Functional & Performance Testing

Date: 18 july 2025

Team ID: LTVIP2025TMID33417

Project Name: Personalized Learning: Generative AI and LMS Integration

Test Scenarios & Results

Test Case ID Scenario (What to test) Test Steps (How to test) Expected Result Actual Result Pass/Fail

**FT-01** User Input Validation Submit valid/invalid learning queries and student data Valid inputs processed, invalid inputs rejected with prompt System accepts correct inputs, rejects invalid formats Pass

**FT-02** Personalized Content Generation Input student profile, request personalized content AI generates tailored lesson, quiz, or summary Generated content matches profile Pass

**FT-03** Adaptive Learning Path Update Submit learning progress data LMS updates learning path dynamically Adaptive path updated correctly Pass

**FT-04** Generative AI Output Review Request lesson summary & quiz from AI Content is coherent, relevant, and accurate Generated content reviewed and validated by educators Pass

**PT-01** Content Generation Time Measure time to generate lesson or quiz Response within 2 seconds Avg. time = 1.6 seconds Pass

**PT-02** Bulk Student Profile Handling Submit 50+ profiles simultaneously for content generation System handles batch processing without failure All profiles processed successfully Pass

**PT-03** LMS Integration Load Test Run system with 200+ concurrent LMS users System remains stable without crashes Minor latency increase, no failures Pass

**PT-04** Model Scaling Performance Test model under peak load (real-time adaptive tasks) System maintains response under 3 seconds Avg. response time: 2.4 seconds Pass

Summary:

System Stability: Stable under load

Content Accuracy: Validated by test educators

Response Time: Meets performance benchmarks

Integration: Seamless LMS interaction verified