**Mobile Banking Application Requirements Document**

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**1. Introduction**

**1.1 Overview**

The Mobile Banking Application is a cross-platform financial management tool designed to provide users with secure, real-time access to their banking services. The application will offer functionalities such as user authentication, transaction processing, real-time market data, secure payment integration, and push notifications.

**1.2 Objectives**

* Provide a seamless and secure banking experience.
* Ensure real-time financial data updates and transaction processing.
* Implement industry-standard security practices.
* Offer an intuitive and modern UI/UX for ease of use.

**2. Functional Requirements**

**2.1 User Authentication & Security**

* Secure login via email, phone number, and biometric authentication (Face ID, Fingerprint).
* Multi-factor authentication (MFA) support.
* OAuth 2.0 and JWT based authentication.
* Secure session management with auto-logout.
* Password encryption and secure storage.

**2.2 Account Management**

* User profile creation and management.
* View account balance and details.
* View transaction history with filtering options.
* View linked accounts and manage beneficiaries.

**2.3 Transaction Processing**

* Funds transfer between own accounts.
* Peer-to-peer (P2P) payments.
* Bill payments (utility, mobile recharge, etc.).
* International transactions with currency conversion.
* Real-time transaction confirmation via push notifications.

**2.4 Real-Time Market Data**

* Live stock market and forex data integration.
* Cryptocurrency price tracking.
* Market news and insights feed.
* AI-driven financial recommendations.

**2.5 Push Notifications & Alerts**

* Transaction alerts.
* Low balance notifications.
* Market trend updates.
* Promotional and personalized offers.

**2.6 Secure Payment Integration**

* Integration with payment gateways (Stripe, Razorpay, PayPal).
* Tokenization of payment credentials.
* 3D Secure support for card transactions.
* Webhook listeners for real-time payment status updates.

**3. Non-Functional Requirements**

**3.1 Performance**

* Response time < 100ms for core banking functions.
* Handle concurrent users (>100,000) with minimal latency.
* Optimize app size and load times.

**3.2 Security & Compliance**

* End-to-end encryption for transactions.
* Compliance with PCI DSS, GDPR, and local banking regulations.
* Data anonymization for analytics.

**3.3 Scalability & Reliability**

* Cloud-based infrastructure with auto-scaling.
* 99.9% uptime guarantee.
* Load balancing and failover support.

**4. Technology Stack**

**4.1 Frontend**

* Flutter (Dart)
* Riverpod for state management
* Firebase for push notifications

**4.2 Backend & API**

* FastAPI for backend services
* PostgreSQL for database management
* RESTful & GraphQL API endpoints
* Firebase Authentication & Cloud Firestore

**4.3 Security & Monitoring**

* Firebase Security Rules & JWT Authentication
* Real-time logging and monitoring using Firebase Analytics & CloudWatch
* Secure storage for sensitive data using Flutter Secure Storage

**5. Conclusion**

The Mobile Banking Application will provide a secure, efficient, and user-friendly experience for financial management. With its robust features and security standards, it aims to become a leading mobile banking solution in the fintech industry.