

SEA PORTAL: Vizhinjam International Seaport Project

Poornima P¹, Riyad A², Harikrishnan S R³

Student, MCA, CHMM College for Advanced Studies, Trivandrum, India¹

Associate Professor, MCA, CHMM College for Advanced Studies, Trivandrum, India^{2,3}

Abstract: *The Vizhinjam International Seaport Project is a flagship infrastructure initiative aimed at transforming Kerala into a prominent hub for global maritime trade. To support this strategic vision, a comprehensive web-based management system titled SEA PORTAL has been designed and developed. The application is built using the Python Django framework for its backend logic and SQLite3 as the relational database, offering a lightweight yet scalable solution ideal for integrated port operations. SEA PORTAL is engineered to replace traditional, partially manual workflows with a unified digital platform that ensures enhanced operational efficiency, secure data handling, real-time visibility, and inter-departmental collaboration. It automates key port functions such as job and tender management, export and ship tracking, complaint resolution, tax calculation, user registration, and internal communication, thereby enabling streamlined operations for stakeholders including administrators, companies, contractors, and the public. SEA PORTAL represents a significant advancement over the existing Vizhinjam port website, which primarily functions as a static informational portal with limited operational utility. In contrast, SEA PORTAL delivers a fully integrated, transaction-driven system that digitizes and automates critical port activities across multiple departments. The system's integration of real-time data handling, secure transaction processing, and structured user access significantly enhances transparency, administrative efficiency, and stakeholder engagement—positioning it as a critical step forward in the port's digital transformation journey.*

Keywords: Django Framework, SQLite3 Database, Maritime Logistics, Port Management System, Import/Export Automation, Digital Tendering, Complaint Resolution Mechanism, Tax Computation

