

Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	27 JUNE 2025
Team ID	NM2025TMID07092
Project Name	Educational Organisation Using ServiceNow
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: Educational Organisation Using ServiceNow

Guidelines:

Include all the processes (As an application logic / Technology Block)
Provide infrastructural demarcation (Local / Cloud)
Indicate external interfaces (third party API's etc.)
Indicate Data Storage components / services
Indicate interface to machine learning models (if applicable)

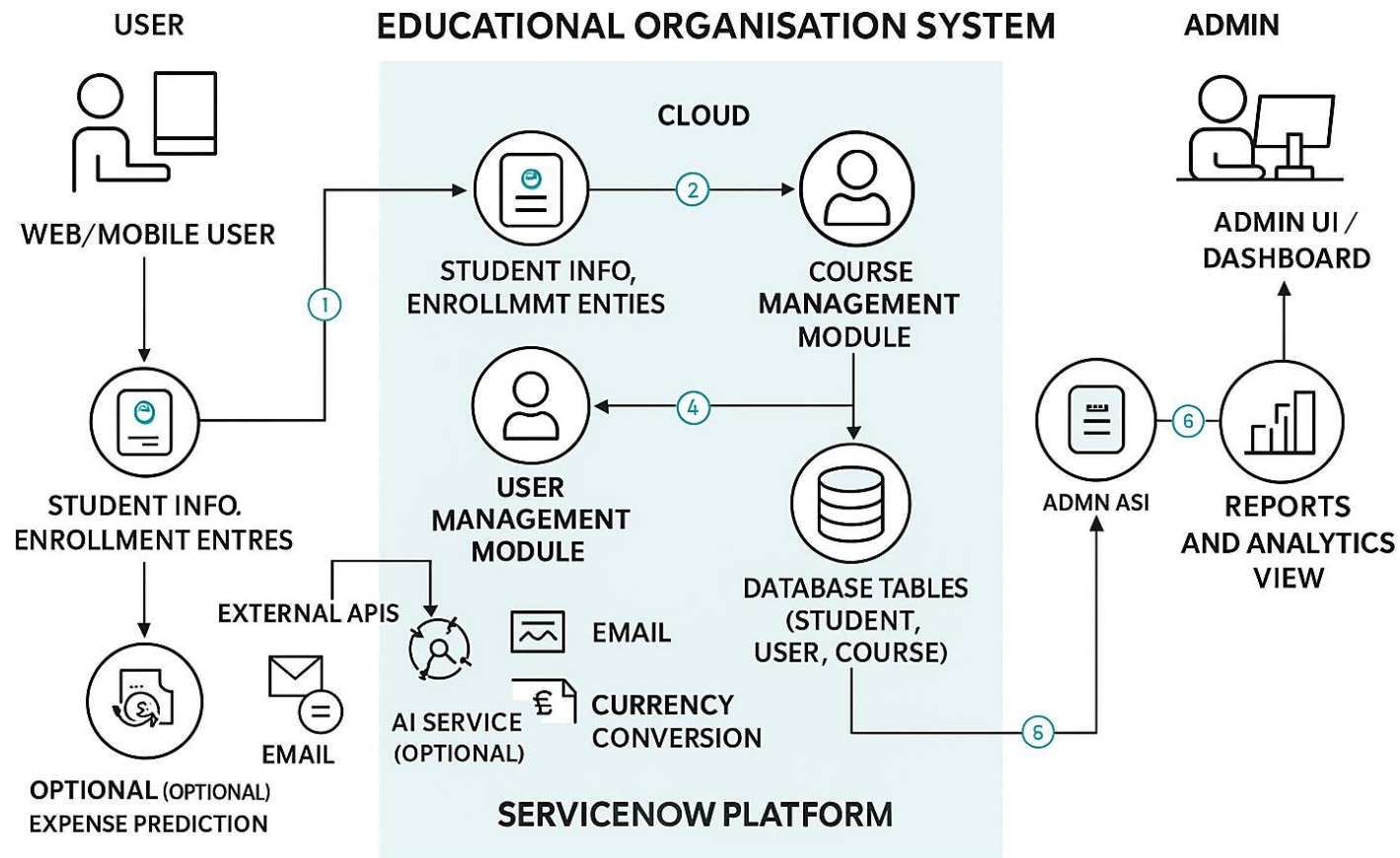


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1	User Interface	Students, teachers, and admin interact through a web dashboard to manage academic and administrative activities.	ServiceNow Web UI
2	Application Logic-1	Handles student registration, course enrollment, and form submissions.	ServiceNow Flow Designer, Business Rules
3	Application Logic-2	Manages attendance tracking, grading, and assignment evaluation dynamically.	GlideRecord & Script Includes
4	Application Logic-3	Sends automated notifications for attendance alerts, results, and announcements.	ServiceNow Notifications
5	Database	Stores student records, courses, faculty details, and attendance data.	ServiceNow CMDB / Custom Tables
6	Cloud Database	Ensures secure storage and management of educational data on the ServiceNow cloud.	ServiceNow Cloud Database
7	File Storage	Maintains digital copies of assignments, reports, and student documents.	ServiceNow Attachments / Document Management
8	External API-1	(Optional) Integration with Learning Management Systems (LMS) or library databases.	REST API in ServiceNow
9	External API-2	(Optional) Integration with payment gateways for fee management.	REST API Integration
10	Machine Learning Model	(Optional) Predicts student performance or attendance trends.	Python ML Model via API
11	Infrastructure (Server / Cloud)	Hosted and managed on ServiceNow's SaaS cloud for scalability and availability.	ServiceNow Cloud (SaaS)

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Not applicable, as ServiceNow operates as a proprietary cloud-based platform.	–
2	Security Implementations	Role-based access ensures that only authorized users (students, teachers, and admin) can access or modify educational data.	Access Control Lists (ACLs), Scoped Applications
3	Scalable Architecture	The SaaS-based architecture supports multiple departments, classes, and users without performance degradation.	ServiceNow Cloud Architecture
4	Availability	The platform ensures 24/7 access for students and faculty through ServiceNow’s high-availability infrastructure.	Load-balanced ServiceNow Instances
5	Performance	Optimized data retrieval and process automation ensure fast response times for attendance, grading, and reporting tasks.	GlideRecord, Flow Designer, Background Scripts