



**PET ENGINEERING COLLEGE**  
**VALLIOOR-627117.**



**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**PROJECT TOPIC: EDUCATIONAL ORGANISATION USING SERVICENOW**

**College Code:** 9632

**Technology:** ServiceNow Platform (Low-Code Cloud Application Development)

**Total number of students in the group:** 4

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## **BONAFIDE CERTIFICATE**

Certified that this project report "**EDUCATIONAL ORGANISATION USING SERVICENOW**" is the Bonafide work of **UDHAYA BANU. M [Reg No: 963222104054]**, who carried out the work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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**INTERNAL EXAMINER**

**EXTERNAL EXAMINER**

# Table of Contents

S.No	Phases	Description
1.	Ideation Phase	Problem identification, brainstorming, and defining the key objectives of the Educational Organisation.
2.	Project Planning Phase	Planning the project flow, defining roles, timelines, and required tools for implementation.
3.	Project Design Phase	Creating the ER diagram, UI form structure, and database relationships for the project.
4.	Requirement Analysis Phase	Gathering and analysing all functional and non-functional requirements of the system.
5.	Performance Testing Phase	Testing the application for performance, functionality, and user experience.

## **1. IDEATION PHASE**

### **Description :**

The “Educational Organisation using ServiceNow” project is designed to digitize school administration processes — specifically student admissions, record maintenance, and progress tracking — through a custom-built ServiceNow application. It reduces manual paperwork and improves record accessibility for both staff and students.

### **Key Objectives :**

- To automate student admission entry and data storage.
- To maintain structured tables for Admissions, Student Progress, and Results.
- To generate grades and percentages automatically through client scripts.
- To build a user-friendly interface with forms and list views.

### **Customer Problem Statement**

#### **Problem Statement (PS-1)**

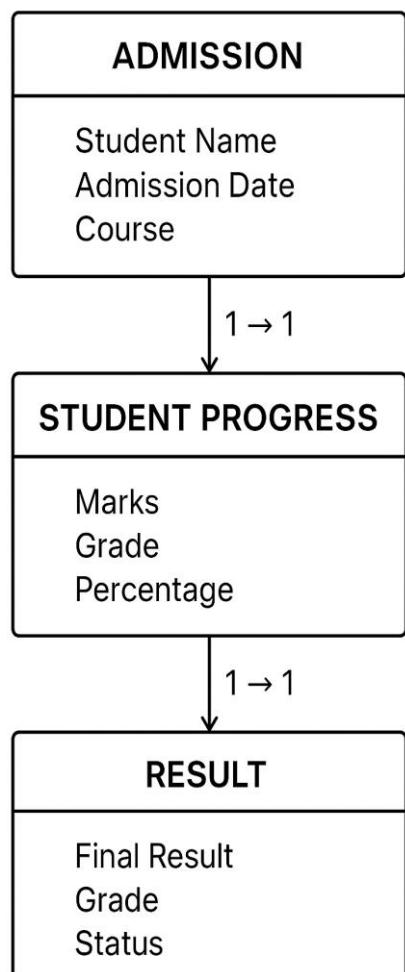
I am an educational administrator or school office staff, I’m trying to manage student admissions, maintain records, and generate grades efficiently, But manual data entry and paper-based management lead to errors, delays, and loss of data, Because there is no centralized automated

system to store and update student information, Which makes me feel frustrated, overworked, and uncertain about data accuracy.

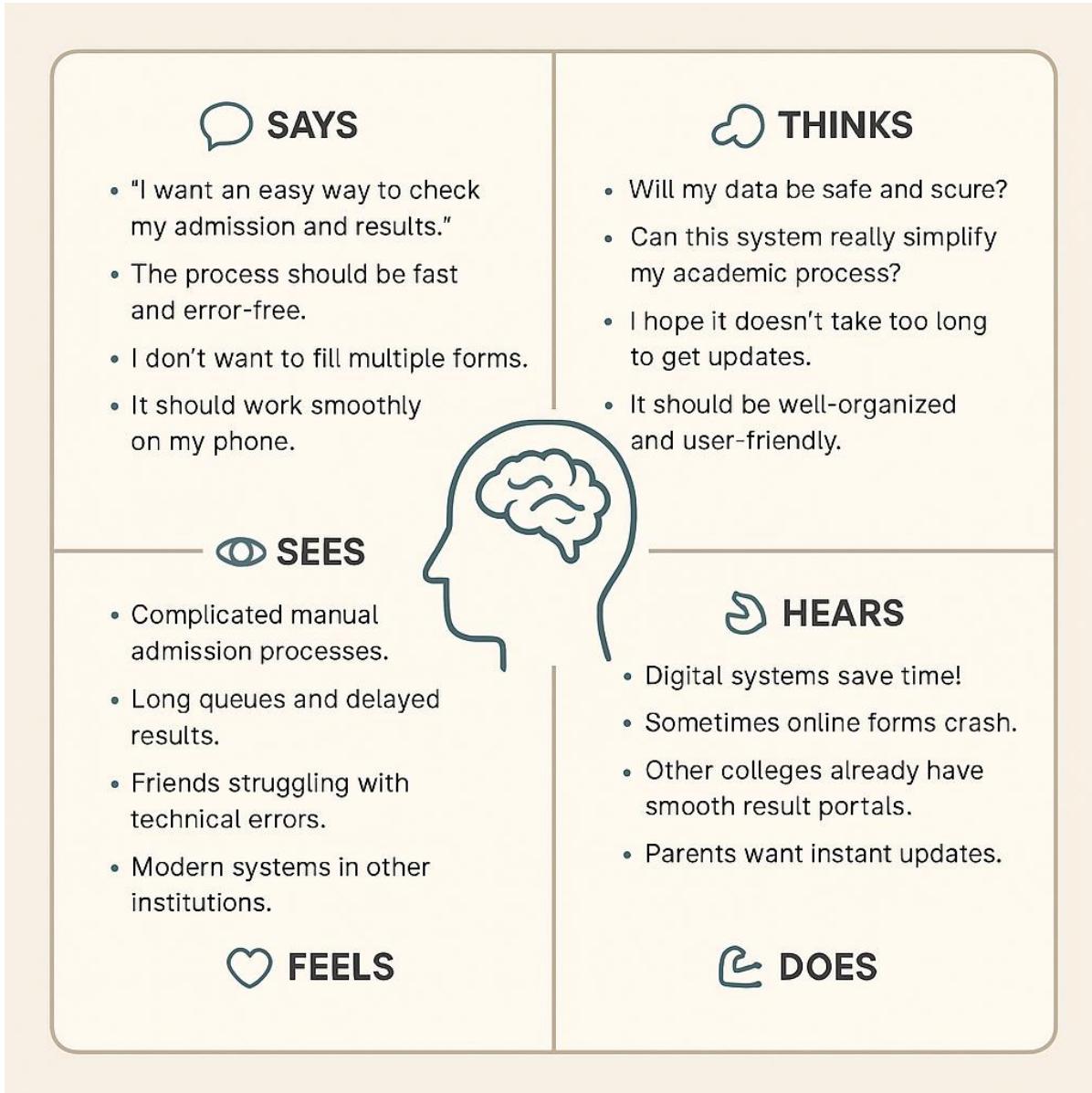
### **Problem Statement (PS-2)**

I am a student or parent, I'm trying to submit admission details and check progress updates easily, But the current process requires multiple physical visits and manual form filling, Because the institution lacks a digital platform for admission and performance tracking, Which makes me feel inconvenienced and disconnected from the school's process.

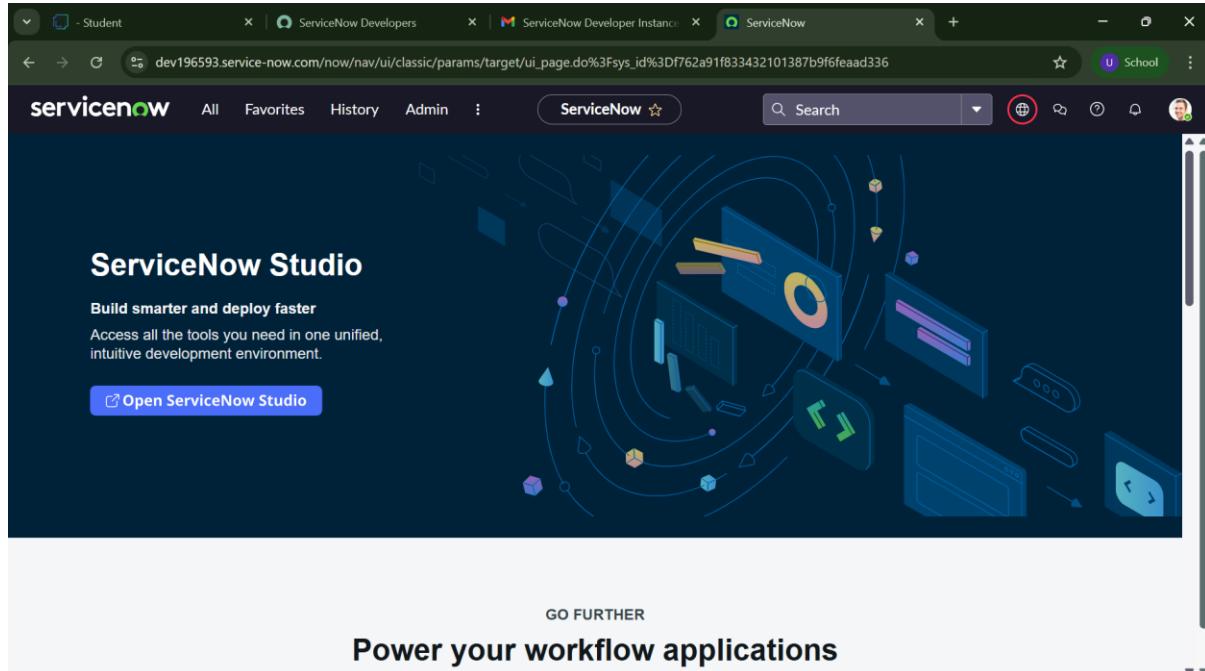
### **Conceptual ER Diagram :**



## Empathy Map :



## Figure 1.1-ServiceNow Developer Homepage



## Figure 1.2 – Educational Organisation Application

The screenshot shows the "Update Sets" page in ServiceNow. The URL is dev196593.service-now.com/nav/ui/classic/params/target/sys\_update\_set\_list.do%3Fsysparm\_userpref\_module%3D50047c06c0a8016c0135a14ce... The main header is "servicenow" with links for "All", "Favorites", "History", and "Admin". A search bar is present with a magnifying glass icon. On the right side, there is a user profile icon and a "School" button.

The page displays a table of "Update Sets". The columns are: Name, Application, State, Installed from, Created, Created by, Parent, and Batch Base. The rows show:

Name	Application	State	Installed from	Created	Created by	Parent	Batch Base
Default	Pipeline	In progress		2025-10-30 20:00:02	admin	(empty)	(empty)
Default	Global	In progress		2025-08-07 12:53:07	system	(empty)	(empty)
Default	Security Center	In progress		2025-08-07 14:16:34	system	(empty)	(empty)
Educational Organisation	Global	In progress		2025-10-30 05:27:42	admin	(empty)	(empty)

Below the table, there is a "Related Links" section with a link to "Merge Update Sets". At the bottom, there is a navigation bar with icons for back, forward, and search, followed by the text "1 to 4 of 4".

## **2.PROJECT PLANNING**

### **Description :**

This phase defines how and when the project components were planned, structured, and executed.

### **Key Planning Activities :**

Requirement Gathering	Analyzing the needs of the educational system and identifying key functionalities.
Table & Form Setup	Creating Admission, Student Progress, and Result tables with their respective forms.
UI/UX Design	Designing a simple and user-friendly layout for data entry and review.
Script Development	Writing client scripts for automation (e.g., auto-calculate grade & percentage)
Testing & Validation	Checking all modules for errors and verifying record submissions.

### **Insights :**

This phase gave a complete picture of how the project would proceed. It ensured smooth coordination between different modules and minimized errors during development. By the end of planning, the team had a clear workflow, timeline, and strategy for building the application successfully.

## Figure 2.1 –Table Setup

The screenshot shows the ServiceNow Table - Salesforce setup screen. At the top, there are tabs for 'Table' and 'Salesforce'. Below the tabs, there are two input fields: '\* Label' with 'Salesforce' and '\* Name' with 'u\_salesforce'. A message at the top says '(This form has annotations - click ⚡ to toggle them - (Click here to never show this again))'. Below these fields is a 'Dictionary Entries' table.

Column label	Type	Reference	Max length	Default value	Display
Father Cell	Integer	(empty)	40		false
Admin Date	Calendar Date/Time	(empty)	40		false
Sys ID	Sys ID (GUID)	(empty)	32		false
Created	Date/Time	(empty)	40		false
Updated by	String	(empty)	40		false
Updates	Integer	(empty)	40		false
Updated	Date/Time	(empty)	40		false
Created by	String	(empty)	40		false
Student Name	String	(empty)	40		false
Father Name	String	(empty)	40		false
Mother Name	String	(empty)	40		false
Mother Cell	Integer	(empty)	40		false
Grade	Choice	(empty)	40		false
Admin Number	String	(empty)	40	javascript:global.getNextObjNumberPadded();	false
Insert a new row... ↴					

The screenshot shows the ServiceNow Table - Admission setup screen. At the top, there are tabs for 'Table' and 'Admission'. Below the tabs, there are two input fields: '\* Label' with 'Admission' and '\* Name' with 'u\_admission'. A message at the top says '(This form has annotations - click ⚡ to toggle them - (Click here to never show this again))'. Below these fields is a 'Dictionary Entries' table.

Column label	Type	Reference	Max length	Default value	Display
Grade	Choice	(empty)	40		false
Updated by	String	(empty)	40		false
Updates	Integer	(empty)	40		false
Comments	String	(empty)	40		false
Mother Cell	Integer	(empty)	40		false
Mother Name	String	(empty)	40		false
Admin status	Choice	(empty)	40		false
Admission Number	String	Salesforce	40		false
Updated	Date/Time	(empty)	40		false
School	String	(empty)	40		false
Student Name	String	(empty)	40		false
Purpose of join	Choice	(empty)	40		false
School Area	String	(empty)	40		false
Fee	Price	(empty)	20		false
Created by	String	(empty)	40		false
Father Cell	Integer	(empty)	40		false
Admin Date	Calendar Date/Time	(empty)	40		false

This screenshot shows the ServiceNow Table - Student Progress setup. At the top, there are tabs for 'Student', 'ServiceNow Developers', and 'Student Progress'. The main area displays a table with columns: 'Label' (containing 'Student Progress') and 'Name' (containing 'u\_student\_progress'). Below the table, a message says '(This form has annotations - click ⓘ to toggle them - (Click here to never show this again))'. A 'Columns' tab is selected, showing a list of table columns with their properties:

Column label	Type	Reference	Max length	Default value	Display
Maths	Integer	(empty)	40		false
Telugu	Integer	(empty)	40		false
Result	Choice	(empty)	40		false
Father Cell	Integer	(empty)	40		false
Social	Integer	(empty)	40		false
Grade	Choice	(empty)	40		false
Updated by	String	(empty)	40		false
Updates	Integer	(empty)	40		false
Percentage	Integer	(empty)	40		false
Updated	Date/Time	(empty)	40		false
Created by	String	(empty)	40		false
Sys ID	Sys ID (GUID)	(empty)	32		false
Created	Date/Time	(empty)	40		false
Father Name	String	(empty)	40		false
Science	Integer	(empty)	40		false

## Figure 2.2-Form Setup

This screenshot shows the ServiceNow Form Design interface. The top bar includes tabs for 'Student', 'ServiceNow Developers', 'Salesforce Table | ServiceNow', and 'Form Design'. The main area is titled 'Form Design' and shows a 'Salesforce [u\_salesforce]' section with two columns of fields:

Field	Field Type	Field	Field Type
Admin Number	Text	Father Name	Text
Admin Date	Date/Time	Mother Name	Text
Grade	Text	Father Cell	Text
Student Name	Text	Mother Cell	Text

The left sidebar contains sections for 'Fields' (listing 'Created', 'Created by', 'Updated', 'Updated by', 'Updates') and 'Formatters' (listing 'Activities (filtered)', 'Contextual Search Results', 'Ratings').

Form Design

**Admission [u\_admission]**

Admission Number	Admin Date
Purpose of join	Grade
Student Name	Fee
Father Name	Father Cell
Mother Name	Mother Cell
Admin status	

**Comments**

Number
Pincode

**School Details**

School Area	School
-------------	--------

Form Design

**Student Progress [u\_student\_progress]**

Admission Number	Father Name
Grade	Mother Name
Student Name	Father Cell
	Mother Cell
	Number

**Student Progress**

Telugu	Total
Hindi	Percentage
English	Result
Maths	
Science	
Social	

### **3.PROJECT DESIGN**

#### **Description :**

The design phase focuses on creating the structure of the application — defining tables, relationships, and user interfaces.

#### **Components Designed :**

**Admission Table :**Fields: Admission Number, Admission Date, Grade, Student Name, Father/Mother Details, Phone numbers.

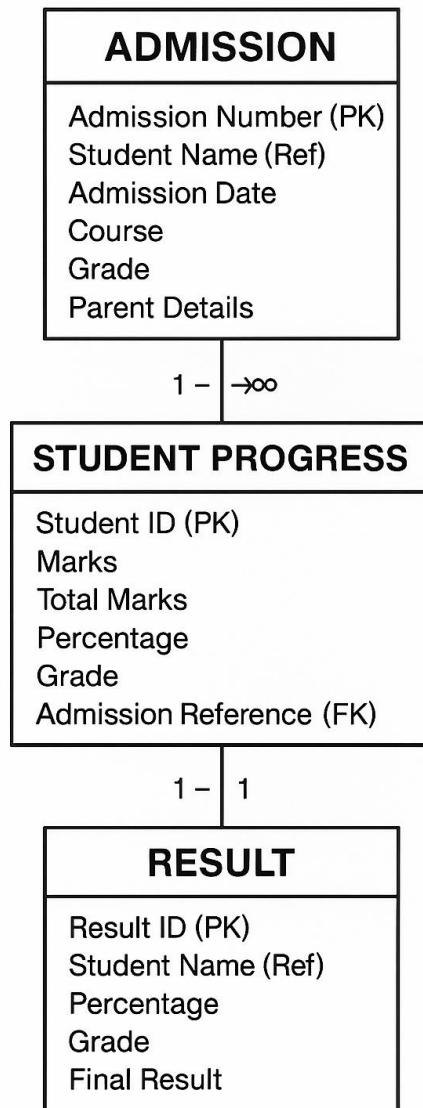
**Student Progress Table :**Fields: Student Name, Telugu,Hindi, English, Maths, Science, Social, Total, Percentage, Result to track subject marks and calculate percentage.

**Result Table :**Fields: Admission (Reference), Section (Reference), Student Progress (Collection).

#### **Idea Prioritization :**

Priority	Idea	Reason
High	Test load speed with multiple admissions	Ensures scalability of the app
High	Validate grade and percentage accuracy	Maintains trust and reliability
Medium	Validate grade and percentage accuracy	Improves user satisfaction
Medium	Monitor auto-number generation under multiple entries	Ensures unique record IDs
Low	Visual testing of form alignment	Minor effect on overall performance

## **ER Diagram :**



## **Insights :**

The design phase transformed the project idea into a working structure. Tables, forms, and relationships were carefully designed to maintain a smooth data flow, creating a strong foundation for the implementation phase.

## Empathy Map :



## Figure 3.1- List of Designed Forms

The figure displays two screenshots of ServiceNow forms, illustrating the designed forms for student admissions.

**Create SAL0001011 | Salesforce**

This form is for creating a new student record. It includes fields for basic administrative information and contact details for parents/guardians:

- Admin Number: SAL0001011
- Admin Date: (date input field)
- Grade: -- None --
- Student Name: (text input field)
- Father Name: (text input field)
- Mother Name: (text input field)
- Father Cell: (text input field)
- Mother Cell: (text input field)

**Admission - Create ADM0001007 | Admission**

This form is for creating a new admission record. It includes fields for student information, family details, and a comments section:

- Admission Number: (text input field)
- Purpose of join: -- None --
- Student Name: (text input field)
- Father Name: (text input field)
- Mother Name: (text input field)
- Admin Date: (date input field)
- Grade: -- None --
- Fee: \$ 0.00
- Father Cell: (text input field)
- Mother Cell: (text input field)
- Comments: (text area input field)
- Number: ADM0001007
- Pincode: (text input field)
- Admin status: -- None --

**School Details**

This section contains dropdown menus for selecting the school area and the school itself:

- School Area: -- None --
- School: -- None --

The screenshot shows a ServiceNow application window titled "Student Progress - Create STU0001...". The form contains fields for student details (Admission Number, Grade, Student Name, Father Name, Mother Name, Father Cell, Mother Cell, Number) and a section for "Student Progress" with fields for Telugu, Hindi, English, Maths, Science, Social, Total, Percentage, and Result.

Field	Type	Value
Admission Number	Text	
Grade	dropdown	-- None --
Student Name	Text	
Father Name	Text	
Mother Name	Text	
Father Cell	Text	
Mother Cell	Text	
Number	Text	STU0001003
Telugu	Text	
Hindi	Text	
English	Text	
Maths	Text	
Science	Text	
Social	Text	
Total	Text	
Percentage	Text	
Result	dropdown	-- None --

**Figure 3.2- Client Scripts of Total, Percentage and Result**

The screenshot shows the "Client Script - Total Update" configuration screen. The script is named "Total Update" and is associated with the "Student Progress" table. The script type is "onChange" and it is active. The script code is as follows:

```

1 function onChange(control, oldValue, newValue, isLoading, isTemplate) {
2
3     if (!isLoading || newValue === '') {
4         return;
5     }
6
7
8
9
10    //Type appropriate comment here, and begin script below
11
12    if (newValue) {
13
14        var a = parseInt(g_form.getValue('u_telugu'));
15
16        var b = parseInt(g_form.getValue('u_hindi'));
17
18        var c = parseInt(g_form.getValue('u_english'));
19
20        var d = parseInt(g_form.getValue('u_maths'));
21
22        var e = parseInt(g_form.getValue('u_science'));
23
}

```

The screenshot shows the ServiceNow Client Script - Percentage configuration page. The script is named "Percentage" and is associated with the "Student Progress" table. It is set to run on the "onChange" event of the "Total" field. The script is active and global. The "Description" and "Messages" fields are empty. The "Script" editor contains the following code:

```
1 function onchange(control, oldValue, newValue, isLoading, isTemplate) {
2
3     if (!isLoading || newValue === '') {
4
5         return;
6
7     }
8
9
10 //Type appropriate comment here, and begin script below
11
12 var Total = g_form.getValue('u_total');
13
14 var Percentage = (Total/800)*100;
15
16 g_form.setValue('u_percentage',Percentage+'%');
17
18
19 }
```

The screenshot shows the ServiceNow Client Script editor interface. The top navigation bar includes tabs for 'Student', 'ServiceNow Developers', 'Result | Client Script | ServiceNow', and a search bar. The main area displays a client script named 'Result' for the 'Student Progress [u\_student\_progress]' table. The script is set to 'onChange' type and 'Percentage' field name. It is active and global. The script body contains the following code:

```
1 function onChange(control, oldValue, newValue, isLoading, isTemplate) {
2
3     if (!isLoading || newValue === '') {
4
5         return;
6
7     }
8
9     //Type appropriate comment here, and begin script below
10
11     if(newValue) {
12
13         var a = parseInt(g_form.getValue('u_percentage')); // Convert the value to an integer for comparison
14
15         if(a > 0 && a < 50) {
16
17             g_form.setValue('u_result','Fail');
18
19         } else if(a >= 50 && a <= 100) {
20
21             g_form.setValue('u_result','Pass');
22
23         } else {
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26     }
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## **4. REQUIREMENT ANALYSIS**

### **Purpose:**

List all the software, hardware, and functional requirements.

### **Include:**

#### **Functional Requirements:**

- Users should be able to submit admission forms.
- Grades must be selected from dropdown.
- Users can view all submitted admissions under the “All” module.
- Records should store student details and contact info.

#### **Non-Functional Requirements:**

- Must be easy to use and should be accessible through a web browser.
- Should be accessible through a web browser.
- Should handle multiple submissions without error.

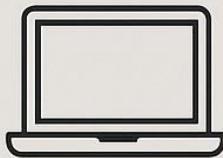
#### **Software Requirements:**

- Platform: ServiceNow
- Environment: Developer Instance
- Browser: Google Chrome

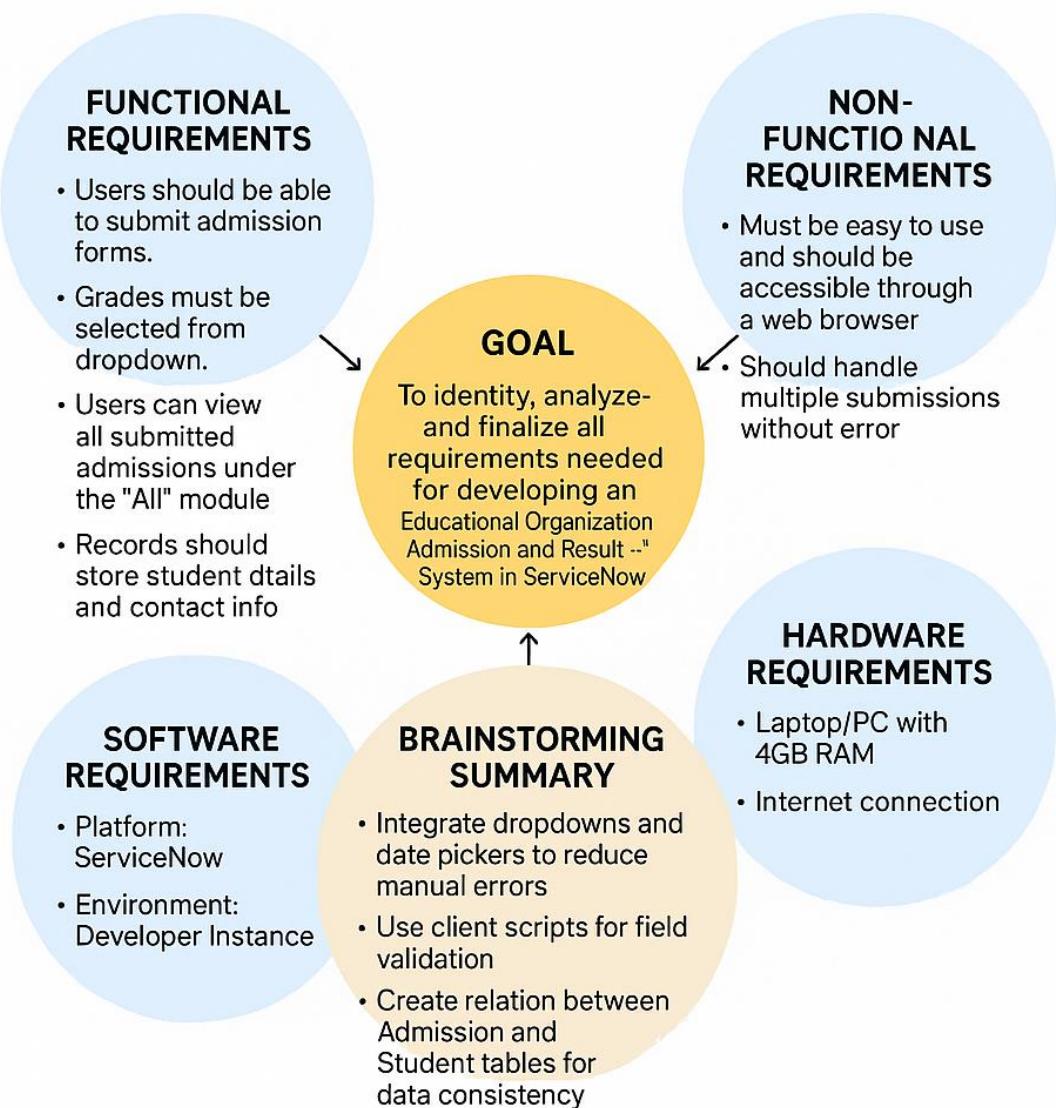
#### **Hardware Requirements:**

- Laptop/PC with 4GB RAM
- Internet connection

## System Requirements Overview :

<b>FUNCTIONAL REQUIREMENTS</b> <ul style="list-style-type: none"><li>• Users should be able to submit admission forms</li><li>• Grades must be selected from dropdown</li><li>• Users can view all submitted admissions under "All"</li><li>• Records should store student details and contact info</li></ul>	<b>NON-FUNCTIONAL REQUIREMENTS</b> <ul style="list-style-type: none"><li>• Must be easy to use and should be accessible through a web browser</li><li>• Should be accessible through a web browser</li><li>• Should handle multiple submissions without error</li></ul>
<b>SOFTWARE REQUIREMENTS</b> <ul style="list-style-type: none"><li>• Platform: ServiceNow</li><li>• Environment: Develop Instance</li><li>• Browser: Google Chrome</li></ul> 	<b>HARDWARE REQUIREMENTS</b> <ul style="list-style-type: none"><li>• Laptop/PC with 4GB RAM</li><li>• Internet connection</li></ul> 

## Brainstorming Chart :



## Insights :

The requirement analysis phase ensured all system needs—both functional and non-functional—were clearly identified. It confirmed that the ServiceNow environment, tools, and user needs were aligned to achieve the project's objectives efficiently.

## **5. Performance Testing Phase**

### **Description :**

Testing ensures that each function of the ServiceNow application performs as expected.

### **Brainstorming – Performance Testing :**

Step	Details
Step 1: Team Gathering, Collaboration, and Problem Selection	The team discussed how to check the speed and stability of the application. The main goal was to test if the ServiceNow app works smoothly when multiple records are entered and processed.
Step 2: Brainstorming, Idea Listing, and Grouping	Ideas were listed such as checking form load time, record submission speed, accuracy of grade calculation, and smooth navigation between modules. These were grouped under system performance, data accuracy, and user experience.
Step 3: Idea Prioritization	High priority was given to testing data accuracy and record handling speed. Medium priority was given to checking form navigation and response time. Low priority was given to visual appearance and layout checks.
Outcome	The app worked efficiently with fast responses and correct data calculations. All forms loaded quickly, and no errors or delays were found during testing.

## **Empathy Map :**

# **EMPATHY MAP**

### **STEP 1**

#### **TEAM GATHERING, COLLABORATION, AND PROBLEM SELECTION**

The team discussed how to check the speed and stability of the application. The main goal was to test if the ServiceNow app works smoothly when multiple records are entered and processed.



### **STEP 2**

#### **BRAINSTORMING, IDEA LISTING, AND GROUPING**

Ideas were listed such as checking form load time, record submission speed, accuracy of grade calculation, and smooth navigation between modules. These were grouped under system performance, data accuracy, and user experience.



### **STEP 3**

#### **IDEA PRIORITIZATION**

High priority was given to testing data accuracy and record handling speed.

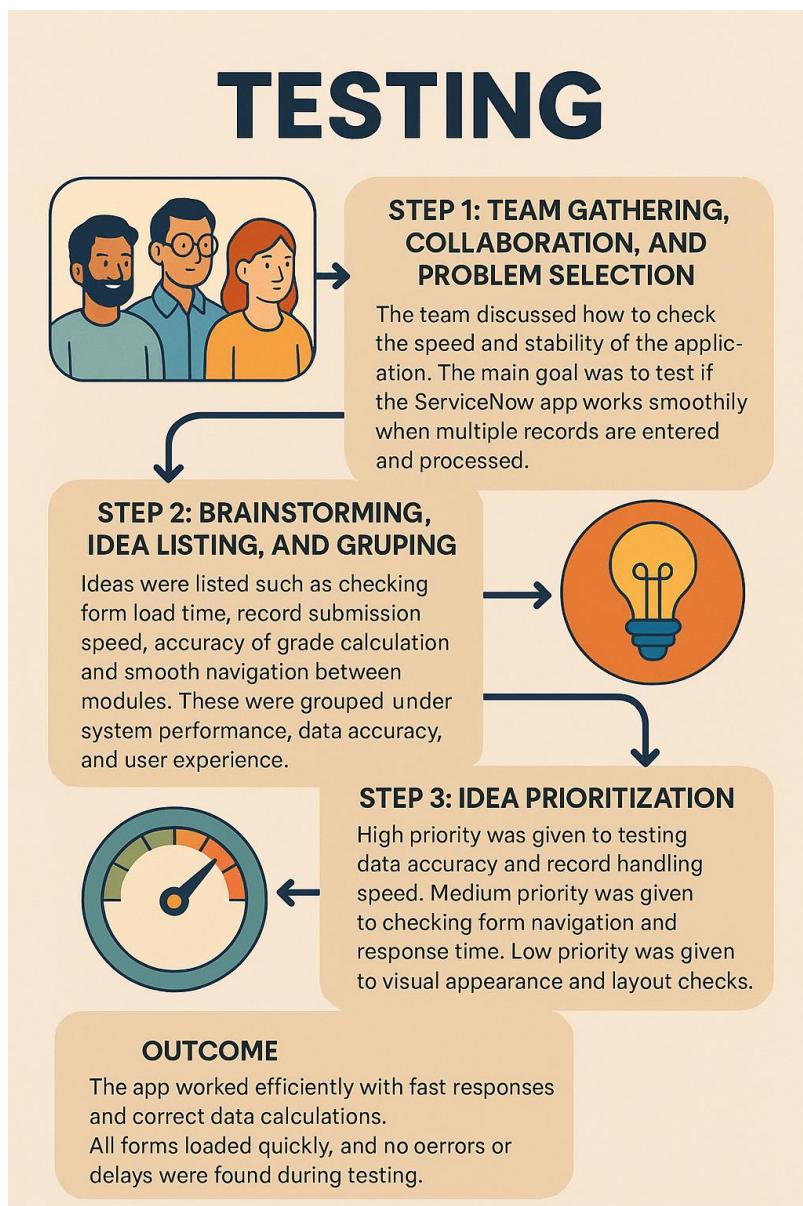
Medium priority was given to checking form navigation and response time.

Low priority was given to visual appearance and layout checks.



### **OUTCOME**

## Ensuring Speed, Stability, and Accuracy of the ServiceNow Application:



## Figure 5.1-Execution

The figure consists of two screenshots of a ServiceNow web interface, both titled "Create SAL0001012 | Salesforce".

**Screenshot 1: Student Record Creation**

This screenshot shows the "Create SAL0001012" page. The fields filled are:

- Admin Number: SAL0001012
- Admin Date: 2025-11-03 05:35:16
- Grade: A
- Student Name: Krish
- Father Name: Sanjay
- Mother Name: Sanjana
- Father Cell: 4,573,674,368
- Mother Cell: 3,592,375,737

A "Submit" button is visible at the bottom left.

**Screenshot 2: Admission Record Creation**

This screenshot shows the "Create ADM0001008" page. The fields filled are:

- Admission Number: SAL0001012
- Purpose of join: Student
- Student Name: Krish
- Father Name: Sanjay
- Mother Name: Sanjana
- Admin Date: 2025-11-03 05:38:06
- Grade: - None --
- Fee: \$ 5,683.00
- Father Cell: 4,573,674,368
- Mother Cell: 3,592,375,737
- Admin status: Active

Comments: This is a student record

Number: ADM0001008

Pincode: 863459

**School Details** section:

- School Area: T.Nagar
- School: JHR Higher Secondary School

A "Submit" button is visible at the bottom left.

Servicenow - Student | ServiceNow Developers | Create STU0001004 | Student Progress

Student Progress - Create STU0001004

Admission Number: SAL0001012  
 Grade: A  
 Student Name: Krish

Father Name: Sanjay  
 Mother Name: Sanjana  
 Father Cell: 4,573,674,368  
 Mother Cell: 3,592,375,737  
 Number: STU0001004

**Student Progress**

Telugu	98	Total	564
Hindi	95	Percentage	94%
English	93	Result	Pass
Maths	90		
Science	96		
Social	92		

Submit

## Figure 5.2- Results

Servicenow - Student | ServiceNow Developers | Create STU0001004 | Student Progress

Student Progress - Create STU0001004

Admission Number: SAL0001012  
 Grade: A  
 Student Name: Krish

Father Name: Sanjay  
 Mother Name: Sanjana  
 Father Cell: 4,573,674,368  
 Mother Cell: 3,592,375,737  
 Number: STU0001004

**Student Progress**

Telugu	98	Total	564
Hindi	95	Percentage	94%
English	93	Result	Pass
Maths	90		
Science	96		
Social	92		

Submit

Servicenow - Student | ServiceNow Developers | Salesforces | ServiceNow

**Salesforces**

All Favorites History Workspaces Admin

**Salesforces** Admin Number Search Actions on selected rows... New

All

Admin Number	Admin Date	Father Cell	Father Name	Grade	Mother Cell	Mother Name	Student Name
SAL0001012	2025-11-03 05:35:16	2,147,483,647	Sanjay	A	2,147,483,647	Sanjana	Krish
SAL0001006	2025-11-01 21:55:40	2,147,483,647	John	A	2,147,483,647	Jesi	Jeya
SAL0001010	2025-11-02 22:18:03	2,147,483,647	Shankar	B	2,147,483,647	Rani	Jagan

1 to 3 of 3

Servicenow - Student | ServiceNow Developers | Admissions | ServiceNow

**Admissions**

All Favorites History Workspaces Admin

**Admissions** Number Search Actions on selected rows... New

All

Number	Admin Date	Admin status	Admission Number	Comments	Father Cell	Father Name	Fee	Grade	Mother Cell
ADM0001008	2025-11-03 05:38:06	Active	SAL0001012	This is a student record	2,147,483,647	Sanjay	\$5,683.00		2,147,483,647
ADM0001006	2025-11-02 22:22:53	Active	SAL0001010	This is a Student Record	2,147,483,647	Shankar	\$5,485.00	B	2,147,483,647
ADM0001004	2025-11-01 22:03:33	Active	SAL0001006	This a Student Record	2,147,483,647	John	\$5,343.00	A	2,147,483,647

1 to 3 of 3

The screenshot shows a ServiceNow interface titled "Student Progress | ServiceNow". The top navigation bar includes tabs for "Student", "ServiceNow Developers", and "Student Progress". The main content area is titled "Student Progress" and displays a grid of student records. The columns are labeled: Number, Admission Number, English, Father Cell, Father Name, Grade, Hindi, Maths, Mother Cell, and Mother Name. The data grid contains three rows of information:

Number	Admission Number	English	Father Cell	Father Name	Grade	Hindi	Maths	Mother Cell	Mother Name
STU0001002	SAL0001010	79	2,147,483,533	Shankar	B	75	80	2,147,483,647	Rani
STU0001001	SAL0001006	90	2,147,483,647	John	A	75	78	2,147,483,647	Jesi
<input checked="" type="checkbox"/> STU0001004	SAL0001012	93	2,147,483,647	Sanjay	A	95	90	2,147,483,647	Sanjana

At the bottom of the grid, there is a pagination indicator showing "1 to 3 of 3".

## Conclusion :

The Educational Organisation using ServiceNow project successfully demonstrated how automation can simplify and improve school management processes. Through the creation of modules like Admission, Student Progress, and Result, the system effectively handled student data, reduced manual work, and improved accuracy. Each phase—from ideation to testing—was carefully planned and executed, ensuring smooth functionality and a user-friendly interface. Overall, the project achieved its goal of building an efficient, reliable, and easy-to-use educational management system on the ServiceNow platform.

