

CritiQuiz Context & Data Flow Diagrams – Summary

The [CritiQuiz Context Diagram and Data Flow Diagram \(DFD\)](#) outline the components and workflow of the CritiQuiz assessment system which is designed for managing educational assessments.

User Roles:

- Administrator: Has the highest level of access, including managing the overall system configurations, user accounts, and generating system-level reports.
- Teacher: Responsible for setting up courses, configuring assessments, and monitoring student progress.
- Student: Accesses assessments, submits responses, and receives feedback and progress reports.

Core Modules or Processes:

- *System Configurations (1.0):*
 - Allows administrators to manage system-wide settings, such as access permissions, configurations for each module, and overall system functionality.
 - Configuration updates may include adjusting settings for assessment parameters, data storage, and system resource management, as well as customizing AI and reporting tools.
- *User Management (2.0):*
 - Enables the admin to add, update, and delete user profiles and manage user roles and permissions.
 - Supports role-based permissions, ensuring that only authorized users (admins, teachers, or students) access specific functionalities within the system.
- *Authentications Module (3.0):*
 - Handles secure login processes for all users by verifying login credentials, to ensure users access only their relevant modules, thus maintaining data security and functionality specific to their roles.

- *System Monitoring (4.0):*
 - Generate reports related to system performance, user activity, and assessment statistics, giving administrators insights into overall system health.
 - Monitors and logs activities, which help in auditing, identifying performance bottlenecks, and troubleshooting system issues.
- *Course Management (5.0):*
 - Enables teachers to set up and organize courses, including defining course structure, adding course information, and managing course details in the Course DB.
 - Links students to relevant courses, creating a streamlined connection between students and their required assessments.
- *Assessment Management (6.0):*
 - Handles the creation and configuration of assessments, including assessment details and settings.
 - Teachers can define assessment types, set due dates, adjust question pools, and configure scoring rubrics.
- *Assessment Module (7.0):*
 - This module presents the assessment interface to students, where they can view questions, respond, and submit answers.
 - Draws questions from the question bank based on the selected course and assessment configuration. Once submitted, responses are recorded in the Attempt DB for evaluation.
- *Process Student Response (8.0):*
 - Records each response in the Attempt DB, ensuring secure storage of all responses alongside details such as time taken and answer selections.
 - Validates responses by comparing them against answer keys or scoring rubrics provided by teachers.

- *AI Feedback Module (9.0):*

- Generates personalized feedback for students using AI, which evaluates response patterns, time taken per question, and other performance indicators.
- The module's goal is to enhance the learning experience by providing tailored recommendations, helping students focus on areas where they may need improvement.

- *Create Reports (10.0):*

- Produces broader reports for teachers and administrators, summarizing individual and class-wide progress, assessment completion rates, and performance trends.
- Generate progress reports that provide students with comprehensive feedback on performance, track learning over time, and help teachers monitor classroom trends.