirements of a software.
SLSI	Sri Lanka Standards Institution.
LankaCom	Lanka Communications Pvt. Ltd. (Vendor).
Client	Any person who engages with the Frontend Information Website and/or e-Service Portal for obtaining information and/or e-services.
Certificate	Certificate that SLSI will provide for a specific Product, management system after inspection.
Standard	A technical standard developed by one or more international standards organizations.
SLSI Services	Services such certifications, laboratory testing, trainings, calibration, selling of standards.
EER	Enhanced Entity Relationship.
SSL	Secure Socket Layer.
WAF	Web Access Firewall.
CMS	Content Management System. A CMS is a software application that allows users to collaborate in the creation, editing, and production of digital content: web pages, blog posts, etc.
PHP	PHP is a general-purpose scripting language geared towards web development.
MySQL	MySQL is an open-source relational database management system.
WordPress	WordPress is a free and open-source content management system written in PHP and paired with a MySQL or MariaDB database.
OWASP Top 10	Open Web Application Security Project - The OWASP Top 10 is a standard awareness document for developers and web application security. It represents a broad consensus about the most critical security risks to web applications.
LAN	Local Area Network.
WAN	Wide Area Network.
HTTP/HTTPS	Hypertext Transfer Protocol / Hypertext Transfer Protocol Secure.
API	Application Programming Interface.
W3C	World Wide Web Consortium.

1. Introduction

The Software Requirements Specification (SRS) provides an overview of the project scope. The aim of this document is to provide a complete description of the proposed solution to be implemented by defining the functional and non-functional requirements for the project while outlining high-level product capabilities expected to be delivered under this assignment. Further, this SRS document shall provide a detailed overview of the technologies and tools which will be used to implement the proposed solution along with user interface, hardware and software requirements.

This document is written according to the IEEE/ISO/IEC 29148-2018 international standard for software requirements, adapted from Systems and software engineering - Life cycle processes – Requirements engineering.

NOTE: The information contained in these documents is confidential, privileged and only for the information of the intended recipient and may not be used, published or redistributed without the prior written consent of Lanka Communication Services (Pvt). Ltd.

1.1. Intended Audience

This document is intended for all stakeholders including developers, designers, and testers working engages in this project.

1.2. Problem Statement

The current SLSI website (http://www.slsi.lk) runs on an outdated CMS (Joomla CMS version 3.6.2) which was originally released back in August 2016. The technologies used in this version of Joomla CMS presents many drawbacks in terms of maintainability, scalability, performance and security aspects of the website. Moreover, the current website layout/theme of the SLSI website is also quite stale and less appealing to clients/users when compared with current design trends. The current website offers little or no provision for facilitating e-services for its clients. The existing website search facility on available Sri Lanka Standards, Systems Certified Companies, SLS certified products appears to be rather outdated with poor presentation of the information (search results).

In light of this, SLSI has identified the need to revamp its official website by adopting a modern and well-established CMS supported by a rich plugin-based architecture enabling to extend its capabilities/functionalities and redesign the website with a more aesthetically appealing and mobile friendly layout. Further, SLSI sees the need of a platform to provide its clients an easier method of obtaining SLSI services in the form of e-services such as purchasing Sri Lanka Standards online in real-time, requesting for

other SLSI services online and a user-friendly search facility on obtaining information related to available Sri Lanka Standards, Systems Certified Companies, SLS certified products and Energy Labeling Certification. The new e-Services platform should facilitate SLSI staff to efficiently manage client requests for services with capabilities on tracking each stage of the request and provide options for the client to pay online.

1.3. Overall Project Scope

The overall project scope comprises of two major components;

a) **Frontend Information Website.**
b) **e-Services Portal.**

1.3.1. Scope of Frontend Information Website:

The scope pertaining to the implementation of the Frontend Information Website will mainly focus on:

I. Designing a modern and minimalistic mobile responsive website layout (User Interface) by adopting current website design trends related to the industry.

II. Introducing a well-organized website structure that will contribute to effectively disseminating information/content to consumers and help boost the marketing efforts of the Sri Lanka Standards Institution.

III. Developing the website by leveraging on WordPress CMS which is a popular and stable open-source Content Management System (CMS) for websites.

IV. Implementing a multilanguage website (English, Sinhala and Tamil versions) with content provided by SLSI.

V. Providing the CMS facility to publish content with support for local languages (Sinhala and Tamil).

VI. Submit the website for indexing by way of Google Search Console web service for optimizing the websites visibility on Google search engine and additionally the site to be added as a property in Google Analytics service to obtain reports on website traffic.

VII. Conducting a prelaunch vulnerability assessment for top 10 OWASP vulnerabilities and mitigate any identified vulnerabilities prior to commissioning the website on the live environment.

VIII. Provide required training for designated users (web master/s) on using the CMS to manage the website content.

IX. Provide website maintenance services subjected to signing a Software Maintenance Contract.

1.3.2. Scope of e-Service Portal:

The scope pertaining to the implementation of the e-Services Portal will mainly focus on:

I. Developing the e-Services Portal web application by leveraging on Laravel Framework which is a popular, robust and secure PHP web application development framework.

II. Proving a secure administrative area within the e-Services Portal with an intuitive admin panel for designated staff at SLSI to manage system settings, users and data/content related to:
   - Sri Lanka Standards Catalogue.
   - System Certified Companies.
   - SLS certified products (SLS Mark Products).
   - Energy Labeling Certifications.
   - Department wise Service Catalogue.

III. Integrating an Internet Payment Gateway supplied by SLSI for providing an option for enabling clients to pay online for services requested via the e-Services Portal.

IV. Providing a public area within the e-Services Portal for enabling SLSI client to engage with following features:
   - Search for information on available standards via the Sri Lanka Standards Catalogue.
   - Search for information on System Certified Companies.
   - Search for information SLS Certified products (SLS Mark Products).
   - Search for Energy Labeling Certifications.
   - Search the Service Catalogue and request for available SLSI services.
   - Register with the e-Services Portal for obtaining available SLSI services online.
   - Option to pay online for obtaining available SLSI services.

V. Conducting a prelaunch vulnerability assessment for top 10 OWASP vulnerabilities and mitigate any identified vulnerabilities prior to commissioning the e-Services Portal web application on the live environment.

VI. Provide required training for designated users (e-Services Portal admins) on using the administrative area.

VII. Provide website maintenance services subjected to signing a Software Maintenance Contract.

NOTE: LankaCom shall make all reasonable endeavors to adhere to the specific requirements stipulated in the bidding document including addendums.

2. Product Perspective

The aforesaid two major components will be constructed with the following underlying segments;

2.1. Frontend Information Website

This section consists the flowing areas and features:

I. **Content Pages**: This area will be available to general public/clients through the Internet and will not require login credentials to gain access.

II. **Links to e-Services**: This will be a set of prominent icons placed on the main image banner area on the top of each page which will be linked to the below listed areas of the e-Service Portal

- Sri Lanka Standards Catalogue Icon – this will be linked to the Sri Lanka Standards Catalogue search page under the e-Service Portal (Public Area).
- System Certified Companies Icon - this will be linked to the System Certified Companies search page under the e-Service Portal (Public Area).
- SLS Certified Products Icon - this will be linked to the System Certified Companies search page under the e-Service Portal (Public Area).
- Energy Labeling Certifications Icon - this will be linked to the Energy Labeling Certifications search page under the e-Service Portal (Public Area).
- e-Services Icon – Landing page of the e-Service Portal (Public Area).

III. **CMS**: Secure area for the SLSI webmaster to manage the frontend information website related configurations including static and dynamic content pages and plugins that facilitate specific features on the frontend website such as:

- Manage static content pages such as Services, Departments, About us, History, Key Staff Profile information, etc in English, Sinhala and Tamil languages.
- Manage dynamic content such as News, announcements, advertisements in English and local languages in English and local languages.
- Manage vacancy listings in English and local languages.
- Manage draft standards for public comments.
- Manage Important/related website listings.
- Manage images for home page and inner page main image banner carousal of the website.

- Manage annual reports listing for the English and local language versions of the website.
- Manage image/video gallery for the English and local language versions of the website
- Manage FAQ listings for the English and local language versions of the website
- Manage general SLSI contact/feedback information for the English and local language versions of the website.
- Manage training program calendar.
- Manage overall website theme.

NOTE: The site structure (sections/pages) will be created as per the website structure stipulated in section 1.0 of the RFP document common for the English and local language versions of the website.

2.2. The e-Service Portal

All page content and interfaces within the e-Services Portal will be available only in English language. This section consists the flowing areas and features:

I. **e-Services Portal (Public Area):**

- **Service Catalogue**: This includes a searchable catalogue of all the available SLSI services.
- **Registered Clients**: This includes clients who have registered with e-Services Portal for obtaining/requesting for available SLSI services.
- **Documents**: This includes all the documents submitted when requesting SLSI services.
- **Payment Description**: This includes transaction amount, internet payment gateway (IPG) details, Request raw data, Response raw data, geographical location and transaction date time and IP address for security reasons.
- **Search Module**: This area will facilitate clients to search information on:
  - Available Sri Lanka Standards.
  - System Certified Companies.
  - SLS Certified products (SLS Mark Products).
  - Energy Labeling Certifications.

II. **e-Services Portal (Administrative Area):**

- **Service Catalogue and Service Request Management Area**: This secure area will be exclusively available for SLSI e-Services Portal admins to manage the Service Catalog and Service Requests related data and process. Different user privilege-levels will allow e-Services Portal admins to manage content/data based on their assigned privilege-levels.
- **Search Module Data Management Area:** This area will allow SLSI e-Services Portal admins to manage data related to:
  - Available Sri Lanka Standards.
  - System Certified Companies.
  - SLS Certified products (SLS Mark Products).
  - Energy Labeling Certifications.
- **General Setting Management Area:** This area will allow authorized SLSI e-Services Portal admins to manage overall system settings of the portal such as:
  - Manage Core System Master Data: Departments, Designations, Services Categories, etc.
  - Manage Users and Privileges.

3. Operating Environment

Operating environment for the proposed solution is as listed below.

- Operating system: Linux based (Recommended: Ubuntu)
- Server System: Apache 2
- Application Language: PHP 8, HTML, CSS, JQuery, JavaScript.
- Database: MySQL 5.7
- Software Frameworks: WordPress CMS and PHP Laravel Framework.

4. Design and Implementation Constraints

The primary consideration in designing the system will be the usability and creation of user confidence. In developing the solution, we will be focusing on below areas.

- Load time
- Ease of use
- Types of users
- Ease of content update
- Robustness
- Flexibility
- Scalability
- Security

5. Assumptions

The user of the website is aware of basic operations of a computer and web pages. The user also understands the standard terms used for operation.

6. Third-Party Integrations

The proposed solution will be implemented with open standards and by leveraging on opensource technology. Any required website integration with third-party software frameworks can be done through Application Programming Interface (API's) made available by the respective third-part software vendor. Below listed third-party integrations are considered for this project:

6.1. Google Map Integration

This integration will be facilitated by way of Google Map API using API key provided by SLSI to add a Google Map with a Marker on the Frontend Information Website footer area and Contact us page.

6.2. Integration with Google Analytics Property

The Google Analytics tag (Measurement ID or "G-" ID) provided by SLSI will be added to both Frontend Information Website and e-Services Portal for the purpose of analyzing website visitor traffic.

6.3. Internet Payment Gateway (IPG) Integration

An Internet Payment Gateway (IPG) service can be integrated with the e-Services Portal to facilitate online payments from registered users (clients) of SLSI who registers with the e-Service Portal to obtain available e-services. The Internet Payment Gateway (IPG Merchant Account and required Payment Service API's must be provided by SLSI.

6.4. SMS Gateway Integration

An out-bound Short Messaging Services (SMS) can be facilitated for the purpose of sending SMS notifications related to two-way authentication (OTP) for user (client) registrations and logins and SMS notifications on user requested service activities on the e-Services Portal.

6.5. Other Third-Party Integrations

Integrations with external system such as ERP, Accounting software for the purpose of data sharing between the e-Services Portal and the external system can be facilitated by way of API's. Consuming relevant data from the external software can be done

through API's made available by the third-party software vendor and transferring relevant data (data available within the proposed project scope) to the external software can be facilitated by developing necessary API's for the e-Services Portal. However, such integrations will be further evaluated at the point of integration and will be billed separately.

7. Dependencies

7.1. English Content

The Frontend Information Website will be initially designed in English language. All required content for the English version of the website should be furnished by SLSI in machine readable format. LankaCom will setup a content collection repository on a cloud storage space giving access to designated staff from SLSI to upload the new/updated English content required for publishing on the Frontend Information Website.

7.2. Local Language Content (for Sinhala and Tamil language versions of the Frontend Information Website)

Translations of local language content (Sinhala and Tamil) corresponding to the sections/pages of the English version of the website will be facilitated by LankaCom. Such translated content will be submitted to SLSI for review and proof-reading prior to publishing the translated content in the respective local language versions of the website. SLSI should make every effort to proof-read and provide final confirmation on translated content on a timely manner in order to meet agreed deadlines for implementation of the multilingual supported Frontend Information Website. LankaCom will facilitate translations from English to local languages through external third-part translators. All such translations will be billed to SLSI separately at prevailing market rates. Charges for translation services must be settled in full by SLSI soon after translations have been confirmed by SLSI prior to publishing on the website.

8. External Interface Requirements

8.1. User Interfaces:

8.1.1. Hardware Interfaces

Since the proposed solution must run over the internet, all the hardware required to connect to the internet and access and interact with the proposed solution will be considered as hardware interfaces. e.g. Server, PCs/Laptops/Notebooks/Tabs/Mobiles and other hardware devices such as Routers, Ethernet LAN-WAN networks, etc.

8.1.2. Software Interfaces

- Operating Systems: Windows, MacOS. Linux, Android, iOS.
- Web Browsers: Google Chrome, Mozilla Firefox, Safari, Microsoft Edge, Opera
  NOTE: The system will be designed, developed and tested to be backwards compatible for no more than one version still supported by the vendor for the following popular PC based web browsers to achieve maximum usability.

8.2. Communication Interfaces

The website shall use the HTTP/HTTPS protocol for communication over the internet.

9. Functional Requirement Specifications

9.1. Frontend Information Website - Features

8.1.1. The website Layout (UI) and navigation (Menu) shall be designed with compliance on current web design standards and the website theme shall be designed considering optimal performance and compatibility for wider use on devices and popular web browsers.

8.1.2. The website shall allow users (clients) to engage with the website by accessing and viewing content pages with the ability to submit feedback through online contact form. The contact form will collect basic contact information such as Name, Email, Phone and Remarks which will be received as an email to designated recipients assigned by SLSI.

8.1.3. The website shall allow authorized user/s (SLSI Webmaster) to create and manage website CMS users. User roles and capabilities will be facilitated based on the WordPress User Management Architecture. This platform uses a concept of Roles, designed to give the site owner the ability to control what users can and cannot do within the site. A site owner can manage the user access to such tasks as writing and editing posts, creating Pages, creating categories, moderating comments, managing plugins, managing themes, and managing other users, by assigning a specific role to each of the users.

- User Roles: The website will have six pre-defined roles:
  - Super Admin, Administrator, Editor, Author, Contributor and Subscriber. Each role is allowed to perform a set of tasks called Capabilities. There are many capabilities including “publish posts ”, “moderate comments ”, and “edit users ”. A default set of capabilities is pre-

assigned to each role, but other capabilities can be assigned or removed

*More Information on Managing Pages: https://wordpress.com/support/article/roles-and-capabilities/

8.1.4. The website shall allow authorized user/s (SLSI Webmaster) to create and manage **Pages**

A page is an area on your site where you can display static content. A page can be about anything at all. Some of the most common pages on a website include Home, About, and Contact pages. You can add as many pages to your site as you would like, and you can update your pages as many times as you want. After you create a page, you can add it to your site's navigation menu so your visitors can find it.

- Toggle Page **Status**:
  - **Published**: these are pages that are visible on your site.
  - **Drafts**: these are pages you're still working on that haven't been published yet.
  - **Scheduled**: these are pages you have set to be published at a future time.
  - **Trashed**: pages you have deleted. They can be restored from the trash for 30 days. After that, they are permanently deleted.

*More Information on Managing Pages: https://wordpress.com/support/pages/

8.1.5. The website shall allow authorized user/s (SLSI Webmaster) to create **Posts.**

Posts are individual pieces of content on your page. Posts are always associated with a date, which is included in the URL. Posts are entries listed in reverse chronological order on your site. Think of them as articles or updates that you share to offer up new content to your readers such as "News" or "Events" etc. You can display them on your website in different ways, such as by using the Blog Posts block or by setting a custom posts page. If you have marked any posts as sticky, those will appear as pinned to the top of your page before any other posts.

- Post **Categories**:
  - Categories provide a helpful way to group related posts together. Not only are they useful for keeping posts organized, but you can also use

categories to display posts in several places across your site. All posts must be assigned a category.

- By default, the category is Uncategorized. You can select multiple categories for a single post to show in.
- A category page will display only the blog posts in the category that you designate. These pages will automatically update with every new post you publish with that category

*More Information on Managing Posts: https://wordpress.com/support/posts/

8.1.6. The website shall allow authorized user/s (SLSI Webmaster) to manage Media related to the Frontend Information Website via the CMS **Media Library**.

The Media Library is where you can manage your uploaded website images, audio, videos, and documents all in one place. You can view your Media Library, by clicking on "Media" in your dashboard. When you add images and other media to your pages and posts, they will appear in your Media as well. You can also add files directly to your Media to later use in your pages and posts.

*More Information on Managing Posts: https://wordpress.com/support/media/

8.1.7. The website shall allow authorized user/s (SLSI Webmaster) to manage the **Navigation (Menu/s)** of the Frontend Information Website via the CMS.

A menu (also known as a navigation bar, navigation menu, or main menu). It is a section of the site that helps visitors to navigate the site. Typically, the website theme determines how the menu looks on the site. In your menu, you can add different items such as links to pages, articles, categories, or custom links to the url of your choice, such as another site, and then choose the order of the items and their hierarchy (possibility of creating submenus). In short, your menu is fully customizable.

*More Information on Managing Posts: https://wordpress.com/support/article/appearance-menus-screen/

8.1.8. The website shall provide **Search** facility.

The Search block will return results from the titles and the bodies of your posts and pages within your Frontend Information Website, and from media titles, alt text, file names, and single image captions. It will not return results

from widgets, comments, categories, gallery captions or other text, or tags. Also, note that the search results will display posts with the matching term in the post title in reverse-chronological order.

*More Information on Managing Posts: https://wordpress.com/support/wordpress-editor/blocks/search-block/

8.1.9. The Frontend Information Website shall have the below outlined **structure**

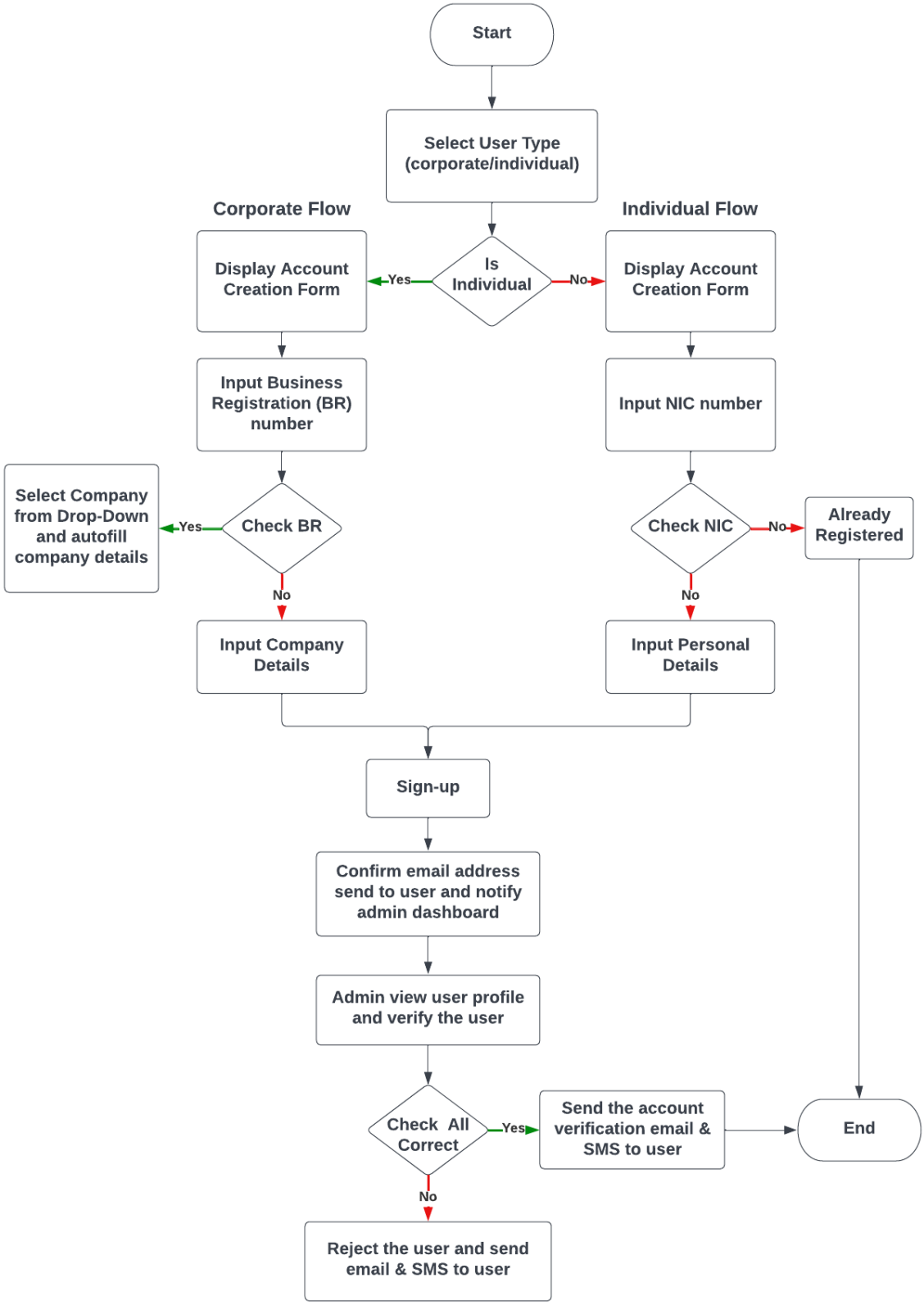
Page/ Section	Sub-Section
Header	• SLSI Logo • Government Emblem • Language Options • Site Search Box • Menu Bar (Main Navigation Menus) • Main Banner Image Carousal • Icons with links to Sri Lanka Standards Catalogue, System Certified Companies, SLS Certified products (SLS Mark Products), Energy Labeling Certifications in the e-Service Portal.
Footer	• Contact Details (Organization Logo and Name, Address, Voice, Fax & Email) • Google Map location of SLSI (NOTE: Verified Google Map API key must be provided by SLSI in order to integrate google MAP services.) • Copyright Notice • Credit • Link to Government Information Center Website. • Social Media Icons (linked with respective social media pages provided by SLSI.)
Home (Landing Page)	• Explore Our Services - Cards for SLSI Services linked to respective service content pages. • Latest News – Displaying latest 3 news items linked to respective news detail pages. • Training Calendar – Display a List View of Scheduled Training Programs Offered by SLSI. Each event in the list will have the date of the event, title of the event, and a link to view more details of the event. All detail such as event agenda, venue,

	cost etc should be entered within the text description of the event. • New Releases – Information on new standards released by SLSI in the form of cards. • Quick Links – Public Comments on Draft Standards, Freely available Standards, Annual Reports, Advertisements, Training Prospectus, Important Links etc.
About us	• Overview • Vision, Mission and Strategies • Ministers Message • Chairmans Message • DG's Message • Council Members • Awards & Achievements • History (Milestones)
Divisions	• Product Certification Division • Systems Certification Division • Standards & Services Promotion Division • Scientific and Engineering Standardization • Quality Assurance Division • Documentation & Information Division • Training Division • Finance Division • Administration Division • Metrology Division • Laboratory Division
Services	• Standard Development • Documentation, Information and Library services • Laboratory Services • Product Certification • Metrology • Training • National Quality Awards • Systems Certification • Import Inspection

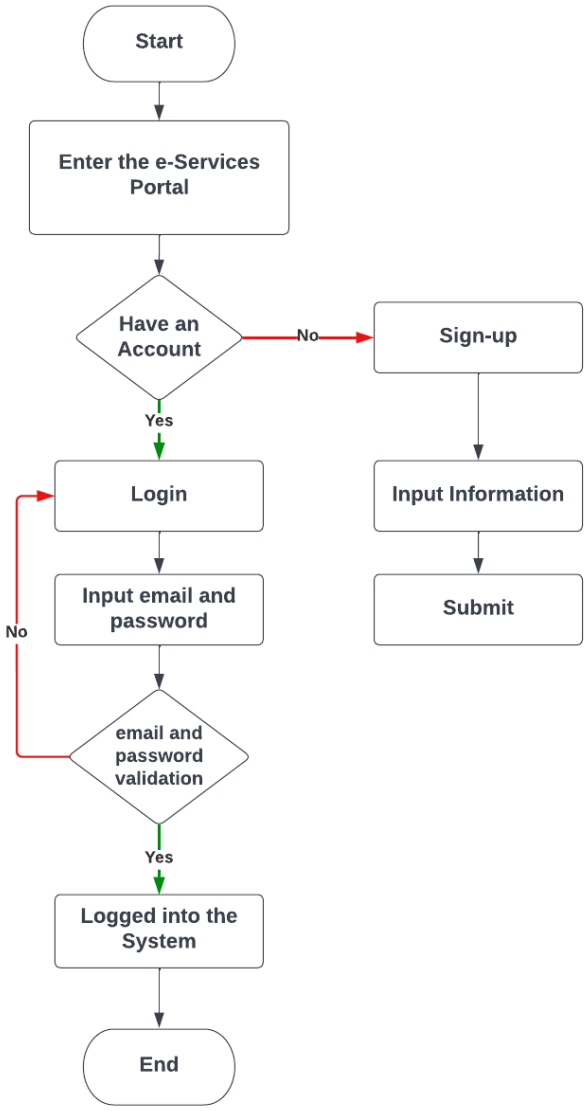
Media Center	• List of News items in chronological order with links to read more details. • Image Gallery • Video Gallery (embedded youtube/fb video links)
Downloads	• Acts. • National Quality Policies. • Draft standards for public comments - Scientific Standardization. • Draft standards for public comments - Engineering Standardization. • Q flag – Free Download. • Sri Lanka Standards – Free Download • Downloadable forms such as Application forms, Complaint forms, etc relevant to services. • Library Membership Forms. • Standards Catalogue and Index. • Annual Reports.
Right to Information	• Contact details of Designated RTI Offices • Application Downloads
FAQ	• List of FAQ's
Careers	• Vacancy Listing with standard online application form for available vacancies.
Contact us	• Contact Form • Contact Details • Find Location (Google Map)

9.2. e-Service Portal (Public Area) - Workflow

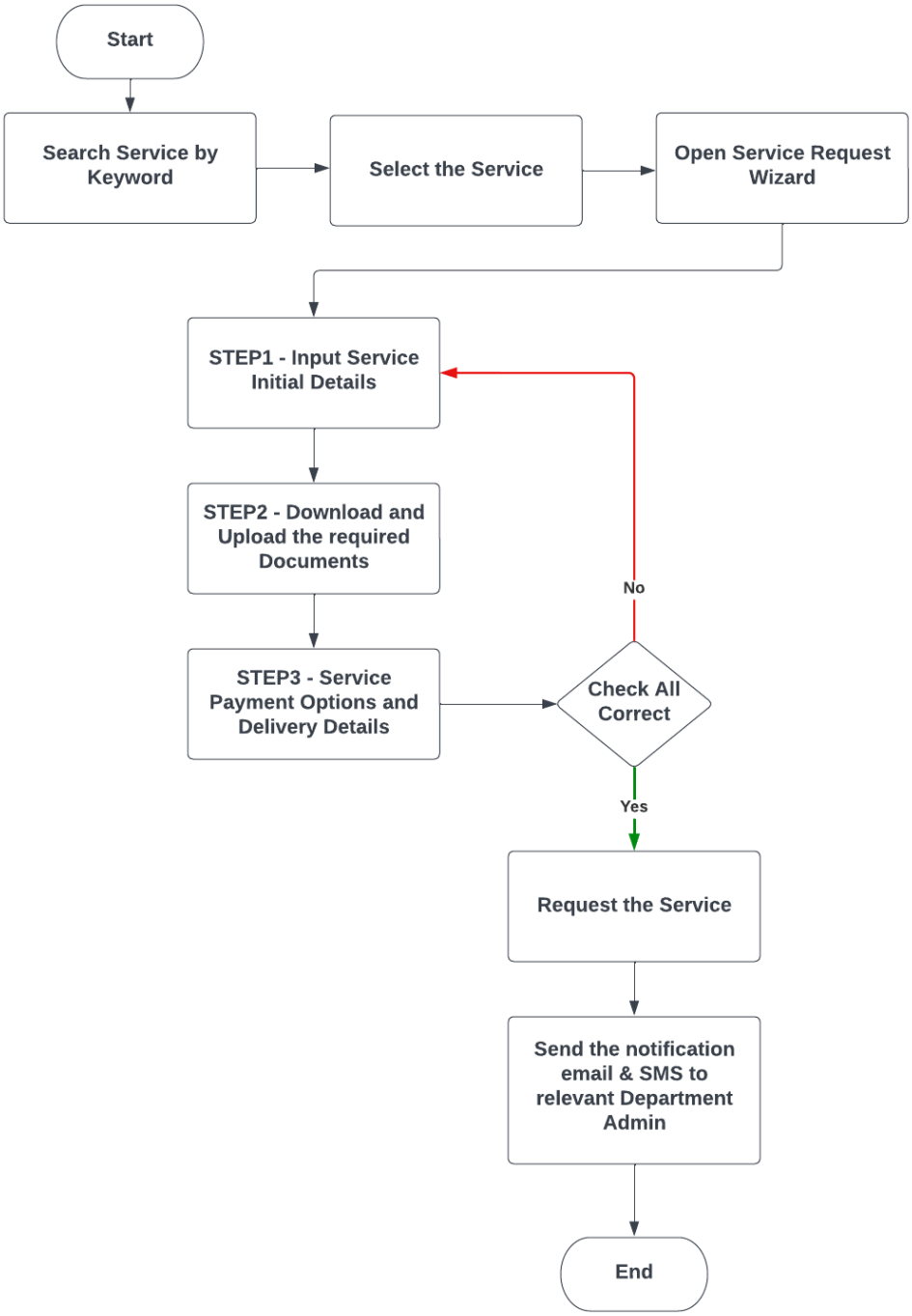
8.2.1. New User Registration



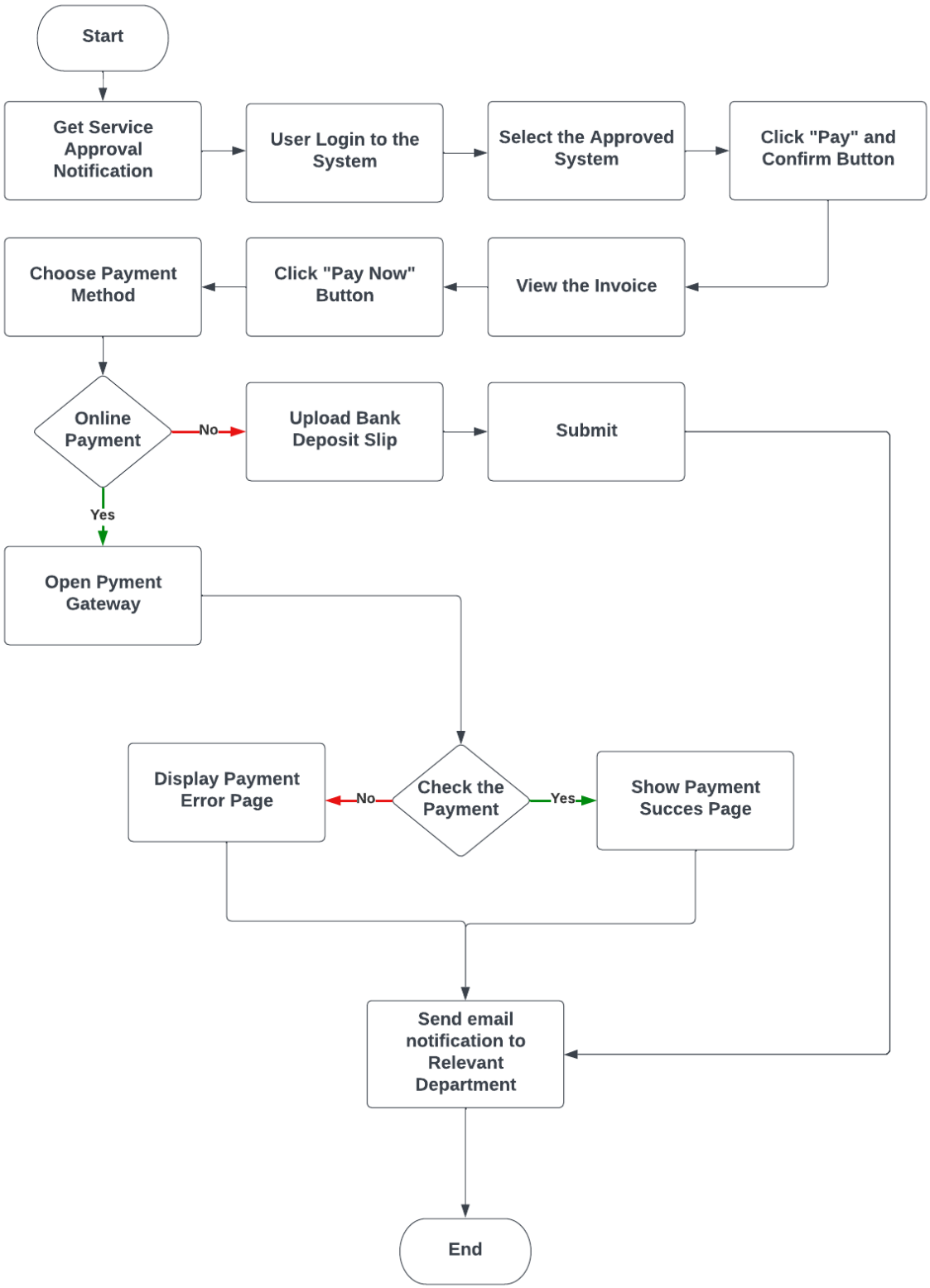
8.2.2. User Sign-in



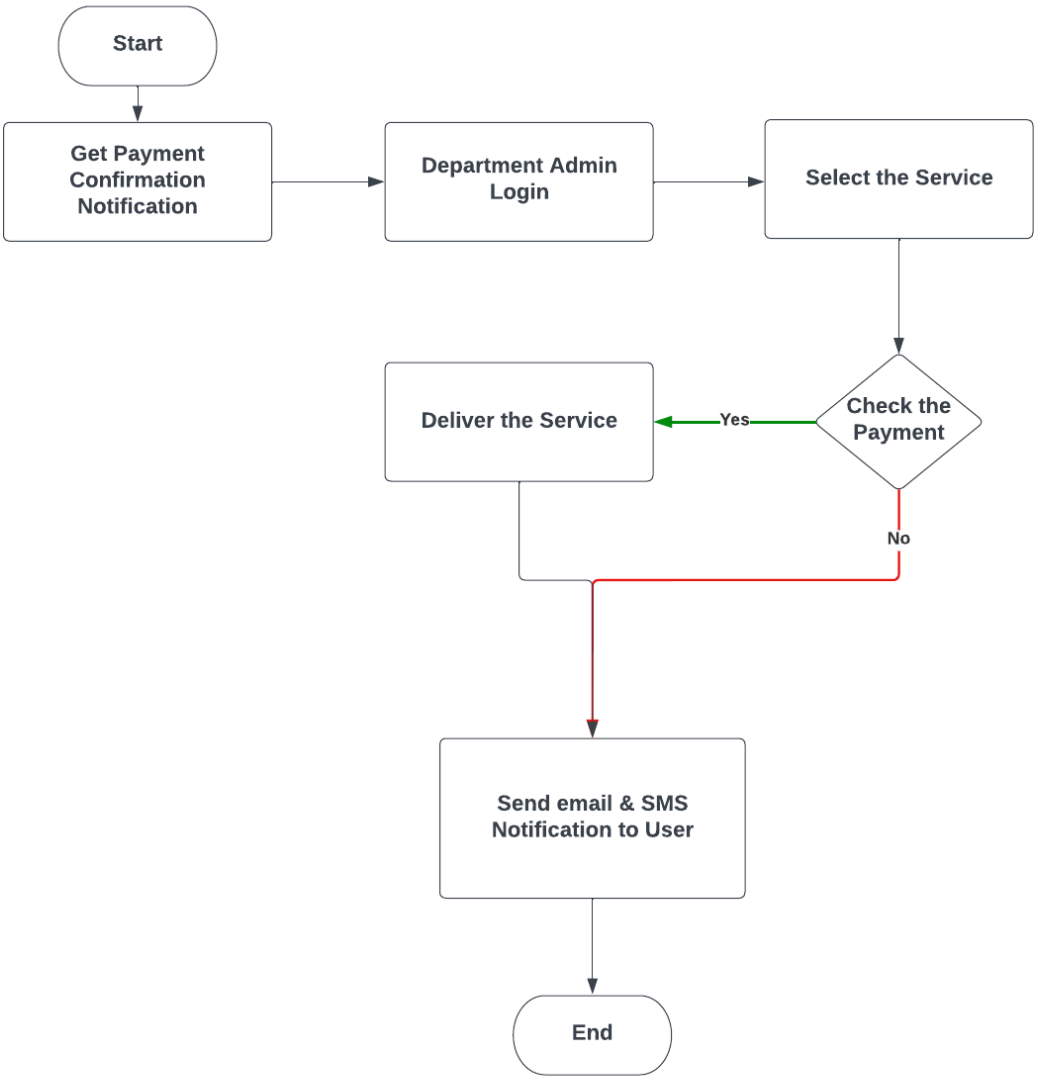
8.2.3. User Requesting a Service



8.2.4. Payment for Services

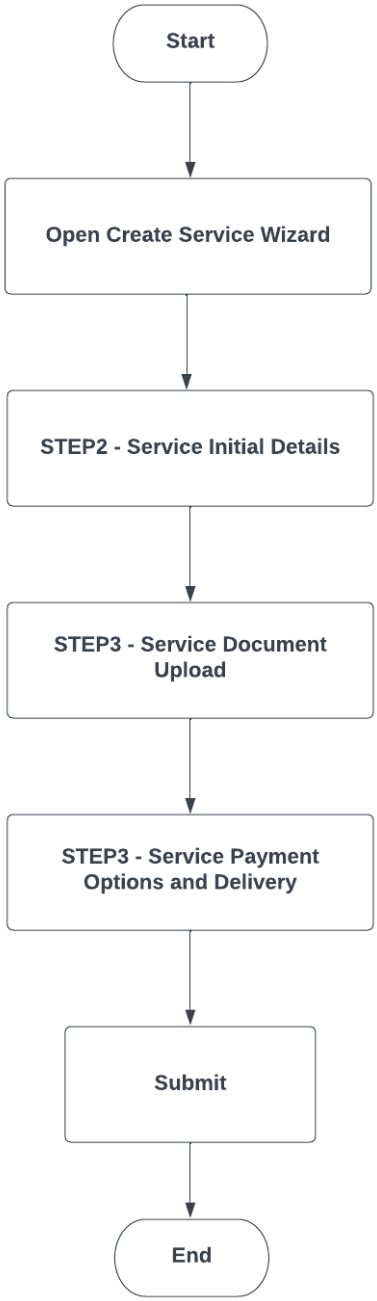


8.2.5. Complete the Service

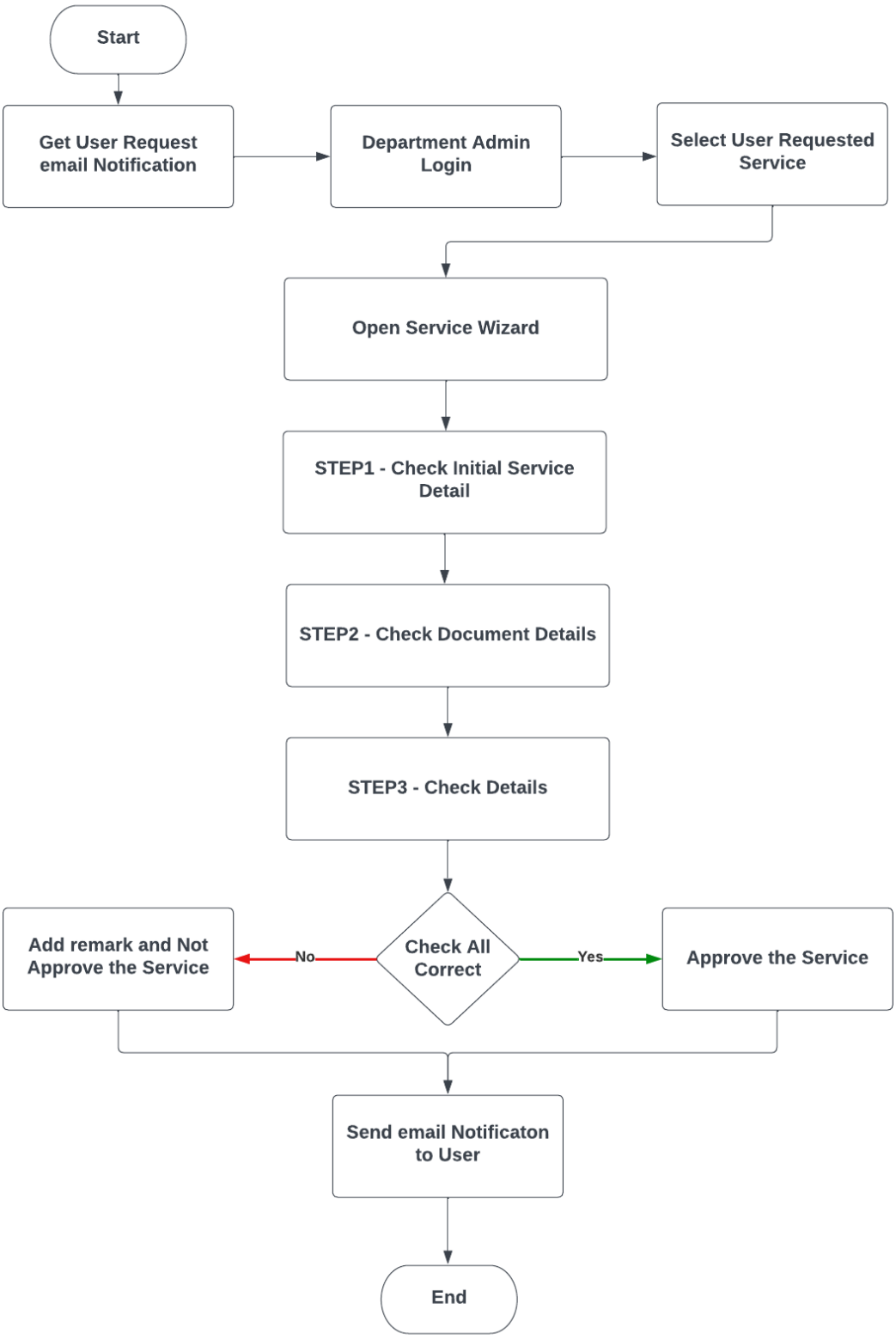


9.3.e-Service Portal (Administrative Area) - Workflow

8.3.1. Create a Service



8.3.2. Approve a Service



9.4.e-Service Portal (Public Area) - Features

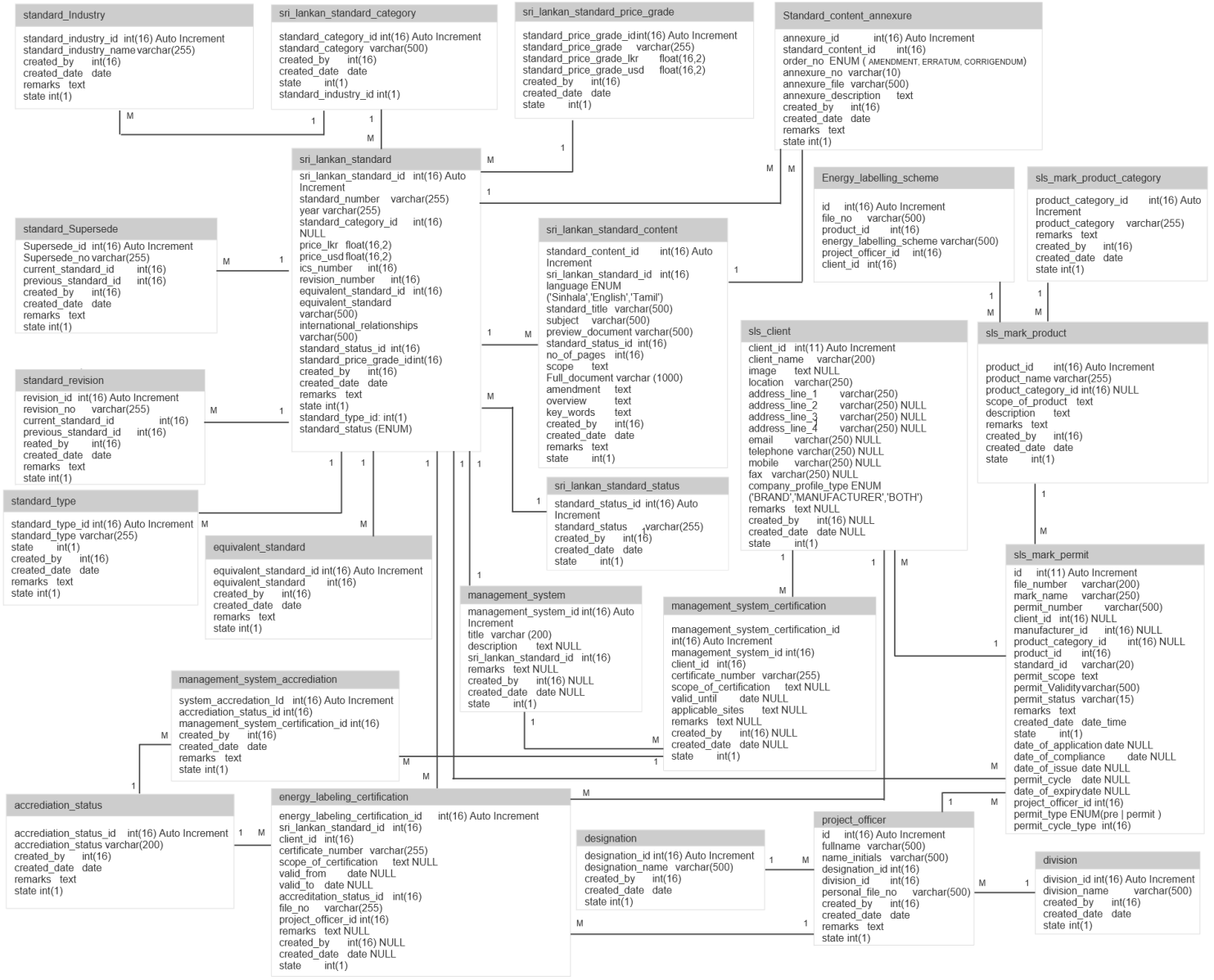
Role	Sections	Features
As a Client	Account management	Should be able to sign up/sign in using email and password.
		Should be able to verify account using a verification code.
		Should be able to sign up Individual or Corporate Users.
		Should be able to manage own profile.
	Service requesting	Should be able to view department wise services.
		Should be able to filter from service lists.
		Should be able to select multiple or one(default) service in the service list.
		Should be able to upload the requested document in to relevant service.
		Should be able to request the service.
		Should be able to view requested services history.
		Should be able to view details of each service.
		Should be able to pay online, offline to service.
		Should be able to view the status of requested service.
		Should be able to download the service-related documents.
		Should be able to request Hard copies of issued certificates.
	Notifications	User should be able to receive Email and SMS notifications on requested service activities.

9.5.e-Service Portal (Administrative Area) - Features

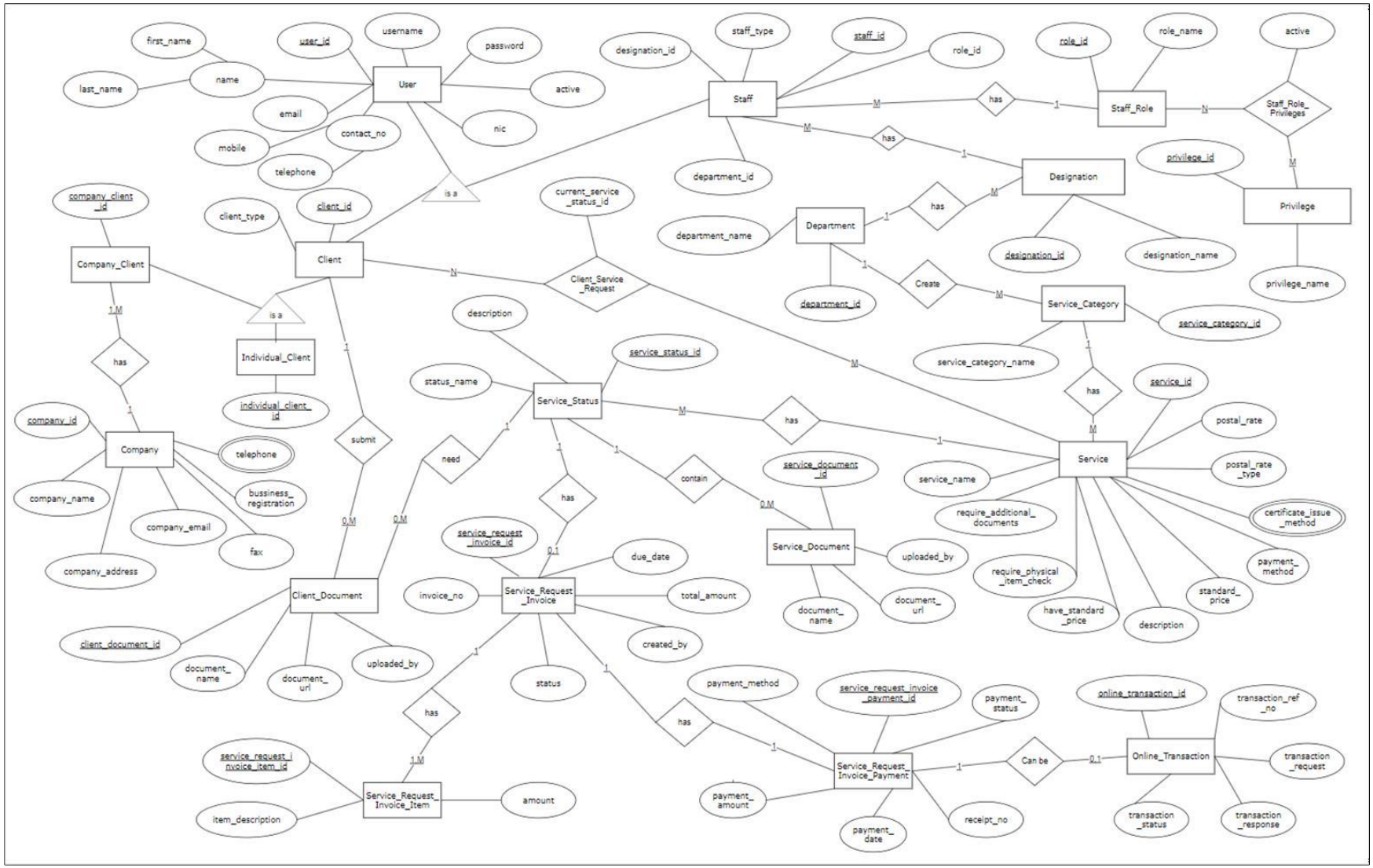
Roles	Sections	Features
Department Admin	Account management	Should be able to sign in using email and password.
		Should be able to manage own profile (Cannot change the email)
	Service management	Should be able to create, edit a service category.
		Should be able to create, edit a service.
		Should be able to select the payment option (Online, offline or Both).
		Should be able to upload document in to the service.
		Should be able to set the time scope for the service.
		Should be able to set a standard price/rate available for service.
		Should be able to select the service delivery method for service.
		Should be able to view services list.
		Should be able to view the requested services list.
		Should be able to view payment history.
		Should be able to view customers list.
	Search Module data management	Should be able to manage SLS Standards.
		Should be able to manage System Certified Companies.
		Should be able to manage SLS Certified Products.

		Should be able to manage Energy Labeling Certifications.
	Notifications	Should be able to receive Email and SMS notifications on user requested service activities.
SLSI Admin	Account management	Should be able to edit user details.
		Should be able to delete user details.
		Should be able to view user activities.
		Should be able to create roles and assign permissions.
		Should be able to create users and assign to roles.
	Department management	Should be able to create a department.
		Should be able to view department list.
		Should be able to edit department details.
		Should be able to delete a department.
	Service management	Should be able to create a service category.
		Should be able to create a service.
		Should be able to select the payment option (Online, offline or Both).
		Should be able to upload document in to the service.
		Should be able to set the time scope for the service.
		Should be able to set a standard price/rate available for Service.
		Should be able to select the service delivery method for service.
		Should be able to view services list.
		Should be able to view the requested services list.
		Should be able to view payment history.
		Should be able to view customers list.
	Search Module data management	Should be able to manage SLS Standards.
		Should be able to manage System Certified Companies.
		Should be able to manage SLS Certified Products.
		Should be able to manage Energy Labeling Certifications.
	User Management	Should be able to add new users (Department admin).
		Should be able to view all the users.
		Should be able to edit user details.
		Should be able to delete user details.
		Should be able to view user activities.
	Notifications	Should be able to receive Email and SMS notifications on user requested service activities.
System Administrator	Account management	Should be able to sign in using email and password.
	Privilege management	Should be able to create custom user roles.
		Should be able to manage users of a user role.
		Should be able to assign permissions to user roles from the available privileges.

9.6.Logical Structure of Functional Requirements (Search Module Data Entry EER Diagram)



9.7. Logical Structure of Functional Requirements (e-Service Portal EER Diagram)



10. Security

The proposed solution will be developed with secure-coding best practices such as:

- Input validations on both the server and client side.
- Protections against SQL injections, cross-site scripting (XSS), cross-site resource forgery (CSRF).
- Encryption at the database level when storing sensitive data such as passwords.
- Two-factor authentication.

Further, LankaCom will perform a Web Vulnerability Assessment for top **10 OWASP vulnerabilities** will be performed on the Frontend Information Website and e-Service Portal at the end of the development stage and any identified vulnerabilities will be mitigated prior to commissioning the solution on the live environment. Further, below outlined security measures are highly recommended to harden the security posture of the overall solution.

Recommended Additional Security Aspects:

- SSL Encryption.
- Web Access Firewall (WAF) Service.
- System monitoring and alerting system.

11. Software Quality Attributes

Functionality	Shows the existence of a set of functions and their specified properties. The functions satisfy stated or implied needs.
Reliability	That capability of software which maintains its level of performance under given conditions for a given period of time.
Usability	Attributes that determine the effort needed for use and the assessment of such use by a set of users.
Efficiency	The relationship between the level of performance of the software and the quantum of resources used under stated conditions.
Maintainability	The effort needed to make specified modifications.
Portability	The ability of the software to be transformed from one environment to another.

12. Deployment Schedule

The project will be completed in two **major phases** as outlined below within an estimated total of **54 working days** from receiving confirmation/sign-off on the System Requirement Specification (SRS) including the proposed website layout and all necessary content (Writeups, Images, Videos Clips, Logos, etc). During the development process, a beta server will be set up for the purpose of monitoring/reviewing the progress of the ongoing project work.

<table>
<tr><th colspan="4">Phase 1</th></tr>
<tr><th rowspan="2">Task No.</th><th rowspan="2">Deliverable</th><th colspan="2">Estimated Completion from Signing this SRS</th></tr>
<tr><th>Task Wise</th><th>Overall</th></tr>
<tr><td>1</td><td>e-Service Portal (Administrative Area):
Facility for Search Module data management</td><td>Within 15 Working Days</td><td rowspan="3">Within 40 Working Days</td></tr>
<tr><td>2</td><td>e-Service Portal (Public Area):
Facility to search information on:
Available Sri Lanka Standards
System Certified Companies
SLS Certified products (SLS Mark Products)
Energy Labeling Certifications</td><td>Within 25 Working Days</td></tr>
<tr><td>3</td><td>Frontend Information Website:
Fully functional trilingual website</td><td>Within 40 Working Days</td></tr>
</table>

<table>
<tr><th colspan="4">Phase 2</th></tr>
<tr><th rowspan="2">Task No.</th><th rowspan="2">Deliverable</th><th colspan="2">Estimated Completion from Signing the SRS</th></tr>
<tr><th>Task Wise</th><th>Overall</th></tr>
<tr><td>1</td><td>e-Service Portal (Administrative Area):
Backend user creation area
Backend user login and profile management
Permission Management Area
Department wise Service Creation section
Service Invoice creation module
Service status management module
Service document management
Service notification</td><td rowspan="2">Within 45 Working Days</td><td rowspan="4">Within 54 Working Days</td></tr>
<tr><td>2</td><td>e-Service Portal (Public Area):
Client registration and profile management
Service catalog listing
Service requesting area
Client document management
Service request payment area
Service notification
Certificate distribution module</td></tr>
<tr><td>3</td><td>IPG integration</td><td rowspan="2">Within 54 Working Days</td></tr>
<tr><td>4</td><td>SMS gateway integration</td></tr>
</table>

Note: The overall completion of the project (Phase 1 and Phase 2) is expected to finish within 54 working days subjected to following mandatory inputs and dependencies are met by SLSI in a timely manner.

1. Finalized English content required for completing the English version of the Frontend Information website is expected to be provided by SLSI within 10 Working Days from signing this SRS.
2. Master Data inputs required for the functionality of the e-Service Portal (Public area and administrative area)
3. Other third-party facilities such as Hosting Server, IPG and SMS gateway credentials.
4. SLSI reviews/UAT feedback on each deliverable.

Entire Understanding

We have signed and affixed our company seal on this document after carefully reading and understanding the overall contents of this System Requirement Specification document. I/We do hereby confirm that the proposed solution developed by Lanka Communication Services (Pvt) Ltd shall have only the functionality and features stipulated in this document. Further, we agree that any change in the required functionality and features that may fall outside the scope stipulated in this document shall be treated as a new requirement and LankaCom reserves the right to charge for additional fees subjected to feasibility.

Signed on behalf of: SRI LANKA STANDARDS INSTITUTION.

Name of Authorized Signatory:

Designation:

Date:

Signature:

Signed on behalf of Consultant: LANKA COMMUNICATION SERVICES (PRIVATE) LTD.

Name of Authorized Signatory:

Designation:

Date:

Signature: