**eduKemet Business Requirements Document (BRD)**

Project: Gamified Learning Platform

**1. Project Overview**

The Gamified Learning Platform is an online solution designed to make learning more engaging and rewarding through gamification. By providing quizzes, learning challenges, and progress tracking, the platform encourages users to learn actively while earning points, badges, and ranks. The system will cater to both educational institutions (for students) and individual learners.

**2. Purpose**

The purpose of the platform is to:

* Create an engaging, game-like learning environment.
* Encourage consistent learning and motivation by rewarding users with points and badges.
* Provide a global leaderboard to foster competition.
* Serve multiple age groups and topics across general education and skill-based learning.
* Generate profit through multiple revenue streams.

**3. Goals and Objectives**

* User Engagement: Increase user interaction and completion rates of quizzes.
* Monetization: Implement a freemium business model with opportunities for upselling.
* Scalability: Ensure the system can support a growing user base and multiple learning categories.
* Profitability: Create multiple revenue streams, including subscription, corporate partnerships, and in-app purchases.

**4. Scope of the System**

* In-Scope
  + User registration, login, and authentication (with JWT).
  + A quiz-based learning platform with point accumulation.
  + Gamification mechanics such as points, badges, levels, and leaderboards.
  + Basic user profile management (view progress, badges, points).
  + RESTful APIs for quiz management, user authentication, and gamification logic.
  + Administrative dashboard for managing quiz content.
* Out of Scope
  + Live tutoring sessions.
  + Complex AI-driven personalized learning paths.
  + Advanced community features (social feeds, chat, etc.).
  + Full mobile app development (MVP will focus on web).

**5. Functional Requirements**

* User Registration and Authentication
  + FR-1: Users must be able to register using a username and password.
  + FR-2: Users must be able to log in with their credentials.
  + FR-3: The system must implement JWT-based authentication for secure API calls.
  + FR-4: Users must be able to log out and terminate their session.
* Quizzes and Learning Content
  + FR-5: Users must be able to view available quizzes (title, category, difficulty).
  + FR-6: The system must display a quiz with multiple-choice questions.
  + FR-7: Users must be able to submit their answers and get instant feedback.
  + FR-8: The system must calculate and display the user’s score upon quiz completion.
* Gamification Features
  + FR-9: Users must accumulate points for completing quizzes (based on correct answers).
  + FR-10: Users must earn badges for meeting certain milestones (e.g., completing 3 quizzes).
  + FR-11: The system must display a progress bar to show the user’s advancement towards the next level.
  + FR-12: The platform must have a global leaderboard to rank users by total points.
* User Progress and Profile
  + FR-13: Users must be able to view their accumulated points, badges, and levels.
  + FR-14: The system must display a user’s quiz completion history.
* Administrative Functions
  + FR-15: Administrators must be able to add, edit, or remove quizzes.
  + FR-16: Administrators must be able to manage badges and milestones.

**6. Non-Functional Requirements**

* Scalability
  + The system should support a growing number of users and learning topics without significant performance degradation.
* Security
  + User data (especially login credentials) must be encrypted.
  + The system must implement proper authorization mechanisms to prevent unauthorized access to admin or user data.
* Performance
  + The system must provide fast loading times, especially for quiz data and leaderboard updates.
* Availability
  + The system must have an uptime of at least 99% during the first phase.
* Usability
  + The platform must be easy to use, with intuitive navigation for users of all age groups.

**7. Process Flows**

User Flow

1. User Registration/Login: User creates an account or logs in with existing credentials.
2. Explore Quizzes: User views available quizzes (grouped by difficulty or subject).
3. Start Quiz: User selects a quiz and begins answering questions.
4. Submit Quiz: Upon completion, the system calculates the score and awards points.
5. Earn Badges: Users can earn badges for achievements, such as completing multiple quizzes or scoring highly.
6. Leaderboard: Users can check their ranking on the leaderboard based on accumulated points.
7. View Profile: Users can track their progress, including points, badges, and levels.

**8. Profit Model**

Revenue Streams

1. Freemium Model

* Users can access basic quizzes and earn points and badges for free.
* Premium content (advanced quizzes, exclusive topics) can be locked behind a paywall.
* In-app purchases for additional lives or hints during quizzes.

2. In-Platform purchases

* Parents can purchase courses for learners on the platform.
* Users can purchases extra learning material like mock exams on the platform.

3. Corporate Partnerships

* Partner with schools and educational institutions to provide the platform as an engagement tool for students and have the institution pay for the service.
* Schools and companies pay a yearly fee to access the platform, get administrative rights, and provide their own quizzes.
* Partners (Google, AWS, Microsoft) can pay to have users write their exams on our platform

4. Advertisements (Optional)

* Offer ad space to relevant educational brands and services within the platform.

5. Certifications and Badges

* Partner with educational or certification bodies to offer real-world value for the badges earned. Users pay for certifications that can be used in job applications or skill endorsements.

**9. Risks and Mitigation**

* Competitive Market
  + Risk: High competition in the edtech and gamified learning space.
  + Mitigation: Focus on a niche market (e.g., young learners, specific subjects) and build brand partnerships for exclusive content.
* Slow User Growth
  + Risk: Slow user adoption.
  + Mitigation: Aggressive marketing strategies with educational influencers, social media campaigns, and partnerships with schools and training centers.
* Technical Challenges
  + Risk: System crashes due to high traffic.
  + Mitigation: Ensure robust architecture with scalability features, optimize API performance, and use cloud hosting for scaling.

**10. Timeline**

Phase 1 (MVP Development – 24 Hours)

* Deliverables:
  + User authentication system.
  + Quiz platform with basic question submission and scoring.
  + Gamification elements (points, badges).
  + Leaderboard system.
* Profit Initiation: Launch with a freemium model and premium content available for early adopters.

Phase 2 (Post-Hackathon – 1-2 months)

* Deliverables:
  + Expand quiz content.
  + Add subscription options.
  + Introduce corporate partnerships.
  + Roll out advanced analytics and reporting for corporate users.
* Profit Maximization: Introduce subscriptions, partnerships, and corporate SaaS.