**BASE STRUCTURE**

**Project Name:** Maya Exchange

**Tech Stack:**

1. **Frontend:** HTML, CSS, React.tsx, tsx, java, kotlin
2. **Backend & Security and encryption:** C#, Perl, Ruby, Python
3. **Encryption algorithms:** CRYSTALS-Kyber, FALCON, Bcrypt
4. **Hashing Algorithms:** SHA-256, Skein, Grøstl, Whirlpool, Streebog
5. **Database:** MongoDB, MySQL, PostgreSQL, Amazon RDS, Amazon DynamoDB, Amazon Redshift, Apache Cassandra
6. **Integration:** Amazon DMS, AWS RDBS, AWS API Gateway, AWS Lambda
7. **Cryptocurrency Integration:** APIs (cryptoapi.io, tradinview), Web3.js, own liquidity pool
8. **Banking Integration APIs & SDKs:** debit, credit, rupay, visa, master card, amex, UPI SDKs
9. **Security**: OpenSSL, SSL/TLS, 2FA, JWS, Oauth Token, Encryption, access controls
10. **AWS:** Amazon EC2, Amazon RDS, Amazon S3, Amazon CloudWatch
11. **Orchestration & Containerization & Deployment:** Podman& Kubernetes
12. **(CI/CD):** GitLab CI/CD & Jenkins

**Core Features:**

1. KYC/AML Verification (Know-Your-Coustomer / Anti Money Laundering)
2. Integrated Banking Services (IBS)
3. UPI Payments (Unified Payment Service)
4. Cross-Border Transactions (CBT)
5. Local Currency to Local Currency (LC2LC)
6. Crypto to Crypto (C2C)
7. Crypto to Local Currency (CLC)
8. Local Currency To Crypto (LC2C)
9. Multi-Currency Support (MCS)
10. Local Internal Currency Transactions (LICT)
11. Inbuild UPI system like phonepe and gpay and cross app transactions.

**User Application Design For:**

1. Web Application (Responsive Design)
2. Mobile Application (iOS and Android)
3. API for Integrations (Application Programming Interface)

**User Flow:**

**Scenario 1: User 1 sends local currency to User 2 (LC2LC)**

1. User 1 logs in and selects "Send" option.
2. Chooses recipient (User 2).
3. Enters amount and confirms transaction.
4. Maya Exchange Transfers Local currency to user 2 Via UPI Infrastructure.

**Scenario 2: User 1 sends crypto to User 2 (C2C)**

1. User 1 logs in and selects "Send" option.
2. Chooses recipient. (User 2).
3. Selects cryptocurrency. (BTC).
4. Chooses desired cryptocurrency for User 2 (ETH)
5. Enters amount and confirms transaction.
6. Maya Exchange executes crypto-to-crypto transaction.

**Scenario 3: User 1 Sends crypto and wants local currency (C2LC)**

1. User 1 logs in and selects "Send" option.
2. Chooses recipient (User 2).
3. Selects cryptocurrency (BTC).
4. Chooses local currency (INR).
5. Maya Exchange converts crypto to local currency it’ll transfer and credits to User 2 Bank Account that linked to the app and selected as primary.

**Scenario 4: User 1 Sends Local Currency and wants Crypto(C2LC)**

1. User 1 logs in and selects "Send" option.
2. Chooses recipient (User 2).
3. Selects cryptocurrency (INR).
4. Chooses local currency (BTC).
5. Maya Exchange converts local currency to crypto it’ll transfer and credits to User 2 Web3, Crypto Hot wallet in the app.

**API Endpoints:**

1. **/users** - User management
2. **/transactions** - Transaction history
3. **/send** - Send local currency or crypto
4. **/receive** - Receive crypto or local currency
5. **/convert** - Convert currency (LCC, CLC, CC)
6. **/kyc** - KYC/AML verification

**Database Schema:**

1. Users table: id, name, email, password, KYC status
2. Transactions table: id, user\_id, transaction\_type, amount, currency
3. Currencies table: id, name, symbol, exchange\_rate

**Security Considerations:**

1. Encryption for sensitive data
2. Secure password storage (bcrypt)
3. Two-Factor Authentication (Google Authenticator)
4. Regular security audits and penetration testing

**Development Roadmap:**

**Phase 1: Research and Planning (2 weeks)**

1. Market research
2. Technical feasibility study
3. Team assembly

**Phase 2: Frontend Development (8 weeks)**

1. User interface design
2. Web and mobile application development

**Phase 3: Backend Development (12 weeks)**

1. API development
2. Database design and integration
3. Cryptocurrency and banking integrations

**Phase 4: Testing and Launch (8 weeks)**

1. Unit testing
2. Integration testing
3. Security auditing
4. Launch preparation

**Phase 5: Maintenance and Updates (Ongoing)**

1. Regular security updates
2. Feature enhancements
3. User support

**Team Structure:**

1. Project Manager
2. Frontend Developer
3. Backend Developer
4. DevOps Engineer
5. QA Engineer
6. Security Specialist

**Estimated Development Time:** 30 weeks (approximately 7.5 months)

**Estimated Development Cost:** $250,000 - $500,000 (depending on team size and location)

Please let me know if you'd like to proceed with the development of Maya Exchange or require further clarification on any aspect.

Would you like to:

1. Proceed with development
2. Request clarification on specific features
3. Modify the scope or timeline
4. Discuss budget and pricing