





# Meet the Team

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# Problem Statement



## Cheating Risks

Difficulty monitoring remote test-takers effectively.



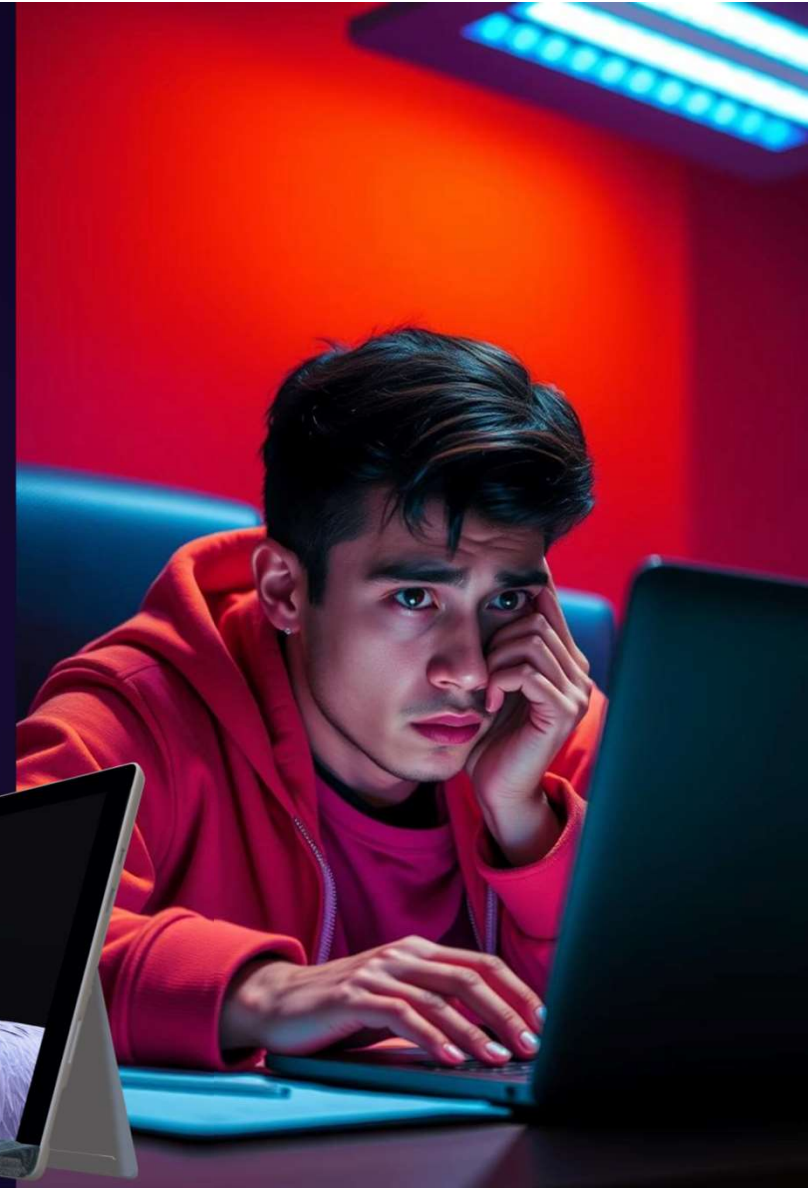
## Manual Proctoring Limits

Increased costs and human error in exams supervision.



## Need for Automation

Require scalable and reliable proctoring solutions.





# Introduction to AI Exam Proctor

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## Purpose

Prevent cheating in remote examinations.

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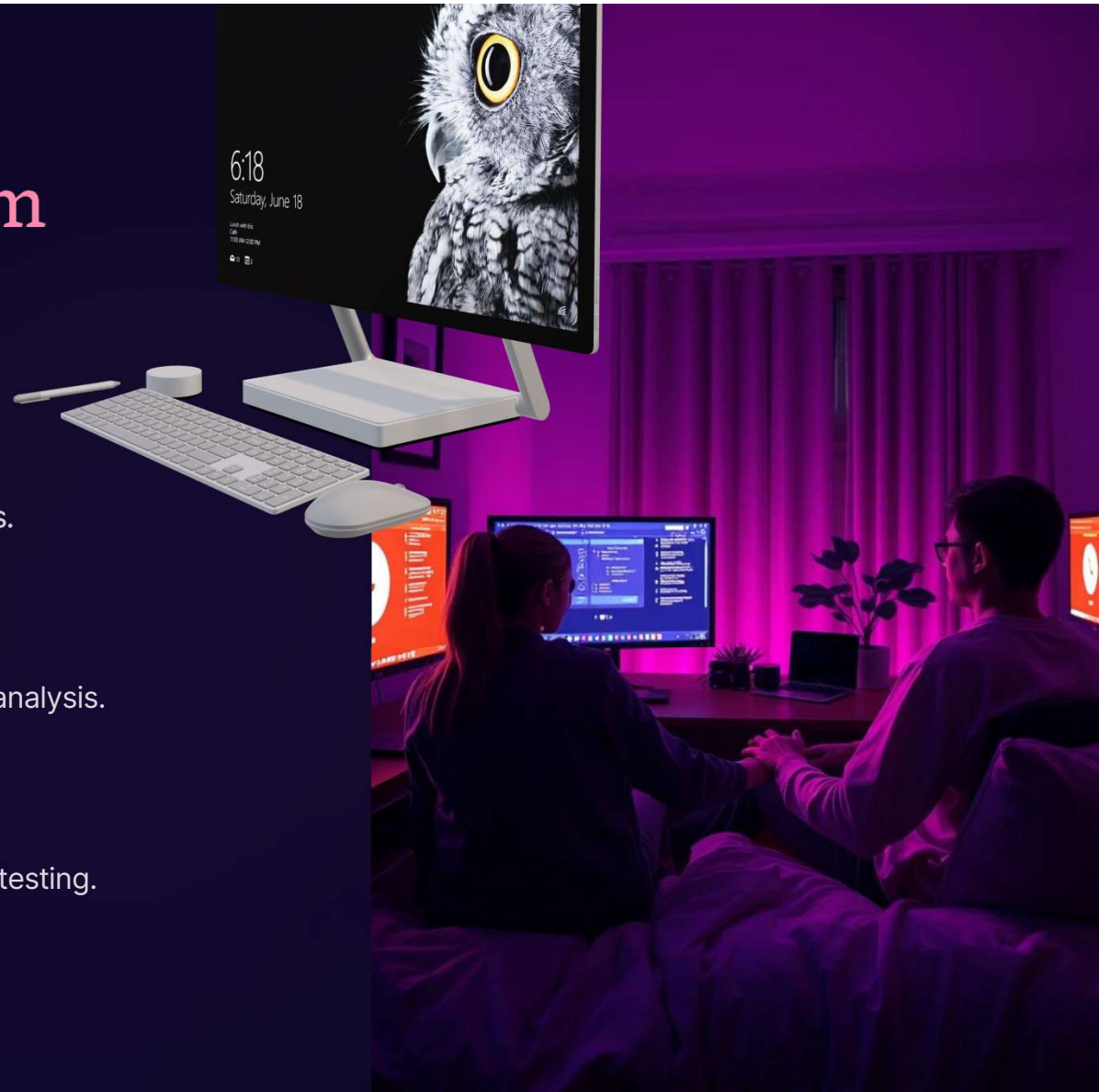
## Technology

Uses AI for real-time face and behavior analysis.

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## Benefit

Ensures fairness and integrity in remote testing.





## Key Features



### Cheating Prevention

Detects unauthorized materials and behavior.



### Continuous Monitoring

Real-time video and eye movement analysis.



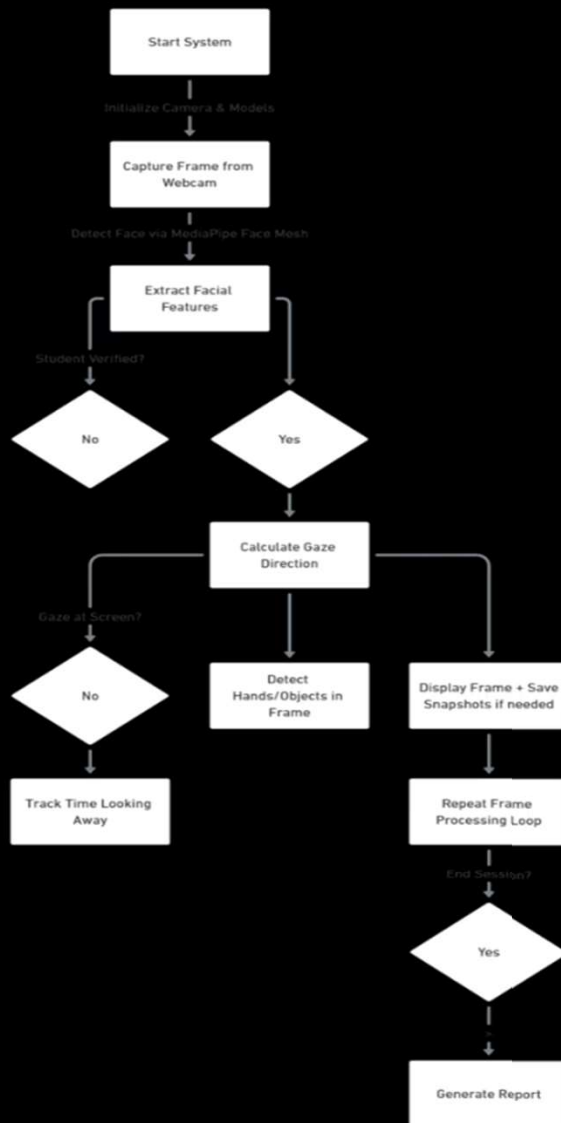
### Detailed Reports

Generates incident logs for examiners.



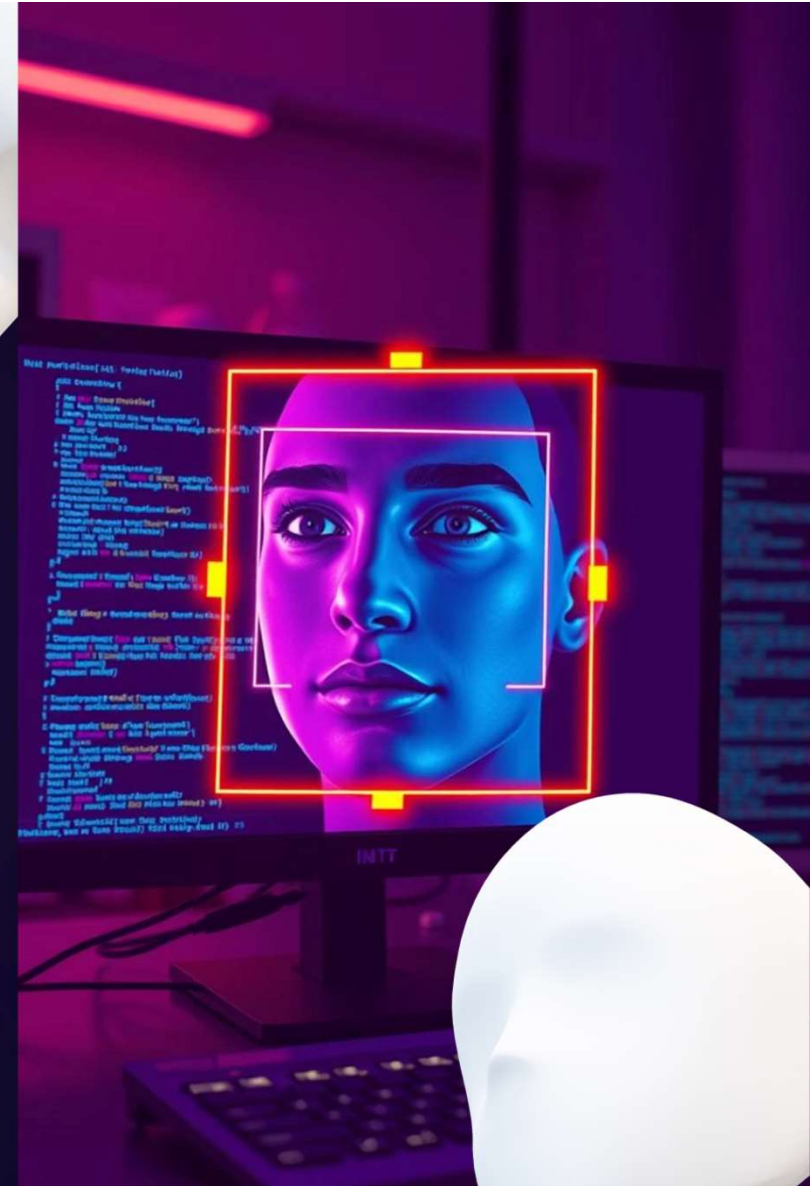
## Flowchart

1. Camera Initialization
2. Frame Capture & Preprocessing
3. Face Detection (MediaPipe Face Mesh)
4. Face Feature Extraction
5. Student Verification
6. Gaze Tracking
7. Determine Gaze Direction
8. Logging & Snapshots
9. Report Generation

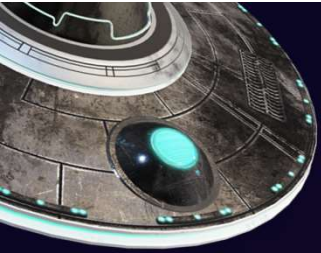


# Face Detection Model Workflow

- 1. Frame Acquisition:** Capture frames from the webcam and convert them to RGB format, which is required by MediaPipe.
- 2. Face Mesh Detection:** Use `mp.solutions.face_mesh` to detect facial landmarks. This identifies up to 468 points on each detected face, including key areas like eyes, nose, and mouth.
- 3. Landmark Extraction:** Extract coordinates of specific landmarks (e.g., eyes, ears, nose) for further analysis such as verification, tracking, or gaze estimation.
- 4. Verification & Tracking:** Use these landmarks to calculate facial features (like eye distance and face width) for face matching, movement tracking, or alert generation in exam monitoring.







# Database Connectivity

## Data Storage

Stores user profiles and exam sessions securely.

## Real-time Logs

Captures live proctoring events and suspicious alerts.

## Access Control

Manages permissions for examiners and administrators.







## Future Scope

### Multi-Factor Authentication

Integrate biometric and behavioral verification.

### Enhanced AI Models

Improve detection accuracy with deep learning advances.

### Real-time Alerts

Notify invigilators instantly through desktop notifications, emails, or mobile apps when suspicious activity is detected.

### Cloud Integration

Sync logs, snapshots, and session data to a secure cloud platform for centralized storage and access.

# Conclusion

AI exam proctoring enhances exam integrity and fairness. It reduces human workload and scales globally. Future developments promise even greater accuracy and device support. This technology is crucial for the future of remote education and assessments.

