**Healthcare Portal System Documentation**

**1. Project Overview**

**Project Name: Healthcare Portal System  
Version: 1.2.0  
Last Updated: June 15, 2023  
Technology Stack:**

* **Backend: PHP 7.4+, MySQL 5.7+**
* **Frontend: HTML5, CSS3, JavaScript (ES6+)**
* **Libraries: Chart.js, Font Awesome**
* **Server: Apache (WAMP/XAMPP/MAMP)**

**Key Features:**

* **Role-based access control (Admin, Doctor, Patient)**
* **Appointment scheduling system**
* **Electronic prescription management**
* **Patient medical records**
* **Interactive dashboards with analytics**
* **Responsive web design**

**2. System Architecture**

**2.1 Directory Structure**

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**healthcare\_portal/**

**├── assets/**

**│ ├── css/**

**│ │ ├── main.css # Core styles**

**│ │ ├── admin.css # Admin-specific styles**

**│ │ ├── doctor.css # Doctor-specific styles**

**│ │ └── patient.css # Patient-specific styles**

**│ ├── js/**

**│ │ ├── main.js # Shared JavaScript**

**│ │ ├── admin\_dashboard.js**

**│ │ ├── doctor\_dashboard.js**

**│ │ └── patient\_dashboard.js**

**│ └── images/ # All static assets**

**├── config/**

**│ └── database.php # DB configuration**

**├── includes/ # Shared components**

**│ ├── header.php**

**│ ├── footer.php**

**│ ├── auth\_check.php**

**│ └── functions.php**

**├── admin/ # Admin controllers/views**

**├── doctor/ # Doctor controllers/views**

**├── patient/ # Patient controllers/views**

**├── index.php # Entry point**

**└── login.php # Authentication**

**2.2 Database Schema**

***See Appendix A for complete schema SQL***

**2.3 Workflow Diagram**

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**sequenceDiagram**

**participant User**

**participant System**

**participant Database**

**User->>System: Accesses portal**

**System->>User: Shows login page**

**User->>System: Enters credentials**

**System->>Database: Verifies credentials**

**Database->>System: Returns user data**

**alt Valid credentials**

**System->>User: Redirects to role dashboard**

**else Invalid credentials**

**System->>User: Shows error message**

**end**

**3. Installation Guide**

**3.1 Requirements**

* **Web server with PHP 7.4+**
* **MySQL 5.7+**
* **500MB disk space**
* **Modern web browser**

**3.2 Setup Instructions**

1. **Server Setup:**

**bash**

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**# For Ubuntu:**

**sudo apt install apache2 mysql-server php libapache2-mod-php**

**sudo systemctl restart apache2**

1. **Database Configuration:**

**sql**

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**CREATE DATABASE healthcare\_portal;**

**CREATE USER 'health\_user'@'localhost' IDENTIFIED BY 'securepassword123';**

**GRANT ALL PRIVILEGES ON healthcare\_portal.\* TO 'health\_user'@'localhost';**

**FLUSH PRIVILEGES;**

1. **Application Deployment:**

**bash**

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**cd /var/www/html**

**git clone https://github.com/yourrepo/healthcare\_portal.git**

**chown -R www-data:www-data healthcare\_portal**

1. **Configuration:  
   Edit config/database.php:**

**php**

**Copy**

**<?php**

**$host = 'localhost';**

**$dbname = 'healthcare\_portal';**

**$username = 'health\_user';**

**$password = 'securepassword123';**

**// ... rest of config**

**4. User Manual**

**4.1 User Roles**

| **Role** | **Access Level** | **Key Features** |
| --- | --- | --- |
| **Admin** | **Full system access** | **User management, system config** |
| **Doctor** | **Patient care management** | **Appointments, prescriptions** |
| **Patient** | **Personal health management** | **Booking, records viewing** |

**4.2 Common Workflows**

**Appointment Booking:**

1. **Patient logs in**
2. **Navigates to "Book Appointment"**
3. **Selects doctor, date, and time**
4. **Provides reason for visit**
5. **Receives confirmation**

**Prescription Workflow:**

1. **Doctor views patient profile**
2. **Accesses "Create Prescription"**
3. **Enters medication details**
4. **Saves prescription**
5. **System notifies patient**

**5. Developer Guide**

**5.1 Coding Standards**

* **PHP: PSR-12 coding style**
* **JavaScript: ES6+ with Airbnb style guide**
* **Database: Prepared statements only**

**5.2 API Reference**

**Endpoint: /api/appointments  
Method: GET  
Parameters:**

* **user\_id (required)**
* **status (optional: scheduled/completed/cancelled)**

**Response:**

**json**

**Copy**

**{**

**"success": true,**

**"data": [**

**{**

**"id": 102,**

**"patient\_name": "Jane Doe",**

**"date": "2023-06-20",**

**"time": "14:30:00",**

**"status": "scheduled"**

**}**

**]**

**}**

**5.3 Error Handling**

**Common error codes:**

* **400: Bad request**
* **401: Unauthorized**
* **404: Resource not found**
* **500: Server error**

**Example handler:**

**php**

**Copy**

**try {**

**// Database operation**

**} catch (PDOException $e) {**

**error\_log("DB Error: " . $e->getMessage());**

**http\_response\_code(500);**

**die(json\_encode(["error" => "Database operation failed"]));**

**}**

**6. Maintenance**

**6.1 Backup Procedures**

**bash**

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**# Database backup**

**mysqldump -u health\_user -p healthcare\_portal > backup\_$(date +%F).sql**

**# File backup**

**tar -czvf portal\_backup\_$(date +%F).tar.gz /var/www/html/healthcare\_portal**

**6.2 Update Process**

1. **Pull latest changes:**

**bash**

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**cd /var/www/html/healthcare\_portal**

**git pull origin main**

1. **Run migrations (if any):**

**bash**

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**php migrations/latest.php**

1. **Clear cache:**

**bash**

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**rm -rf tmp/cache/\***

**7. Troubleshooting**

**Common Issues**

| **Symptom** | **Possible Cause** | **Solution** |
| --- | --- | --- |
| **Blank page** | **PHP errors disabled** | **Enable display\_errors in php.ini** |
| **DB connection fails** | **Wrong credentials** | **Verify config/database.php** |
| **Session not persisting** | **Permission issues** | **Check /tmp directory permissions** |

**Debugging Checklist**

1. **Check PHP error logs (/var/log/apache2/error.log)**
2. **Verify database connection**
3. **Test with different user roles**
4. **Check JavaScript console for frontend issues**

**Appendices**

**Appendix A: Database Schema SQL**

**sql**

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**-- Complete schema creation script**

**CREATE TABLE users (**

**id INT AUTO\_INCREMENT PRIMARY KEY,**

**username VARCHAR(50) UNIQUE NOT NULL,**

**password VARCHAR(255) NOT NULL,**

**email VARCHAR(100) UNIQUE NOT NULL,**

**role ENUM('admin','doctor','patient') NOT NULL,**

**first\_name VARCHAR(50) NOT NULL,**

**last\_name VARCHAR(50) NOT NULL,**

**created\_at TIMESTAMP DEFAULT CURRENT\_TIMESTAMP**

**);**

**-- Additional table definitions...**

**Appendix B: Sample Test Data**

**sql**

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**-- Sample admin user**

**INSERT INTO users VALUES (**

**NULL, 'sysadmin', '$2y$10$hashedpassword', 'admin@hospital.com',**

**'admin', 'System', 'Admin', NOW()**

**);**

**-- Sample doctor**

**INSERT INTO doctors VALUES (**

**2, 'Cardiology', 'MD, PhD', '555-0101'**

**);**

**Appendix C: Dependency List**

* **PHP 7.4+**
* **MySQL 5.7+**
* **Chart.js 3.7.0**
* **Font Awesome 6.1.1**
* **jQuery 3.6.0 (optional)**

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