

Hospital Patient Management System

Technical Documentation

Version 1.0

Global Hospital

January 2025

Table of Contents

1. Document Information

Document Detail	Value
Document Title	Hospital Patient Management System - Technical Documentation
Version	1.0
Release Date	January 2025
Last Updated	January 9, 2025
Document Owner	Global Hospital IT Team

2. System Overview

2.1 Introduction

The Hospital Patient Management System (HPMS) is a comprehensive healthcare information management solution designed to streamline hospital operations, enhance patient care, and improve administrative efficiency. This system integrates various aspects of hospital management into a unified, secure, and user-friendly platform.

2.2 Purpose and Objectives

Objective	Description
Patient Care Enhancement	Improve patient care through better information management and accessibility
Operational Efficiency	Streamline hospital operations and reduce administrative overhead
Data Management	Centralize and secure medical records and patient information
Communication	Enhance communication between patients, doctors, and staff

2.3 Target Users

User Type	Access Level	Primary Functions
Administrators	Full System Access	System management, user management, reporting
Doctors	Clinical Access	Patient records, appointments, prescriptions
Patients	Limited Access	Appointments, medical records, prescriptions

3. Technical Architecture

3.1 Technology Stack

Layer	Technology	Version	Purpose
Frontend	HTML5, CSS3, JavaScript	Latest	User interface and client-side functionality
UI Framework	Bootstrap, AdminLTE	5.x, 3.x	Responsive design and admin interface
Backend	PHP	7.4+	Server-side processing
Database	MySQL	5.7+	Data storage and management
Web Server	Apache/Nginx	Latest	HTTP server and request handling

3.2 System Architecture Diagram

The system follows a three-tier architecture: • Presentation Layer (Frontend) • Application Layer (Backend) • Data Layer (Database)

3.3 Database Schema

Table Name	Primary Key	Key Fields	Description
------------	-------------	------------	-------------

user	id	username, email, password	Admin user information
doctreg	did	docfname, doclname, spec	Doctor registration details
patreg	pid	patfname, patlname, contact	Patient registration records
appointment	id	doctor_id, patient_id, date	Appointment records

4. Core Functionalities

4.1 User Authentication

- Secure login system
- Role-based access control
- Password encryption
- Session management
- Password reset functionality

4.2 Patient Management

- Patient registration
- Medical history tracking
- Appointment scheduling
- Prescription access
- Profile management

4.3 Doctor Management

- Doctor registration
- Schedule management
- Patient record access
- Prescription management

- Appointment overview

5. Security Implementation

5.1 Authentication Security

Feature	Implementation	Purpose
Password Hashing	PHP password_hash()	Secure password storage
Session Management	PHP Sessions	User session handling
SQL Injection Prevention	PDO Prepared Statements	Database query security

Security Warning: Regular security audits and updates are mandatory to maintain system security.

6. Installation Guide

6.1 System Requirements

Component	Minimum Requirement	Recommended
Processor	2.0 GHz Dual Core	2.4 GHz Quad Core
RAM	4 GB	8 GB
Storage	20 GB	50 GB SSD
Network	10 Mbps	100 Mbps

6.2 Installation Steps

1. Clone repository from source control
2. Install required dependencies
3. Configure database settings
4. Set up web server

- 5. Initialize the system
- 6. Create admin account

Installation Note: Follow the steps in sequence to ensure proper system setup.

7. Maintenance and Support

7.1 Routine Maintenance

Task	Frequency	Description
Database Backup	Daily	Full backup of all databases
Log Rotation	Weekly	System log management
Security Updates	Monthly	System security patches

7.2 Support Channels

Channel	Contact Details	Availability
Technical Support	support@globalhospital.com	24/7
Emergency Support	emergency@globalhospital.com	24/7