Software Requirements Specification for

Co-Operative Employee Management System (CEMS)

by

Registrar of Cooperative Societies,

Department of Cooperation

Government of Kerala

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1. Cooperative Societies in Kerala

The Cooperative Societies in Kerala play a vital role in the state's social and economic development. Kerala has a strong cooperative movement that spans sectors such as agriculture, banking, dairy, housing, consumer goods, and labour. These societies have significantly contributed to financial inclusion, rural development, and women empowerment, making Kerala one of the most cooperative-driven states in India. The proposed **Co-Operative Employee Management System (CEMS)** is envisaged to create a **comprehensive database and HRMS solution** for all employees working in co-operative institutions(more than 15000 in number) across Kerala, enabling transparency, efficiency, and unified employee administration. In later phases the CEMS will roll out to various types of societies in the state.

2. About RFP

2.1 Introduction

This Request for Proposal (RFP) is issued by the Registrar of Cooperative Societies (RCS), Department of Cooperation, Government of Kerala, for the selection of a qualified vendor to undertake the design, development, implementation, hosting, training, maintenance, and support of the Centralized Co-Operative Employee Management System (CEMS). The CEMS is envisaged as an integrated Personnel, Payroll, and Accounts information system catering to all employees within the Cooperative Sector of Kerala. The initiative aims to modernize cooperative governance by creating a comprehensive database and HRMS solution to ensure transparency and efficiency.

3. Scope of Work

3.1 Overview

The selected vendor shall be responsible for the end-to-end design, development, implementation, and long-term support of the Co-Operative Employee Management System (CEMS). The system must be a comprehensive, integrated Personnel, Payroll, and Accounts information system covering all employees in the Cooperative Sector of Kerala. The scope includes providing a unified platform for the Department, various Boards (Pension, Welfare, and Examination), and individual Societies.

3.2 Detailed Scope of Work

The selected bidder shall undertake the following activities:

- System Study and Requirement Finalization: Conduct a detailed system study and finalize requirements based on an approved Software Requirements Specification (SRS).

- Design and Development: Design, develop, test, and implement a web-based CEMS application utilizing the latest or advanced architecture as per industry standards.

- Centralized Employee Database: Implement a centralized system where every employee is allotted a unique Cooperative Employee Number (CEN).

- System Integration: Develop robust APIs for seamless integration with:
  - Kerala Co-operative Service Examination Board for recruitment data.

  - Kerala State Co-operative Employees' Welfare Board.

  - Co-operative Pension Board.

  - External gateways for SMS and Email notifications.

- Data Migration: Formulate a strategy and execute the migration of existing employee master records and service history from legacy systems.

- Hosting shall be permitted **only in Government-approved infrastructure**, preferably:

  - Kerala State Data Centre (SDC), or
  - Government-approved cloud infrastructure.

- Data residency within India shall be mandatory.

- Data hosting must adhere to DPDP Act 2023, IT Act 2000 & Kerala State IT Policy.

- User Management and Access Control: Establish multi-level role-based access for Department, Society, Board, and individual Employee-level logins.

- Training and Capacity Building: Deliver comprehensive training sessions using a cascade model, including the preparation of user manuals and video tutorials.

- Operations and Maintenance: Provide five (5) years of post-implementation support, including bug fixes, security patches, and minor enhancements.

- API Integration:

  The CEMS architecture shall include:

  1. API-based integration framework,

  2. Provision for onboarding new systems in future,

  3. **Integration (with Boards and Apex Organisations)to be enabled through approved change requests, without redesigning the core system.**

3.3 Core Functional Modules in Scope

The system must comprehensively cover the following functional areas:

Category	Key Deliverables
Personnel Administration	Recruitment, onboarding, service book management, regularisation, and probation tracking.
Payroll & Accounts	Automated payroll processing, arrears calculation, statutory deductions, and income tax (Form-16) management.
Service Matters	Leave management (CL/EL/HPL), transfer processing (General/Inter-district), and promotion/grade/reversion tracking.
Performance & Training	Performance management, training attendance, and annual confidential report (ACR) tracking.
Benefits & Loans	Management of loans, advances, PF/Pension matters, and welfare fund contributions.
Compliance	Auto-generation of statutory registers, property returns, and audit-ready reports

3.4 Implementation Approach

The project is intended for implementation across all cooperative societies in the state. The vendor must ensure that the software is scalable to accommodate PACS and later expand to all other types of cooperative societies without functional degradation.

4. Functional Requirements

4.1 Overview

The Co-Operative Employee Management System (CEMS) is an integrated Personnel, Payroll, and Accounts information system designed to create a comprehensive database for all employees in the Kerala cooperative sector. The system ensures that rules and regulations are uniformly applied across all cooperative establishments, achieving higher transparency and better employee relations.

4.2 Multi-Level Access and Logins

The system features a modular architecture with distinct login levels to cater to the specific needs of employees, societies, the department, and various boards.

1. Employee Level Login (Self-Service)

This login provides service-related information, reports, and statements for individual employees.

- Profile Management: View personal memoranda, qualifications, family details, and present salary details.

- Contribution Tracking: Access details regarding various contributions made by the employer, including Provident Fund (PF), Welfare Fund, and Pension matters.

- Contribution Payments: Provision for employees to manage or make payments toward various contributions as required.

- Financial Details: View loan/advance schedules, income tax statements, and salary-drawn reports.

2. Organisation Level Login (Admin)

This level is managed by the Secretary or authorized administrative personnel of the society to handle day-to-day service matters.

- Employee Lifecycle Management: Handle recruitment, onboarding, regularisation, and probation clearance.

- Payroll Administration: Process monthly salary matters, Pay Revision arrears, and automated bill generation.

- Personnel Records: Manage e-Service books, scanned service books, and Annual Confidential Reports (ACR).

3. Department Level Login (Super Admin)

As the regulatory body, the Department of Cooperation uses this level for centralized oversight.

- Regulatory Oversight: Monitor and check all employee records across the state cooperative sector to ensure compliance with rules.

- Centralized Database: Access a single source of truth for the entire cooperative society network in Kerala.

- Query & Reporting: Run complex queries across multiple societies for decision-making and policy enforcement.

4. Various Boards & Apex Bodies Login

Specific access is provided to boards such as the Pension Board, Welfare Board, and Examination Board.

- Data Integration: Boards can retrieve relevant employee details immediately through the unique Cooperative Employee Number (CEN).

- Scheme Administration: Manage specific modules related to their domain, such as recruitment data (Examination Board) or pension disbursement (Pension Board.

4.3 Integrated Features

- Unique Identification: Every employee is allotted a unique Cooperative Employee Number (CEN), which serves as the core identifier for all boards and the department.

- Transparency: Centralized data helps achieve the highest level of transparency in dealing with employees and application of rules.

Reporting: Comprehensive report generation for salary matters, deduction statements, and compliance audits.

5. Advanced System Architecture & Integration

The system shall transition from a traditional monolithic structure to a modern, service-oriented framework to ensure long-term scalability across all cooperative societies.

- **Advanced Architecture Standard**: The system must be built using a modular, microservices-ready architecture to allow independent scaling of high-load modules such as Payroll and Attendance.

- **API-First Interoperability**: The startup shall provide a comprehensive set of documented RESTful APIs to facilitate seamless integration with at least 7 external portals, including CIMA, the Audit Software, and the Risk Fund.

- **Single Source of Truth**: The system must maintain a centralized databank where every employee is identified by a unique, permanent Cooperative Employee Number (CEN) for consistent tracking across various boards and departments.

6. Specialized Multi-Tier Login Requirements

Should define functional requirements for the following four distinct user tiers:

6.1 Employee Tier (Self-Service)

- **Contribution Dashboard**: Employees must be able to view their profile and all historical contributions made by their employer toward PF, Pension, and Welfare funds.

- **Integrated Payment Gateway**: The system shall include a secure payment gateway integration allowing employees to make personal payments toward various contributions directly through the portal.

- **Service History**: Access to view and download salary slips, IT statements, and the e-Service Book.

6.2 Organisation/Society Tier (Admin)

- **Operational Management**: Provision to manage recruitment, on-boarding, probation clearance, and daily attendance tracking.

- **DSC Integration**: Support for Digital Signature Certificates (DSC) to authenticate and lock/unlock employee service records and annual confidential reports.

6.3 Department Tier (Super Admin / Regulatory Body)

- **Regulatory Oversight**: A centralized dashboard providing the Department of Cooperation the ability to oversee and check all employee records statewide.

- **Rule Enforcement**: Automated tools to ensure consistent application of department rules and regulations across all establishments to minimize complaints.

6.4 Various Boards & Apex Bodies

- **Immediate Data Retrieval**: Specialized access for the Pension Board, Welfare Board, and Examination Board to retrieve specific employee details immediately via the CEN.

- **Module-Specific Access**: Integration points for recruitment data (Examination Board) and scheme-specific contributions (Welfare Board).

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7. Non-Functional & Security Requirements

- **Data Residency & Privacy**: All employee PII (Personally Identifiable Information) must be encrypted at rest, ensuring compliance with the Digital Personal Data Protection (DPDP) Act,IT Act 2000 and Kerala State IT Policy.

- **State Data Centre (SDC) Hosting**: The application shall be optimized for deployment at the Kerala State Data Centre (SDC) or an approved government cloud environment.

- **Performance Metrics**: The system must support at least 5000 concurrent users with transactions.

- **Audit Trail**: Every modification to service book data or financial records must be logged with a non-repudiable audit trail including user ID, timestamp, and action performed.