**Functional Requirements**

**1. User Registration and Authentication:**

- Users must register securely using blockchain-based identity verification.

- Implement authentication using cryptographic keys or digital signatures.

**2. Tweet Posting and Retrieval:**

- Users should be able to create and post tweets.

- Users must be able to retrieve and view tweets from their timeline.

**3. Decentralized Data Storage:**

- Tweets and user profiles will be stored on a decentralized blockchain network.

- Ensure data redundancy and distribution across multiple nodes for resilience.

**4. Immutable Data:**

- Once posted, tweets and user data will be immutable and tamper-proof on the blockchain.

**5. Smart Contracts for Interactions:**

- Utilize smart contracts to handle interactions like likes, retweets, and comments.

- Smart contracts should execute and record these interactions transparently.

**6. Cryptocurrency Integration:**

- Integrate a native cryptocurrency for platform transactions, such as tipping, ads, and content rewards.

**7. User Profile Management:**

- Users should be able to create, edit, and delete their profiles.

- Implement blockchain-based data control and privacy settings.

**8. Privacy Features:**

- Implement end-to-end encryption for direct messages.

- Allow users to control who can view their tweets and profile.

**9. Consensus Mechanism:**

- Specify the blockchain consensus algorithm used for network security.

**10. Cross-Platform Compatibility:**

- Ensure that the platform is accessible on various devices and web browsers.

**11. Analytics and Insights:**

- Provide users with analytics on tweet engagement, follower growth, and user demographics.

**12. Community Governance:**

- Implement decentralized decision-making processes, allowing users to propose and vote on platform changes.

**13. Legal and Regulatory Compliance:**

- Ensure compliance with blockchain, cryptocurrency, and data privacy regulations in relevant jurisdictions.

**14. Backup and Recovery:**

- Develop a robust backup and recovery system to prevent data loss on the blockchain.

**15. Interoperability:**

- Ensure compatibility with other blockchain networks and standards for cross-platform interactions.

**16. Security and Auditing:**

- Implement strong encryption and security measures to protect user data.

- Regularly audit smart contracts and blockchain for vulnerabilities.