|  |  |  |  |
| --- | --- | --- | --- |
| **NFR** | **Non-Functional Requirements** | **Modules** | **Components and Comments** |
| NFR1 | **Performance** | Appointment Scheduling, Reporting, Patient Portal, Image Storage & Retrieval | • System must support at least 200 users with a response time of less than 2 seconds  • Have real time search capability with low latency  • The system should be able to upload and download large DICOM files efficiently |
| NFR2 | **Security** | User Management, Staff Management, Security & Audit, Image Storage, Billing | • Patient data encrypted using AES-256 • Only allow HTTPS usage for data in transit • Apply secure password hashing • Role-based access control • Log user activity • Alert admin when suspicious access occurs |
| NFR3 | **Availability** | All modules,  Database, Notification system, Admin Dashboard | • System maintains a minimum of 99.5% uptime  • Automatic failover provided during system failures  • Notify users of all maintenance events ahead of time. |
| NFR4 | **Reliability** | Billing, Appointment Scheduling, Admin Dashboard, Database | • Ensure no alterations to the data throughout all transactions  • Enable automatic backup and restore  • Ensure there is no data loss in partial failure situations |
| NFR5 | **Usability** | Patient Portal, User Management, Appointment Scheduling | • Intuitive user interface  • Responsive to desktop, tablet and mobile devices  • Provide clear error messages  • Satisfied WCAG 2.1 Level AA requirements |
| NFR6 | **Compatibility** | Patient Portal, Image Storage, Reporting, All Web Modules | • Support all main web browsers  • promote mobile friendly access  • Images in standard DICOM and reports in PDF |
| NFR7 | **Scalability** | All Modules | • Structure the system to accommodate more modules or features without requiring significant adjustments  • Make use of flexible infrastructure |
| NFR8 | **Maintainability** | Admin Dashboard, Security & Audit, All Modules | • A well-documented and modular system is ideal • Allow for seamless application of new features  • Keep track of errors for diagnostic purposes |
| NFR9 | **Audit and Compliance** | Security & Audit, Reporting, Patient Profile, Billing | • Keep audit logs for a minimum of a year  • Allow exporting for auditing  • Adhere the HIPAA/GDPR guidelines |
| NFR10 | **Backup and Recovery** | Admin Dashboard, Database, Security & Audit | • Automatic backups every day  • Permit manual administrator backups  • Guarantee recovery within four hours of a failure |
| NFR11 | **Legal and Ethical** | Patient Portal, User Management, Security & Audit, Content Management | • Display the privacy statement and terms of service  • Get user consent  • Permit the deletion of data and accounts  • Handle sensitive data ethically |