**1. Introduction**

The Software Requirements Specification (SRS) document provides a detailed outline of requirements for the development of the e-Procurement Portal for Goa, India. The primary goal of this portal is to modernize the procurement process by enabling electronic tendering over the internet. This initiative aims to reduce tendering cycle time, minimize indirect costs associated with traditional procurement methods, and enhance transparency in government procurement activities. The document serves as a comprehensive guide for developers, stakeholders, and users involved in implementing and operating the e-Procurement system.

**1.1 Purpose**

The purpose of this document is to specify the functional and non-functional requirements of the e-Procurement Portal, ensuring clarity and alignment with stakeholder expectations throughout the development lifecycle.

**1.2 Scope**

The scope of the e-Procurement Portal includes functionalities such as user registration, tender management, bid submission, bid evaluation, contract awarding, vendor management, reporting, and analytics. It caters to multiple user roles including government officials, vendors, and administrators. The portal will be accessible via web browsers and will adhere to Indian Standard Time (IST) for date and time formats.

**1.3 Definitions, Acronyms, and Abbreviations**

Definitions include terms such as Digital Signature Certificate (DSC), Earnest Money Deposit (EMD), Bill of Quantities (BoQ), Indian Standard Time (IST), and Information Technology Act (IT Act).

**1.4 References**

References include compliance with IT Act 2000, guidelines from Central Vigilance Commission (CVC), Asian Development Bank (ADB), and World Bank (WB) guidelines relevant to government procurement.

**1.5 Overview**

The document is structured to provide an overview of the e-Procurement Portal, detailing its purpose, scope, overall description, specific system features, and non-functional requirements.

**2. Overall Description**

The e-Procurement Portal will operate as an independent system integrated within the existing government procurement framework of Goa, India. It will encompass a range of essential functionalities tailored to streamline procurement operations. Key features include user registration and authentication mechanisms using Digital Signature Certificates (DSCs), comprehensive tender management capabilities for creating, publishing, and managing tenders, as well as robust bid submission, evaluation, and contract awarding processes. The portal will cater to multiple user roles, including government officials responsible for tender management and evaluation, vendors participating in bids, and administrators overseeing system operations and user management. Access to the portal will be facilitated through standard web browsers, necessitating hardware configurations compatible with Java applications.

**2.1 Product Perspective**

The e-Procurement Portal will function as an independent system interfacing with existing government procurement processes. It will integrate with DSC drivers, Java Runtime Environment (JRE), and various web browsers to ensure compatibility and seamless operation.

**2.2 Product Functions**

Key functions include user registration, tender creation, bid submission, bid evaluation, contract awarding, vendor management, reporting, and analytics. Each function is designed to support efficient and transparent procurement processes aligned with regulatory requirements.

**2.3 User Classes and Characteristics**

User roles include government officials responsible for tender creation and evaluation, vendors participating in bids, and administrators overseeing system operations and user management. Each user class has specific privileges and access rights tailored to their roles within the procurement lifecycle.

**2.4 Operating Environment**

The portal requires hardware compatibility with Pentium IV or higher configurations and software compatibility with Java-enabled web browsers (Mozilla Firefox, Google Chrome, Internet Explorer). It also requires access to DSC drivers and JRE for secure authentication and data processing.

**2.5 Design and Implementation Constraints**

Design constraints include compliance with IT Act 2000, adherence to guidelines from CVC, ADB, and WB, and integration compatibility with existing government procurement systems.

**2.6 User Documentation**

User manuals, online help, and training materials will be provided to assist users in navigating the portal and understanding its functionalities.

**2.7 Assumptions and Dependencies**

Assumptions include user access to necessary hardware and software configurations, possession of valid DSCs for authentication and bid submission, and adherence to regulatory guidelines for procurement activities.

**3. System Features**

The e-Procurement Portal will offer a suite of features designed to optimize the procurement lifecycle:

**3.1 User Registration and Authentication**

Users will register and authenticate using their DSCs, ensuring secure and reliable access to the portal. Registration involves filling out necessary details, submitting the form, and mapping the DSC for future authentication.

**3.2 Tender Management**

Government officials can create, modify, publish, and manage tenders efficiently through an intuitive interface. Key functionalities include tender creation, notification mechanisms for tender updates, and approval workflows to ensure compliance with procurement policies.

**3.3 Bid Submission**

Vendors can submit bids electronically for published tenders. The bid submission process involves selecting the tender, uploading necessary documents, and submitting the bid for evaluation.

**3.4 Bid Evaluation**

Officials can evaluate submitted bids based on predefined criteria and scoring mechanisms. The bid evaluation process includes opening bids, reviewing documents, assigning scores, and notifying vendors of evaluation results.

**3.5 Contract Awarding**

Contracts are awarded to successful bidders based on bid evaluation results and compliance with procurement guidelines. The contract awarding process includes selecting the winning bidder, generating the contract document, and notifying all relevant parties.

**3.6 Vendor Management**

Vendors can manage their profiles, update information, track performance metrics, and communicate with procuring entities through integrated communication tools.

**3.7 Reporting and Analytics**

The portal provides reporting tools to generate and analyze reports on procurement activities. Users can select report types, generate customized reports, and visualize data through interactive charts and graphs.

**4. External Interface Requirements**

The e-Procurement Portal interfaces with external components through various interfaces:

**4.1 User Interfaces**

Web-based interfaces accessible via major browsers, designed for intuitive navigation and accessibility across different devices.

**4.2 Hardware Interfaces**

Integration with peripheral devices such as printers and scanners for document handling and management.

**4.3 Software Interfaces**

Dependencies on DSC drivers, Java Runtime Environment (JRE), and secure communication protocols (SSL/TLS) for data encryption and protection.

**4.4 Communications Interfaces**

Email notifications for user actions, system alerts, and updates throughout the procurement lifecycle.

**5. System Non-Functional Requirements**

The e-Procurement Portal must meet stringent non-functional requirements to ensure optimal performance, security, and usability:

**5.1 Performance Requirements**

Response times of less than 2 seconds for most user actions, capable of handling up to 10,000 concurrent users during peak periods.

**5.2 Safety Requirements**

Compliance with IT Act 2000 guidelines to ensure secure operation and protection of user data.

**5.3 Security Requirements**

User authentication via DSCs, data encryption using Public Key Infrastructure (PKI) technology, and role-based access control (RBAC) to safeguard sensitive information.

**5.4 Software Quality Attributes**

High reliability with uptime targets of 99.9%, ease of maintainability to support regular updates and enhancements, and intuitive usability for all user roles.

**5.5 Business Rules**

Adherence to government procurement policies and guidelines governing the operation of e-Procurement systems in Goa, India.

**6. Other Requirements**

Additional requirements include:

**6.1 Legal and Regulatory Requirements**

Adherence to IT Act 2000 and other relevant procurement laws applicable to government entities in Goa, India.

**6.2 Data Migration Requirements**

Secure migration of existing procurement data to the new system, ensuring data integrity and continuity of operations.

**6.3 Maintainability Requirements**

Regular updates and maintenance activities to ensure system reliability, supported by comprehensive disaster recovery plans to minimize downtime.

**6.4 Availability Requirements**

System availability of 99.9% with robust disaster recovery plans in place to ensure continuous service availability.

**7. Appendices**

The appendices provide supplementary information to enhance understanding and implementation of the e-Procurement Portal:

**7.1 Appendix A: Glossary**

Definitions of key terms, acronyms, and abbreviations used throughout the SRS document.

**7.2 Appendix B: Analysis Models**

Data flow diagrams, entity-relationship diagrams (ERDs), and use case diagrams illustrating system functionalities and interactions.

**7.3 Appendix C: Issues List**

Identification and tracking of issues encountered during the development and implementation of the SRS, ensuring transparency and accountability in project management.