GLOBAL ACADEMY OF TECHNOLOGY

An Autonomous Institute, Affiliated to VTU Belagavi, Approved by AICTE, Accredited by NAAC with "A" Grade,
Ideal Homes Township, Rajarajeshwari Nagar, Bengaluru-560098

HAL
HACK-A-LEAGUE 3.0
BEYOND INNOVATION

Project Title: Automated answer sheet evaluation.

Team Name: TEAM ALPHA

Team Number:HAL 02

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College Name: Global Academy of Technology

PROBLEM STATEMENT

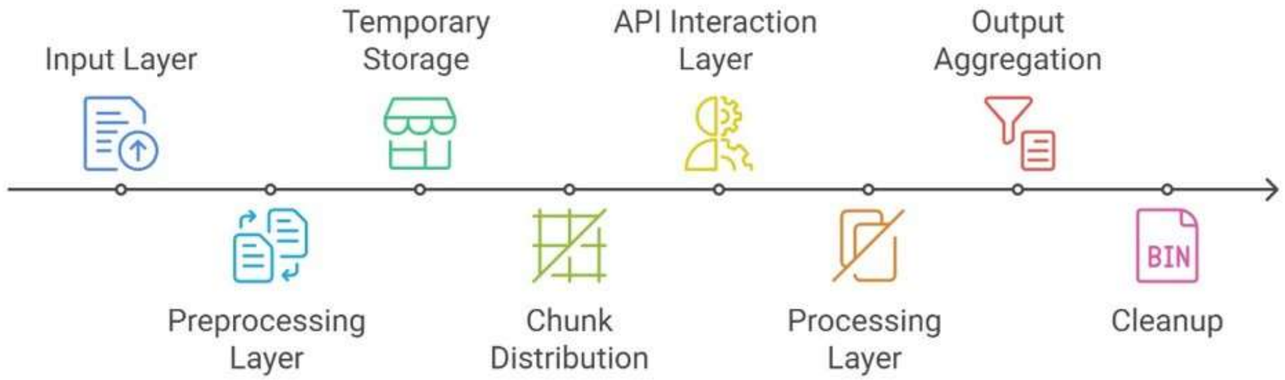
“Grading answer sheets is a time-consuming and labour-intensive process. There can be an automated system that can provide consistent, accurate results reducing the grading workload.”

SCOPE

- The automated answer sheet evaluation system is set to undergo significant enhancements, improving language comprehension, mathematical expression handling, and diagram analysis. The system will focus on caching mechanisms, parallel processing, and robust error handling. It will support multiple languages, provide deeper evaluation patterns, and offer custom templates. Integration possibilities include seamless connectivity with Learning Management Systems.

SOLUTION REVIEW

- The project addresses the challenge of manual grading, which is time-consuming and inconsistent.
- The Automated Answer Sheet Evaluation System provides accurate, consistent, and efficient grading using vision-based models.
- It extracts content (text and diagrams) from answer sheets, compares them with reference solutions, and assigns grades accordingly.



TECHNICAL APPROACH

- Frontend: Developed using HTML, JavaScript ensuring a simple yet effective user interface.
- Backend: Built with PHP, handling server-side logic and communication with the database.
- Database: MySQL, used for storing extracted answers, reference solutions, and grading data.
- Vision Model: An AI-powered model capable of extracting text and diagrams from answer sheets with high accuracy.

Evaluation Mechanism:

- Extracts answers from scanned sheets using the vision model.
- Compares the extracted content with reference answers for assessment.
- Grades responses based on predefined scoring criteria.
- Provides insights and feedback to help students identify areas for improvement.

IMPACT AND BENEFITS

- Students: Ensures fair, consistent grading with personalized feedback.
- Teachers: Reduces grading workload, allowing focus on teaching.
- Institutions: Enhances efficiency with a standardized evaluation system.

Social Benefits

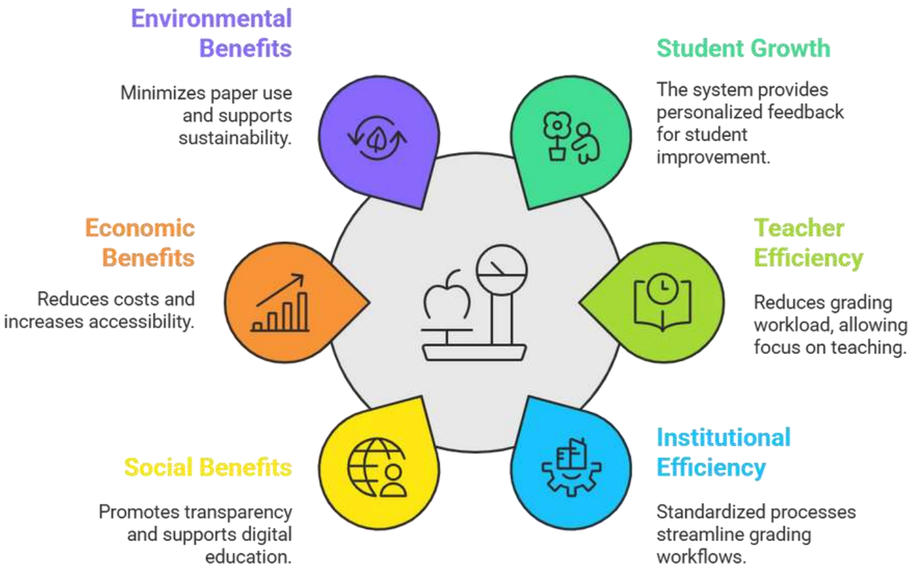
- Promotes transparency and fairness in assessments.
- Supports digital transformation in education and remote learning.

Economic Benefits

- Reduces manual grading costs and increases accessibility.
- Scalable for schools, universities, and corporate training programs.

Environmental Benefits

- Minimizes paper consumption and storage requirements.
- Encourages sustainable and eco-friendly education practices.



CONCLUSION

- Successfully automated the grading process with vision-based AI models.
- Deployed a functional web application that streamlines answer sheet evaluation.
- While improvements are needed in optimization and accuracy, the project marks a significant step in AI-driven educational assessments.

Thank You