Technical Description of Trading on POT

1. Introduction

POT is a decentralized platform (DEX) on the TON blockchain that allows users to trade futures on any tokens using liquidity provided by liquidity providers (LP). Unlike synthetic solutions, POT uses real liquidity: when positions are opened, tokens are sold or bought on the DEX, and upon closing, the reverse operation is executed.

2. Trading Mechanics

2.1. Opening a Position

- The user selects an asset, leverage, and trade direction (long or short).
- The platform takes liquidity from LPs and:
  - **If long:** Buys the asset on the DEX.
  - **If short:** Sells the asset on the DEX.
- The transaction is confirmed through the TON API and executed at the market price.

2.2. Closing a Position

- When closing a trade:
  - **Long:** The asset is sold on the DEX, and the profit/loss is returned to the user.
  - **Short:** The asset is bought on the DEX, and the profit/loss is returned to the user.
- The platform automatically balances LP liquidity.

2.3. Liquidations

- If the asset price reaches the liquidation level, the system **automatically executes liquidation through the DEX** to cover losses.
- Liquidations are executed partially (partial liquidation) to reduce market impact.
- The liquidation price is verified through the TON API, which updates data every few seconds. However, delays may occur, especially under high network load, affecting liquidation accuracy. In such cases, the system utilizes additional price data sources (e.g., DEX oracles) to ensure the accuracy of the exchange rate.

3. Risks and Solutions

3.1. Risk of Low Liquidity on the DEX

🔴 **Problem:** If the DEX lacks sufficient liquidity, large trades can cause slippage.

✅ **Solutions:**

- Limits on order size based on liquidity availability.
- Splitting large orders into smaller parts. Orders are divided based on available liquidity on the DEX and the current spread. This reduces slippage and prevents sharp price movements. For example, if a total order is $100,000 but the DEX can safely execute only $10,000 without significant price impact, the system automatically splits the order into ten parts of $10,000 and executes them sequentially or in parallel depending on market activity. This slightly increases execution time but minimizes price impact.
- Use of algorithmic orders.

3.2. Front-running and MEV Attacks

🔴 **Problem:** Bots can predict and front-run large orders, manipulating the price.

✅ **Solutions:**
- Delayed execution for large orders.
- TWAP (time-weighted average price) instead of market price for liquidations.
- Use of hidden orders.

3.3. TON API Delay

🔴 **Problem:** If the API delays price updates, liquidations may be executed inaccurately.

✅ **Solutions:**
- Use multiple price sources (DEX API + oracles).
- Check the latest API update before executing trades.

3.4. Slow Liquidations

🔴 **Problem:** If liquidations execute too slowly, LPs may incur losses.

✅ **Solutions:**
- Partial liquidations instead of full liquidation.
- Use of a reserve liquidity pool for instant execution. The reserve pool accounts for 3-5% of the total LP liquidity and is replenished through platform fees and funding rate revenue. If the reserve is depleted, the system pauses instant liquidations and switches to partial liquidations through the DEX.
- Automatic liquidation execution on an alternative DEX in case of liquidity shortages.

3.5. Bad Debt

🔴 **Problem:** If an asset price drops too quickly, LP liquidity may be insufficient to cover losses.

✅ **Solutions:**
- Insurance fund (2-3% of fees).
- Auto-Deleveraging (ADL) – loss redistribution among large positions.
- Automatic increase of margin requirements (MR/MMR) during periods of high volatility.

3.6. High DEX Fees

🔴 **Problem:** Frequent trades result in high gas fees.

✅ **Solutions:**
- Batching orders.
- Optimization of smart contracts to reduce fees. This includes gas-efficient calls, minimizing storage operations on the blockchain, caching frequently used data, and using assembly code for critical functions. These measures help lower execution costs and improve contract efficiency.
- Switching to lower-cost DEXs when necessary.

3.7. LP Liquidity Imbalance

🔴 **Problem:** If most traders are long or short, the liquidity pool may become unbalanced.

✅ **Solutions:**
- Dynamic funding (the greater the imbalance, the higher the funding payments).
- Limits on one-sided positions.
- Additional incentives for LPs (bonuses for replenishing scarce liquidity).

4. Conclusion

POT uses real liquidity by selling and buying assets on the DEX, making the platform transparent and decentralized. However, this approach introduces risks related to liquidity, manipulation, execution speed, and commission costs. Implementing adaptive risk management mechanisms, oracles, dynamic funding, and insurance funds will make the platform more resilient to market fluctuations.

5. Next Steps

1. Development of a liquidity management algorithm for large orders.
2. Integration of multi-oracles for price verification.
3. Implementation of a buffer liquidity pool to accelerate liquidations.
4. Optimization of smart contracts to reduce fees.
5. Testing of dynamic funding mechanisms.