No.of Functional Features Included in the Solution

Date	**6, November 2023**
Team ID	**NM2023TMID02201**
Project Title	**Project- Drug Traceability**

No.of Functional Features Included in the Solution:

The number of functional features included in a blockchain-based solution for drug traceability can vary depending on the specific requirements and complexity of the project. However, I can provide you with a list of common functional features that are typically included in such a solution:

1. Product Registration:

The ability to register pharmaceutical products on the blockchain with unique identifiers, including product details, manufacturing date, batch numbers, and expiration date.

2. Identity and Access Management:

User authentication and authorization mechanisms to control access to the blockchain network, ensuring data privacy and security.

3. Smart Contracts:

Implement smart contracts to automate and enforce business rules, such as product verification, ownership transfers, and supply chain events

4. Product Verification:

Allow authorized users to verify the authenticity of pharmaceutical products by querying the blockchain using unique product identifiers.

5. Supply Chain Tracking:

Track the movement of products through the supply chain, recording key events, locations, and timestamps.

6. Data Encryption:

Encrypt sensitive data to protect against unauthorized access and maintain data confidentiality.

7. Privacy Features:

Implement privacy-enhancing technologies to control who can see specific data on the blockchain, maintaining the privacy of certain supply chain participants.

8. Interoperability:

Ensure that the blockchain system can integrate with existing systems, databases, and regulatory authorities for seamless data exchange.

9. Decentralized Storage:

Store data on a decentralized network of nodes to enhance redundancy and ensure data integrity.

10. Data Auditing:

Regularly audit the blockchain to ensure compliance with industry regulations and standards, and maintain an immutable record of all transactions.

11. Reporting and Analytics:

Provide reporting and analytics tools to analyze supply chain data and detect anomalies or trends.

12. Integration with Regulatory Bodies:

Enable integration with regulatory authorities for compliance reporting and oversight.

13. User-Friendly Interface:

Design a user-friendly interface for stakeholders to interact with the blockchain system, submit data, and query product information.

14. Scalability:

Ensure that the blockchain system is scalable to accommodate a growing volume of products and transactions.

15.Monitoring and Alerts:

Implement monitoring tools and alerts for real-time or near-real-time tracking of supply chain events and potential issues.

16. Feedback Mechanism:

Establish a feedback mechanism to gather input from stakeholders and continuously improve the blockchain solution.

17. Audit Trail:

Maintain a comprehensive audit trail of all activities and transactions on the blockchain to provide transparency and accountability.

18. Immutable Record Keeping:

Ensure that once data is recorded on the blockchain, it cannot be altered or deleted, guaranteeing data integrity.

19. Product Recalls:

Implement processes for handling product recalls or quality issues, with the ability to trace affected products quickly.

20. Compliance with Regulatory Requirements:

Align the solution with specific pharmaceutical industry regulations, standards, and quality control practices.

.