EduTutor-AI: Data Flow Diagram & User Stories

Date: 28 June 2025

Team ID: LTVIP2025TMID31982

Project Name: EduTutor-AI

# Level 0 Data Flow Diagram

The user accesses EduTutor-AI via a web interface (Streamlit). They interact by choosing a role (student or educator), logging in, and either generating quizzes (students) or analyzing results (educators). The backend, written in Python, uses IBM Watsonx for AI-driven quiz generation and Pinecone for storing/retrieving quiz records. All data is temporarily held using Streamlit session state for active users.

# Level 1 Data Flow Diagram

- Students input a topic and receive a dynamically generated quiz.  
- The quiz is generated using Watsonx and rendered in real-time.  
- After submission, scores and metadata (topic, time, user) are stored in Pinecone.  
- Educators log in and query Pinecone for students’ performance data.  
- Data flows through FastAPI endpoints, processed by service layers like watsonx\_service.py and pinecone\_service.py.

# User Stories

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| User Type | Feature | ID | User Story | Priority / Sprint |
| Student | Quiz Generator | USN-1 | As a student, I want to enter a topic and get a quiz so I can revise it. | High / Sprint-1 |
| Student | Feedback & Scoring | USN-2 | As a student, I want to see my score and get AI-generated feedback. | High / Sprint-1 |
| Educator | Performance Dashboard | USN-3 | As an educator, I want to view student results by topic and time. | High / Sprint-2 |
| Educator | Class Analytics | USN-4 | As an educator, I want to compare results across students or topics. | Medium / Sprint-3 |
| Student | Quiz History | USN-5 | As a student, I want to see my past quiz attempts and scores. | Medium / Sprint-3 |