

**Faculty of Technology and Engineering**  
**Chandubhai S. Patel Institute of Technology**  
**Department of Computer Science & Engineering**

**Project Problem Statement for Project-IV**

<b>Project Group ID: CSPIT/CSE/B2/Group ID</b>			
<b>Student ID:</b>	<b>22CS080</b>	<b>22CS081</b>	
<b>Name:</b>	<b>Utsav Shah</b>	<b>Vraj Shah</b>	
<b>Project Title:</b>	<b>AI-Based Assignment Evaluation System</b>		
<b>Domain of Project Definition:</b>	Artificial Intelligence, Natural Language Processing (NLP), Education Technology		
<b>Technology/Methodologies to be used in project:</b>	<ol style="list-style-type: none"> <li>1. Frontend: React (for user interface) or basic HTML/CSS for simplicity.</li> <li>2. Backend: NodeJs for API development.</li> <li>3. NLP Libraries: NLTK, Hugging Face Transformers, LanguageTool for grammar analysis.</li> <li>4. File Handling: PyPDF2 (for PDF extraction), python-docx (for Word documents).</li> <li>5. Tools: Gantt chart tools like MS Excel</li> </ol>		
<b>Project Objectives</b>	<ol style="list-style-type: none"> <li>1. To create an AI-driven system that evaluates assignments and provides marks without teacher involvement.</li> <li>2. To analyze the relevance of assignment content to a given topic using NLP techniques.</li> <li>3. To automate feedback generation for students' submissions based on grammar, structure, and topic coverage.</li> <li>4. To support multiple file formats, including PDF and Word documents.</li> <li>5. To reduce manual effort and improve scalability in educational evaluations.</li> </ol>		
<b>Brief Description about project:</b>	<p>This project aims to develop a system that evaluates assignments automatically using AI. Users (students) can upload assignments in PDF or Word formats, specify the topic, and receive detailed feedback with marks. The system uses Natural Language Processing to analyze grammar, keyword relevance, and content structure. This solution is particularly suited for educational institutions looking to automate repetitive evaluation tasks, saving time and increasing objectivity.</p>		

### SWOT analysis chart for the Project

S	W	O	T
STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
1. Reduces manual workload. 2. Scalable for large groups. 3. Supports multiple formats.	1. Limited by model training data. 2. Requires a robust NLP model. 3. Initial development complexity.	1. Application in e-learning. 2.Expandable to other domains.	1. Accuracy may vary by Input. 2. Competition from commercial tools.

### Project Deliverables

1. A web-based application for assignment evaluation.
2. NLP-based content analysis for relevance and feedback generation.
3. A report on the marks and evaluation summary.
4. Support for PDF and Word file uploads.
5. Deployment of the system for user testing.

### Gantt chart with Project Timeline and Team Roles

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Tasks	Status	Start Date	End Date	Members	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14
2	Project Definition	Completed	24-12-2024	30-12-2024	Utsav,Vraj														
3	Project Planning	Completed	31-12-2024	07-01-2025	Utsav,Vraj														
4	Project Planning	Completed	07-01-2025	14-01-2025	Utsav,Vraj														
5	Frontend Design	In progress	15-01-2025	21-01-2025	Utsav,Vraj														
6	Frontend Design	In progress	22-01-2025	28-01-2025	Utsav,Vraj														
7	Backend API Setup	Not Started	29-01-2025	04-02-2025	Utsav,Vraj														
8	Backend API Setup	Not Started	05-02-2025	11-02-2025	Utsav,Vraj														
9	File Handling (PDF/DOCX)	Not Started	12-02-2025	18-02-2025	Utsav,Vraj														
10	NLP Model Integration	Not Started	19-02-2025	25-02-2025	Utsav,Vraj														
11	NLP Model Integration	Not Started	26-02-2025	04-03-2025	Utsav,Vraj														
12	Testing and Bug Fixing	Not Started	05-03-2025	11-03-2025	Utsav,Vraj														
13	Testing and Bug Fixing	Not Started	12-03-2025	18-03-2025	Utsav,Vraj														
14	Deployment and Documentation	Not Started	19-03-2025	25-03-2025	Utsav,Vraj														
15	Deployment and Documentation	Not Started	26-03-2025	01-04-2025	Utsav,Vraj														

Student 1 Sign

Student 2 Sign

**Assessment Rubric to evaluate Difficulty level of Project:**

Criteria	Marks
Scope and Complexity	
Technical Challenges	
Resource Requirements	
Quality level of Gantt Chart	
Quality level of SWOT analysis chart	
Innovation and Creativity	
<b>Total (Out of 30)</b>	

**Assessment Rubric to evaluate quality of Project Problem Statement:**

Criteria	Marks
Clarity of Problem Statement	
Relevance to Project Objectives	
Clarity of Language and Presentation	
Overall Impression	
<b>Total (Out of 20)</b>	

**Mentor's Comments:**

**Mentor's Sign:**

**HOD's Sign with Comments:**