Architecture and Workflow Overview

AI-Driven Proctoring System for Secure Skill Assessments
BY PINK_SWEAT

Phase	Features
1. Initaial Features development	Eyeball and Lips Movement Detection • Facial Emotion Recognition • Audio Monitoring • Screen and System Monitoring
2. Advanced Features Development	Nearby Device Detection • Ports Monitoring for External Devices • Real-time Alerts and Action Mechanisms
3. Action Plan	Pre-trained facial landmark detection models and custom models to detect abnormal movements or distractions • Convolutional Neural Networks (CNN) trained on datasets like FER-2013 to detect emotions (stress, confusion, etc.) • Speech-to-text or real-time sound analysis to detect human speech or background noise during the tes • Rule-based systems for detecting unauthorized windows or external device usage. • Signal pattern recognition algorithms to distinguish between test-taker's authorized devices and nearby external devices • System utilities like psutil to monitor active ports and connections in real-time • Event-driven programming with Node.js or Flask backend
4. Tech Stack Required	OpenCV, Dlib, or MediaPipe • TensorFlow, Keras, or PyTorch for deep learning models • PyAudio or SpeechRecognition • Python libraries like PyAutoGUI or Pynput for screen monitoring, and psutil to check for extra processes and ports • Wi-Fi or Bluetooth signal scanning tools to detect unauthorized devices • Wi-Fi or Bluetooth signal scanning tools to detect unauthorized devices • Node.js or Flask

ML models integration — Integration of website with ML Models — Website with frontend

Integrate backend with frontend

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