

Rabovel MVP guideline.

To build a Minimum Viable Product (MVP) for Rabovel, we can follow these guidelines to ensure that the basic trading platform and app meet our initial goals while allowing room for future features.

1. Core MVP Features

1.1 Trading Platform & App (Basic)

- **Stock Buying & Selling:** Allow users to view Nigerian stocks, buy and sell them in real-time.
 - Integrate with the Nigerian Stock Exchange (NGX) for market data and order execution.
 - **User Dashboard:** Show portfolio summary, transaction history, and available balance.

- **Futures & Options Trading:** Implement basic futures and options trading functionality.
 - Allow users to place market orders and limit orders for futures and options.
 - Simple profit/loss calculations based on market movements.

- **Bills Payment:** Provide a feature where users can pay for utilities or services directly from their accounts.
 - Integrate a payment gateway like Flutterwave or Paystack for this purpose.

1.2 Account Management

- **KYC/AML Verification:** Use services like Trulioo or Jumio for user identity verification and compliance with Nigerian regulations.

- **User Onboarding:** Simple and quick sign-up process with basic personal information, bank account details, and identity verification.

- **Account Funding & Withdrawals:** Enable users to fund their accounts and withdraw funds.
 - **Bank integration:** Implement payment gateways (Paystack/Flutterwave) for account top-ups and withdrawals.

1.3 Security

- **Authentication:** Implement secure user authentication via OAuth 2.0 or JWT tokens. Use two-factor authentication (2FA) for added security.
- **Encryption:** All sensitive data (personal and financial) must be AES-256 encrypted.

1.4 Trade Execution & Transaction Processing

- **Order Matching Engine:** Create a simplified order-matching system that interfaces with the NGX to buy/sell orders in real-time.
 - Basic order types: Market Order, Limit Order.
- **User Notifications:** Send real-time notifications for trade confirmations, account balance updates, and order status (SMS or push notifications).

2. Future Features (Not in MVP, But Planned)

These can be added after validating the MVP:

- **ETFs & Mutual Funds Trading:** Implement trading features for Exchange-Traded Funds (ETFs) and mutual funds.
- **IPO Trading:** Provide the ability to invest in Initial Public Offerings (IPOs) for new companies on the NGX.
- **Rabovel Credit & Debit Cards:** Allow users to apply for and use Rabovel credit and debit cards, enabling easy access to their accounts and payments.

3. MVP Development Timeline

Phase 1: Research & Planning

- Research compliance and regulatory requirements for trading platforms in Nigeria.
- Finalize partnerships (with NGX, payment gateways, KYC providers).

Phase 2: UI/UX Design

- Develop wireframes and prototypes for the user interface.

- Focus on ease of use for the dashboard, stock search, trade execution, and account management.

Phase 3: Development

- Backend: Develop core functionalities like user management, trade execution, and order matching.
- Frontend: Build the user interface and integrate it with the backend.
- Payment Integration: Implement secure account funding and withdrawal features.

Phase 4: Testing

- Internal Testing: Test trade execution, security protocols, and the overall user experience.
- Beta Testing: Roll out the MVP to a limited number of users to gather feedback.

Phase 5: Launch

- Deploy the MVP and monitor performance, user feedback, and system stability.

4. MVP Success Metrics

- User Engagement: Number of users actively trading and using the platform.
- Churn Rate: How many users stop using the platform after initial use.
- Trade Volume: Number of trades executed and total transaction value.
- Customer Satisfaction: Gather feedback through surveys and support channels.

Rabovel Tech Stack.

1. Rabovel Website (Informational & Marketing)

The website will focus on providing information about the company, services, account creation, and support.

- **Front-End (User Interface & Design)**
 - HTML, CSS, JavaScript: Core technologies for creating a responsive and interactive website.
 - Frameworks:
 - React.js or Vue.js: For creating a dynamic and fast user interface.
 - Bootstrap 5: For responsive, mobile-friendly design.

- **Back-End (Server-Side)**
 - Node.js (Express) or Python (Django): Back-end frameworks for handling content delivery, form submissions, and user account management.
- **Database:**
 - PostgreSQL / MySQL: For storing user accounts, signups, and content data.
- **Security**
 - SSL/TLS Encryption: To secure data in transit.
 - CAPTCHA & ReCAPTCHA: To prevent spam signups and form abuse.
- **Hosting & Cloud Infrastructure**
 - AWS / DigitalOcean: For scalable cloud hosting.
 - Content Delivery Network (CDN):
 - Cloudflare: To ensure faster loading times and global reach.
- **Analytics & SEO**
 - Google Analytics: For tracking visitor behavior and website performance.
 - SEO Tools: Use Yoast SEO or RankMath for optimizing the website for search engines.
- **Email & CRM Integration**
 - Email Platforms:
 - Mailchimp or SendGrid: For email newsletters and customer engagement.
 - Live Chat / Customer Support:
 - Intercom or Zendesk: For real-time chat and user inquiries.

2. Rabovel Stock Trading Platform (Trading Nigerian Stocks, Options, Futures, Mutual Funds)

The platform will focus on executing trades, account management, and real-time market data.

- **Front-End (User Trading Interface)**
 - React.js or Angular.js: For building an interactive and user-friendly trading interface.
 - WebSocket Integration: For real-time updates on stock prices, trading activity, and market data.
 - Mobile Development:
 - React Native / Flutter: To provide cross-platform mobile trading apps for iOS and Android.

➤ **Back-End (Trading Engine & Data Management)**

- Programming Languages:
 - Python (Django) or Java (Spring Boot): For handling trading logic, order matching, and user account operations.
- Real-Time Data Integration:
 - Market Data APIs: Use NGX APIs (Nigerian Stock Exchange) for real-time stock prices and market data.
 - WebSockets: For continuous data streams like live stock quotes and order book information.

➤ **Database (Transaction Management)**

- PostgreSQL: For securely storing user trading accounts, portfolios, and trade history.
- Redis: For caching frequently accessed data such as stock prices or user portfolios.

➤ **Trading Engine**

- Order Matching System: A custom-built order-matching engine that interfaces with the Nigerian Stock Exchange (NGX) to execute buy and sell orders in real-time.
- Risk Management System: Real-time monitoring of user portfolios to manage risks, including stop-loss and margin call controls.

➤ **Security**

- OAuth 2.0 / JWT: For secure user authentication and session management.
- Encryption: AES-256 encryption for sensitive data, and SSL/TLS for secure communication.
- KYC/AML Compliance:
 - Integrate with services like Trulioo or Jumio to comply with Nigerian regulatory requirements for verifying user identities.

➤ **Cloud Infrastructure**

- AWS (Amazon Web Services) or Microsoft Azure: For hosting a scalable trading platform, including load balancing and high availability.
- Docker & Kubernetes: To manage containerized applications and ensure scalability.
- Serverless Functions: Using AWS Lambda for on-demand operations like running trade calculations or processing user requests.

➤ **Payment & Settlements**

- Payment Gateway Integration: Use Paystack or Flutterwave for account funding and withdrawals.
- Settlement System: Integrated with banks and the Nigerian Stock Exchange for fast, reliable trade settlements.

➤ **Analytics & Reporting**

- Big Data Tools:
 - Apache Spark: For analyzing large amounts of trading data.
 - Tableau / Power BI: For providing users with portfolio performance insights.

NGX (Nigerian Stock Exchange) APIs for real-time stock prices and market data.

Smaller brokers or new fintech platforms mostly use Alpha Vantage and TradingView for cost-effective solutions.

Worth mentioning even though it is costly: NGX Official API – ‘The NGX Application Programming Interface (API) has been developed to cater to the growing demand for cost effective data delivery alternative to the Financial Information eXchange (FIX) protocol. Our API Infrastructure is available to a range of developers for the display of Real Time, Delayed or End of Day data on Websites, Wallboards and other Web-friendly applications.

Our API is easy to integrate into any website or portal and is available in JSON and XML format; see Market Data pricelist for annual subscription charges. Details on how to register and available data products can be found on the NGX API Website (<https://marketdataapiv3.ngxgroup.com/>). ‘

Excerpt from NGX website, somehow the API website does not open for me.

Let's research more on Alpha Vantage and TradingView. It seems NGX uses vendors like Bloomberg, Thomson Reuters Refinitiv etc if you want to access their API.