Requirement Analysis Phase Report

Project Title:

Educational Organisation Using ServiceNow

Category:

ServiceNow System Administrator

Skills Required:

ServiceNow, JavaScript, Workflow Automation, REST API, Data Management

1. Introduction

Educational institutions handle vast amounts of data related to students, admissions, and academic progress. Traditional record-keeping systems often rely on manual entry, which is time-consuming and error-prone.

The project **“Educational Organisation Using ServiceNow”** aims to streamline and automate these processes through ServiceNow — a robust, cloud-based platform for workflow management.

By integrating dynamic tables, automated process flows, and intelligent client scripts, the system will efficiently manage student admissions, academic progress, and results, reducing administrative workload and improving operational accuracy.

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2. Objective

Main Objective

To design and implement an **automated educational management system** that leverages ServiceNow’s capabilities to manage admissions and student progress efficiently.

Specific Objectives

- To develop interconnected **custom tables** for Salesforce, Admission, and Student Progress.
- To implement **Client Scripts** for dynamic data population and calculation.
- To automate **admission workflows** using process flows.
- To minimize manual effort in academic data management.
- To ensure accurate and transparent performance evaluation for students.

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3. Problem Statement

Manual administrative systems in educational institutions result in:

1. **Data Redundancy:** Repeated entry of student information across departments.
2. **Human Error:** Manual calculation of results and form filling leads to inaccuracies.
3. **Delayed Processes:** Admissions and progress updates take excessive time.
4. **No Centralized Database:** Lack of an integrated data management platform.

To overcome these issues, the project introduces a **ServiceNow-based automated system** that connects all educational workflows under one platform.

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4. Existing System

The current system relies on **manual admissions** and **offline record-keeping**.
Challenges include:

- No real-time data updates or access control.
- Manual grade calculations leading to inconsistencies.
- Difficulty in tracking student performance across sessions.
- Time-consuming admission approval and reporting.

Thus, there is a pressing need to automate these processes using a digital platform that supports scalability and accuracy.

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5. Proposed System

The **proposed system** automates educational processes within ServiceNow through custom configurations and scripts.

Key Features:

- **Custom Tables:** Salesforce, Admission, and Student Progress to manage core data.
- **Dynamic Client Scripts:** Auto-populate and calculate totals, percentages, and results.

- **Process Flow:** Defines the admission life cycle (New → Joined → Closed).
- **Form Design:** Streamlined layout for easy data entry and tracking.
- **Real-time Updates:** Immediate reflection of student progress across modules.

Expected Impact:

- Reduction in manual errors and workload.
- Faster admission processing and academic tracking.
- Unified view of student data and progress metrics.

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6. Functional Requirements

Requirement ID	Description
FR1	System shall store and manage student details in Salesforce Table.
FR2	System shall maintain admission records with dynamic status updates.
FR3	System shall calculate total, percentage, and result automatically.
FR4	System shall allow administrators to create, edit, and delete records.
FR5	System shall auto-populate student details when the admission number is entered.
FR6	System shall support process flow transitions for admission status.
FR7	System shall restrict editing of auto-calculated fields (total, percentage, result).
FR8	System shall maintain dashboards for monitoring progress and admissions.

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7. Non-Functional Requirements

Requirement ID	Description
NFR1	The system must ensure data security and access control.
NFR2	Response time for form submission must be under 3 seconds.
NFR3	The system should support at least 50 concurrent users.
NFR4	Interface must be user-friendly and follow consistent design patterns.
NFR5	System must ensure data integrity and prevent duplication.
NFR6	Must support scalability for future modules like attendance tracking.

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8. System Requirements

A. Hardware Requirements

Component	Specification
Processor	Intel Core i5 or above
RAM	8 GB or higher
Storage	Minimum 256 GB SSD
Internet	Stable broadband connection

B. Software Requirements

Component	Specification
Platform	ServiceNow Developer Instance
Programming Language	JavaScript
Framework	Client Scripting / Process Flow Designer
Tools	JMeter, Postman, Visual Studio Code
Database	ServiceNow Built-in Table Storage

Version Control	GitHub

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9. Data Requirements

Data Inputs:

- Student personal and parental details.
- Admission details (school, purpose, status).
- Academic subject marks (Telugu, Hindi, English, Maths, Science, Social).

Processed Data:

- Total marks and percentage calculations.
- Result classification (Pass/Fail).
- Admission stage status updates.

Data Outputs:

- Admission summary reports.
- Progress performance dashboards.
- Student result sheets.

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10. System Design Overview

Modules Involved:

1. **Salesforce Table:** Manages student details and identifiers.
2. **Admission Table:** Tracks enrollment information and status changes.

3. **Student Progress Table:** Calculates academic performance metrics.
4. **Client Scripts:** Automate population, total, percentage, and result calculations.
5. **Process Flow:** Manages the admission workflow sequence.

System Flow:

1. Admin enters student details → stored in Salesforce Table.
2. Admission process initiated → status updated via process flow.
3. Marks entered in Student Progress Table → auto-calculation triggered.
4. System generates final result and updates dashboards.

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11. Constraints

- Limited to the **ServiceNow Developer Instance** (sandbox environment).
- Dependent on **manual subject mark input** for computation.
- Performance varies with internet connectivity.
- Script execution limited to ServiceNow runtime constraints.
- Requires training for new administrators.

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12. Expected Deliverables

- **Requirement Specification Document (SRS)**
- **Configured ServiceNow Tables and Forms**
- **Automated Client Scripts for Calculations**

- **Process Flow Setup for Admissions**
- **Functional Dashboards for Monitoring**
- **Comprehensive Project Documentation**

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13. Feasibility Study

Technical Feasibility

ServiceNow's flexibility and script-based automation make it well-suited for this project. The platform supports data relationships, process flows, and dashboards natively.

Operational Feasibility

Administrative staff can easily manage operations through ServiceNow's intuitive interface. Minimal coding knowledge is required after setup.

Economic Feasibility

The project uses the free **ServiceNow Developer Instance**, ensuring minimal to zero cost for development, deployment, and testing.

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14. Conclusion

The **Requirement Analysis Phase** lays the foundation for building a scalable and efficient educational management system within the ServiceNow environment.

By defining functional, non-functional, and data requirements, the phase ensures that the subsequent design and implementation stages proceed with clarity and precision.

The proposed system will streamline admissions, automate result processing, and enhance institutional efficiency — marking a step toward smart, data-driven educational management.