

Internship Project Assignment: School Management Application

Objective

This internship assignment is designed to teach students how to think like professional software analysts and developers. Interns will work on preparing structured documentation for a School Management Application based on the provided BRD and SRS.

Interns are required to build the actual application. The focus is on analysis, planning, documentation, and system design.

Task Overview

Interns must complete the following major components:

1. Business Requirement Document (BRD)
2. Software Requirements Specification (SRS)
3. Workflow Diagram
4. System Architecture Summary

All tasks must be created using the content already defined in the BRD–SRS.

Tasks & Deliverables

1. Create a Business Requirement Document (BRD)

Using the structured content provided, interns must prepare:

Purpose of the School App

The School Management Application is designed to digitize and streamline everyday school operations including student records, attendance, examinations, timetable scheduling, fee tracking, and communication among teachers, parents, and students. The aim is to improve accuracy, reduce manual work, and increase transparency within the school system.

Business Problems

Problem	Description	Impact
Manual attendance marking	Paper-based process	Errors and time-consuming
Poor Information tracking	Student data & marks stored manually	Data loss risk, inefficiency
Delayed fee updates	No transparent tracking for parents	Late payments & conflicts
Weak communication	Parents not informed on time	Lower student performance
Hard to manage results	Manual calculation & report cards	Mistakes & delays

Business Goals

Automate school operations

- Improve communication between teachers and parents
- Maintain centralized and secure school data
- Improve timely fee collection and tracking Provide easy student performance monitoring
- Reduce workload of teachers and admin staff

Stakeholder List (with responsibilities)

Stakeholder	Responsibilities
Admin	Full data control, user management
Principal	Monitor school performance and reports
Teachers	Attendance, exams, marks, assignments
Students	Learn, view marks & timetable
Parents	Track child progress & fee status
Accountant	Fee management & financial reports

High-Level Features of the System

Secure Login & Role-based Access

- Student Information System
- Timetable Scheduling
- Attendance Management
- Examination & Result Generation
- Fees & Payments Management
- Teacher Portal for academics
- Parent portal for communication

Deliverable: 2–4 page BRD PDF.

2. Create a Software Requirements Specification (SRS)

Interns must produce an SRS that includes:

A. User Roles & Descriptions

(Admin, Teacher, Student, Parent, Accountant, Principal)

User Role	Permissions
Admin	Full access to all modules
Principal	Reporting & performance approval
Teacher	Manage classes, attendance, marks
Student	View marks, timetable, notifications
Parent	View child's performance & fees
Accountant	Manage fee transactions

B. Functional Requirements

Modules:

Student Management

ID	Function Requirement
FR-01	Add / Edit / Delete student records
FR-02	Search students by class / section
FR-03	Upload student documents / photos

Attendance Management

ID	Function Requirement

FR-04	Teachers can mark attendance daily
FR-05	System auto-generates absence reports
FR-06	Parents notified if student absent

Timetable Management

ID	Function Requirement
FR-07	Admin / Teacher can create timetables
FR-08	Students and teachers can view timetable

Exam & Marks Management

ID	Function Requirement
FR-09	Teachers enter marks for every subject
FR-10	System generates grades automatically
FR-11	Students & parents view published results

Fees Management

ID	Function Requirement
FR-12	Manage fee structure, discounts
FR-13	Track payments (paid/pending)
FR-14	Auto reminders for fee due dates

Teacher Module

ID	Function Requirements
FR-15	View assigned subjects & classes
FR-16	Upload assignments / study materials

Parent Portal

ID	Function Requirement
FR-17	View child's attendance, results
FR-18	View and pay fees

C. Non-Functional Requirements

Performance

Security

Scalability

Usability

Availability

Category	Requirement
Performance	Page load < 3 seconds

Security	Role-based access, encrypted records
Usability	Mobile-friendly responsive UI
Scalability	Support increasing users & data
Availability	System must be available 99% yearly

D. System Rules & Constraints

Only Admin can delete student records

- Fees cannot be deleted after receipt generation
- Attendance cannot be modified after approval

Deliverable: 4–8 page SRS PDF.

3. Create a Workflow Diagram

Students must produce a simple workflow diagram covering:

- 1. Understanding Problem & Goals**
- 2. Identify User Types**
- 3. Gather Requirements**
- 4. Create System Design**

This can be:

Drawn digitally, or

Hand-drawn and scanned

Start

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Identify Problems & Goals

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Identify User Roles (Admin, Teacher, Student, Parent...)

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Gather Requirements (BRD)

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System Requirement Specification (SRS)

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Design Architecture + Database + Wireframes

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Documentation and Review

↓

End

Deliverable: PNG or PDF workflow diagram.

4. System Architecture Summary

Interns must summarise the recommended architecture:

Frontend (React / Angular / Vue)

Backend (Node.js / Django / Spring Boot)

Database (PostgreSQL / MySQL / MongoDB)

Must include a 1-page explanation of how these components work together.

Layer	Technology	Purpose
Frontend	React / Angular / Vue	User Interface

Backend	Node.js / Django / Spring Boot	Business Logic + APIs
Database	MySQL / PostgreSQL / MongoDB	Store school data

How it Works

User interacts through the frontend

- Frontend sends requests to backend APIs (login, attendance, fees.....)
- Backend retrieves or save data in the database
- Response returned and displayed to user

Benefits

Modern & scalable architecture

- Secure data access
- Easy future updates Cloud-Deployable solution

Deliverable: 1-page architecture summary.

Submission Format

All students must submit:

BRD (PDF)

SRS (PDF)

Workflow Diagram (PNG/PDF)

System Architecture Summary (PDF)

All files should be organized into a folder named:

StudentName_SchoolApp_Assignment

Evaluation Criteria

Criteria	Weight
Clarity of BRD	20%
Completeness of SRS	40%
Quality of Workflow Diagram	20%
Architecture Understanding	10%
Presentation & Formatting	10%

UI Wireframes (Login, Dashboard, Student Profile)

ER Diagram for Database

Risk & Mitigation Analysis