WHITEPAPER

TRANSFORMING REMOTE RECRUITMENT EXAMS WITH PROCTORING INTEGRATION IN MITHRIL LMS

SWABHAV techlabs

Delivering Talent with Activated Knowledge

Executive Summary

The surge in talent availability and the resulting resource strains have accelerated the shift to remote recruitment exams, posing significant challenges in maintaining exam integrity and security. This white paper explores the innovative solution implemented by integrating AI-driven proctoring with the Mithril Learning Management System (LMS). The integration aimed to address the need for secure, scalable, and efficient online assessments, ensuring robust monitoring and real-time detection of prohibited behaviors and items.

Introduction

Talent overload and resource strains have fundamentally transformed traditional recruitment processes, compelling organizations to adopt remote solutions for conducting recruitment exams. The primary challenge was to uphold the integrity and security of these exams while managing a high volume of candidates. Mithril LMS, a leading online learning platform, embarked on a journey to enhance its capabilities by integrating an advanced AI-based proctoring system.

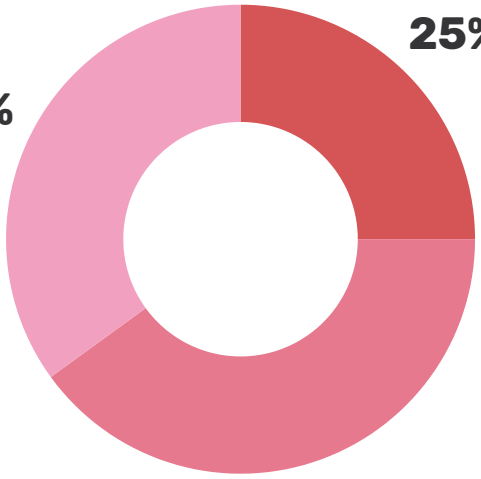
Challenges

Ensuring Exam Integrity

Remote Setup

Conducting exams remotely increased the risk of malpractice, necessitating a robust monitoring mechanism.

35%



Device Compatibility

Support for low-configuration devices with basic webcam functionalities was essential.

Scalability

The solution needed to accommodate a large number of candidates simultaneously without compromising on performance.

Secure Identity Verification

Authentication:
Reliable methods for verifying candidate identities remotely were required to prevent impersonation.

Objectives

The integration aimed to achieve:

- **Centralized Monitoring**: Implementing a scalable, AI/ML-based proctoring system capable of centralized, real-time monitoring and detection.
- **Real-Time Alerts**: Providing instant alerts for suspicious activities and anomalies.
- **Seamless LMS Integration**: Ensuring smooth interoperability with Mithril LMS for streamlined operations.

Solution

AI DRIVEN PROCTORING INTEGRATION

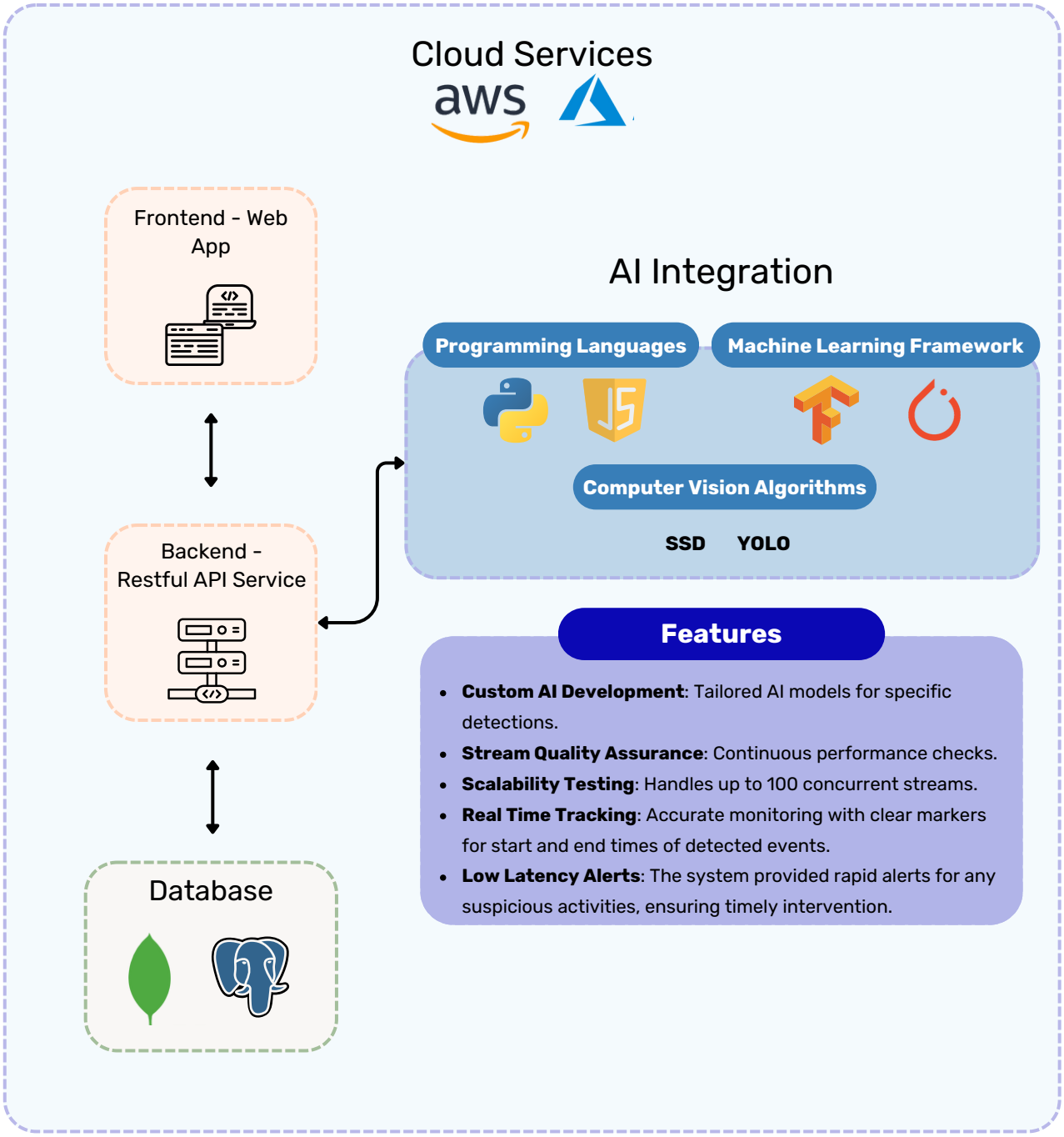
A customized AI model was developed to enhance the proctoring capabilities within Mithril LMS, focusing on:

- **Object and Behavior Detection**: The AI model proficiently identified prohibited items (e.g., smartwatches, books) and unauthorized behaviors (e.g., abnormal eye movements).
- **Single-Shot Regression Learning**: This technique ensured accurate detection and labeling with minimal computational overhead.
- **Stream Quality Optimization**: Maintaining optimal AI performance across varying stream qualities and device configurations.

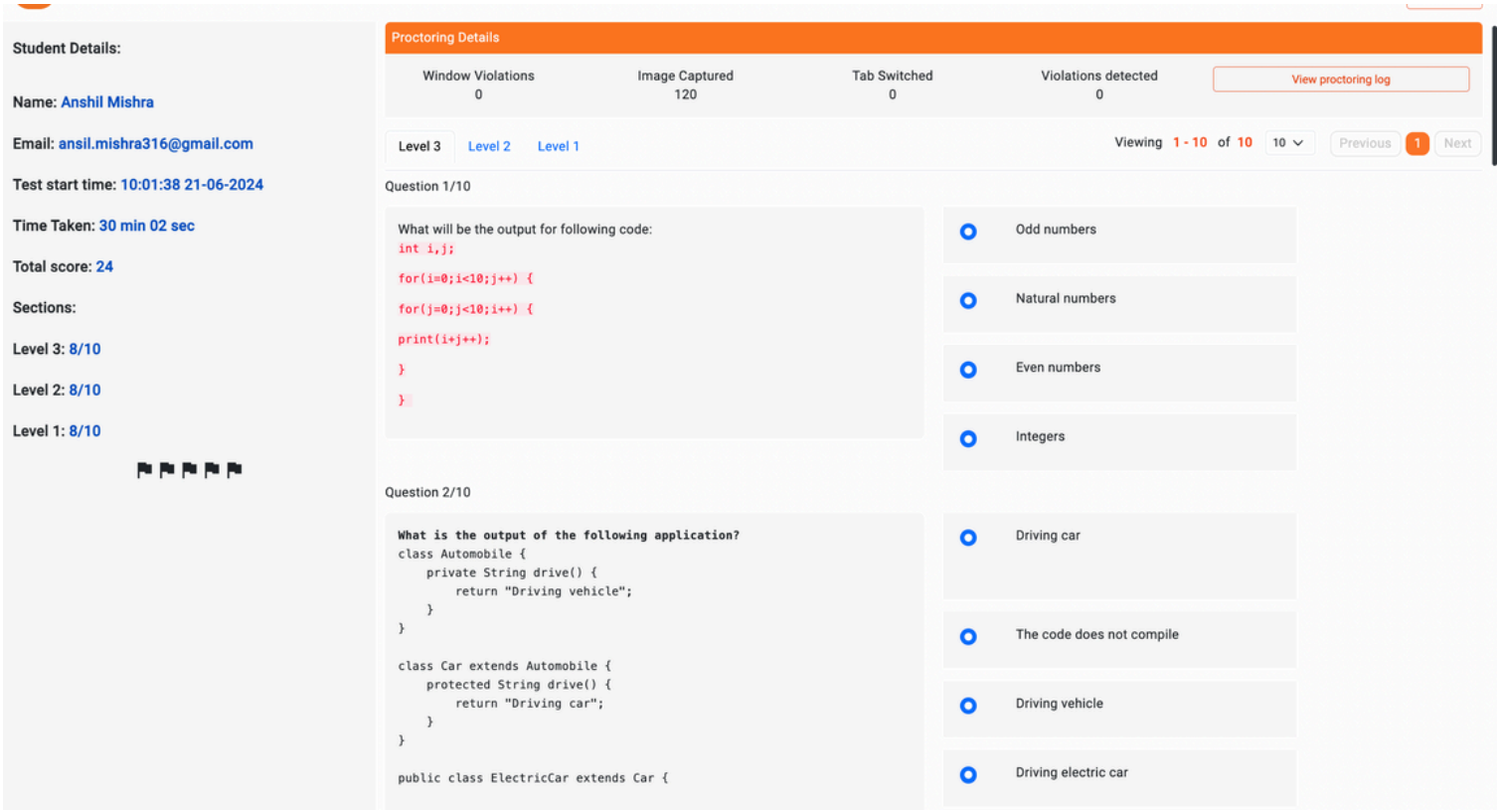
Implementation

System Architecture

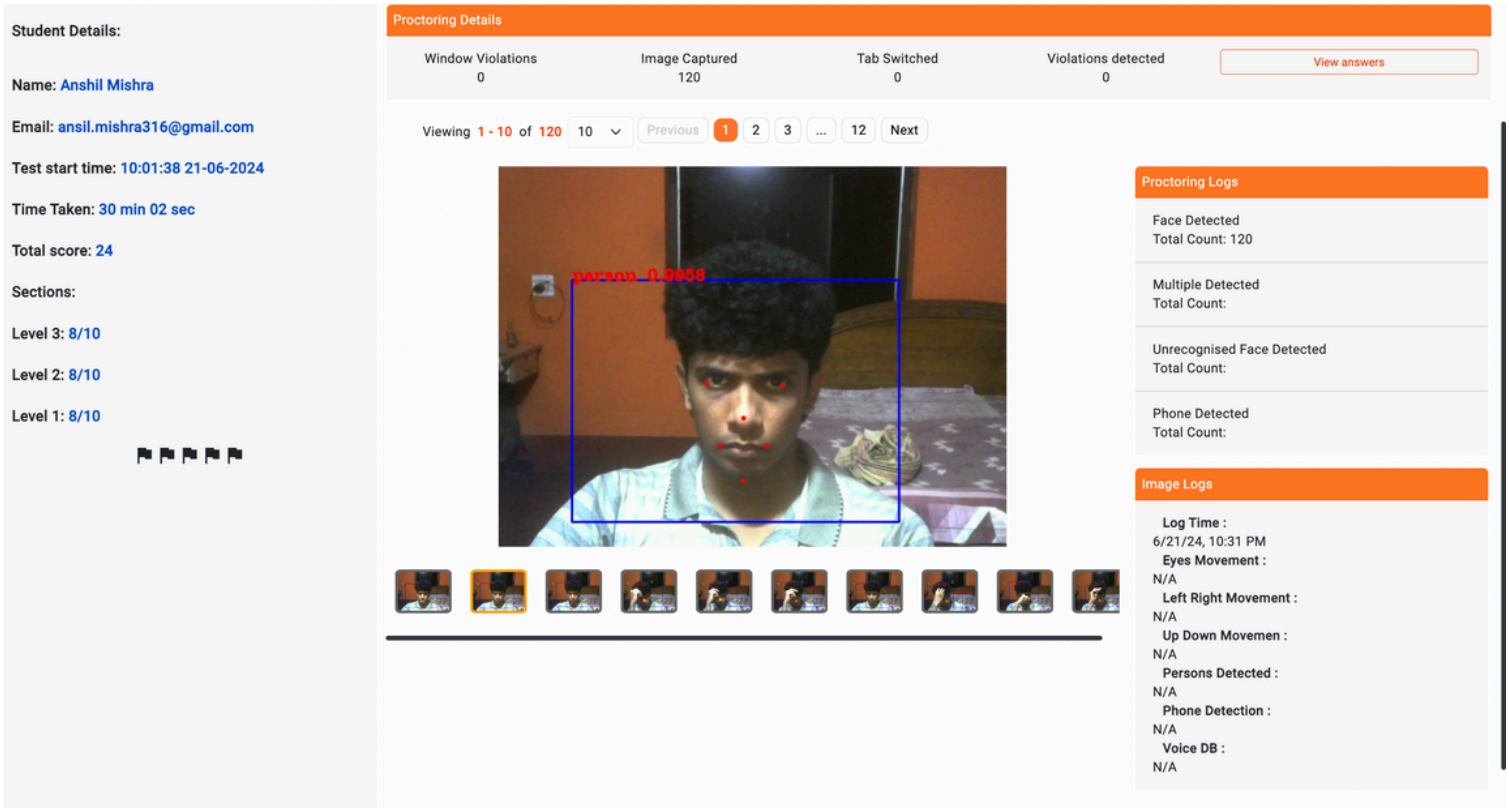
The proctoring system was designed with a plug-and-play architecture, ensuring scalability and future expansion capabilities. Key components included:



Test Session Overview



Proctoring Report: Detailed Test Breakdown



Impact

Efficient Proctoring and Rapid Response

- **Centralized Analysis**: Enabled monitoring of numerous candidates concurrently.
- **Effective Detection**: Identified prohibited items and behavioral anomalies with high accuracy.
- **Quick Response**: Achieved incident detection within 2 seconds with a low false positive rate (<10%).

Key Metrics

1:100

Improved the candidate-to-proctor ratio from 1:15 to 1:100.

<$0.5

Reduced the cost to <$0.5 per stream for analytics.

92%

Maintained a 92% success rate in detecting prohibited items and activities.

100

Supported up to 100 concurrent webcam streams.

Outcomes

Transformational Benefits

Enhanced Reputation

Strengthened the credibility of remote exams while achieving significant cost savings.

Scalability

Effectively supported the growing demand for online recruitment exams.

Fraud Reduction

Successfully mitigated instances of exam malpractice.

Seamless Integration

Achieved smooth compatibility with various candidate devices worldwide.

Improved ROI

Enhanced scalability resulted in reduced operational costs.

User Experience

Provided a fair and streamlined exam process for candidates and proctors.

Conclusion

The integration of AI-driven proctoring into Mithril LMS successfully transformed the approach to remote recruitment exams, ensuring integrity, scalability, and efficiency. This case study demonstrates the potential of AI/ML technologies in addressing contemporary challenges in online assessments, offering a framework for future innovations in secure and scalable remote exam solutions.