

NEXT-GEN HUMAN CAPITAL TECHNOLOGY

Human Resource Management System

(HRMS) — Architecture, Security & Disaster Continuity Whitepaper

An architectural blueprint, multi-tenant data isolation breakdown, defensive cybersecurity shield, and business disaster recovery framework engineered for corporate IT and management assessments.

PORTAL HIGHLIGHTS & PRODUCTION STATUS**v2.4 Audit Ready****API Performance:** Sub-100ms Latency**Architecture:** Logical Multi-Tenant**Security Core:** Bcrypt & Prepared SQL**Shift Tracking:** GPS Geofencing**Disaster Recovery:** Redundant Backups**Support SLA:** Dedicated WhatsApp Desk**MODULE 01**

What is Bloomserve HRMS?

Bloomserve HRMS (Human Resource Management System) is an enterprise-grade, cloud-native workforce operations platform engineered to automate the complete employee lifecycle. It unifies corporate leadership, HR administration, payroll operations, and employee self-service (ESS) into a secure, ultra-responsive web application with zero framework overhead.

MODULE 02

Why Modern Companies Need an HRMS

**Elimination of Time-Theft**

Eliminates proxy check-ins via real-time GPS geo-fencing and asynchronous shift timers capturing exact physical presence.

**85% Admin Overhead Reduction**

Automates recurring tasks—such as leave collision audits, salary payslip distribution, and KYC collection workflows.

**100% Statutory Compliance**

Maintains tamper-proof historical records of shifts, attendance logs, and deduction structures (PF, ESIC, PT, TDS).

**Seamless Mobile Self-Service (ESS)**

Empowers employees to apply for leaves, download payslips, upload KYC via camera scan, and chat with HR desk.

Core Functional Portal Features



Smart Attendance & Geo-Tracking

- **1-Tap Asynchronous Punch:** Instant punch-in/out.
- **Live Shift Counter:** Real-time ticking working timer.
- **GPS Geo-Lock:** Captures exact latitude & longitude.
- **Direct Export:** Single-line month/date CSV download.



Intelligent Leave Lifecycle Engine

- **Multi-Quota Tracking:** Casual, Sick, Privilege & Comp-Off.
- **Fractional Shifts:** 0.5 (First/Second Half) & full days.
- **Collision Guard:** Rejects overlapping date requests.
- **Self-Service Action:** 1-click edit and withdrawal.



Salary Payslip Repository

- **Itemized Breakdowns:** Basic, HRA, PF, ESIC & TDS.
- **Multi-Branding:** Dynamic entity headers & addresses.
- **Vector PDF Engine:** 1-click encrypted PDF generation.
- **Native Print Stream:** Single-page A4 print optimization.



Mobile Document Vault & Scanning

- **1-Tap Camera Scan:** KYC, Aadhaar, PAN & IDs upload.
- **Centralized Vault:** Appointment letters & contracts.
- **Policy Hub:** Broadcast employee handbooks & POSH.
- **Role Scoping:** Employees only access their own files.

Enterprise Technology Stack

Layer	Technology Deployed	Technical Advantage
Frontend	Vanilla JS (ES6+) & Modern CSS3	Zero framework bloatware, instant DOM hydration, Windows 11 Fluent UX.
Backend Core	Custom Modular PHP 8.x Engine	High-throughput non-blocking execution, sub-100ms API response latency.
Database	MySQL / MariaDB Relational Engine	ACID transactional integrity, normalized schemas, indexed Employee IDs.
API Layer	RESTful Asynchronous Endpoints	Non-blocking AJAX request transport for shift check-ins & live timers.

MODULE 05

Data Security, Privacy & RBAC Shield

Security Pillar	Threat Mitigated	Technical Implementation
SQLi Shield	CWE-89 (SQL Injection)	100% Prepared SQL Statements (\$wpdb->prepare). Zero raw string concatenations.
XSS Defense	CWE-79 (Cross-Site Scripting)	Server-side input sanitization and contextual output escaping (esc_html, esc_url).
IDOR Protection	CWE-639 (Direct Object Reference)	URL parameters validated against server-side session ownership before record access.
Tenant Isolation	Cross-Tenant Data Leaks	Database-level tenant scoping via immutable company_id constraints.
Cryptographic Store	CWE-256 (Credential Leakage)	Salted one-way hashing algorithms (Bcrypt). Zero plaintext credential persistence.

MODULE 06

Disaster Management & Business Continuity

**Automated Redundant Backups**

Continuous database snapshots & offsite storage ensure zero data loss with minimal Recovery Point Objective (RPO).

**99.9% High Availability SLA**

Server architecture backed by automated health monitoring guarantees uninterrupted 24/7 workforce punch access.

**Rapid Disaster Recovery (DR)**

Containerized modular codebases enable multi-server redeployment in under 15 minutes during infrastructure outages.

**Zero-Trust State Restoration**

In case of network drops, punch states and pending leave submissions are committed before session timeout.

MODULE 07

Get Connected & Schedule a Live Demo

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