PROJECT DESIGN PHASE

Date	1 November 2025
Team ID	NM2025TMID03580
Project Name	Educational Organisation using Service Now
Maximum Marks	10 Marks

Project Design Phase – Educational Organisation Using ServiceNow

The Project Design Phase defines how the conceptualized ideas are transformed into a working digital system.
It establishes the blueprint for implementing the Educational Management System (EMS) using ServiceNow.
This phase focuses on aligning the proposed solution with identified problems, designing system architecture,
and ensuring that all functionalities integrate seamlessly to achieve efficiency, automation, and scalability.

1. Proposed Solution

The Educational Organisation Management System is designed as an end-to-end digital platform built on ServiceNow
to automate and simplify academic and administrative processes within educational institutions.

The proposed solution aims to:

- Automate core workflows such as admissions, student record maintenance, and performance evaluation.

- Centralize all educational data (students, teachers, grades, admission records) in structured tables.

- Enhance transparency and efficiency in data handling and process monitoring.

- Reduce manual interventions through the use of client-side scripts and business rules.

- Provide role-based access for administrators, teachers, and staff, ensuring data integrity and security.

- Enable process flow visualization for admission tracking (New → In Progress → Joined → Closed).

Key Functional Modules

Module	Description	Technology Used (ServiceNow Components)
Salesforce Table	Stores teacher and student information with fields like Admin Number, Grade, and Contact Details.	Table, Form Design
Admission Table	Manages admission-related data extending Salesforce Table with additional fields.	Table, Process Flow
Student Progress Table	Tracks academic results and calculates total, percentage, and result automatically.	Client Scripts, UI Policy
Automation Scripts	Auto-populate data, calculate totals, and disable computed fields.	Client Scripts (onChange, onLoad)
Form Design & Layout	Enhances UI for ease of data entry and tracking.	Form Designer
Process Flow Automation	Manages the admission status lifecycle from New → Closed.	Process Flow Designer

Expected Outcomes

- Centralized and reliable database for educational operations.
- Automated calculations and reduced human error.
- Transparent admission and academic tracking system.
- Faster decision-making through structured workflows.

- Simplified maintenance and future scalability within the ServiceNow ecosystem.

2. Problem – Solution Fit Template:

This section matches the key pain points identified in the ideation phase with the proposed solutions provided in the system design.
It ensures that the solution directly addresses the needs of each stakeholder.

Problem Identified	Proposed Solution	ServiceNow Component Used	Outcome / Benefit
Manual data handling causing duplication and errors.	Create centralized tables (Salesforce, Admission, Student Progress).	Tables & Forms	Organized, consistent, and easily retrievable data.
Time-consuming admission process with repetitive entries.	Automate admission form with auto-generated Admin Number and data population.	Client Scripts, Number Maintenance	Faster and error-free admission registration.
Lack of integration between admission and academic modules.	Extend Admission Table from Salesforce Table to establish relational data flow.	Table Extension	Seamless integration and data linkage between modules.
No automation in performance evaluation.	Implement scripts for total, percentage, and result calculation.	Client Scripts (onChange)	Automated grading and result generation.
Inefficient location entry during admission.	Auto-fill city, mandal, and district based on pincode.	Client Scripts	Reduced manual input and increased accuracy.

Problem Identified	Proposed Solution	ServiceNow Component Used	Outcome / Benefit
Absence of process tracking during admission.	Create process flow with clear admission status transitions.	Process Flow Designer	Better visibility and control over the admission lifecycle.
Unfriendly and inconsistent user interface for data entry.	Design customized and structured form layouts for all tables.	Form Designer	Improved user experience and reduced entry errors.

Problem–Solution Alignment Summary:

Each challenge identified in the current educational system is effectively mapped to a ServiceNow-based component or workflow, ensuring complete automation, integration, and enhanced productivity.

3. Solution Architecture

The **Solution Architecture** defines how different components of the Educational Management System interact within the ServiceNow environment.
It ensures smooth data flow between modules and clear process automation across all functions.

3.1. Architectural Overview

System Layers:

1. **Presentation Layer (User Interface):**

   o Accessed by Admins, Teachers, and Staff.

   o Includes custom-designed forms for Salesforce, Admission, and Student Progress tables.

   o Enables interaction through dashboards and menus created in ServiceNow.

2. **Application Logic Layer (Business Logic):**

   o Implements automation through **Client Scripts** and **Process Flows**.

   o Handles admission number generation, data auto-population, and performance calculations.

   o Ensures validation and field control through UI policies.

3. **Data Layer (Database Tables):**

   o Consists of three core tables:

     ▪ **Salesforce Table (u_salesforce)** – Base table containing core student/teacher data.

     ▪ **Admission Table (u_admission)** – Extends Salesforce with admission details.

     ▪ **Student Progress Table (u_progress)** – Stores subject-wise marks and result details.

   o All data is stored in ServiceNow's internal database with relationships maintained via reference fields.

3.2. Data Flow Description

1. **Student Admission Stage**

   o Admin fills out the Admission Form.

   o "Admin Number" auto-generates using the Number Maintenance module.

   o Related data auto-populates from the Salesforce Table using "Auto Populate Script."

2. **Address Entry**

   o When the user enters the Pincode, the system automatically fills Mandal, City, and District fields.
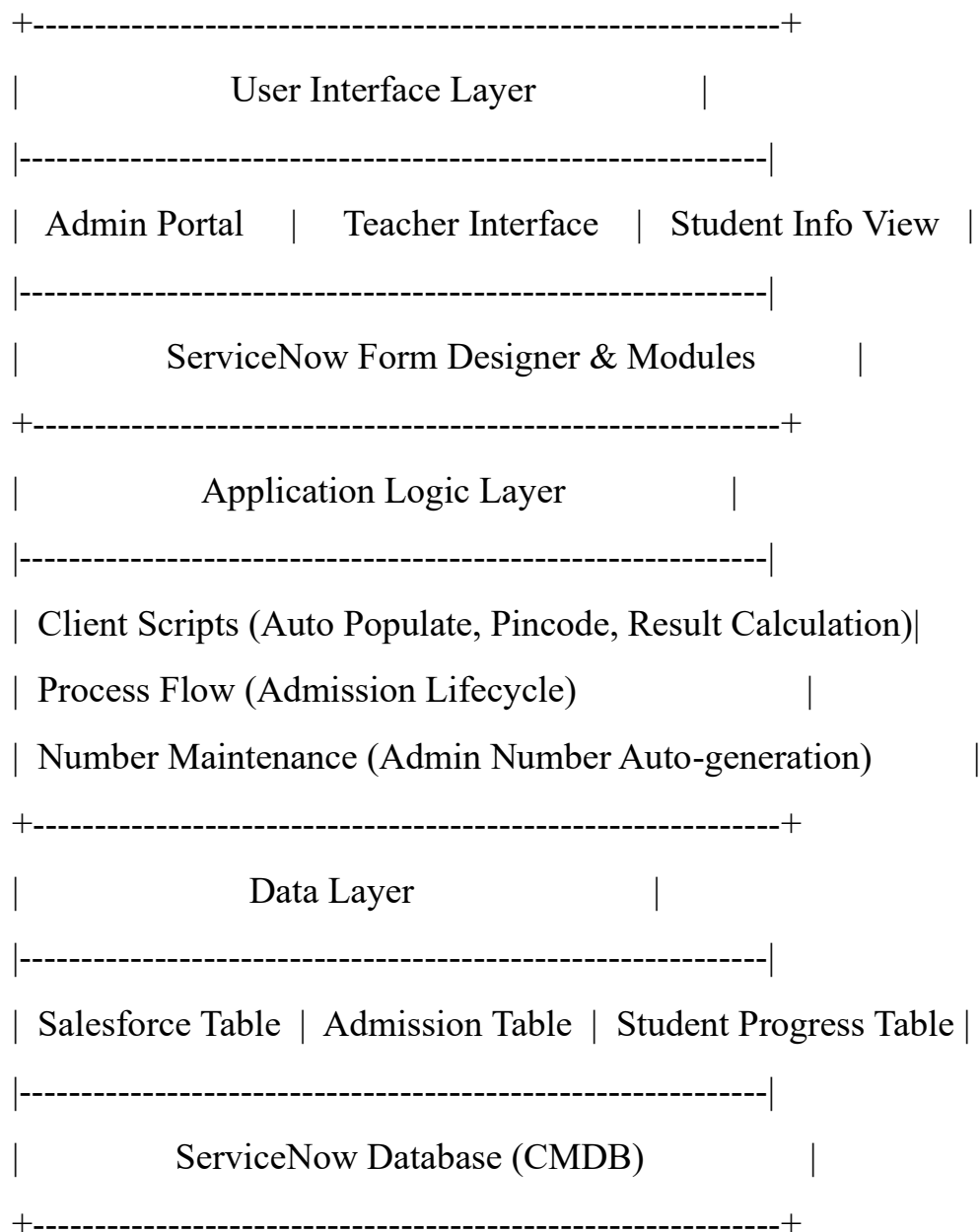
3. **Academic Progress Tracking**

   o Teacher inputs marks into the Student Progress Form.

   o System calculates Total Marks, Percentage, and Result automatically using scripts.

4. **Process Flow Management**

   o The Admission Table follows the defined lifecycle:
     New → In Progress → Joined → Rejected → Rejoined → Closed
     → Cancelled.

5. **Data Retrieval & Reporting**

   o All records are accessible through ServiceNow modules under
     "Salesforce."

   o Reports can be generated dynamically based on student
     performance and admission data.

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|                  User Interface Layer              |
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|  Admin Portal    |   Teacher Interface   |  Student Info View  |
|------------------------------------------------------------|
|          ServiceNow Form Designer & Modules        |
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|              Application Logic Layer               |
|------------------------------------------------------------|
| Client Scripts (Auto Populate, Pincode, Result Calculation)|
| Process Flow (Admission Lifecycle)                 |
| Number Maintenance (Admin Number Auto-generation)        |
+------------------------------------------------------------+
|              Data Layer                |
|------------------------------------------------------------|
| Salesforce Table | Admission Table | Student Progress Table |
|------------------------------------------------------------|
|             ServiceNow Database (CMDB)             |
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4. Summary – Design Phase

The Design Phase defines the technical blueprint of the Educational Organisation Management System.
Through the structured use of ServiceNow's platform capabilities, it ensures that all key modules — admissions, student data management, and academic progress tracking — are automated and integrated.

The Problem–Solution Fit validates the alignment between user needs and technological solutions, while the Solution Architecture provides a scalable foundation for further enhancement, analytics, and institutional growth.