

HEXAWARE



Mavericks  
Rise & Shine

# MAVERICKS GEN AI DESIGNATHON

## Mind Mappers





# TEAM DETAILS

**Team Name: Mind Mappers**

**Project Domain: AI Assessment portal**

**Application Name: Hire IQ**

| Team Members      | EMP ID     |
|-------------------|------------|
| Suguru Sai Ganesh | 2000137471 |
| Swetha M          | 2000137610 |
| Swetha R          | 2000137603 |
| Amita C           | 2000137622 |



# Impact/Potential Value of the Application

- 1. Enhanced Recruitment Efficiency:** Reduces the time spent on manual assessments by automating grading and analysis. Minimizes recruiter workload with intuitive question management and reporting tools.
- 2. Improved Talent Quality:** Eliminates unconscious bias with AI-driven evaluations. Provides actionable insights into candidate performance for informed decision-making.
- 3. Enhance Security and Fairness:** Ensures integrity during assessments by detecting fraud or malpractice. Creates a consistent and fair evaluation process for all candidates.
- 4. Candidate and Recruiter Satisfaction:** Offers user-friendly interface for both candidates and evaluators. Provides clear guidelines and feedback, improving candidate engagement.
- 5. Broader Business Impact:** Contributes to organizational growth by hiring top-tier talent efficiently and effectively.





# The Solution Proposed by your Team

## Solution Highlights

**AI-driven Automation:** Automating repetitive tasks like question creation, candidate evaluation, and proctoring using advanced AI models.

**Customizable Assessments:** Facilitating easy upload and management of tailored questions to meet diverse organizational needs.

**Secure AI-Powered Proctoring:** Ensuring integrity with real-time monitoring for anomaly detection during assessments.

**Integrated User Experience:** Seamless interface for candidates and evaluators, minimizing technical barriers and providing a smooth workflow.

**Data-driven Insights:** Offering recruiters actionable insights on candidate performance with detailed analytics and reports

## Key Features / Approach

**Intelligent Question Management:** Upload, organize and modify custom questions for different skill levels and domains.

**AI-Powered Proctoring:** Facial recognition and behavioral analysis to prevent cheating. Alerts for suspicious activities and automated violation reports.

**Adaptive Assessment Engine:** Dynamic difficulty adjustment based on candidate responses. Tailored question sequences to test core competencies effectively.

**Integrated Dashboard:** Unified view for both candidates and evaluators. Progress tracking, real-time scoring and comprehensive reporting in one place.

**Scalability and Security:** Cloud-based architecture ensures scalability for high-volume assessments. Robust data encryption and compliance with data protection regulations.



# Technologies Used

## Backend Technologies

**Python:** For AI-powered proctoring, data analysis

## Database

**SQL Server:** For data storage like candidate details, questions, results

## AI Tools

**TensorFlow:** For implementing AI models used in proctoring and evaluation

**NLP Libraries:** For evaluating text-based responses

## Cloud Services

**Microsoft Azure:** For integrating cognitive services like facial recognition and sentiment analysis.



# Gen AI Tool Utilization

Generative AI tools can significantly enhance the functionality, efficiency and user experience of the AI Assessment platform.

- 1. Content Generation:** Generate custom assessment questions based on domains. Speeds up content creation and ensures high-quality, context-relevant questions.
- 2. Question rephrasing and Improvement:** Improve readability, complexity, or clarity of existing questions. AI-powered text paraphrasing models
- 3. AI-Powered Proctoring:** Monitoring candidates for suspicious behaviour, like looking away from the screen, using mobile devices, or multiple faces in the camera feed.
- 4. Behavioral analysis:** Evaluating body language or facial expressions for potential stress or dishonesty
- 5. Candidate Feedback:** Creating personalized feedback reports based on candidate performance. Offers detailed, professional feedback instantly.
- 6. Code and Response Evaluation:** Assess coding assignments and provide feedback. Speeds up evaluation and ensures fairness.
- 7. Data insights and Optimization:** Generate visual summaries and insights from recruitment data. Helps recruiter make data-driven decisions.



# System Architecture

Flow of Data and Processing Steps within the system:

## Recruiter Setup:

### 1. Data Input:

- Ø Recruiters login via the Recruiter portal
- Ø Uploading custom questions, configure assessment parameters, and invite candidates

### 2. Processing:

- Ø Backend service store questions and configurations in the Relational Database.

## Candidate Participation:

### 1. Data Input:

- Candidates receive assessment links via email.
- They login and complete the test through the candidate Portal

### 2. Processing:

- Video streams are analyzed by the AI Proctoring Module
- Candidates responses are submitted via the portal and sent to the backend

# Functionalities



## Features Customizable Evaluations:

- Upload or have job-role-specific questions generated automatically.
- MCQs, coding assignments, and essay-style questions are among the types that are available.

## Proctoring Powered by AI:

- Uses face recognition to keep an eye on prospects in real time.
- Detects odd actions such averting one's gaze, changing tabs, or displaying several faces.

## Dynamic Assessment:

- Uses AI models to automatically score both subjective and objective responses.
- Creates thorough performance reports that include comparisons.

## Fraud Identification and Warnings:

- Notifies administrators instantly in the event any anomalies are found.
- For instance, there are audio disruptions or the candidate's face is hidden.

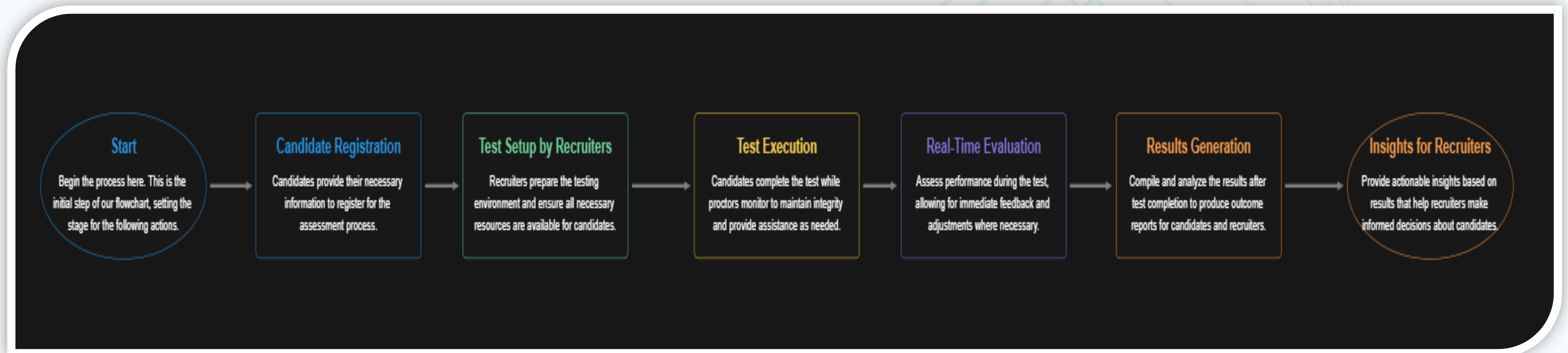
## Cloud infrastructure that is scalable:

- Load balancing to accommodate several experiments at once.
- Backups that are integrated for disaster recovery and data security.





# Design Diagram





# Solution Alignment with Hexaware's Objective



**Supports Hexaware's  
mission to drive  
innovation in talent  
acquisition**



**Aligns with goals  
of efficiency,  
security, and  
quality  
enhancement**



**Demonstrates  
technological  
leadership and  
innovation.**



# How it works

## Step 1: Candidate Registration

- Candidates register on the platform by providing personal and professional details.
- Secure authentication (e.g., OTP, email verification) ensures reliable access.

## Step 2: Test Setup by Recruiters

Recruiters can:

- Create tests by uploading questions or using AI to generate them dynamically.
- Set parameters such as time limits, pass thresholds, and question weightage.

## Step 3: Test Execution

- Candidate Experience
- Proctoring Process

# How it works

## Step 4: Real-Time Evaluation

- Objective questions are auto-graded instantly.
- Subjective answers (e.g., essays) are analyzed using NLP models for coherence, grammar, and relevance.

## Step 5: Results Generation

- AI compiles scores, fraud detection flags, and proctoring data into a comprehensive report.
- Recruiters and candidates receive detailed feedback, highlighting strengths and areas for improvement.

## Step 6: Insights for Recruiters

- Candidate performance trends.
- Time efficiency and difficulty level per question.
- Anomalies detected during the test.





# Innovation & Creativity

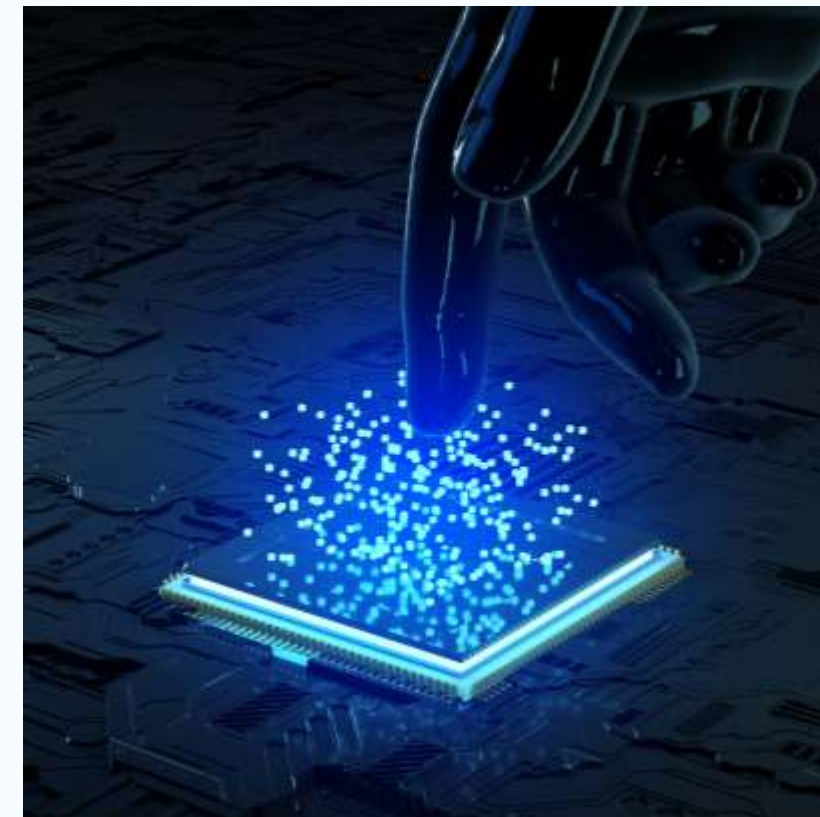


## Creative Edge

- **Personalized feedback for candidates.**
- **Customizable UI for seamless branding.**

## Unique Differentiators

- **Azure-powered automation and scalability.**
- **Advanced sentiment and behavior analysis.**



## Innovative Features

- **AI-driven proctoring for real-time fraud detection.**
- **Dynamic question generation using AI.**



# Scalability, Performance and Security

## Scalability:

- Cloud-based infrastructure (Microsoft Azure) enables dynamic scaling to support high concurrency during mass assessments.
- Optimized database indexing and caching for efficient data retrieval and large-scale usage.

## Performance:

- TensorFlow ensures fast, accurate AI evaluations.
- Real-time proctoring with minimal latency.

## Security:

- Encrypted data storage and role-based access control.
- Fraud detection tools prevent cheating.
- Automated backups for disaster recovery.



# Best practices and industry standards followed

## Industry Standards:

- ISO/IEC 27001 and GDPR compliance ensure data security and privacy.

## Best Practices:

- Bias-free AI models with regular updates.
- Cost-effective Azure infrastructure optimization.
- Intuitive user interfaces for a seamless experience.

## Expert Insights:

- Continuous feedback from HR professionals ensures real-world relevance.

# User Experience

**Seamless Candidate Journey:** Easy registration, intuitive interface across devices, real-time updates.

**Enhanced Recruiter Dashboard:** Centralized data management, customizable test settings, visual performance analytics.

**Personalization Features:** AI-driven feedback, custom branding options.

**Accessibility & Inclusivity:** Multilingual support, compliance with accessibility standards.

**Interactive Support:** Built-in chatbots, FAQs, and tutorials for smooth user experience.





# Console Output Details

GitHub link:

[Al-Assessment-Platform/Backend CLI at main · SaiGanesh2229/Al-Assessment-Platform](https://github.com/SaiGanesh2229/Al-Assessment-Platform)



HEXAWARE



Mavericks  
Rise & Shine

# THANKYOU

