**REQUIREMENTS TABLE**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Req# | Requirement | Description | Coments | Rate |
| FR\_01 | Child Records Management | Capture and maintain detailed profiles for each child (personal details, medical history, enrollment). | Essential for personalized education. | High |
| FR\_02 | Attendance Tracking | Record daily attendance for children and staff, and generate summary reports. | Critical for operational oversight. | High |
| FR\_03 | Staff Management | Manage staff details including roles, schedules, and performance for teachers, sanitars, and chefs. | Integrates all staff functions. | High |
| FR\_04 | Meal Planning & Dietary Management | Plan menus, handle dietary restrictions, and manage meal inventories. | Key for ensuring child nutrition and safety. | High |
| FR\_05 | Parent Communication | Facilitate communication with parents via notifications, updates, and progress reports. | Vital for transparency and engagement. | High |
| FR\_06 | Reporting and Analytics | Generate detailed reports on attendance, staff performance, and financial metrics for decision-making. | Supports compliance and strategic planning. | High |
| FR\_07 | Event Management | Schedule and manage events (parent-teacher meetings, school holidays, class activities) with notifications. | Enhances community involvement. | Medium |
| FR\_08 | Secure Login and Access Control | Provide a secure, role-based login system to protect sensitive data. | Critical for data privacy and protection. | High |
| FR\_09 | Notifications & Alerts | Send timely notifications and alerts regarding system updates and emergencies. | Improves real-time responsiveness. | Medium |
| FR\_10 | System Integration & Maintenance | Enable integration with third-party applications and provide tools for system maintenance. | Enhances overall system stability. | Medium |

# Non-Functional Requirements

Non-functional requirements (NFRs) define the system attributes such as security, reliability, maintainability, performance, and usability. Unlike functional requirements (FRs), which describe what the system should do, NFRs define how the system performs under various conditions. These requirements are crucial for the overall usability, stability, and efficiency of the solution.

**Product Requirements**

**1. Security Requirements**

* All sensitive data (children’s records, medical data, staff details) must be encrypted both at rest and during transmission.
* Implement role-based access control for Admin, Teacher, Sanitar, Chef, and Parent roles.
* Support for session timeout and secure authentication (e.g., hashed passwords, CAPTCHA for login).
* Use HTTPS protocols for all data exchange.

**2. Performance Requirements**

* The system should respond to user requests within 2 seconds under normal conditions.
* Maintain 99.9% uptime during working hours (Mon–Fri, 07:00–18:00).
* Generate attendance and meal reports within 5 seconds of user request.

**3. Reliability Requirements**

* System must support automated daily backups of all databases.
* Implement failover strategies to ensure continued service during server failures.
* Support for data recovery within 1 hour of an incident.

**Organizational Requirements**

**1. Training & Documentation**

* User manuals tailored for each role (Admin, Teacher, etc.).
* Hands-on training sessions for staff, including simulations for emergency alerts and event scheduling.

**2. Change Management**

* Define a version control policy for updates and patches.
* Maintain a rollback mechanism in case of system update failure.

**Environmental Requirements**

**1. Technologies to be Used**

* Backend: Java using Spring Framework.
* Frontend: Java Swing or JavaFX; optionally, web technologies (HTML/CSS/JS) for parent portals.
* Database: MySQL (with XAMPP/phpMyAdmin for local dev).
* Build Tools: Maven or Gradle (for dependency management).

**2. Infrastructure & Hardware**

* Server: Quad-core CPU, 16GB RAM (recommended), SSD storage.
* Clients: Any machine with Java 11+, 4GB RAM minimum.
* Network: Wired or WiFi with at least 20 Mbps bandwidth.

**3. Software Dependencies**

* Java 11+, MySQL 8+, Spring Boot, Hibernate.
* IDEs: NetBeans or IntelliJ.
* Optional: JasperReports for report generation.

**4. Network Requirements**

* Secure internal LAN or VPN for administrative access.
* Protection through firewalls and anti-virus software.
* HTTPS for web-based communication.

**5. Data Storage and Management**

* Minimum 500GB of storage to handle media files and records.
* Backup strategy: Daily full backups, weekly cloud sync.

**6. Environmental Security**

* Controlled access to the server room.
* CCTV and physical security measures.
* Fire suppression and temperature/humidity control systems.

**7. Integration with External Systems**

* Support integration with:
  + Email services (e.g., Gmail SMTP) for parent notifications.
  + Google Calendar API for event synchronization.
  + Third-party SMS gateway for alerts.

**8. Scalability Testing**

* Load test to simulate up to 200 concurrent users.
* Test performance during peak hours (e.g., 7:00–8:00 check-in).

**9. Compliance Monitoring**

* Implement audit logs and monitoring tools to ensure:
  + Compliance with child safety and data privacy standards.
  + Alerts for any unauthorized access attempts.

**10. Usability Testing Environment**

* Include parents and staff in testing groups.
* Conduct bi-monthly UI/UX reviews.

**11. Training Facilities**

* Provide a sandbox environment for staff training.
* Use training videos and workshops.

**External Requirements**

**1. Integration**

* Ability to connect with:
  + Government databases (e.g., for vaccination status).
  + Emergency services via alert API (optional future feature).

**2. Regulatory Compliance**

* Adherence to Albanian data protection laws (compatible with GDPR principles).
* Compliant with health and safety guidelines for educational institutions.

**Ethical Requirements**

* Equal access for all children regardless of background.
* Transparent communication with parents regarding:
  + Food menus
  + Daily activities
  + Medical alerts or incidents
* Data used **only** for kindergarten operations, never shared without consent.

**Legislative Requirements**

* Compliance with:
  + Albanian Law on the Protection of Personal Data (Law no. 9887/2008).
  + Law on the Rights of the Child (Law no. 18/2017).
  + School regulations on reporting attendance, meals, and incidents.
* All data processing operations must follow the GDPR principles:
  + Lawfulness, fairness, and transparency
  + Data minimization and accuracy
  + Security and accountability

**Domain Requirements**

1. **Security and Access Control**
   * Different dashboards and access permissions based on user role.
2. **Audit and Logging**
   * Logs of login attempts, record modifications, and report generation.
3. **Automation**
   * Automated generation of meal schedules and alerts.
   * Auto-notification for low inventory or event reminders.
4. **Scalability**
   * Support for future expansion to multiple kindergarten branches.
5. **Accessibility**
   * Interface support in multiple languages (Albanian + English).
   * Accessibility for visually impaired users (WCAG compliance - optional).