

Software Requirements Specification (SRS) for KI Academy Development

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Software Requirements Specification (SRS) for KI Academy Development Modules

1. Introduction

1.1 Purpose of this Document

This document provides a comprehensive specification of the software requirements for the KI Academy platform. It aims to clearly define the functionalities, constraints, and performance criteria needed to develop a robust and user-friendly online educational system. This document serves as a reference for all stakeholders, including developers, project managers, and clients, to ensure that the final product meets the defined needs and expectations.

1.2 Scope of this Document

This document outlines the requirements for the following modules of the KI Academy platform:

- **Student Account Module**
- **Instructor Account Module**
- **Admin Account Module**
- **Institution Account Module**

The document details functional and non-functional requirements, interface requirements, performance constraints, and design constraints. It also includes an initial project schedule and budget estimation. The primary objective is to deliver a scalable, secure, and intuitive educational platform that facilitates efficient online learning and course management.

1.3 Overview

The KI Academy platform is a web-based application designed to offer a comprehensive online learning experience. It will support various user roles, including students, instructors, administrators, and institutions, with features for account management, course creation and enrollment, progress tracking, and financial transactions. The system will prioritize usability, scalability, and security to enhance the educational experience for all users.

2. General Description

2.1 General Functions

The KI Academy platform will provide the following general functions:

- **Student Account Module:** Allows students to register, manage profiles, enroll in courses, track progress, and handle payments.
- **Instructor Account Module:** Enables instructors to create and manage courses, interact with students, and track earnings.
- **Admin Account Module:** Facilitates administration of users, content oversight, financial transactions, and reporting.
- **Institution Account Module:** Allows institutions to manage courses, staff, and access analytics for institutional-specific content.

2.2 User Characteristics

- **Students:** Individuals seeking online education, requiring an intuitive interface to manage learning activities and track progress.
- **Instructors:** Educators who need tools to create, manage, and deliver courses effectively, and interact with students.
- **Admins:** Platform operators responsible for maintaining system integrity, managing users, and ensuring compliance with policies.
- **Institutions:** Organizations that offer courses and need to manage content and staff while accessing performance metrics.

2.3 Features and Benefits

- **Student Features:** User account management, course enrollment, progress tracking, wallet management, course coupon feature.
- **Instructor Features:** Course creation, content management, student interaction, tracking earnings, and faculty payment based on review satisfaction.
- **Admin Features:** User management, content approval, transaction monitoring, and reporting.
- **Institution Features:** Course and staff management, institutional analytics.

2.4 Importance

The KI Academy platform is crucial for providing accessible, flexible, and high-quality online education. It streamlines course management for instructors, offers a seamless learning experience for students, and provides comprehensive tools for administrators and institutions to monitor and manage educational activities effectively.

3. Functional Requirements

3.1 Student Account Module

3.1.1 Registration and Login

- **Sign-Up Options:** Users can register using email or social media accounts.
- **Email Verification:** Users must verify their email address to activate their account.
- **Login:** Authentication via email/password or social media accounts.
- **Password Recovery:** Users can reset their password using an email-based recovery process.

3.1.2 Profile Management

- **Personal Details:** Users can update their name, email address, and contact information.
- **Password Management:** Users can change their password and update security questions.
- **Profile Picture:** Users can upload, update, and manage their profile picture.
- **Parent Details (Optional):** Users can optionally provide parent or guardian details for additional context.

3.1.3 Dashboard

- **Course Enrollment:** Users can view and access courses they are enrolled in.
- **Progress Tracking:** Users can monitor their progress, completed modules, and grades.
- **Certificates:** Users can view and download course completion certificates that add value to their credentials.
- **Wallet Management:** Users can view wallet balance, deposit funds, and view transaction history.

3.1.4 Course Management

- **Search and Browse:** Users can search for courses by category, instructor, or popularity.
- **Enrollment:** Users can enroll in courses and access course content.
- **Learning Experience:** Users can access learning materials such as videos, quizzes, and assignments.
- **Reviews and Ratings:** Users can rate, and review completed courses.

3.1.5 Payment Management

- **Wallet Deposits:** Users can add funds to their wallet using various payment methods.
- **Direct Purchase:** Users can purchase courses directly without using wallet funds.
- **Transaction History:** Users can view and manage their payment and wallet transactions.

3.2 Instructor Account Module

3.2.1 Registration and Onboarding

- **Sign-Up:** Instructors can register by providing personal and professional details.
- **Verification:** Instructors must complete verification or KYC processes.

3.2.2 Profile Management

- **Personal Information:** Instructors can update their biography, qualifications, and contact details.
- **Payment Setup:** Instructors can manage payment details for earnings.

3.2.3 Dashboard

- **Course Creation:** Instructors can create, edit, and publish new courses.
- **Content Management:** Instructors can upload and manage course materials, including videos, documents, and quizzes.
- **Earnings Overview:** Instructors can view earnings, track sales, and generate financial reports.
- **Student Interaction:** Instructors can respond to student questions and feedback.

3.2.4 Course Management

- **Create Courses:** Instructors can add new courses, set pricing, and configure settings.
- **Manage Content:** Instructors can edit course content and manage modules.
- **Track Enrollment:** Instructors can monitor student enrollment and course engagement.

3.2.5 Payment Management

- **Faculty Release Payment:** Instructors will receive payment based on the review satisfaction of their courses. Payments are processed once the course is completed and reviewed.
- **Variable Payment Percentages:** Payment percentages may vary based on agreements with institutions or specific conditions set by the platform.

3.3 Admin Account Module

3.3.1 User Management

- **View Users:** Admins can access and manage all users, including students, instructors, and institutions.
- **Role Management:** Admins can assign roles and permissions to users.

3.3.2 Instructor and Institution Management

- **Approval:** Admins review and approve new instructor and institution applications.
- **KYC Verification:** Admins verify KYC documentation for instructors and institutions.

3.3.3 Payment Management

- **Transaction Monitoring:** Admins can track and manage all financial transactions on the platform.
- **Dispute Handling:** Admins address and resolve payment disputes and issues.

3.3.4 Content Oversight

- **Course Review:** Admins review and approve course content as needed.
- **Policy Enforcement:** Admins ensure adherence to platform policies and standards.

3.3.5 Reporting and Analytics

- **Platform Usage:** Admins generate reports on user activity, course enrollments, and financial performance.
- **Performance Metrics:** Admins analyze platform performance and make data-driven decisions.

3.4 Institution Account Module

3.4.1 Registration and Verification

- **Sign-Up:** Institutions can register by providing necessary details and documentation.
- **Verification:** Institutions must undergo admin approval and KYC verification.

3.4.2 Profile Management

- **Institution Details:** Institutions can update their information, contact details, and payment settings.

3.4.3 Dashboard

- **Course Management:** Institutions can create, edit, and manage institution-specific courses.
- **Staff Management:** Institutions can manage staff involved in course creation and administration.
- **Analytics:** Institutions can access reports and performance metrics related to their courses.

3.4.4 Course Creation and Management

- **Create Courses:** Institutions can add new courses with detailed descriptions and content.

- **Manage Course Offerings:** Institutions can track course performance and student engagement.

4. Interface Requirements

4.1 Software Interfaces

- **External APIs:** Integration with payment gateways (e.g., Stripe, PayPal) and social media platforms for login.
- **Internal APIs:** Interfaces between modules (e.g., student dashboard interacting with course management).

4.2 Communication Methods

- **Web Protocols:** HTTP/HTTPS for secure communication.
- **Data Formats:** JSON or XML for data interchange between client and server.

5. Performance Requirements

5.1 Static Performance Requirements

- **System Availability:** 99.9% uptime.
- **Response Time:** Average page load time under 2 seconds.

5.2 Dynamic Performance Requirements

- **Scalability:** System must handle up to 10,000 concurrent users.
- **Error Rate:** Maximum acceptable error rate of 0.1% for transactions.
- **Data Storage:** Efficient management of user data, course content, and transaction history.

6. Design Constraints

6.1 Technical Constraints

- **Technology Stack:** Use of specific technologies such as React for frontend and Node.js for backend.
- **Compliance:** Adherence to GDPR and PCI-DSS standards.

6.2 Operational Constraints

- **Hardware Limitations:** Deployment on cloud infrastructure with specified resource limits.
- **Software Limitations:** Compatibility with major web browsers and mobile devices.

7. Non-Functional Attributes

7.1 Security

- **Authentication:** Secure login with password encryption.
- **Authorization:** Role-based access control.
- **Data Encryption:** Encryption of sensitive user data in transit and at rest.

7.2 Portability

- **Cross-Platform Compatibility:** Responsive design to ensure functionality across various devices and operating systems.

7.3 Reliability

- **Backup and Recovery:** Regular data backups and disaster recovery planning to ensure data integrity and availability.

7.4 Scalability

- **System Expansion:** Ability to scale horizontally to accommodate a growing user base and increasing content.

7.5 Usability

- **User Interface:** Intuitive and user-friendly design to enhance the user experience for all roles.

7.6 Performance

- **Load Handling:** Efficient handling of high traffic and concurrent users to ensure smooth operation.

8. Preliminary Schedule and Budget

8.1 Schedule

- **Phase 1: Requirements Gathering:** 4 weeks
- **Phase 2: Design:** 6 weeks
- **Phase 3: Development:** 12 weeks
- **Phase 4: Testing:** 4 weeks
- **Phase 5: Deployment:** 2 weeks
- **Phase 6: Maintenance and Support:** Ongoing

8.2 Budget

- **Development Costs:** \$200,000
- **Testing Costs:** \$50,000
- **Deployment Costs:** \$20,000
- **Maintenance Costs:** \$30,000/year

9. Appendices

9.1 Data Definitions

- **User:** Any individual or entity registered on the platform.
- **Course:** A structured set of learning materials and activities designed to teach a specific subject.
- **Module:** A component of a course, such as a lesson or unit.
- **Wallet:** A digital account used to manage funds within the platform.
- **Coupon:** A discount or promotional code applied to course purchases.

9.2 External Standards

- **GDPR:** General Data Protection Regulation – European Union regulation for data protection and privacy.
- **PCI-DSS:** Payment Card Industry Data Security Standard – Security standards for payment card transactions.

9.3 References

- **IEEE 830-1998:** IEEE Recommended Practice for Software Requirements Specifications.
- **W3C:** World Wide Web Consortium – Web standards and guidelines.