**Videotokens Platform - Functional Requirements Document (FRD)**

**1. Project Overview**

The Videotokens Platform is a **decentralized marketplace** where users can **create, trade, and interact** with tokenized video content. The platform features a **dual-mode system**—Developer (DEV) Mode for token creation and Trading Mode for token exchange. It emphasizes **real-time interaction, community engagement, and transparency** in token launches and transactions.

**2. System Functionalities**

**2.1 User Roles & Access Levels**

* **Guest User**
  + View publicly available tokens and trending data.
  + Browse marketplace features without trading capabilities.
  + Access **global chat** (read-only mode).
* **Registered User (Trader)**
  + Buy, sell, and trade tokenized video content.
  + Like, follow, and interact with developers.
  + Join **token-specific chats**.
  + Manage portfolio and transaction history.
* **Developer (DEV Mode User)**
  + Create and launch new video tokens.
  + Host live streams to introduce tokens.
  + Manage token listings and liquidity.
  + View analytics for token performance.
* **Admin**
  + Monitor marketplace activity.
  + Approve or remove fraudulent tokens.
  + Manage user bans and issue system-wide announcements.

**3. Platform Functional Features**

**3.1 Homepage & Navigation**

* **New Tokens Section** → Displays newly launched tokens.
* **Trending Tokens Section** → Highlights most-liked and most-traded tokens.
* **Titan of Tokens Section** → Lists highest market cap tokens.
* **Search Bar** → Allows users to search tokens & profiles.
* **Filtering System** → Users can filter tokens by:
  + Market Cap
  + Trading Volume
  + Bonding Curve Model
  + Most Liked
  + Newest Tokens

**3.2 Trading Mode Features**

* **Live Price Charts**
* **Buy/Sell Trading Panel**
* **Order Book for Market Depth**
* **Token-Specific Chatroom**
* **Wallet Integration** (MetaMask, WalletConnect, etc.)
* **User Portfolio Overview**
* **News & Announcements Section**
* **Upcoming Launches** with countdowns (10 min, 1 hour, 1 day)

**3.3 Developer (DEV) Mode Features**

* **Token Creation & Management**
  + Upload video content & metadata.
  + Set tokenomics (supply, bonding curve, initial price, etc.).
  + Schedule launch time.
  + Choose liquidity settings.
* **Live Token Introduction & AMA**
  + Built-in **livestreaming** for developer Q&A sessions.
* **Developer Profile & Verification System**
  + Users can follow developers.
  + Developers progress through 5 verification levels based on market cap & likes.
* **Analytics Dashboard**
  + Market cap growth, transaction volume, and user engagement data.
* **Custom UI for DEV Mode**
  + Red-themed interface.
  + Unique icons and layouts.
* **3-Second Transition Animation** when switching to DEV Mode.

**3.4 User Profiles & Verification**

* **User Profiles**
  + Followers, likes, favorite tokens.
  + Wallet balance & transaction history.
  + Live status indicator for developer streams.
* **Developer Verification System** (5 Levels):
  + Level 1: €10,000 Market Cap + 500 Likes
  + Level 2: €25,000 Market Cap + 1,000 Likes
  + Level 3: €100,000 Market Cap + 2,500 Likes
  + Level 4: €200,000 Market Cap + 5,000 Likes
  + Level 5: €1 Million Market Cap + 10,000 Likes

**3.5 Community & Engagement Features**

* **Global Chat** → Available to all users.
* **Token-Specific Chat** → Restricted to token holders.
* **Premium Chat (Discord integration)** → Exclusive for premium members.

**3.6 Security & Fraud Prevention**

* **Smart Contract Verification** before token listing.
* **Automated Flagging System** for suspicious activity.
* **User Reports & Moderation** to prevent scams.
* **Two-Factor Authentication (2FA)** for withdrawals.
* **Gas Fee Optimization** via Layer 2 solutions (Arbitrum, Optimism, etc.).

**3.7 Design & Customization**

* **Dark Mode UI** by default.
* **Trading Mode** → Dark background, white text, green highlights.
* **DEV Mode** → Red-themed interface with unique icons.
* **User Customization** → Users can modify color themes in settings.
* **3-Second Smooth UI Transition** between Trading & DEV modes.

**3.8 Transaction & Payment System**

* **Supported Wallets** → MetaMask, WalletConnect, Coinbase Wallet.
* **Supported Tokens** → Ethereum (ETH), Stablecoins, Native Platform Token.
* **Transaction Fees** → Dynamic gas fees with optimization features.
* **Revenue Model**
  + Trading Fees (percentage per transaction).
  + Premium Subscriptions for exclusive features.
  + Advertising & Sponsored Tokens.

**4. Technical Requirements**

**4.1 Frontend Stack**

* **Framework:** Next.js (React-based UI)
* **State Management:** Redux / Zustand
* **Styling:** Tailwind CSS
* **Charting Library:** Recharts / TradingView API
* **Animations:** Framer Motion

**4.2 Backend Stack**

* **Smart Contracts:** Solidity (Ethereum-based ERC-20/721/404)
* **Blockchain Interaction:** Ethers.js
* **Database:** PostgreSQL / Firebase (for non-blockchain data)
* **Authentication:** Web3Auth / Firebase Auth

**4.3 Infrastructure**

* **Hosting:** Vercel / AWS / IPFS (for decentralized storage)
* **CDN & Load Balancing:** Cloudflare
* **Messaging System:** WebSockets for live chat & updates

**5. Non-Functional Requirements**

* **Scalability:** Must support **high concurrent users**.
* **Security:** Smart contract audits & penetration testing.
* **Performance:** Low-latency trading & chat features.
* **Usability:** Simple UI/UX for both traders and developers.
* **Reliability:** 99.9% uptime for core services.