**Test Plan (SmartHospital.com)**

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**1. Objective**

The objective of this test plan is to validate that the Smart Hospital Management System (SHMS) performs seamlessly, meets user needs, and is reliable for daily hospital operations. Core functionalities such as patient registration, appointment scheduling, billing, staff and inventory management, and reporting will be thoroughly tested. Additionally, the system's performance and data security will be assessed to ensure compliance with healthcare standards.

**2. Scope**

Testing will cover the following areas:

* Patient management: registration, profile updates, medical history tracking
* Appointment scheduling: booking, rescheduling, cancellation
* Staff management: adding employees, managing shifts
* Billing and payments: invoice generation, payment processing, insurance claims
* Pharmacy and inventory: tracking medicines and supplies
* Report generation: operational, financial, and patient reports
* Performance and security: responsiveness, load handling, and data protection compliance

Testing excludes third-party medical device integrations and mobile app-specific testing.

**3. Inclusions**

* Detailed test cases and scenarios across all modules
* Daily status reports on execution progress
* Bug/defect reports prioritized by severity
* Final test summary report and recommendations

**4. Test Environments**

Testing will be performed in:

* Development and Staging environments for initial builds and validations
* Production environment with limited access for sanity checks after deployment

Supported platforms:

* Windows 10/11 (Chrome, Firefox, Edge)
* macOS (Chrome)
* Mobile (Android Chrome, iOS Safari)

Devices include desktops, laptops, and selected real mobile devices.

**5. Defect Reporting Procedure**

* Defects will be logged in JIRA with detailed reproduction steps, screenshots, and logs where necessary
* Severity and priority will be assigned by QA team
* Defect reviews will be conducted regularly during stand-up meetings
* Fixes will be verified in subsequent testing cycles

**6. Test Strategy**

|  |  |
| --- | --- |
| **Component** | **Description** |
| Objectives | Validate critical workflows such as patient admission, appointments, billing, and inventory |
| Test Levels | Unit testing , integration testing, system testing, UAT |
| Test Types | Functional, Security, Usability, Regression, Performance, Load Testing |
| Test Techniques | Exploratory testing, boundary value analysis |
| Test Deliverables | Test plans, test cases, defect reports, performance and usability reports |
| Test Environment | Configured across multiple OS, browsers, devices, and network conditions |
| Resource Allocation | QA team divided into functional, performance, and automation testers |
| Risk Management | Address risks like limited environment access, build stability, and time constraints |
| Test Exit Criteria | Completion of planned test coverage with acceptable defect severity levels, performance benchmarks |

**7. Test Schedule**

* Test planning: 2 days (completed)
* Test case development: 4 days
* Test execution: 7–10 working days (aligned with sprint cycles)
* Final reporting: Within 4 days after completion of execution

**8. Test Deliverables**

* Approved and detailed test plan
* Test cases stored in Excel for ease of use and update
* Execution status reports (daily/weekly)
* Defect logs maintained in JIRA
* Final test summary and lessons learned document

**9. Entry and Exit Criteria**

**Entry Criteria:**

* Requirements and specifications finalized and approved
* Test environments setup and stable
* Test data prepared and verified
* Test cases written and reviewed

**Exit Criteria:**

* All critical and high-priority test cases executed successfully
* No unresolved critical or major defects
* Test summary report reviewed and approved by stakeholders

**10. Test Execution**

* Testers will execute test cases according to priority and schedule
* Regression testing will be performed after major fixes or code changes
* Exploratory testing to identify defects outside scripted test scenarios

**11. Test Closure**

* **Entry Criteria:**
* Completion of all planned test cases
* Resolution or documented acceptance of significant defects
* Test reports compiled and ready for review
* **Exit Criteria:**
* Review of test results and lessons learned
* Formal sign-off from QA and stakeholders

**12. Tools**

* Excel for documenting and managing test cases
* JIRA for defect logging and tracking
* Postman for API testing where applicable
* GTmetrix and BlazeMeter for performance and load testing

**13. Risks and Mitigations**

* Delay in environment availability → Coordinate early with the infrastructure team
* Unclear or evolving requirements → Frequent communication with business analysts and developers
* Data privacy and security concerns → Use anonymized/synthetic data in non-production environments
* Tight project deadlines → Prioritize critical hospital workflows during initial testing cycles

**14. Approvals**

* Test Plan approved by QA Lead and Project Manager
* Test Cases approved by Business Analysts and Client (where applicable)
* Reports reviewed and signed off by stakeholders