# E-Learning Company Functional Documentation

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## 1. Introduction

### 1.1. Purpose

This functional documentation serves as a comprehensive guide for the E-Learning Company's software system. It outlines the system's functionality, user roles, and integration points, ensuring clear communication of system features and capabilities.

### 1.2. Scope

This document covers the functional aspects of the E-Learning Company's software system, from user registration to content delivery and assessment. It does not delve into technical implementation details.

### 1.3. Audience

This documentation is intended for:

- Development and technical teams responsible for implementing the E-Learning system.

- Quality assurance and testing teams.

- Project managers and stakeholders overseeing the development and deployment of the system.

### 1.4. Document Overview

This document is organized into sections that detail different aspects of the E-Learning system, including system overview, user roles, functional and non-functional requirements, integration points, data management, testing, deployment, and maintenance.

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## 2. System Overview

### 2.1. System Architecture

The E-Learning system follows a modular architecture, comprising front-end and back-end components, a database, and third-party integrations. The front-end is built using modern web technologies, while the back-end is developed using a scalable and secure framework.

### 2.2. Key Features

The key features of the E-Learning system include user registration, course management, content delivery (videos, documents, quizzes), assessment and grading, communication tools, reporting, and payment handling.

### 2.3. Integration Points

The system integrates with third-party services for payment processing, content hosting, and analytics. APIs are used to enable these integrations seamlessly.

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## 3. User Roles

The E-Learning system has three primary user roles:

### 3.1. Administrator

- Manages user accounts and permissions.

- Monitors system health and performance.

- Manages course catalog and content.

- Generates reports and analytics.

### 3.2. Instructor

- Creates and manages courses.

- Uploads course content and assessments.

- Communicates with students.

- Evaluates student progress.

### 3.3. Student

- Registers for courses.

- Accesses course materials.

- Participates in assessments.

- Communicates with instructors and peers.

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## 4. Functional Requirements

### 4.1. User Registration and Authentication

#### 4.1.1. User Registration

- Users can create accounts with personal information.

- Verification and validation of user data.

- Email confirmation for account activation.

- Password recovery functionality.

#### 4.1.2. Authentication

- Secure login with username/email and password.

- Session management for logged-in users.

- Multi-factor authentication (optional).

### 4.2. User Profile Management

#### 4.2.1. Profile Editing

- Users can update personal information.

- Profile picture upload.

#### 4.2.2. Preferences

- Notification settings.

- Language preferences.

- Accessibility settings.

### 4.3. Course Management

#### 4.3.1. Course Creation

- Instructors can create new courses.

- Define course title, description, and objectives.

- Set prerequisites and course duration.

#### 4.3.2. Content Management

- Upload course materials (videos, documents).

- Create quizzes and assignments.

- Organize content into modules.

### 4.4. Content Delivery

#### 4.4.1. Course Enrollment

- Students can browse and enroll in available courses.

- Access to course materials and modules upon enrollment.

#### 4.4.2. Content Viewing

- Streaming of videos and document downloads.

- Progress tracking for content consumption.

### 4.5. Assessment and Grading

#### 4.5.1. Quizzes and Assignments

- Students can submit quizzes and assignments.

- Automatic grading and feedback.

- Instructors can review and grade submissions.

### 4.6. Communication and Collaboration

#### 4.6.1. Discussion Forums

- Course-specific discussion forums.

- Threaded discussions for student and instructor interaction.

#### 4.6.2. Messaging

- Private messaging between users.

- Announcement broadcasts by instructors.

### 4.7. Reporting and Analytics

#### 4.7.1. Student Progress

- Track progress in enrolled courses.

- View grades and assessments.

#### 4.7.2. Administrator Reports

- Generate usage statistics.

- Monitor system performance.

### 4.8. Payment and Subscription Management

#### 4.8.1. Subscription Plans

- Offer different subscription tiers (e.g., free, premium).

- Manage subscription billing cycles.

#### 4.8.2. Payment Processing

- Secure payment handling (credit card, PayPal, etc.).

- Invoices and payment history.

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## 5. Non-Functional Requirements

### 5.1. Performance

- Load testing to ensure scalability.

- Response times for various actions.

- High availability and fault tolerance.

### 5.2. Security

- Data encryption in transit and at rest.

- Role-based access control.

- Regular security audits and vulnerability assessments.

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