Project Plan: Agentic SMC FX Predictor

# 1. Objective

Upgrade the SMC FX Predictor into an Agentic AI Trading Assistant that:  
- Wraps the predictor into an autonomous agent loop.  
- Sends trade notifications to users via Telegram bot.  
- Lets users choose trading accounts (with balances & risk).  
- Calculates lot size dynamically based on account balance and user preferences.  
- Fetches FX data periodically from Alpha Vantage (batch fetcher).  
- Tracks trades, outcomes, and self-improves via scoring system (+10, -5, 0).  
- Displays results in frontend dashboard & via Telegram.

# 2. System Features

1. User System  
- Login, registration.  
- Create multiple trading accounts with balance.  
- View trade history and performance per account.  
  
2. Agentic Loop (agent\_loop.py)  
- Fetch market data (via batch\_fetch.py).  
- Run SMC Predictor → decide Buy/Sell/Skip.  
- Calculate lot size based on account balance & risk.  
- Send notification to Telegram bot.  
- Log trade into MySQL DB.  
- Evaluate outcome → apply scoring system (+10, -5, 0).  
  
3. Trade & Risk Management  
- Lot calculation: lot\_size = (account\_balance \* risk\_per\_trade) / stop\_loss\_pips  
- Users configure risk per trade.  
  
4. Reporting & Learning  
- Track number of trades, wins, losses.  
- Confidence report: predicted PnL vs actual PnL.  
- Self-learning adjustment: raise/lower confidence threshold based on scoring.  
  
5. Notifications (Telegram)  
- Trade signals (Buy/Sell/Skip, lot size, confidence).  
- Account balance updates.  
- Weekly performance report.

# 3. Data Fetching Timeframe

- Use 1-hour OHLC candles from Alpha Vantage.  
- Batch fetching via batch\_fetch.py to respect API limits.  
- Provides stable predictions and respects free tier API rate limits.

# 4. Resources Needed

Tech Stack:  
- Backend: Python (Flask or FastAPI).  
- Database: MySQL.  
- Frontend: React.  
- ML: Existing SMC predictor code.  
- Messaging: Telegram Bot API.  
- Market Data: Alpha Vantage (batch fetch).  
  
Team / Roles:  
- AI/ML Engineer: predictor + self-learning logic.  
- Backend Dev: APIs, agent loop, MySQL DB.  
- Frontend Dev: dashboards & user account UI.  
- DevOps: deployment, scheduling (cron/worker).  
- Product Owner: feature validation.

# 5. Timeline

| Phase | Deliverable | Time |  
|-------|-------------|------|  
| Week 1 | Setup project structure, MySQL models (users, accounts, trades) | 5 days |  
| Week 2 | User login/registration + account creation (balance setup) | 5 days |  
| Week 3 | Integrate Alpha Vantage batch fetch (1h data) | 4 days |  
| Week 4 | Implement agent\_loop.py (prediction + lot calculation + Telegram) | 6 days |  
| Week 5 | Trade logging, scoring system (+10/-5/0), confidence PnL calc | 5 days |  
| Week 6 | Frontend dashboards (accounts, trades, reports) | 6 days |  
| Week 7 | Testing + bug fixing | 5 days |  
| Week 8 | Deployment + optimization | 5 days |  
Total: ~8 weeks (2 months).

# 6. Budget Estimate

| Item | Cost Estimate |  
|------|---------------|  
| Development (1 dev, 2 months @ $800/mo) | $1,600 |  
| Hosting (VPS/Cloud) | $20–50/mo |  
| Domain & SSL | $10–20/yr |  
| Alpha Vantage API Premium (optional) | $29–49/mo |  
| Misc (Telegram bot infra, DB backups) | ~$20 |  
Total (2 months dev + 3 months ops): ~$2,000 – $2,200.