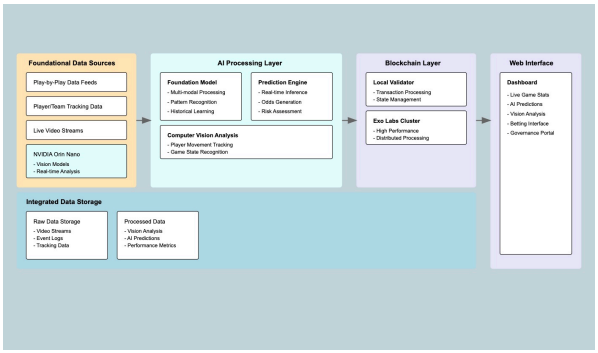
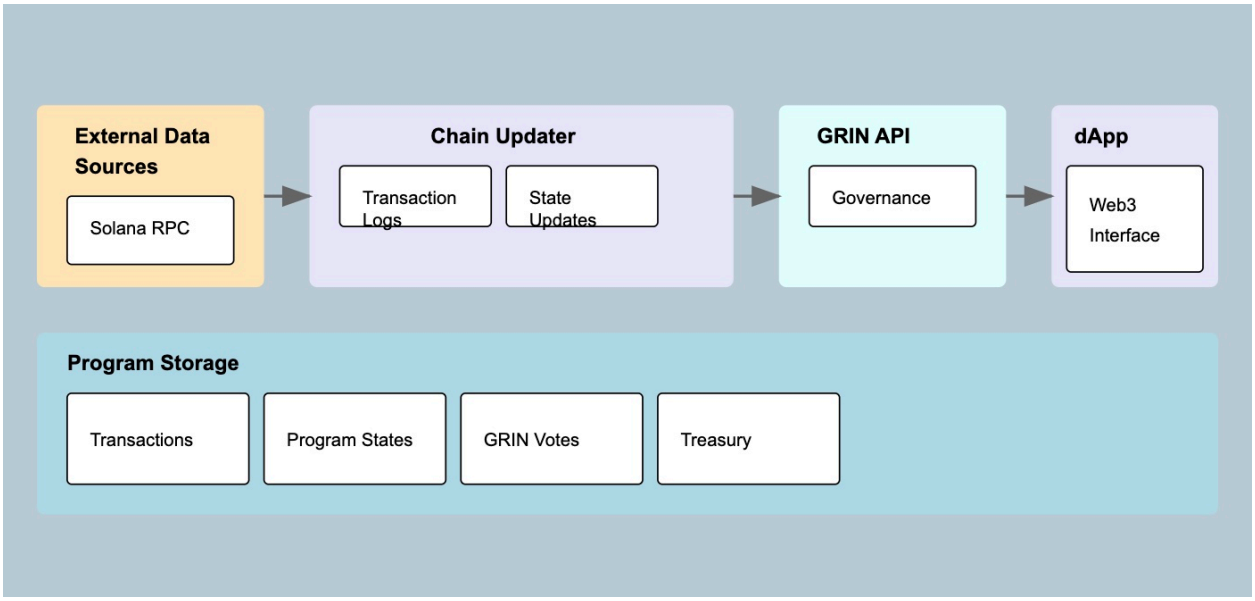
Cheshire Terminal Sports Client

1. Sports Data Sources:





Cheshire Terminal Sports Client

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1. Introduction

Cheshire Terminal Sports Client is a next-generation sports analytics and betting platform built on Solana. It combines advanced AI prediction models, real-time computer vision analysis, and blockchain technology to create a comprehensive sports intelligence system.

Key Features

- Multi-sport prediction engine
- Real-time video analysis
- Decentralized betting infrastructure
- GRIN token governance
- Advanced AI models

2. System Architecture

Data Sources

- Play-by-Play feeds from major sports leagues
- Live tracking data
- Video streams
- Historical statistics
- Player performance metrics

AI Layer

- Foundation Model
  - Multi-modal data processing
  - Pattern recognition
  - Historical trend analysis
  - Real-time inference
- Computer Vision System
  - NVIDIA Orin Nano processing
  - Player movement tracking
  - Game state recognition
  - Real-time analysis

Blockchain Infrastructure

- Local Solana validator
- Exo Labs high-performance cluster
- Smart contract system
- GRIN token integration

3. Features

Sports Coverage

- NBA Basketball
- Soccer (Multiple Leagues)
- NFL Football
- Boxing/MMA
- Additional sports being added

Prediction Systems

- Match outcomes

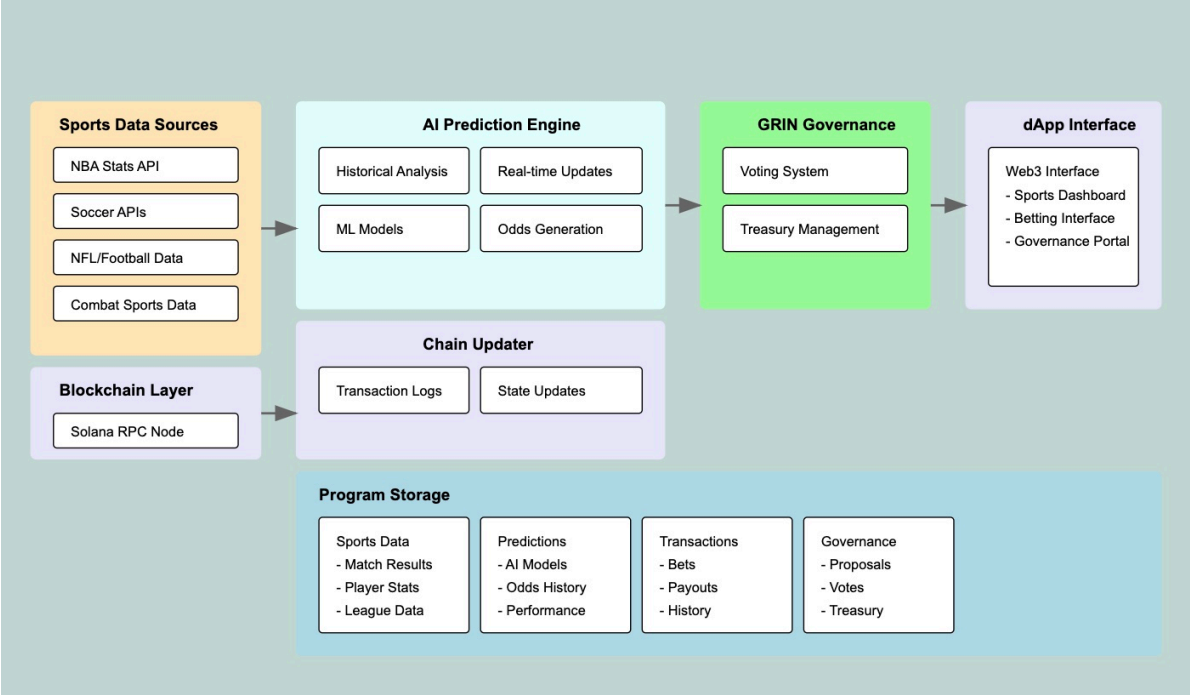
- Player performance
- Real-time odds adjustment
- Risk assessment
- Confidence scoring

Vision Analysis

- Player tracking
- Movement patterns
- Team formations
- Game flow analysis
- Performance metrics

Betting Interface

- Live betting
- Automated market making
- Risk management
- Settlement system
- Performance tracking



4. Getting Started

Installation

```
git clone <https://github.com/cheshire-labs/sports-client>
cd sports-client
yarn install
```

Configuration

```
{
  "network": "mainnet-beta",
  "cluster": "exo-labs",
  "visionEndpoint": "orin-nano:8080",
  "aiModel": "foundation-v1"
}
```

Running Local Validator

```
solana-test-validator
cheshire-sports-client --local
```

5. Components

Foundation Model

The core AI system processes multiple data streams:

- Historical game data
- Real-time feeds
- Vision analysis
- Market dynamics

Vision Processing

NVIDIA Orin Nano handles:

- Live video streams
- Player detection
- Movement analysis
- Event recognition

Data Storage

- Raw data warehouse
- Processed analytics
- Model predictions
- Performance metrics

6. Developer Guide

API Integration

```
import { CheshireClient } from '@cheshire/sports-client'

const client = new CheshireClient({
  endpoint: '<https://api.cheshire.sports>',
  wallet: yourWallet
})

// Get predictions
const predictions = await client.getPredictions('NBA')

// Place bet
await client.placeBet({
  match: matchId,
  amount: 1.5,
  odds: 2.0
})
```

Vision Model Integration

```
from cheshire.vision import OrinClient

client = OrinClient()
analysis = client.analyze_stream('game_feed.mp4')
```

7. Governance

GRIN Token

- Voting rights
- Proposal creation
- Treasury management
- Protocol updates

Voting System

- Proposal submission
- Community voting
- Implementation process
- Treasury allocation

8. API Reference

Endpoints

```
interface CheshireAPI {
  // Sports Data
  getMatches(sport: string): Promise<Match[]>
  getPredictions(matchId: string): Promise<Prediction>

  // Vision Analysis
  getPlayerTracking(matchId: string): Promise<TrackingData>
  getGameState(matchId: string): Promise<GameState>

  // Betting
  placeBet(bet: BetRequest): Promise<Transaction>
  getMarkets(matchId: string): Promise<Market[]>

  // Governance
  submitProposal(proposal: Proposal): Promise<Transaction>
  vote(proposalId: string, vote: Vote): Promise<Transaction>
}
```

Data Types

```
interface Prediction {
  matchId: string
  homeWinProbability: number
```

```
  predictedScore: Score
  confidence: number
}

interface VisionAnalysis {
  players: PlayerPosition[]
  teamFormation: Formation
  possessionStats: PossessionStats
}

interface Market {
  id: string
  odds: number
  liquidity: number
  volume: number
}
```

For more detailed documentation and updates, visit our GitHub repository or join our Discord community.

1. Sports Data Sources:

- NBA Stats API
- Soccer APIs (for multiple leagues)
- NFL/Football Data
- Combat Sports Data (Boxing/MMA)
- Each source provides real-time and historical data

1. AI Prediction Engine (New Component):

- Historical Analysis: Processes past performance data
- Real-time Updates: Incorporates live game/match data
- ML Models: Different models for each sport type
- Odds Generation: Creates betting lines and predictions

1. Chain Updater:

- Now handles multiple sport types
- Processes predictions and betting outcomes
- Updates on-chain states for all sports markets

1. Program Storage:

- Sports Data: Match results, player stats, league data
- Predictions: AI model outputs and performance tracking
- Transactions: Betting history and payouts
- Governance: GRIN token voting and treasury

1. dApp Interface:

- Sports Dashboard: Views for all supported sports
- Betting Interface: Place bets across all sports
- Governance Portal: GRIN token holder functions

The AI agent now acts as a central predictor that:

1. Processes data from multiple sports simultaneously
2. Generates sport-specific predictions
3. Learns from historical performance
4. Adjusts odds in real-time based on events and betting patterns
5. Provides confidence scores for predictions

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