We are building a Learning Management System (LMS) with the following functionalities and features to provide a comprehensive Coding experience for a child/Teenage learner in Nigeria. The functionalities are grouped to reflect the following high-level Features and Categories: The Epics include:

1. User Authentication and Access Control:

- User registration and profile management - done

- User login and password reset -

- Role-based access control (Admin, Instructor, Student)

- Single Sign-On (SSO) integration

2. Course Management:

- Create, edit, and delete courses

- Course catalog and search functionality

- Course enrollment and disenrollment

- Course prerequisites and dependencies

3. Content Management:

- Upload and organize course content (videos, documents, quizzes)

- Support for various content formats (PDFs,

videos, SCORM)

- Version control for content updates

- Content approval workflows

4. Assessment and Quizzes:

- Create quizzes and assessments

- Question bank management

- Grading and feedback

- Automated grading for multiple-choice questions

5. Discussion and Collaboration:

- Discussion forums for each course

- Real-time chat or messaging between users

- Collaborative tools for group projects

6. Progress Tracking and Analytics:

- Track user progress within courses

- Generate user performance reports

- Analytics for course popularity and effectiveness

- Predictive analytics for student success

7. Learning Gamification:

- Develop engaging gamification elements such as achievements, badges, and leaderboards.

- Use students progress and track through courses, to develop a reward system to foster motivation

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1. Points and Badges:

- User Story: As a learner, I want to earn points for completing quizzes and assignments so that I can track my progress and feel a sense of accomplishment.

- User Story: As a learner, I want to collect badges for reaching milestones or demonstrating specific skills to showcase my achievements within the learning community.

2. Leaderboards:

- User Story: As a learner, I want to see a leaderboard that displays the top performers in the course, so I can gauge my progress and strive to improve my ranking.

- User Story: As a learner, I want to challenge my peers on the leaderboard to friendly competitions to make learning more engaging and enjoyable.

3. Levels and Ranks:

- User Story: As a learner, I want to progress

through different levels by completing modules and assessments, unlocking new content and challenges.

- User Story: As a learner, I want to achieve higher ranks by demonstrating mastery in specific subjects, gaining recognition for my expertise.

4. Challenges and Quests:

- User Story: As a learner, I want to undertake weekly challenges related to the course material to make learning more interactive and enjoyable.

- User Story: As a learner, I want to embark on quests that take me through a storyline, integrating educational content into a compelling narrative.

5. Virtual Currency:

- User Story: As a learner, I want to earn virtual currency by completing tasks and challenges, allowing me to purchase in-app items or gain access to additional resources.

- User Story: As a learner, I want to participate in virtual currency competitions with my peers, earning rewards for my performance.

6. Storytelling and Narratives:

- User Story: As a learner, I want to experience

educational content through a captivating storyline, making the learning process more engaging and memorable.

- User Story: As a learner, I want to explore different scenarios within the LMS, where my decisions impact the storyline and the course content.

7. Avatars and Customization:

- User Story: As a learner, I want to create and customize my avatar to represent myself in the virtual learning environment.

- User Story: As a learner, I want to unlock new customization options for my avatar by achieving specific milestones and completing challenges.

8. Social Interactions:

- User Story: As a learner, I want to participate in discussion forums and collaborative activities to interact with my peers and share knowledge.

- User Story: As a learner, I want to give and receive peer reviews on assignments, fostering a sense of community and collaborative learning.

9. Rewards and Incentives:

- User Story: As a learner, I want to receive discounts on future courses or certificates for completing challenging tasks and achieving high scores.

- User Story: As a learner, I want to have the opportunity to earn real-world incentives, such as books or educational tools, as rewards for outstanding performance.

10. Progress Tracking:

- User Story: As a learner, I want to have a visual progress tracker that shows my completion status for each module and overall course progress.

- User Story: As a learner, I want to receive detailed feedback on my progress, highlighting areas of improvement and recognizing my strengths.

11. Time Constraints and Urgency:

- User Story: As a learner, I want to participate in time-bound challenges to add an element of urgency and excitement to my learning experience.

- User Story: As a learner, I want to receive notifications for upcoming time-sensitive tasks and events within the LMS.

12. Feedback Mechanisms:

- User Story: As a learner, I want to receive automated feedback on my quiz and assignment submissions, helping me understand my performance.

- User Story: As a learner, I want to have the option to request feedback from instructors on specific assignments, facilitating continuous improvement.

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8. Notifications and Communication:

- Email notifications for course updates

- In-platform messaging system

- Event-based notifications (assignment due dates, new content)

9. Administration and Reporting:

- Admin dashboard for system management

- User management (add, delete, modify)

- Content moderation and reporting tools

- Compliance and data security features

10. Payment and Subscription Management:

- Payment gateway integration (e.g., PayPal, Stripe)

- Subscription plans and billing management

- Coupons, discounts, and promotions

11. Scratch editor and open project submission:

- Connect Scratch Editor API to enable direct project work on the Apps

- Ensure Assignment can be uploaded directly on the scratch website and available for viewing and grading.

12. IDE Integration:

- Attach relevant IDE relevant for each course

- Ensuring the IDE window is visible during a video training or as a lecture note is being read

13. Mobile App and Responsive Design:

- Development of a mobile app for iOS and Android

- Ensuring a responsive web design for various devices

14. Integration with External Systems:

- Integration with other educational tools (e.g.,

learning analytics, plagiarism detection)

- API for third-party integrations (e.g., CRM, HR systems)

15. Accessibility and Localization:

- Ensure the platform is accessible to users with disabilities

- Localization for multiple languages and regions

16. Feedback and Improvement:

- Feedback collection mechanisms (surveys, ratings)

- Continuous improvement based on user feedback

17. Scalability and Performance:

- Load testing and optimization for scalability

- Monitoring and performance improvement strategies

18. Security and Data Privacy:

- Implement security measures to protect user data

- Comply with data privacy regulations (e.g., GDPR, HIPAA)

19. User Support and Help Center:

- Provide a help center or knowledge base

- Offer customer support channels (email, chat, phone)

20. Content Licensing and Copyright:

- Management of content licenses and copyrights

- Ensure compliance with intellectual property

Dexter9ja LMS (User Stories)

User Authentication and Access Control

User Registration:

1. As a new user, I want to register for an account by providing my name, email (and confirmation email), password, preferred username, parents email and age.

2. As a user, my email requires a confirmation email after registration.

3. As a user, I want the registration process to include password strength requirements and validation.

User Login:

4. As a registered user, I want to log in using my email and password.

5. As a user, I want the option to log in using a social media account (e.g., Google, Facebook).

6. As a user, I want to see a friendly error message if my login credentials are incorrect.

Password Management:

7. As a user, I want to reset my password via email if I forget it.

8. As a user, I want to change my password from within my profile settings.

9. As a user, I want to receive a confirmation email when I change my password.

Role-Based Access Control:

10a. As an admin, I want to be able to assign the following roles - Admin, School Admin Instructor.

10b. As an Admin, I want to be able to register students

10c. As an Admin, I want to be able to assign students to an Instructor

11. As an instructor, I want the ability to create new courses only for student I manage and submit same for approval; I want to manage enrolled student group.

12. As a student, I want access to only the courses I

am enrolled in.

13. As a student group member, I want to have access to other members of the student group in a closed chat room.

14. As student group member, I want to have access to the appropriately approved extra courses created by my instructor.

Single Sign-On (SSO):

15. As an admin, I want to configure and enable Single Sign-On (SSO) for our institution's authentication system.

16. As a user, I want the option to use Single Sign-On (SSO) to log in seamlessly if my institution supports it.

17. As a user, I want to link my existing account with Single Sign-On (SSO) for easy access, with an extra age field required.

Account Deactivation:

18. As a user, I want to request the deactivation or deletion of my account, with a confirmation step to prevent accidental deletion.

19. As an admin, I want to review and approve or reject user account deactivation requests.

Access Control Policies:

20. As an admin, I want to define access control policies, specifying who can access certain courses or content.

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22. As a student, I want to see a clear message if I try to access content or features, I don't have permission for, or a message asking me to buy such a course if it is related to my course of study.

23. As a non-paying student, I should be denied access to all dashboard facilities, if I do not buy successive course after one full month, even when I have just one month to end the 2-year training

User Profile Management:

24a. As a registered user/Subscriber, I should not be able to update my name and email at any point within the training period.

24b. As a registered user/Subscriber, I should be able to update my profile picture/avatar, and contact details within the 2-year training period (I should be prompted bi-monthly to complete or update my

profile if incomplete).

25. As a user, I want to view and edit my account settings, including notification preferences and privacy settings to reduce distraction where necessary.

26. As an admin, I want to be able to view and manage user profiles (grouping them into paying and non-paying, incomplete exam etc.), including deactivation or role changes.

Two-Factor Authentication (2FA):

27. As a security-conscious user, I want the option to enable Two-Factor Authentication (2FA) for added account security.

28. As a user, I want clear instructions on setting up and using Two-Factor Authentication (2FA).

ACCESS AND ROLES

As a Guest User:

1. User Registration:

- As a guest, I want to be able to register for an account.

- As a guest, I want to be able to watch the introductory video and see all cost offers

- I should be able to provide my name, email, and create a password.

- I want to receive a confirmation email after registration to verify my email address.

2. Browsing Courses:

- As a guest, I want to browse the course catalog without logging in.

- I should be able to see course titles, descriptions, and instructors (where available)

As a Registered User:

3. User Login:

- As a registered user, I want to be able to log in to my account.

- I should be able to enter my email and password to access my account.

4. Profile Management:

- As a registered user, I want to update my profile information.

- I should be able to change my password only.

- I want to upload a profile picture or Avatar.

- I want to be able to browse through my Dashboard and buy courses

As a Student:

5. Course Enrollment:

- As a registered User, I want to enroll in courses.

- As a registered User, I should be able to search for courses and click 'Enroll or Buy.'

- As a student/Subscriber, I want to see a list of courses I'm enrolled in on my dashboard.

- I want to see the course-relevant IDE or Editor on my Dashboard

6. Access to Course Content:

- As a student, I want access to course materials once I'm enrolled.

- I should see videos, documents, and quizzes and other related tools to my enrolled courses on my Dashboard.

- Content access should be restricted to enrolled courses.

- Content access should be restricted if student becomes inactive for one month consistently.

- Content access should be on LOCK MODE until the student gets up to 60% in all previous quizzes

7. Progress Tracking:

- As a student, I want to track my progress within courses.

- I want to see which modules or lessons I've completed, and which are pending.

- I should see my quiz and assignment scores.

As a School Admin:

8. School Admin Login:

- As a School Admin, I want to log in to my admin account.

- I should be able to enter my admin credentials to access the admin dashboard.

9. User Management:

- As a School Admin, I want to manage user accounts assigned to me by the super admin.

- I should be able to view, edit, request for user account deactivation, or delete.

10. Content Management:

- As a school admin, I want to manage course content.

- I should be able to upload, edit, or delete course materials (only created by me and duly approved) after approval by the super admin.

- I want to ensure content quality and adherence to guidelines.

- I want to send messages to the user group I control and answer their questions in a their chatrooms

As a Super admin

11. Super Admin Login:

- As a super admin, I want to log in to my admin account.

- I should be able to enter my admin credentials to access the admin dashboard.

12. User Management:

- I want to manage user accounts

- I should be able to view, edit, deactivate, and delete any user or admin accounts.

- I can assign or change user roles (e.g., promote a user to an instructor or demote them).

13. Content Management:

- As a super admin, I want to manage course content.

- I should be able to upload, edit, or delete course materials.

- I want to ensure content quality and adherence

to guidelines.

14. Access Control:

- As a super admin, I want to define role-based access control.

- I should be able to specify which features and sections each role can access.

- I want to set permissions for instructors, students, and other admin users.

12. Security and Compliance:

- As a super admin, I want to ensure data security and compliance.

- I should be able to implement security measures, such as password policies and two-factor authentication.

- I want to comply with data privacy regulations and handle user data responsibly.

User stories 02

Course Management Epic

As a Guest User:

1. Browse Course Catalog:

- As a guest user, I want to browse the course catalog without logging in.

- I should be able to see a list of available courses, including their titles, descriptions.

- Clicking on a course should display the 2-year curriculum for the course, and a call to Register for the course.

As a Registered User:

2. Enroll in a Course:

- As a registered user, I want to enroll in a course by making payment for the course.

- I should be able to search for courses and click the "Enroll" button.

- After enrolling, I should receive a confirmation email.

- After enrolling, I should see a status message that shows my “Start Date” and Batch details(there are two start days monthly, which constitute the batches, the 1st and the 15th)

3. View My Enrolled Courses:

- As a registered user, I want to see a list of courses I've enrolled in

- The dashboard and profile page should display the courses I'm currently taking.

4. Unenroll from a Course:

- As a registered user, I want to unenroll from a course.

- I should be able to remove a course from my enrolled list.

- Confirmation of unenrollment should be provided.

As a Student:

After payment, the registered user enrolls for courses and waits till the start date (while enjoying full access to all free materials and viewing enrolled courses as locked); before the materials become usable. The bi-monthly batching (conversion of all enrolled registered users to Student status on the 1st and 15th) ensures proper alignment with payment and extra mentorship style of the platform

5. Access Course Materials:

- As a student, I want to access course materials for the courses I'm enrolled in (after my batch start date).

- I should be able to view videos, documents, quizzes, and other relevant content from my dashboard.

- Content access should be restricted to enrolled courses only.

6. Track Course Progress:

- As a student, I want to track my progress within courses\*\*\*.

- I should see which modules or lessons I've completed and which are pending, I should also see my percentage completion for each module.

- My quiz and assignment grades and medals obtained should be visible.

As an Admin:

7. Manage Course Enrollment:

- As an admin, I want to manage course enrollment for all users.

- I should be able to manually enroll or unenroll users from courses.

- Additionally, I can view and export enrollment data.

8. Assign School Admin to coordinate team activities:

- As an admin, I want to assign a school admin to manage courses for a set of students..

- I should be able to select (choose and upgrade an existing account to) a school admin and link them to specific courses and a group of students.

- Instructors should have access to course content and management tools (like sending assignments and grading)

9. Review Student Progress:

- As an admin, I want to review the progress of all users within courses.

- I should be able to access reports and analytics to track student performance and .

- This includes viewing the quiz and assignment results.

10. Manage Course Content:

- As an admin, I want to manage course content.

- I should be able to upload, edit, or delete course materials.

- Content management includes version control and approval workflows.

11. Course Archiving:

- As an admin, I want to archive courses that have

ended or are no longer active.

- Archiving should make the course read-only and prevent new enrollments.

- Archived courses should still be accessible for reference.

12. Course Categories and Tags:

- As an admin, I want to categorize courses and add tags.

- I should be able to organize courses into categories (e.g., python, Java) and add tags for easier search and filtering.

User Stories 03

Content Management:

Content Management

As a Guest User and a Registered User:

1. Browse Course Content:

- As a guest or Registered user, I want to browse course banners and 50% of curriculum without logging in.

- I should not see any course's structure, including modules, lessons, and available materials.

- Clicking on a module should direct to buying a course.

- As a Registered user, I want to mark and store a course in my wish list and get a reminder to pay for it

As a Student:

2. Access Course Materials:

- As a Student, I want to access course materials for the courses I'm enrolled in.

- I should be able to view videos, documents, quizzes, and other relevant content.

- Content access should be restricted to enrolled courses only.

3. Bookmark Course Content:

- As a Student, I want to bookmark specific course content for quick access later.

- I should be able to mark modules, lessons, or materials and view them in a dedicated "Bookmarks" section.

4. Track My Progress:

- As a student, I want to track my progress within courses.

- I should see which modules or lessons I've completed, and which are pending.

- My quiz and assignment scores should be visible.

5. Submit Assignments:

- As a student, I want to submit assignments and assessments to relevant sections.

- I should be able to upload files, provide written responses, or complete quizzes.

- Submission deadlines and instructions should be clearly communicated with every asssignment.

6. Participate in Discussions:

- As a student, I want to participate in course discussions and forums.

- I should be able to create and reply to discussion threads, ask questions, and interact with fellow students.

As an Admin or School admin:

7. Content Upload and Management:

- As an admin, I want to upload, edit, or delete course materials.

- I should have access to an easy-to-use content management system.

- Content management must include version control and approval workflows.

8. Content Review and Approval:

- As an admin, I want to review and approve user-generated content, such as assignments or forum posts.

- I should be able to monitor content for quality and adherence to guidelines.

9. Content Archiving:

- As an admin, I want to archive outdated or irrelevant course content.

- Archiving should make content read-only and prevent new submissions or edits.

- Archived content should be accessible for reference.

10. Bulk Content Upload:

- As an admin, I want to upload multiple files or materials to multiple courses simultaneously.

- Bulk upload should save time when populating

courses with content.

11. Content Analytics and Insights:

- As an admin, I want to access analytics and insights about how users engage with course content.

- This includes tracking views, completion rates, and user interactions.

12. Content Compliance Checks:

- As an admin, I want to implement content compliance checks to ensure legal and ethical content.

- The system should scan content for plagiarism, copyright violations, or inappropriate materials.