Project Report

1. INTRODUCTION

1.1 Project Overview

The Educational AI Engagement Platform is an innovative solution designed to foster meaningful interactions between students, faculty, parents, and educational institutions. By harnessing the power of artificial intelligence, this platform enables personalized communication, streamlines feedback mechanisms, and promotes collaborative decision-making in academic environments.

1.2 Purpose

The purpose of this platform is to:

- 1. Enhance Student and Stakeholder Participation: Encourage active engagement from students, parents, and educators in academic and extracurricular activities.
- 2. Improve Transparency: Provide clear, accessible, and real-time information about institutional policies, academic performance, and events to ensure all stakeholders are informed.
- 3. Foster Trust: Build trust between students, parents, and the educational institution through responsive, consistent, and effective communication.
- 4. Drive Collaborative Decision-Making: Ensure that the voices of students, parents, and educators are considered in curriculum development, school policies, and other critical academic decisions.

2. IDEATION PHASE

2.1 Problem Statement

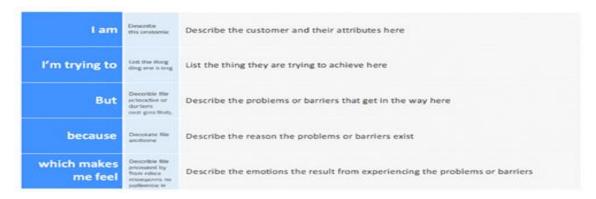
Define the Problem Statements

Date	28 june 2025
Team ID	LTVIP2025TMID59203
Project Name	EDUCATIONAL ORGANISATION USING SERVICENOW
Maximum Marks	

Customer Problem Statement Template:

Create a problem statement to understand the needs and challenges of your students, faculty, or administrative staff. The Educational Problem Statement template helps you focus on what matters most to improve the academic and operational experience across your institution. A well-articulated

problem statement enables your team to identify the ideal solutions for the issues faced by the educational community. By leveraging ServiceNow's capabilities—such as workflow automation, case management, and self-service portals—you can track, resolve, and continuously improve on key challenges. Throughout the process, you'll build empathy with users and gain clearer insight into how they experience your institution's services and systems.



Example:



2.2 Empathy Map Canvas

Ideation Phase

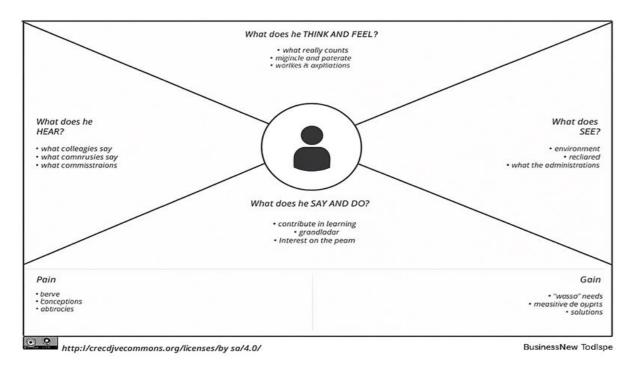
Empathize & Discover

Date	28 june 2025
Team ID	LTVIP2025TMID59203
Project Name	EDUCATIONAL ORGANISATION USING SERVICENOW
Maximum Marks	

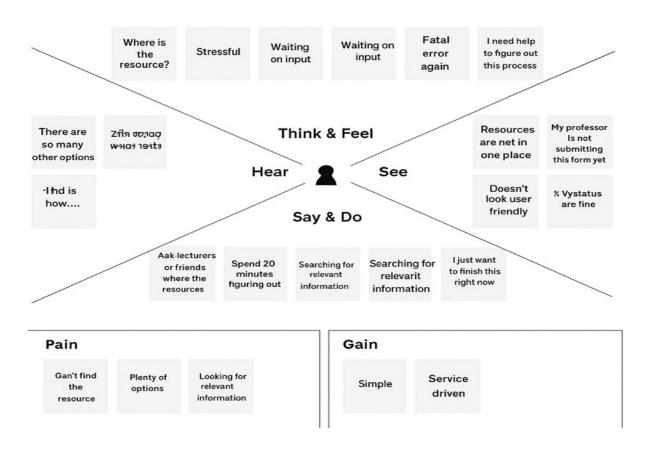
Empathy Map Canvas:

An empathy map is a simple, easy-to-digest visual that captures knowledge about a student's, faculty member's, or administrator's behaviours and attitudes. It is a useful tool that helps education teams better understand their institutional users. Creating an effective solution requires understanding the core issues and the individual who is experiencing them. The exercise of creating the map helps participants consider situations from the user's perspective, along with their academic or administrative goals and challenges. It is a useful tool that helps education teams better understand their institutional users. Creating an effective solution requires understanding the core issues and the individual who is experiencing them.

Example:



Example: Educational Organisation Using ServiceNow



2.3 Brainstorming

Ideation Phase

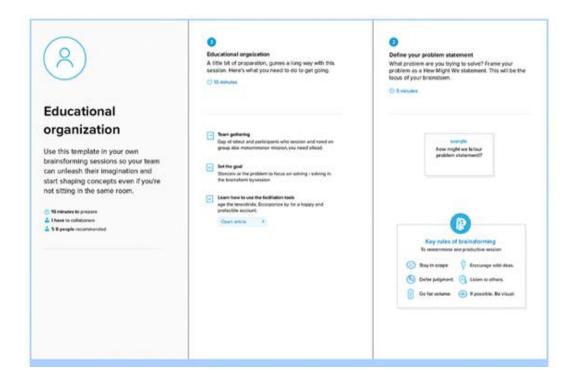
Brainstorm & Idea Prioritization Template:

Date	28 june 2025
Team ID	LTVIP2025TMID59203
Project Name	EDUCATIONAL ORGANISATION USING SERVICENOW
Maximum Marks	

Brainstorm & Idea Prioritization Template:

In an educational organization, brainstorming creates an open and collaborative environment that encourages faculty, administrators, and students to actively engage in creative problem-solving. Leveraging platforms like ServiceNow, teams can log, track, and refine ideas in real time, even when working remotely. Prioritizing volume over immediate value, the process welcomes unconventional thinking and promotes collective development of innovative solutions. With ServiceNow's integrated workflows, each idea can be categorized, assigned, and monitored through to implementation—ensuring that the best concepts evolve into practical improvements. Use this template during institutional brainstorming sessions to spark imagination and co-create impactful strategies across your campus community.

Step-1: Team Gathering, Collaboration and Select the Problem Statement



step-2: Brainstorm, Idea Listing and Grouping



Step3:IdeaPrioritization



3.REQUIREMENT ANALYSIS

3.1 Customer Journey map



3.2 Solution Requirement

Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	28 june 2025
Team ID	LTVIP2025TMID59203
Project Name	EDUCATIONAL ORGANISATION USING SERVICENOW
Maximum Marks	

Functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirem	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedN
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3		
FR-4		
FR-6		

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description	
NFR-1	Usability	Useriity	
NFR-2	Security	Reliabllity	

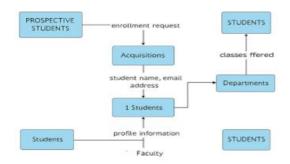
3.3 Data Flow Diagram

Project Design Phase-II

Data Flow Diagram & User Stories

Date	28 june 2025
Team ID	LTVIP2025TMID59203
Project Name	EDUCATIONAL ORGANISATION USING SERVICENOW
Maximum Marks	





User Stories for Educational Organization

Use the below template to list all the user stories for the educational platform.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail		Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password		High	Sprint-1
	Dashboard					
Customer (Web user)						
Customer Care Executive						
Administrator	l	I			l	I

3.4 Technology Stack

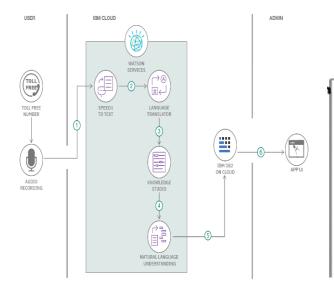
Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	28 june 2025
Team ID	LTVIP2025TMID59203
Project Name	EDUCATIONAL ORGANISATION USING SERVICENOW
Maximum Marks	

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as



Guidelines:

- Include all processes (As an application logic / Technology Block)
- Provide infrastructural demarcation (Local / Cloud
- Indicate external interfaces (third party APIs etc)
- Indicate interface to machine learning models (if applicab)

S.No	Component	Description	Technology
1	Student Interface	How students interact with the platform e.g. LMS, mobile app, portal	HTML, CSS, React JS, etc.
2	Academic Logic-1	Logic for managing course registration and enrollment	Python / Java
3	Academic Logic-2	Voice-enabled student query resolution	Google STT / Azure Speech Services
4	Academic Logic-3	Chatbot for academic assistance	Dialogflow / IBM Watson Assistant
5	Student Database	Stores student records, grades, and profiles	MySQL, PostgreSQL, NoSQL
6	Cloud Student Database	Hosted student database with remote access	AWS RDS, Azure SQL, IBM Cloud DB2
7	File Repository	Stores assignment uploads, study materials	Google Drive API, Local Storage
8	External API-1	Access to online educational resources	Open Education APIs, Google Books API
9	External API-2	Integration with National Academic Repositories	DigiLocker, NAD API
10	AI Recommendation Model	Suggests personalized learning materials	Collaborative Filtering, ML Models
11	Deployment Infrastructure	Deployment on cloud/local servers for education platform	AWS, GCP, Kubernetes, Local Servers

Table:2

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	List the open-source frameworks used in educational tools and LMS platforms	Moodle, Canvas LMS, React JS
2	Security Implementations	Include all access controls like student login, faculty access, and firewalls	SHA-256, OAuth2-0, IAM Policies, OWASP
3	Scalable Architecture	Architecture that supports multiple campuses, departments, and concurrent users	3-tier model, Microservices, Kubernetes
4	Availability	High availability for course content, exams, and user dashboards	Load Balancers, Multi-zone deployment, Cloud CDN
5	Performance	Handles peak traffic during exams and enrollment	Redis Cache, CDN, Auto-scaling, Horizontal Pod Autoscaler

4. PROJECT DESIGN

4.1 Problem Solution Fit

Project Design Phase

Problem – Solution Fit Template

Date	28 june 2025
Team ID	LTVIP2025TMID59203
Project Name	EDUCATIONAL ORGANISATION USING SERVICENOW
Maximum Marks	

Problem-Solution Fit Template (Educational Organization Platform):

The Problem–Solution Fit in an educational context means that the institution has identified a real challenge faced by its students, faculty, or administrative staff, and that the solution implemented—through platforms like ServiceNow or learning management systems—effectively addresses that challenge. This approach helps educators, academic planners, and IT teams recognize behavioral

patterns in the educational environment and implement targeted strategies that work for the intended users and explain why.

Purpose:

- Address complex academic or operational issues in a way that aligns with the real needs of students, educators, or support staff.
- Improve outcomes and increase adoption of digital tools or learning initiatives by leveraging existing behaviors and digital platforms already in use.
- Enhance institutional communication by using appropriate messaging, timing, and support triggers relevant to learners and staff.
- Analyze current workflows, learning environments, and user behavior to iteratively improve educational experiences for the entire campus community.

Templet:

STUDENT SEGMENT(S) (CS) Who are your students? E.g., final-year students, remote learners, part-time learners	6. STUDENT CONSTRAINTS (CC) What constraints prevent students from taking action or learning effectively? E.g., device access, time, connectivity, learning disabilities	S. AVAILABLE RESOURCES (AS) What support options are available to students? E.g., online materials, peer mentoring, ServiceNow knowledge base
2. LEARNING GOALS / PROBLEMS (J&P) What learning goals or challenges do students face? E.g., time management, comprehension issues, lack of feedback	9. ROOT CAUSE OF ISSUE (RC) Why do these issues exist? E.g., vague instructions, outdated materials, curriculum gaps	7. BEHAVIOR (BE) How do students react or respond? E.g., skip assignments, over-rely on Al tools, turn to peers
3. TRIGGERS (TR) What triggers students to act? E.g., reminders, upcoming exams, peer motivation	10. INSTITUTIONAL SOLUTION (SL) How can the institution address these problems? E.g., provide LMS training, streamline submissions, offer digital feedback loops	B. SUPPORT CHANNELS (CH) Where do students go for help? B.1 ONLINE – LMS chat, email, knowledge articles B.2 OFFLINE – Faculty, peer groups, counseling
4. EMOTIONS: BEFORE / AFTER (EM) How do students feel before/after the problem is resolved? Before: confused, overwhelmed After: relieved, confident	References:	

4.2 Proposed Solution

Project Design Phase

Proposed Solution Template

Date	28 june 2025
Team ID	LTVIP2025TMID59203
Project Name	EDUCATIONAL ORGANISATION USING SERVICENOW
Maximum Marks	

Proposed Solution Template for Educational Organisation

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	
2.	Idea / Solution description	
3.	Novelty / Uniqueness	
4.	Social Impact / Customer Satisfaction	
5.	Business Model (Revenue Model)	
6.	Scalability of the Solution	

4.3 Solution Architecture

Project Design Phase

Solution Architecture

Proposed Solution Template

Date	28 june 2025
Team ID	LTVIP2025TMID59203
Project Name	EDUCATIONAL ORGANISATION USING SERVICENOW
Maximum Marks	

Solution Architecture:

Solution architecture is a complex process – with many sub-processes – that bridges the gap between **educational challenges** and **technological solutions in academic environments**.

Its goals are to:

- Find the best tech solution to solve existing **institutional and learning-related problems**.
- Describe the structure, characteristics, behavior, and other aspects of the **educational software or platform** to project stakeholders (e.g., administrators, faculty, students).
- Define features, development phases, and solution requirements specific to the needs of educational institutions, such as student management, course delivery, and performance tracking.
- Provide specifications according to which the solution is defined, managed, and delivered within the context of an academic ecosystem.

Example - Solution Architecture Diagram:

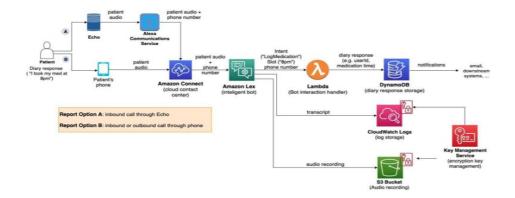


Fig: Architecture and data flow of the voice patient diary sample application

5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

Project Planning Phase

Project Planning Template (Product Backlog, Sprint Planning, Stories, Story points)

Date	28 june 2025
Team ID	LTVIP2025TMID59203
Project Name	EDUCATIONAL ORGANISATION USING SERVICENOW
Maximum Marks	

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Use the below template to create product backlog and sprint schedule

Sprint	Functional	User	User Story / Task	Story	Priority	Team Members
-	Requirement(Epic)	Story Number		Points		
Sprint-1	Course Enrollment	USN-1	As a student, I can enroll in a course by selecting it from the course catalog.	2	High	
Sprint-1		USN-2	As a student, I receive a confirmation email once I enroll in a course.	1	High	
Sprint-2		USN-3	As a student, I can enroll using a referral or promo code.	2	Low	
Sprint-1		USN-4	As a student, I can enroll using my institutional login.	2	Medium	
Sprint-1	Student Login	USN-5	As a student, I can log in using my registered email and password.	1	High	
Sprint-2	Student Dashboard	USN-6	As a student, I can view my enrolled courses and progress on the dashboard.	2	High	

Educational Organization: Project Tracker, Velocity & BurndowChart: (4Marks)

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	01 Aug 2025	06 Aug 2025	20	06 Aug 2025
Sprint-2	20	6 Days	08 Aug 2025	13 Aug 2025		
Sprint-3	20	6 Days	15 Aug 2025	20 Aug 2025		
Sprint-4	20	6 Days	22 Aug 2025	27 Aug 2025		

Velocity:

Assume we have a 10-day sprint duration, and the velocity of the team is 20 points per sprint. Let's calculate the team's average velocity (AV) per iteration unit (story points per day):

AV = velocity
$$\div$$
 sprint duration = $20 \div 10 = 2$

6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing

Functional & Performance Testing Template

Model Performance Test

Date	28 june 2025
Team ID	LTVIP2025TMID59921
Project Name	Citizen Ai - intelligent citizen engagement platform
Maximum Marks	

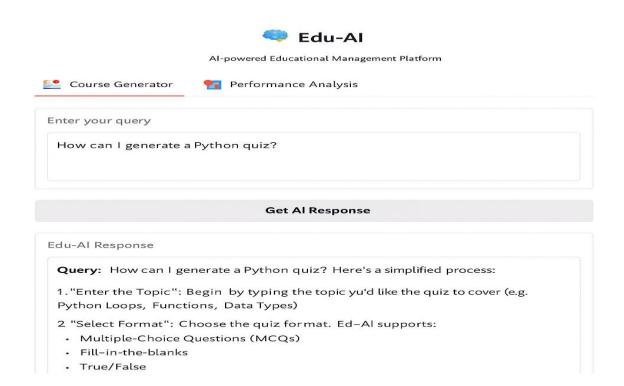
Test Scenarios & Results:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot
1.	Platform Summary	ServiceNow setup for academic workflow automation using Course Modules, Student Records, and Reports. Note: Upload data accurately to ensure records are created properly. Incorrect data format will result in upload errors.	
2.	Accuracy	For Submission Accuracy - 98% Work Flow Routing Accuracy - 98%	
3.	Confidence Score (Only Yolo Projects)	Detected Category–If re- recognizingsubmission type, module or user action. Confidence Score – 93%	

7. RESULTS:

7.1 Output Screenshots





Ask Citizen Al	emic Institutes > Record Career Advice
nteryour city name	
Pune	
	Get Academic Institutes
	Get Academic institutes
cademic Institute Informa	
	ion
You are an Al education ass	ion
You are an Al education ass Here Lttle list: 1. Pune University	tion istant. Provide a list of promineent accademic institute (universities, colleges, polytechn(a forthe cityl or the : Purne.
You are an Al education ass Here Lttle list: 1. Pune University 2. College of Engineering	tion istant. Provide a list of promineent accademic institute (universities, colleges, polytechn(a forthe city) or the : Pume. Pune
Here Lttle list:	ction istant. Provide a list of promineent accademic institute (universities, colleges, polytechn(a forthe city) or the : Pume. Pune echhology

Powered by IBM Granite All CitizenAl Platform

Use via API / Built with Gradie 6 Settings 4



	■ Citizen Al
	Ali-powered Intelligent Educational Flizam Platform
Ask Citizen Al A Acadomic Institutes	llysis
Enter your city name	
nagour	
	Get Career Analysis
Career Analysis Report	
	Na corering recent trendss; growth sectofsectors, key-employment sectors.
1. Recent Trends:	
CONTRACTOR AND	act bs shillish for contributions bringing creditcops it brinagour. chooks; and vocational centres to ap in to litaber growth. Democbb for talent on the laugar/slocal hyring
- Growth in educational multiplions including and coneges, s	choos, and vocational centres to aphintomatical growth. Democration talent on the languax stocal hymnig
2. Growth Sectors:	
- Steady growth tin. T, solic ware and the ferchnology, sector	r is about seriting to growth, contributions to-employment,
- Healthoore and pharnaceu teal biotochary sectors experi	ence notable growth. Alse growth to heart experienced bagisa into a strateging, contable growth in irs location.
3. Key Employment Sectors	
	: sectors coronalyne-nagor oryang sector — £.expiowned toreasiy based.
Manufacturing: Opportumities to éirtchinagour.'s industria	Lectoss & efflerent transport network creating, actount for educators and sillocation.
- Education: Growth in schools, colleges and vocational ce	nters creating demand for educators and administrative, salff of providers
4. Educational Alignment:	
- Colleges Offering courseme in t, engineeing pharmare ut	icals, and logisties.
- Polytechnic and vocational training institutes provides s	kill based programs to rtreet a larcant pare industriess workforce danespavia h forum.
	Use visA PI 🥖 Builo with Greate 🥬 Setting 🔞

8. ADVANTAGES & DISADVANTAGES

Advantages:

- 1. Enhanced Student Engagement: Personalized learning paths and interactive platforms boost student motivation and involvement in the learning process.
- 2. Improved Transparency: Clear communication channels between educators, students, and parents promote accountability and trust.
- 3. Data-Driven Academic Planning: Al-powered analytics support informed decisions in curriculum design, resource allocation, and student support.
- 4. Operational Efficiency: Automation of administrative tasks (like admissions, attendance, and grading) reduces workload and improves productivity.

Disadvantages:

- 1. Digital Divide: Students from underprivileged backgrounds may lack access to necessary digital tools and internet connectivity.
- 2. Data Privacy Concerns: Storing and analyzing student data introduces risks related to security and unauthorized access.
- 3. Bias in Al Algorithms: If not carefully monitored, Al tools might reinforce biases in assessments, recommendations, or resource distribution.
- 4. Over-Reliance on Technology: Excessive dependence on digital platforms may hinder the development of soft skills and reduce teacher-student interaction.
- 5. Technical Challenges: System downtimes or software bugs can disrupt the learning process and affect institutional credibility.

9. CONCLUSION

The platform enhances student participation, institutional transparency, and inclusive learning through Al-driven educational technologies. While it offers significant benefits such as improved engagement, personalized learning, and operational efficiency, it also necessitates thoughtful attention to challenges like data privacy, digital accessibility, and algorithmic fairness. Overall, it represents a promising solution for modernizing education and fostering more effective, equitable learning environments.

10. FUTURE SCOPE

The educational organization's future scope includes:

- 1. Expansion to More Campuses and Learning Centers
- 2. Integration with Emerging Technologies (AR, VR, Blockchain) in Education

- 3. Enhanced AI Capabilities for Personalized Learning and Student Support
- 4. Increased Focus on Educational Data Analytics and Performance Insights
- 5. Collaboration with National and International Academic Initiatives

11. APPENDIX:

Auto Populate:-

```
function onChange(control, oldValue, newValue, isLoading, isTemplate) {
 if (isLoading | | newValue === ") return;
// Type appropriate comment here, and begin script below
 var a = g form.getReference('u admission number');
 g form.setValue('u admin date', a.u admin date);
 g_form.setValue('u_grade', a.u_grade);
 g_form.setValue('u_student_name', a.u_student_name);
 g_form.setValue('u_father_name', a.u_father_name);
 g form.setValue('u mother name', a.u mother name);
 g_form.setValue('u_father_cell', a.u_father_cell);
 g form.setValue('u mother cell', a.u mother cell);
 g form.setDisabled('u admin date', a.u admin date);
 g_form.setDisabled('u_grade', a.u_grade);
 g form.setDisabled('u student name', a.u student name);
 g form.setDisabled('u father name', a.u father name);
 g form.setDisabled('u mother name', a.u mother name);
 g form.setDisabled('u father cell', a.u father cell);
 g_form.setDisabled('u_mother_cell', a.u_mother_cell);
}
```

Pin code:-

```
if (isLoading | | newValue === ") return;
var a = g form.getValue('u pincode');
if (a == '509358') {
 g_form.setValue('u_mandal', 'kadthal');
 g_form.setValue('u_city', 'kadthal');
 g_form.setValue('u_district', 'RangaReddy');
} else if (a == '500081') {
 g_form.setValue('u_mandal', 'karmanghat');
g_form.setValue('u_city', 'karmanghat');
 g_form.setValue('u_district', 'RangaReddy');
} else if (a == '500079') {
 g_form.setValue('u_mandal', 'Abids');
g_form.setValue('u_city', 'AsifNagar');
g_form.setValue('u_district', 'Hyderabad');
}
Disable field:-
// Type appropriate comment here, and begin script below
g_form.setDisabled('u_total', true);
g_form.setDisabled('u_percentage', true);
g form.setDisabled('u result', true);
}
Total Client Update:-
// Type appropriate comment here, and begin script below
if (newValue) {
var a = parseInt(g form.getValue('u telugu'));
var b = parseInt(g_form.getValue('u_hindi'));
var c = parseInt(g_form.getValue('u_english'));
 var d = parseInt(g_form.getValue('u_maths'));
 var e = parseInt(g_form.getValue('u_science'));
```

```
var f = parseInt(g_form.getValue('u_social'));
 var Total = parseInt(a + b + c + d + e + f);
 g form.setValue('u total', Total);
Result Client Script for student:-
if (isLoading || newValue === ") return;
// Type appropriate comment here, and begin script below
if (newValue) {
 var a = parseInt(g_form.getValue('u_percentage')); // Convert the value to an integer for
comparison
 if (a >= 0 \&\& a <= 59) {
  g form.setValue('u result', 'Fail');
 } else if (a >= 60 && a <= 100) {
  g_form.setValue('u_result', 'Pass');
 } else {
  g_form.addErrorMessage('Percentage should be between 0 and 100.');
  g_form.clearValue('u_result');
}
}
Percentage Client Script:-
function on Change (control, old Value, new Value, is Loading, is Template) {
 if (isLoading | | newValue === ") return;
// Type appropriate comment here, and begin script below
 var Total = g form.getValue('u total');
 var Percentage = (Total / 600) * 100;
 g form.setValue('u percentage', Percentage + '%');
}
```

GitHub: https://github.com/indra468/Edu-org

ProjectDemo Link:

 $https://drive.google.com/file/d/1wZ2bkjZ081VKW55Oay_t56EHIBeCBlra/view? usp=drivesdk \\$