

Skill Sphere: An AI-Driven Platform for Personalized Skill Assessment and Career-Oriented Learning

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Abstract

The increasing gap between traditional academic evaluation and evolving industry skill requirements has created a need for intelligent and secure assessment systems capable of measuring practical competencies. Conventional assessment approaches are largely static and non-adaptive, limiting their effectiveness in supporting personalized learning and ensuring integrity in online and mobile environments. These challenges highlight the importance of scalable, technology-driven platforms that combine automation, adaptability, and ethical monitoring.

This paper presents Skill Sphere, an artificial intelligence– enabled mobile learning and assessment platform designed to deliver personalized and industry-aligned competency evaluation. The system integrates real-time adaptive testing, generative artificial intelligence for automated question generation, and a hybrid repository that combines AI-generated content with expert-curated and industry-oriented datasets. A secure administrative framework further enables educators to manage assessments, monitor learner performance, and generate analytical insights for data-driven academic decision-making.

To ensure fairness and reliability, the platform employs a privacy-preserving, application-level security model tailored for mobile environments. Key mechanisms include screenshot and content restriction, disabled backtracking, behavioural anomaly detection, violation escalation, silent session monitoring, and automatic submission during suspicious activity. A controlled restoration buffer addresses temporary network disruptions, while secure authentication is achieved through email-based one-time password verification and token-based session control. Experimental observations demonstrate high responsiveness and improved assessment integrity, supporting effective alignment between academic learning and industry skill development.

Index Terms

Adaptive Assessment, Artificial Intelligence in Education, Behavioural Monitoring, Generative Artificial Intelligence, Hybrid Question Repository, Mobile Learning, Personalized Learning, Secure Online Assessment