**Category 1: User Reports**

**Purpose:** To provide insights into user behaviour, engagement, and performance.

**Required Data:**

* User demographics (age, location, education level, etc.)
* Quiz participation data (quizzes attempted, scores achieved, completion rates)
* User feedback and suggestions

**Suggested Layouts:**

* User activity dashboards: Visualize user engagement metrics, such as quiz attempts, scores, and completion rates.
* User performance reports: Analyse user performance trends, identify areas of strength and weakness, and track progress over time.
* User feedback summaries: Summarize user feedback, identify common themes and suggestions, and prioritize improvements.

**Category 2: Quiz Reports**

**Purpose:** To evaluate quiz quality, effectiveness, and difficulty level.

**Required Data:**

* Quiz metadata (title, subject, difficulty level, author)
* Question performance data (average time per question, correct answer rate, common mistakes)
* User feedback on quiz questions

**Suggested Layouts:**

* Quiz difficulty analysis: Analyse quiz difficulty level based on user performance data and identify potential areas for improvement.
* Question performance reports: Evaluate the effectiveness of individual questions, identify outliers and potential biases, and make improvements as needed.
* Quiz feedback summaries: Summarize user feedback on specific quizzes, identify common concerns, and address them accordingly.

**Category 3: System Performance Reports**

**Purpose:** To monitor the overall health and performance of the online quiz application.

**Required Data:**

* System usage statistics (server load, response times, error rates)
* User feedback on system performance
* Technical logs and performance metrics

**Suggested Layouts:**

* System health dashboards: Visualize key performance indicators (KPIs) related to system responsiveness, stability, and resource utilization.
* User feedback on system performance: Analyse user feedback on system performance issues and prioritize bug fixes and performance optimizations.
* Technical reports: Provide detailed technical insights into system performance, identify potential bottlenecks, and recommend improvements.

**Category 4 : Security and Compliance Reports**

**Purpose:** To assess the security posture of the online quiz application and ensure compliance with relevant regulations.

**Required Data:**

* Security vulnerability assessments
* Compliance audits and reports
* User feedback on security concerns

**Suggested Layouts:**

* Vulnerability reports: Prioritize vulnerabilities based on risk severity and provide recommendations for remediation.
* Compliance summaries: Summarize compliance status with relevant regulations and identify areas for improvement.
* User feedback on security: Address user concerns related to data security, privacy, and access controls.

**Category 5: Progress Tracking Reports**

**Purpose**: To monitor individual and group progress towards learning objectives.

**Required Data:**

* User progress data (quiz scores, completion rates, mastery of specific topics)
* Learning objectives and curriculum alignment
* User feedback on progress tracking

**Suggested Layouts:**

* Individual progress reports: Track individual student progress towards learning objectives, identify areas of strength and weakness, and provide personalized feedback.
* Group progress reports: Analyse group performance trends, identify areas of common weakness, and tailor instruction accordingly.
* Progress tracking dashboards: Visualize student progress metrics, compare individual and group performance, and highlight areas for improvement.

**Category 6: Impact Assessment Reports**

**Purpose:** To evaluate the overall impact of the online quiz application on teaching and learning.

**Required Data:**

* Pre- and post-implementation data on student performance, engagement, and satisfaction
* Teacher feedback on the effectiveness of the online quiz application
* Impact on student learning outcomes and achievement gaps

**Suggested Layouts:**

* Impact assessment reports: Quantify the impact of the online quiz application on student learning outcomes, engagement, and satisfaction levels.
* Teacher feedback summaries: Summarize teacher feedback on the effectiveness of the online quiz application, identify areas for improvement, and incorporate feedback into future implementations.