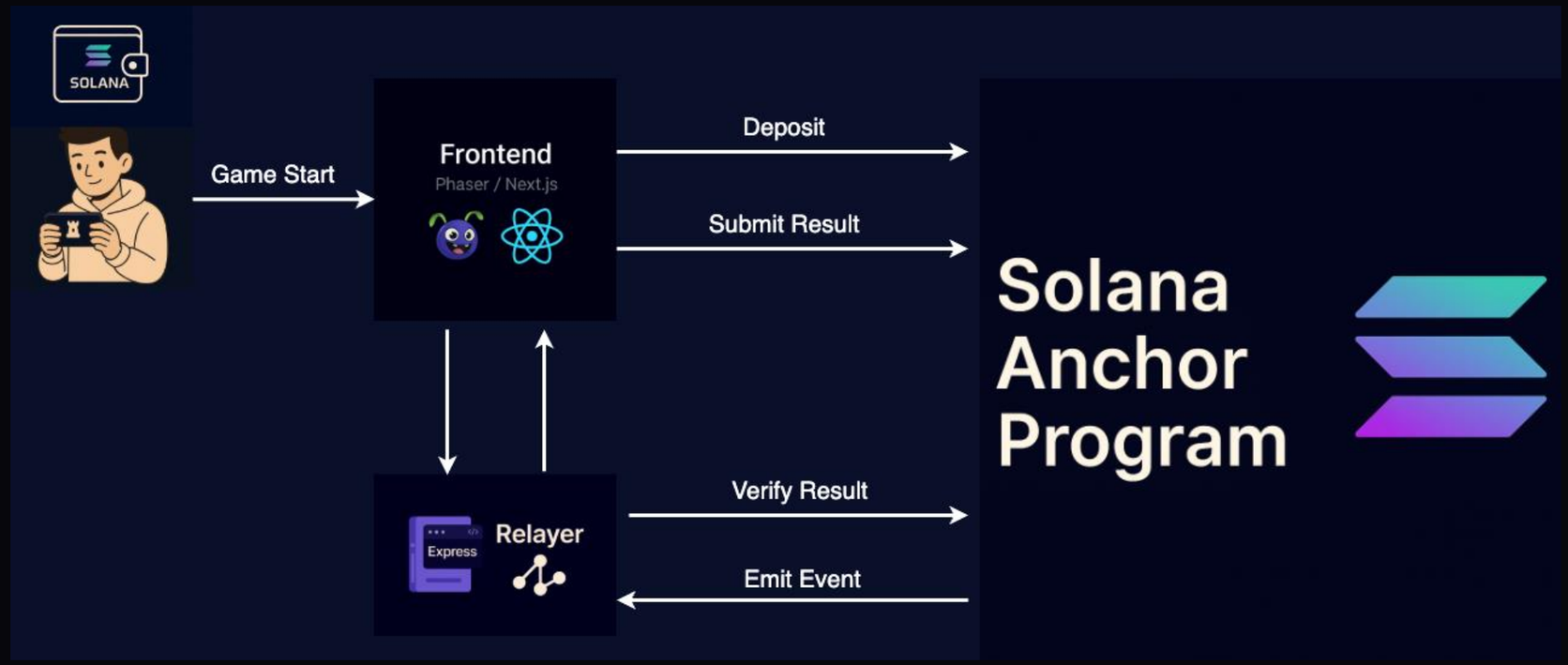
Dexfense: Where GameFi Meets DeFi

Fully on-chain GameFi protocol on Solana

Converts meme tokens into active liquidity assets

Tower defense gameplay with on-chain rewards

Technical Architecture Overview



Frontend

- Phaser game engine
- Next.js framework

Backend

- Express server
- WebSocket
- Relayer module

Blockchain

- Solana program (Anchor)

Instruction-driven Architecture

submit_result

Player score logged on-chain

verify_result

Backend validates score submission

swap_and_settle

DEX swap executed, rewards calculated

Reward Swap and Treasury Correction

DEX Swap

Token exchange via CPI

Reward Calculation

Expected payout determined

Treasury Balancing

Deficit topped up / surplus absorbed

Transparent On-chain Liquidity

Fully On-chain Flows

Complete token trail on Solana

No Off-chain Simulation

All transactions verifiable

Trustless By Design

No central authority needed

From Deposit to Play

Players stake tokens

Lock liquidity into system

Gameplay performance

Tower defense challenges

Financial impact

Real rewards at stake

From Game to Chain: Result Submission

Game completion

Kill count result captured

On-chain verification

Backend validates score

Reward execution

Verified state triggers payout

PDA-based State Transitions

Deposit

Player stakes tokens

Play

Game session initialized

Payout

Rewards distributed

Verify

Results confirmed on-chain

Why Solana?

Monolithic Design

Fast, parallel execution

Built with PDAs & CPI

Anchor framework support

Optimized for DeFi

Fully on-chain performance

High Throughput

Low-latency execution

On-chain Difficulty Adjustment

Data Accumulation

Over 200 game sessions conducted during closed beta to gather comprehensive data

On-chain Difficulty Factor

Stored securely and updated automatically on-chain for transparency and trustlessness

50-Game Average

Difficulty dynamically adjusted based on player performance over the last **50 games**

Dexfense is Playable DeFi

Thank You