

Abstract – Evalora

The rapid growth of educational institutions and the increasing number of students appearing for examinations have placed significant pressure on teachers and examiners to evaluate answer sheets fairly and efficiently. Manual evaluation, while being the traditional approach, suffers from multiple drawbacks such as subjectivity, evaluator fatigue, human error, and excessive time consumption. Moreover, the legibility of student handwriting often complicates the assessment process, leading to inconsistencies and delays in providing results. To address these challenges, **Evalora** is proposed as an innovative solution that leverages artificial intelligence and modern web technologies to automate and streamline the evaluation of handwritten answer sheets.

Evalora is built on a robust architecture using the Django framework for back-end development and incorporates state-of-the-art machine learning models such as **Convolutional Recurrent Neural Networks (CRNN)** for handwriting recognition and **Differentiable Binarization Network (DBNet)** for text detection. The system allows teachers to upload scanned images of handwritten answer sheets, which are then processed by OCR and ML pipelines to accurately extract the textual content. Once extracted, the handwritten responses are converted into editable and structured digital documents, such as Word or PDF files. This transformation ensures that poorly written or ambiguous handwriting no longer hinders the evaluation process.

Beyond text conversion, Evalora provides an interactive platform for teachers to evaluate answers digitally. Educators can review the extracted content, highlight key portions, annotate answers, and assign marks directly within the system. Additionally, the system generates detailed reports for each student, summarizing their performance, question-wise distribution of marks, and overall evaluation statistics. These reports can be securely stored or exported, thereby reducing paper dependency and enabling easy access for future reference.

One of the primary advantages of Evalora is its focus on **productivity enhancement**. By automating repetitive tasks, such as text recognition and document formatting, teachers save significant time and effort that can instead be invested in improving the quality of feedback and focusing on student learning outcomes. The platform also contributes to **fairness and transparency** by reducing biases that may occur in manual evaluation due to illegible handwriting or evaluator fatigue.

Furthermore, Evalora has been designed with scalability in mind. Its modular structure allows seamless integration with advanced features such as **predictive analytics** and **performance dashboards**, where student results across different subjects and semesters can be analyzed to identify learning patterns, weaknesses, and strengths. Such analytics can prove invaluable for academic planners and institutional administrators seeking data-driven insights to enhance teaching methodologies and curriculum design.

In addition, Evalora demonstrates how **cloud computing** and **artificial intelligence** can be harnessed to solve real-world problems in the education sector. With cloud deployment, the system can support multiple institutions simultaneously, providing secure data storage, accessibility from anywhere, and collaboration among teachers and examiners. By bridging the

gap between traditional manual evaluation and modern digital assessment, Evalora sets a foundation for smart, technology-enabled education management systems.

In conclusion, Evalora is more than just an automation tool; it represents a paradigm shift in examination evaluation. It empowers teachers with intelligent assistance, ensures accuracy and consistency in assessments, and delivers transparent and timely results for students. By combining **OCR, ML models, Django framework, and cloud technologies**, Evalora provides a comprehensive platform that transforms the conventional evaluation system into a modern, efficient, and future-ready process.

SOFTWARE SPECIFICATION:

Software requirement specification is one of the most important phases in developing the software. We need to know all the requirements and other valuable information before the process of designing a system. If the requirements are specified with the best of programmer's knowledge, it is always good for the systems because the further modifications need it. The system specification describes the hardware and software specification used to develop the software.

1.1 Software Requirements:

Operating System	: Windows
Language	: Python
Web Technologies	:HTML5, CSS,JS,Python
Web Server	:Django Server
Database	:MySQL and MySQLi
IDE	:Visual Studio Code

1.2 Hardware Requirements

System	:Intel i7 processor
Hard Disk	:1TB
RAM	:16GB
Keyboard	:Multimedia Keyboard