

# Paper Degen — Whitepaper (Hackathon Draft)

## Executive Summary

Cryptocurrency trading is notoriously challenging for beginners. High volatility, complex technical indicators, and expensive transaction fees (Gas) construct a massive "barrier to entry." Paper Degen is an "AI-driven mock trading assistant" deployed on the BNB Chain (opBNB Testnet) and integrated with Discord. Our core mission is to enable any Web2 user with no prior Web3 experience to effortlessly overcome this learning curve through risk-free "gamified mock trading" and "real-time market analysis by a sarcastic AI advisor." Our goal is to transform complete beginners into confident Web3 participants in a fun and engaging environment.

## 1. Problem Statement

Current crypto educational platforms and entry points suffer from the following pain points:

1. **Steep Learning Curve:** Professional technical indicators like Candlestick charts, MACD, and RSI are extremely unfriendly to beginners.
2. **High Trial-and-Error Costs:** Learning by executing real trades requires real assets. Beginners often leave the market permanently after their first liquidation or loss.
3. **Lack of Interactivity and Community:** Traditional exchange "paper trading" features are like single-player games—dull, isolated, and lacking community discussion.

## 2. The Solution: Paper Degen

We have created a perfect solution by combining the "Discord Ecosystem + Gemini AI + BNB Chain":

### 2.1 Risk-Free Social Trading

- Built directly into Discord, the world's largest community platform. Users can execute trades at real-time market prices using simple commands (e.g., `!buy BNB 100`).
- Every player starts with 10,000 virtual USDT. By replacing rigid tutorials with practical, gamified experience in a familiar social setting, users learn by doing.

### 2.2 AI-Powered Market Analyst

- We integrate Binance's real-time OHLCV data and feed it to the Gemini AI Large Language Model.
- The AI plays the role of an "arrogant and sarcastic Wall Street elite," translating cold, hard technical indicators into humorous, easy-to-understand, and sharp market insights (e.g., `!analyze BNB`). This not only provides a basis for trading decisions but also significantly boosts the entertainment value of the game.

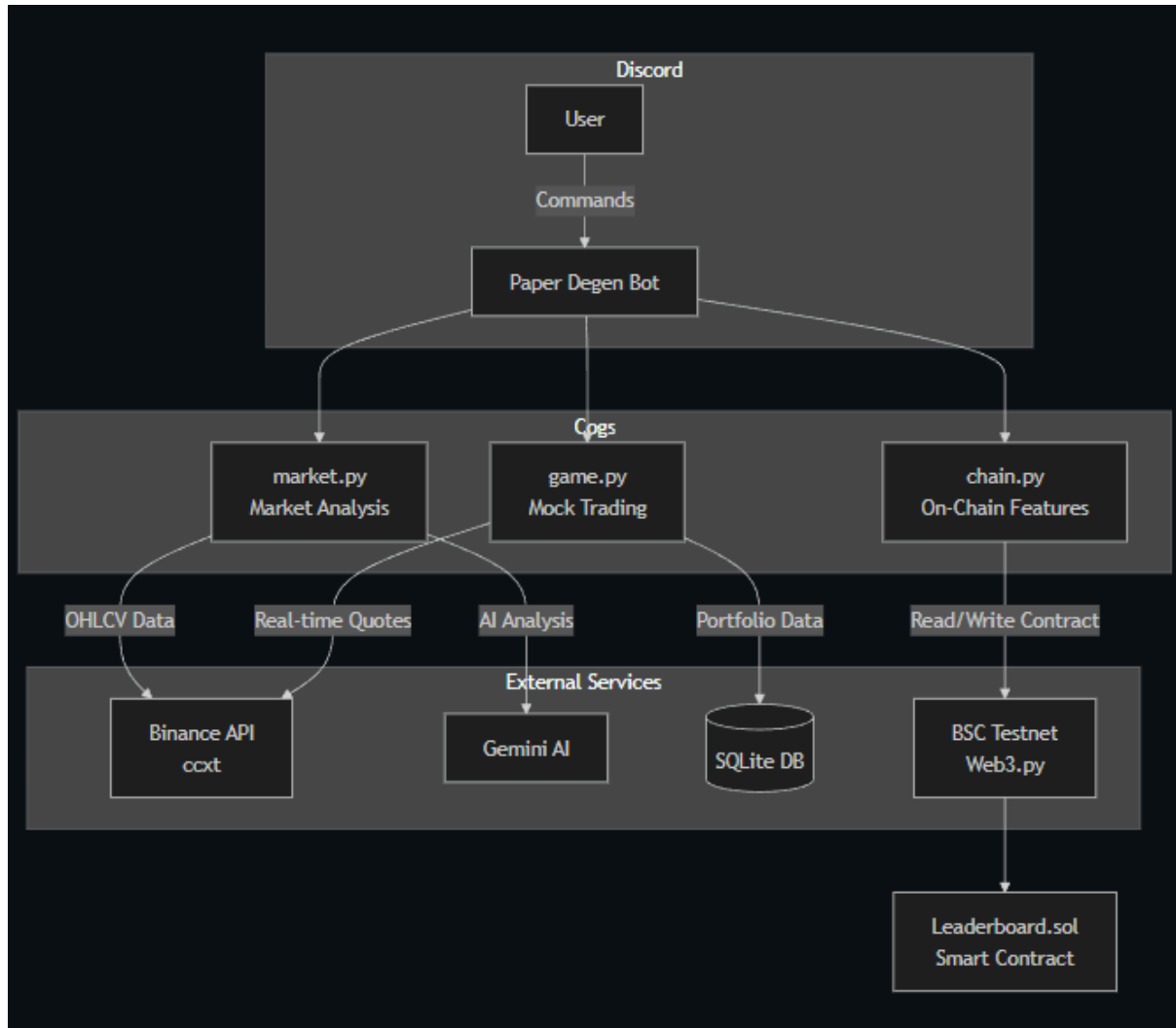
### 2.3 On-Chain Reputation System (opBNB)

- Every user's Return on Investment (ROI) score can be submitted on-chain via the bot (`!submit`) and securely stored on the opBNB Testnet.
- Why opBNB? To record player scores frequently, we need extremely low Gas fees

and high throughput (TPS). opBNB is the optimal Layer-2 choice for processing gamified, high-frequency achievement verifications.

- These on-chain records are immutable. This "Reputation" will serve as the core credit foundation when the platform eventually transitions to "Real Asset Copy Trading."

### 3. System Architecture



- **Frontend Interface:** Discord Bot (Python discord.py)
- **Data Source:** Binance API (Fetching real-time quotes and K-lines via ccxt)
- **AI Brain:** Google Gemini Pro (Natural language generation and market judgment)
- **Decentralized Data Layer:** opBNB Smart Contract (Leaderboard.sol storing player addresses, Discord IDs, and ROI scores)

### 4. Roadmap

Paper Degen is not just a hackathon project; we are committed to building it into an entry-level financial product for Web3:

- **Phase 1 (Q2 2026): Enhance AI Advisor Features**
  - Introduce deeper technical indicators (RSI, MACD, Funding Rates) for comprehensive AI analysis.
  - Add mock trading support for more DeFi protocol tokens on the BNB Chain.

- **Phase 2 (Q3 2026): Real Funds integration (The Web2 to Web3 Jump)**
  - Once users accumulate enough confidence, provide a bridge to cross into the "Real World."
  - Enable users to execute real token swaps on BNB Chain Decentralized Exchanges (e.g., PancakeSwap) directly via Discord commands through Web3 Wallet authorization.
- **Phase 3 (Q4 2026): Social Finance & Degen DAO**
  - Launch a "Copy Trading" feature, allowing beginners to directly invest funds to mirror the trades of consistent winners on the leaderboard.
  - Establish the Degen DAO, where token holders and top leaderboard players govern AI model parameters and revenue-sharing mechanisms.

## 5. Business Model

Paper Degen will create a sustainable economic model with strong self-generating revenue capabilities:

1. **Premium Subscription:** Basic users will have a daily limit of 3 free AI analyses. Heavy players can subscribe to Premium to unlock unlimited AI insights, customized trading strategies, and trading signal push notifications.
2. **Copy Trading Fees (Phase 3):** When general users follow the real trades of top experts on the leaderboard, the platform will extract a small fee from the profits and share it with the experts, incentivizing more excellent traders to join the ecosystem.
3. **Decentralized Exchange (DEX) Referral Commissions (Phase 2):** Guide users to execute real trades on partnered BNB Chain DEXs and earn a percentage of the transaction fees generated by the protocol.

## Conclusion

Paper Degen is more than just a Discord bot—it is a bridge. By leveraging humanized AI guidance and the robust, low-cost infrastructure of the BNB Chain, we are actively transitioning thousands of potential Web2 users into the vast Web3 world seamlessly and safely through a "Play to Learn" framework.