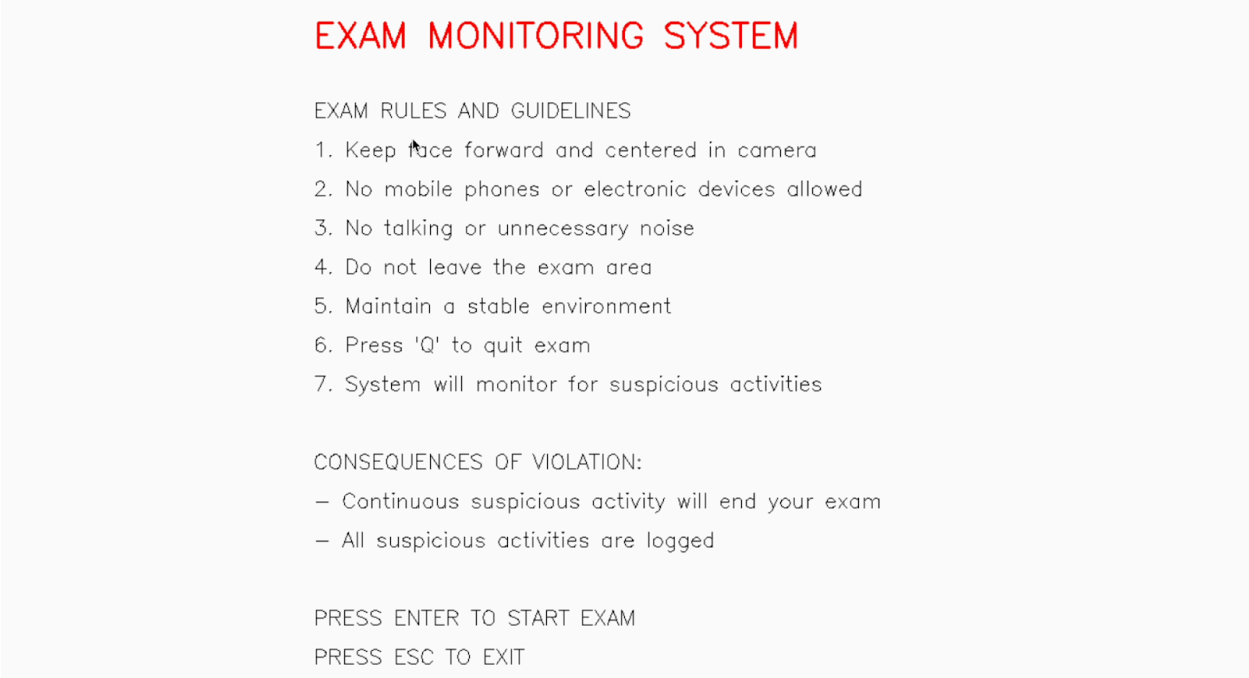
Output Documentation for Online Exam Cheating Detection System

Overview

The output section demonstrates the functioning of the Online Exam Cheating Detection System. This system is designed to monitor and detect suspicious activities during online exams, ensuring a fair and secure examination environment. The output is illustrated using screenshots captured during the testing phase, along with descriptions of observed behavior in both the graphical interface and terminal output.

1. Instructions Screen

When the application is launched, an instructions screen is displayed. It outlines the exam rules and guidelines, including the consequences of violating the rules. The user must press Enter to start the exam or ESC to exit.



2. Face Detection and Monitoring

During the exam, the system continuously monitors the user's face using the webcam. It checks the following conditions:

- Face Not Facing Front: If the user's face is turned away from the screen.
- Person Missing: If the user's face is not detected for a specified duration.

3. Audio Level Monitoring

The system monitors ambient noise levels using the microphone. If the noise level exceeds the predefined threshold, it is flagged as suspicious:

- A warning message indicating "Loud Noise Detected" is displayed.
- A countdown timer starts for terminating the exam if the noise persists.

4. Environment Change Detection

This feature detects significant changes in the background environment. It is designed to identify situations like someone else entering the room or the user moving to a different location.

- An alert is displayed for environment change.
- Continuous detection leads to a countdown for ending the exam.

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6. Suspicious Activity Countdown

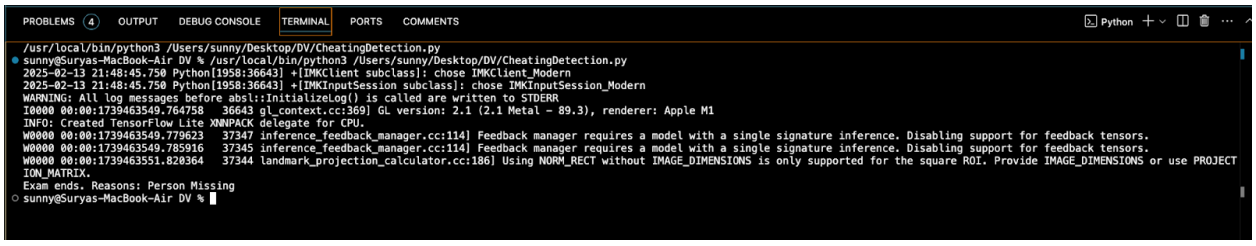
If any of the above suspicious activities are continuously detected:

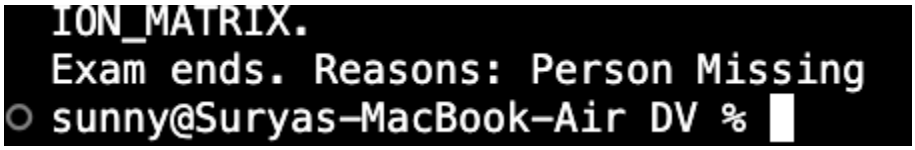
- A warning message "Suspicious Activity Detected!" is displayed.
- A countdown timer shows the time left before the exam is terminated.
- If the countdown reaches zero, the exam ends automatically.

7. Terminal Output

Throughout the monitoring process, relevant logs and warnings are printed in the terminal, including:

- Application switch detection logs (if the user switches to another application).
- Details of detected suspicious activities, such as noise level breaches, face orientation issues, and phone detection.
- Final message indicating exam termination along with the list of reasons.





Conclusion

The Online Exam Cheating Detection System effectively monitors user behavior through face orientation detection, phone recognition, audio level monitoring, and environment change detection. The system provides real-time warnings and terminates the exam in case of continuous suspicious activity. This approach ensures a fair and secure online examination environment.

The system's performance was tested under various scenarios, demonstrating its capability to detect and respond to multiple forms of suspicious behavior. The detailed terminal logs also aid in maintaining a record of monitored activities, enhancing the system's accountability and reliability.