

Project Design Phase-2
Technical Stack (Architecture & stack)

Date	02 NOVEMBER 2025
Team ID	NM2025TMID01621
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 table 1 & 2

Example

SenTowice Architecture for Educational Organizations

User Experience Layer

IT & Infrastructure
(ITSM, ITAM)

Student Service
(SSM)

Human Resources

Campys Operations
(FSM, WSD)

Enterprise Service Domains



CMDB Flow
Designer



Knowledge
Management



Reporting
& Analytics

Integration & Data Layer



SIS (Banner, PeopleSoft)

Canvas, Moodle

Finance & ERP

Table-1 : Components & Technologies:

S.No.	Component	Description	Technology
1	User Interface	Provides an intuitive and modern interface for students, faculty, and administrative staff to access services and information.	ServiceNow Service Portal (Custom UIs) & Employee Center
2	Application Logic – 1 (Onboarding)	Automates the creation of new accounts, device assignment, and enrollment in HR/compliance training for new faculty and staff.	ServiceNow Flow Designer & HR Service Delivery (HRSD) Workflows
3	Application Logic – 2 (Offboarding Check)	Validates user status (graduating, resigning, etc.) and checks for open cases or unreturned assets before deactivation.	GlideRecord in Server Scripts and Business Rules across tables
4	Application Logic – 3 (Case Routing)	Automatically routes student or staff inquiries (e.g., financial aid, housing) to the appropriate departmental fulfillment group.	ServiceNow Advanced Work Assignment (AWA) or CSM Assignment Rules
5	Database (Service Data)	Stores all service requests, fulfillment tasks, incidents, and asset assignments.	ServiceNow Task Tables (Incident, Request, Facilities Work Order)
6	Cloud Database	Acts as the managed storage layer for all institutional data within the ServiceNow environment.	ServiceNow Cloud Database (Vendor-managed)
7	File Storage	Maintains attached documents such as student appeals, HR policies, or faculty hiring records.	ServiceNow System Logs & Attachments (Internal Storage)
8	External API – 1 (SIS Sync)	Integrates with the Student Information System (SIS) to sync student profiles, enrollment, and academic status.	REST API via ServiceNow Integration Hub (e.g., Banner, PeopleSoft)
9	External API – 2 (LMS/ERP)	Connects to Learning Management Systems (LMS) or Enterprise Resource Planning (ERP) systems for course and financial data exchange.	SOAP/REST APIs & MID Server for secure on-premise integration
10	Machine Learning Model	Provides intelligent self-service through chatbots and auto-classification/routing of service requests.	ServiceNow Predictive Intelligence & Virtual Agent

S.No.	Component	Description	Technology
11	Infrastructure (Server / Cloud)	The underlying cloud infrastructure hosting the entire university platform, ensuring performance and scalability.	ServiceNow Cloud (SaaS) Platform

Table-2: Application Characteristics:

S.No.	Characteristic	Description	Technology
1	Open-Source Frameworks	Not applicable; ServiceNow is a proprietary SaaS platform built on its own unified framework.	–
2	Security Implementations	Ensures data privacy and access control for sensitive institutional records (e.g., student PII, HR files).	Role-Based Access Control (RBAC), Access Control Lists (ACLs), Client & Server Scripts
3	Scalable Architecture	Designed to support large transaction volumes during peak periods such as admissions or registration cycles.	ServiceNow Cloud Architecture, Horizontal Scaling, Multi-Instance Cloud
4	Availability	Guarantees continuous uptime and access for global campus operations and online learning.	Load-Balanced Instances, Failover Systems, Distributed Data Centers
5	Performance	Optimized to handle high concurrency without latency, ensuring seamless user experiences during high-demand periods.	Asynchronous Business Rules, Background Scripts, Indexed Tables
6	Customization	Allows development of custom university apps (e.g., Research Tracker, Course Conflict Tool) without modifying core functionality.	ServiceNow App Engine, Studio, Delegated Development
7	Integration	Facilitates seamless two-way data exchange between ServiceNow and other critical campus systems.	ServiceNow Integration Hub (I-Hub), REST/SOAP APIs, MID Server