**Requirement Specification Document**

**1. Introduction**

**1.1 Purpose**

This document defines the functional and non-functional requirements for an online classified ads platform similar to OLX.com. The system enables users to post advertisements, manage their listings, and interact with potential buyers. Admins oversee platform activities, user management, and ad moderation.

**1.2 Scope**

The system provides:

* User registration and authentication
* Advertisement posting and management
* Admin controls for monitoring and moderation
* Secure payment integration (if applicable)
* User-to-user messaging
* Search and filtering functionalities

**2. Functional Requirements**

| **ID** | **Category** | **Description** | **Additional Comments** | **Remarks** |
| --- | --- | --- | --- | --- |
| 2.1.1 | User Registration & Authentication | Users can register via email, phone number, or social media login. | Two-factor authentication for security. | Password recovery via email or SMS. |
| 2.1.2 | User Profile Management | Users can create and edit profiles. | Profile includes name, contact details, profile picture, and location. | Option to verify identity using government-issued ID. |
| 2.1.3 | User Roles & Permissions | Different roles assigned (Buyer, Seller, Admin). | Buyers can browse and purchase, sellers can post ads, and admins manage policies. | Admins have complete control over moderation. |
| 2.1.4 | Email & SMS Notifications | System should send verification, password reset, ad status updates, and promotional emails/SMS to users. | Ensures better user engagement. | Requires integration with third-party services (e.g., Twilio, SendGrid). |
| 2.1.5 | Session Management | Users should remain logged in unless they log out manually. | Includes session timeout for security. | Requires JWT or session-based authentication. |
| 2.2.1 | User Moderation | Admins can view, edit, suspend, or delete user accounts. | Manage user reports and complaints. | Review user verification requests. |
| 2.2.2 | Advertisement Moderation | Admins approve, reject, or suspend ads. | Automated filtering using AI/ML for content moderation. | Flag and remove fraudulent ads. |
| 2.2.3 | Reports & Analytics | View user activity reports and generate analytics. | Track revenue from promoted ads and premium listings. | Performance tracking for platform growth. |
| 2.2.4 | Content Moderation | Automated and manual moderation of images and text in ads. | AI-based image recognition for prohibited content. | Reduces fraudulent and inappropriate content. |
| 2.3.1 | Ad Posting & Editing | Users can post ads with images, descriptions, and pricing. | Ads are categorized (Electronics, Vehicles, Real Estate, etc.). | Option to edit or remove ads. |
| 2.3.2 | Ad Search & Filtering | Search ads by keywords, category, location, and price range. | Filter ads by most recent, price, and seller ratings. | Improves user experience and ease of navigation. |
| 2.3.3 | Ad Promotion & Monetization | Paid promotions for better ad visibility. | Featured ads section for premium listings. | Subscription plans for businesses or frequent sellers. |
| 2.3.4 | Ad Expiry & Renewal | Ads expire after a set duration (e.g., 30 days). | Users receive notifications before expiry. | Option to renew or extend the listing. |
| 2.3.5 | Location-Based Search | Users can filter ads based on their location. | Supports GPS-based and manual location selection. | Useful for buying/selling in proximity. |

**3. Non-Functional Requirements**

| ID | Category | Description | Additional Comments | Remarks |
| --- | --- | --- | --- | --- |
| 3.1 | Performance Requirements | System should handle concurrent users efficiently. | Search and ad browsing should be optimized for speed. | Ensures smooth user experience. |
| 3.2 | Security Requirements | Encrypted user data and payment transactions. | Secure login mechanisms (OAuth, JWT, etc.). | Regular security audits required. |
| 3.3 | Usability Requirements | Responsive design for mobile and desktop. | Intuitive user interface and easy navigation. | Multilingual support for wider accessibility. |
| 3.4 | Scalability Requirements | Cloud-based infrastructure for high availability. | Auto-scaling capabilities to handle traffic spikes. | Ensures system stability under heavy load. |
| 3.5 | Data Backup & Recovery | Regular automated data backups. | Ensures platform stability in case of system failures. | Must comply with data retention policies. |
| 3.6 | Compliance & Legal Considerations | GDPR, CCPA, and other applicable legal regulations must be followed. | Users should have options to delete their data. | Important for international operations. |
| 3.7 | API Support | RESTful APIs should be provided for mobile apps and third-party integrations. | Ensures cross-platform availability. | Useful for developers and partners. |

**4. Conclusion**

This document outlines the fundamental requirements for an online classified ads platform. Future enhancements may include AI-driven ad recommendations, real-time chat support, and blockchain-based transaction verification.