**Chhattisgarh Swami Vivekanand Technical University, Bhilai**

**Department of Computer Science & Engineering**

**B. Tech (Hons.) V Semester Session:2025-26**

**Branch:** Artificial Intelligence

**Subject:** Minor Project on Industrial Training

**Project Synopsis**

**Project Title**

**AI-Powered Inclusive Assessment Tool for the Skill Ecosystem**

**Team Members [Group 4]**

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| **S.No** | **Name of Student** | **Roll No.** |
| **1.** | DURGESH KUMAR DEWANGAN | 300012723018 |
| **2.** | HRIDYESH KUMAR | 300012723025 |
| **3.** | PRERNA SAKRE | 300012723044 |
| **4.** | ROUNAK GUPTA | 300012723048 |
| **5.** | MAYANK KAUSHIK | 300012723076 |
| **6.** | P OM KUMAR | 300012724301 |

**Abstract**

This project proposes an **AI-powered inclusive assessment tool** to evaluate candidates across the Indian skill ecosystem. The platform supports multi-format assessments (MCQs, descriptive, practical, viva) and integrates accessibility features for **Persons with Disabilities (PWD)** such as text-to-speech, voice-to-text, and adaptive inputs. Using AI, the system adapts question difficulty, predicts performance, and ensures exam integrity. Real-time analytics provide actionable feedback to learners and educators. With secure, standardized, and scalable architecture, the tool enables fair and accessible assessments in online, offline, and blended environments.

**1. Introduction**

The skill ecosystem in India includes diverse learners from schools, ITIs, vocational programs, and SSCs. Current assessments lack **standardization, inclusivity, and adaptability**, creating barriers for PWD candidates and learners in remote areas. This project aims to build a **holistic, AI-driven platform** to deliver fair, secure, and accessible evaluations.

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**2. Problem Statement**

Existing systems face:

* Limited inclusivity for PWD candidates.
* Inconsistent evaluation across institutions.
* Lack of adaptive assessments.
* Weak offline/blended support in low-connectivity regions.
* Insufficient feedback and analytics.

A unified AI-powered solution is required to overcome these challenges.

**3. Objectives**

* Provide **multi-format assessments** (MCQs, descriptive, practical, viva).
* Ensure **PWD accessibility** with assistive technologies.
* Enable **AI-driven adaptivity** for personalized learning.
* Deliver **real-time analytics and dashboards**.
* Maintain **security, standardization, and scalability**.

**4. Methodology**

The system will be modular, comprising:

1. **Assessment Engine** – Exam creation, delivery (online/offline/blended), auto/manual grading.
2. **AI Integration** – Adaptive questioning, performance prediction, fraud detection.
3. **Accessibility** – Voice-based inputs, screen readers, customizable UI.
4. **Analytics** – Dashboards, benchmarking, exportable reports.
5. **Security** – Role-based access, AES/TLS encryption, audit logs.

**Tech Stack:**

* Frontend: ReactJS/React Native, TailwindCSS, ARIA.
* Backend: Django/FastAPI, PostgreSQL/MongoDB.
* AI/ML: TensorFlow, PyTorch, scikit-learn, NLP.
* Accessibility: Google STT, Amazon Polly, screen readers.
* Analytics: Pandas, Recharts, ReportLab.

**5. Expected Results**

* **Inclusive Assessments** for PWD and diverse learners.
* **Standardized Evaluation** across regions and institutions.
* **Adaptive Exams** personalized to candidate performance.
* **Scalability** for online, offline, and blended modes.
* **Data-Driven Insights** improving learning outcomes.

**6. Conclusion**

This project ensures **fair, inclusive, and standardized assessments** across the skill ecosystem. By combining AI-driven personalization, accessibility features, and robust analytics, it supports equitable opportunities for all learners while enhancing the credibility of skill-based education in India.

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