**Software Requirement Specification (Version 1.3)**

**Date: December 22, 2024**

**Project Overview**

The goal of this project is to develop **Nexsy**, a scalable Learning Management System (LMS) that provides role-based dashboards, SCORM integration, progress tracking, gamification, reporting, and other advanced features. Nexsy caters to the following roles:

* **SuperAdmin**: Full control over all data, branches, and users.
* **Admin**: Branch-specific management for courses, instructors, and learners.
* **Instructor**: Focused on facilitating learning for assigned learners, managing courses, and creating learning paths.
* **Learner**: Primary consumer of learning materials with access to their progress, assignments, and gamification features.

**Functional Requirements**

**1. User Management**

**Roles and Permissions**:

1. **SuperAdmin**:
   * Full control over all branches, courses, users, and settings across the system.
   * Assign Admins to specific branches.
   * View system-wide reports and analytics.
2. **Admin**:
   * Branch-specific access to manage users, instructors, and courses.
   * Cannot manage or view data from other branches.
   * Can create learning paths and set course prerequisites.
3. **Instructor**:
   * Assigned learners and courses by Admins.
   * Can manage and create courses, monitor progress, grade assignments, and provide feedback.
   * Facilitate discussions and surveys for learners.
4. **Learner**:
   * Assigned courses by Admins or Instructors.
   * Learn and complete courses, participate in discussions, and view progress/feedback.

**Features**:

* Role-based access controls (RBAC).
* Group and branch assignments.
* Messaging between roles (e.g., Instructor-Learner, Admin-Instructor).
* Secure authentication and password management.

**2. Course Management**

**Features**:

* Create, update, and archive courses.
* Add content such as SCORM packages, videos, documents, and assessments.
* Support prerequisites for progressive learning paths.
* Organize courses into:
  + **Progressive Learning Paths**: Complete Course A to access Course B.
  + **Collection-Based Learning Paths**: Access courses in any order.

**Instructor Tools**:

* Create assignments, quizzes, and surveys.
* Manage learner progress and provide feedback.
* Message learners directly through the system.

**Learner Features**:

* View enrolled courses and access course materials.
* Submit assignments and participate in discussions.

**3. Dashboards**

**Learner Dashboard**:

* View assigned courses and their progress (Completed, In Progress, Not Started).
* Leaderboard showing gamification points, badges, and rankings.
* Access discussions and recent chats.
* View feedback from instructors.
* Display upcoming tasks (assignments, tests).

**Instructor Dashboard**:

* Manage assigned courses and learners.
* Track learner progress on SCORM modules and assignments.
* Facilitate discussions and grade learner submissions.
* Tools to create and manage course content (SCORM, videos, assignments).

**Admin Dashboard**:

* Branch-specific data for learners, instructors, and courses.
* Reports on SCORM usage, learner progress, and completion rates.
* Manage gamification settings for their branch.
* Create learning paths with prerequisites.

**SuperAdmin Dashboard**:

* View and manage system-wide data across all branches.
* Assign Admins to branches.
* Generate reports on user activity, SCORM usage, and learner performance.

**4. SCORM Support**

* **Study SCORM**: Track time spent, login times, geographic location, and device details.
* **Assessment SCORM**: Administer quizzes/tests and capture scores.
* Runtime tracking for:
  + Progress (time spent on modules).
  + Scores (for assessments).
  + Completion status.

**5. Gamification**

* Points, badges, and levels to drive learner engagement.
* Leaderboards segmented by branch and groups.
* Customizable rewards for milestones.

**6. Reporting**

* **Admin Reports**:
  + Learner activity and SCORM progress.
  + Course completion rates.
* **Instructor Reports**:
  + Learner engagement and test scores.
* **SuperAdmin Reports**:
  + System-wide reports across branches.

**7. Notifications**

* In-app and email notifications for:
  + Course assignments and updates.
  + Feedback from instructors.
  + Deadlines for tasks, tests, or surveys.

**Development Plan**

**Phase 1: Core Features (Weeks 1–4)**

* User and role management.
* Course creation and content management.

**Phase 2: Advanced Features (Weeks 5–8)**

* SCORM integration and runtime tracking.
* Enhanced dashboards with progress tracking and analytics.

**Phase 3: Learning Path and Gamification (Post Launch)**

* Introduce progressive and collection-based learning paths.
* Enable advanced gamification configuration.

**Version History**

* **Version 1.0**: Initial Draft (December 19, 2024).
* **Version 1.2**: Added messaging, assignments, and discussions (December 22, 2024).
* **Version 1.3**: Expanded user roles, dashboards, SCORM support, and learning paths (December 22, 2024).

This document now incorporates your clarified requirements for branch-specific data management, enhanced dashboards, and SCORM features. Let me know if you’d like further refinement or additional sections!