

NIRMAAN

Solution Name: AI-Based System for Plagiarism Detection and Task Management for Students

Team Name: Tech Titans

By I2IC TPO VIIT



Team Member Details



TEAM NAME :

Tech Titans

**TEAM MEMBERS
:**

1(LEADER)

2

3

4

NAME :

Tejaswini Durge

Aniket Bansod

Akash Nachane

Soham Deshmukh



Problem statement

■ **AI-Based System for Plagiarism Detection and Task Management for Students**

Overview of the Problem:

- **Plagiarism Issues:** Students increasingly submit copied assignments, undermining academic integrity.
- **Time Constraints for Teachers.** Originality checks done personally consume lot of time and are inefficient.
- **Task Management Challenges:** Lack of a streamlined system to track assignment submissions and handle defaulters effectively.
- It has administrative complexity due to the issuing of No Objection Certificates (NOC) for students whose assignments have been cleared.

Proposed Solution

- A web-based platform where students upload their assignments.
- Create an AI plagiarism detection tool using algorithms like SentenceTransformer, all-MiniLM-L6-v2 and cosine similarity to pick up copied contents.
- Automatic NOC generation following plagiarism results eliminates administrative work loads.
- Implement a module for task management that will track submissions and ensure timely completion of assignments.



System Workflow

Welcome to Classroom

T

Name: Tejaswini
Email: tejaswini@gmail.com
[View Receipt](#)

Dashboard

Subjects

Artificial Intelligence
Dr. Chaitali Shewale

Operating System
Dr. Munde Mohanji

Database Management System
Mahesh Bhosale

Mainframe Technology
Smita Patil

Dashboard

Welcome to Classroom

Name: Dr. Chetali Shewale
Email: chetali@gmail.com
[View Receipt](#)

Assigned Tasks

AI Task 1
Write A* Algorithm with ex...

Add New Task

Title:

Description:

Due Date:
dd - mm - yyyy

Score:

Add

Cancel

View Similarity

Delete

Add Task (view - Teacher)

Welcome to Classroom

T

Name: Tejaswini
Email: tejaswini@gmail.com
[View Receipt](#)

Assigned Tasks

AI Task 1:
Write an assignment on learning strategies mentioned in AI. Due: Sep 30, 12:29 PM

Choose File

No file chosen

Upload File

AI Task 2:
Write one example of partial order planning and non-linear planning. Due: Sep 25, 12:29 PM

Choose File

No file chosen

Upload File

View Similarity

Back to Dashboard


File Submission (view - Student)



System Workflow

| Similarity Report | |
|---|--------|
| AI_Assignment No_8.pdf and 20_Tejaswini Durge_AI_study_Ass8.pdf | 80.34% |
| AI_Assignment No_8.pdf and AI_Assignment No_8.pdf | 100% |
| 20_Tejaswini Durge_AI_study_Ass8.pdf and AI_Assignment No_8.pdf | 80.34% |
| 20_Tejaswini_Durge.pdf and 14_Soham_Deshmukh.docx | 63.69% |
| 20_Tejaswini_Durge.pdf and 04_Aniket_Bansod.docx | 65.68% |
| 20_Tejaswini_Durge.pdf and 29_Aarya.docx | 63.83% |
| 14_Soham_Deshmukh.docx and 04_Aniket_Bansod.docx | 93.74% |
| 14_Soham_Deshmukh.docx and 29_Aarya.docx | 69.74% |
| 14_Soham_Deshmukh.docx and 20_Tejaswi_Durge.docx | 75.52% |
| 04_Aniket_Bansod.docx and AI_Assignment_No_8_Similarity1.pdf | 60.92% |
| 04_Aniket_Bansod.docx and 29_Aarya.docx | 68.29% |
| 04_Aniket_Bansod.docx and 20_Tejaswi_Durge.docx | 74.62% |

Similarity Report



VISHWAKARMA INSTITUTE OF INFORMATION TECHNOLOGY, PUNE

S.No.3/4,Kondhwa Bk., Pune-411048.MAHARASHTRA, INDIA

NOC RECEIPT

Student Name: ABC

Department: Information Technology

Course: B.Tech

Date of Issue: 10/20/2024

Conditions for Hall Ticket Issuance

NOC Cleared

Minimum Attendance Met

Assignments Completed

No Dues Pending

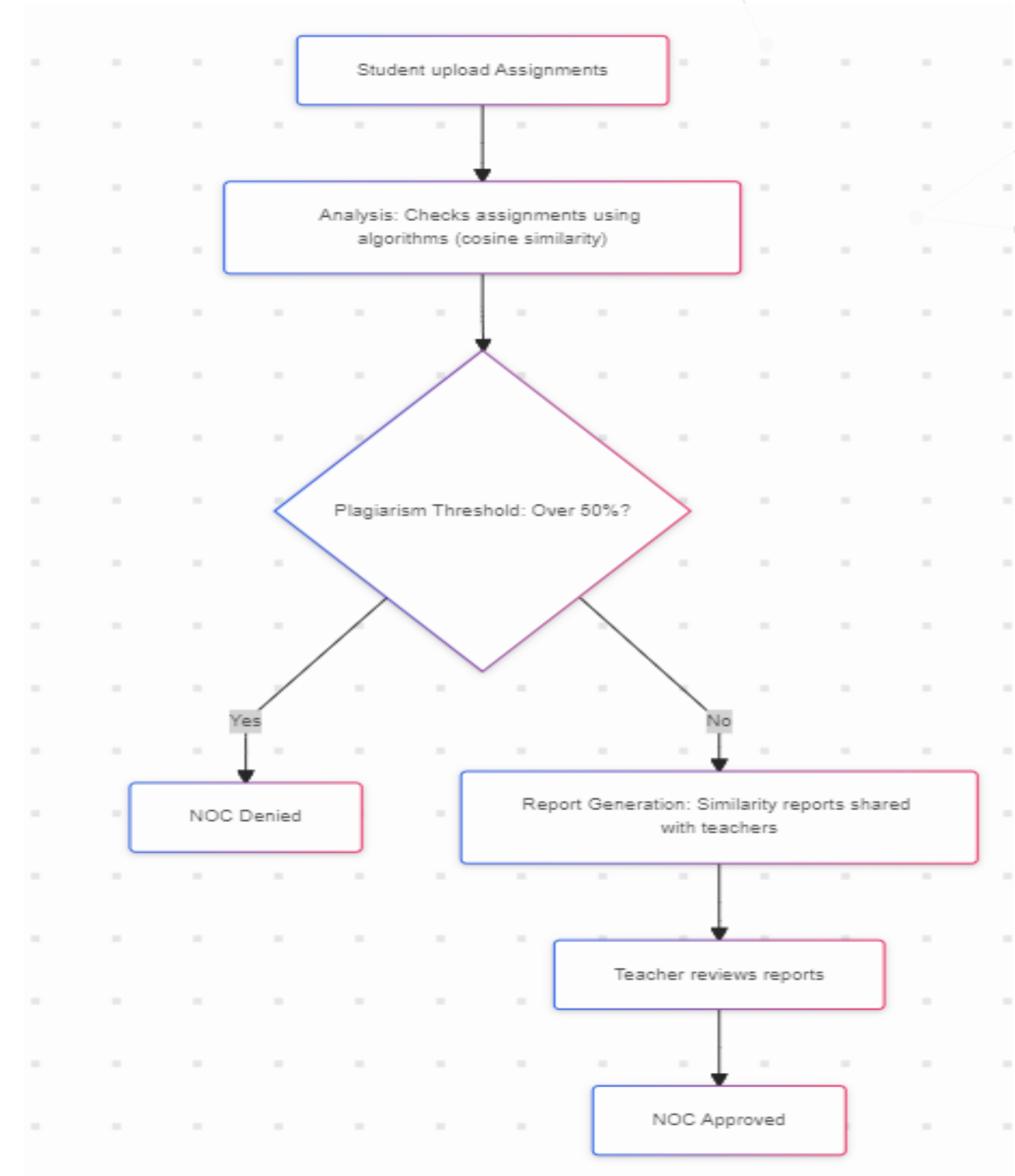
Approved ✓

Please bring this receipt and get your NOC signed to obtain the Hall ticket.

Receipt Generation

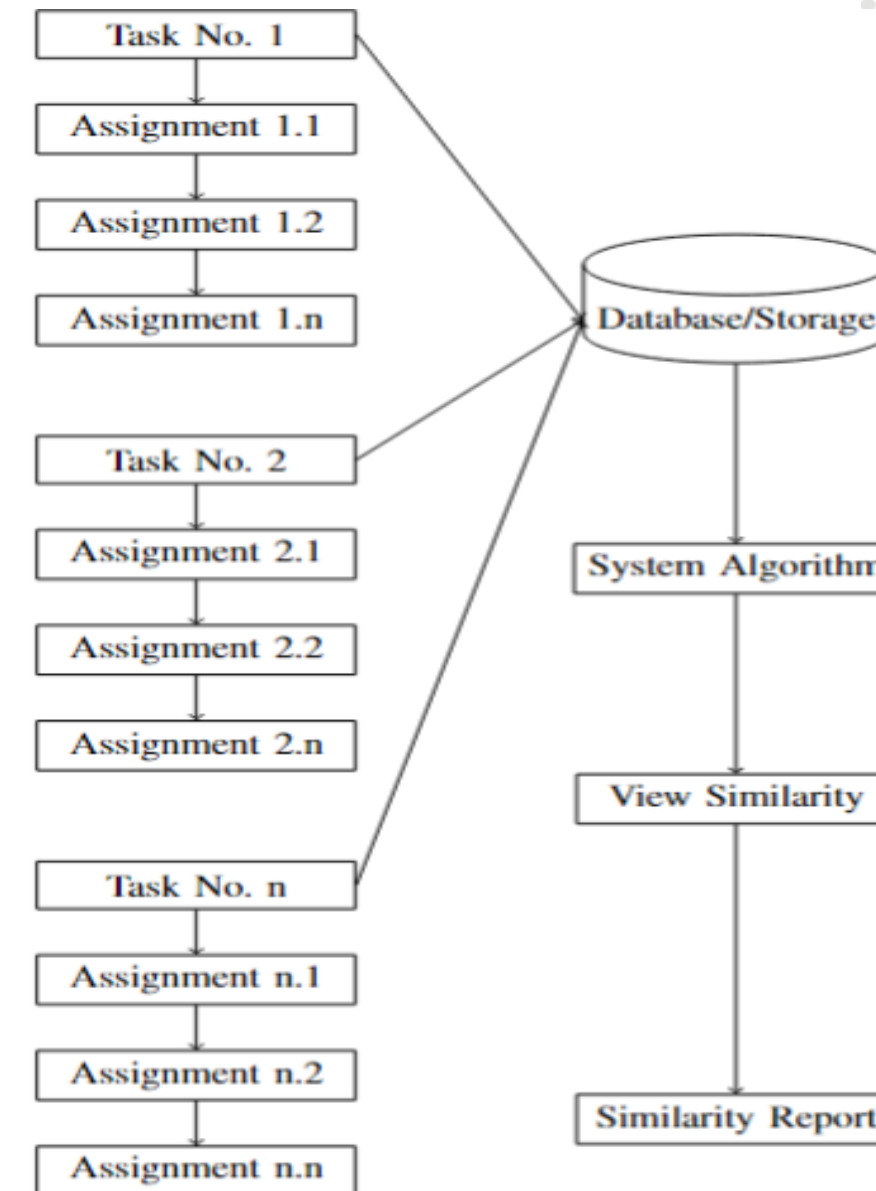
Architecture / Block Diagram

1. **Assignment Submission:** Students upload assignments directly to the app.
2. **Plagiarism Detection:** The system checks for plagiarism, highlighting content with over 50% similarity.
3. **Teacher Review:** Teachers review the plagiarized sections and decide whether to accept or request revisions.



Architecture

- **Task & Assignment Management:**
Every task is comprised of a number of assignments, which are stored in a central
- **System Algorithm:**
Processes assignments and detects similarities using machine learning.
- **Similarity Report:**
Generates detailed similarity insights for assignments, viewable via the system interface.





Tech Stack

- Frontend: React.js (for student and teacher dashboards).
- Backend: Node.js, Express.js (for task and assignment management).
- Database: Mongot db Atlas (for task storage and NOC tracking).
- Plagiarism Detection: Machine learning Model

Impact And Feasibility

Impact:

- Improved Academic Integrity: The platform discourages unethical practices and promotes originality among students by accurately detecting plagiarism.
- Increased Efficiency: The automation of plagiarism detection and NOC creation helps avoid time and effort for educators and administrators.
- Streamlined Task Management: A centralized system ensures timely submissions and better tracking of student progress.
- Scalability: The application can be scaled up to accommodate different institutions of learning and extended to other industries that need task management.

Impact And Feasibility

Feasibility:

- **Technology Readiness:** The presence of established technologies such as React.js, Node.js, and machine learning models makes the system practical for implementation.
- **Cost-Efficient Deployment:** Using existing frameworks and cloud-based solutions like MongoDB Atlas reduces infrastructure costs.
- **User Accessibility:** The interface is modeled after Google Classroom, thus ensuring that students and teachers are familiar with it.
- **Future Scalability:** The architecture of the system allows for easy scalability and integration with Learning Management Systems and mobile platforms, thereby increasing its adoption potential.

THANK YOU !

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