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.

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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.

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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.

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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

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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.