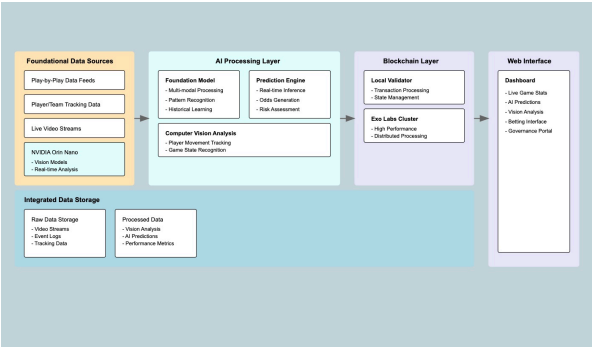
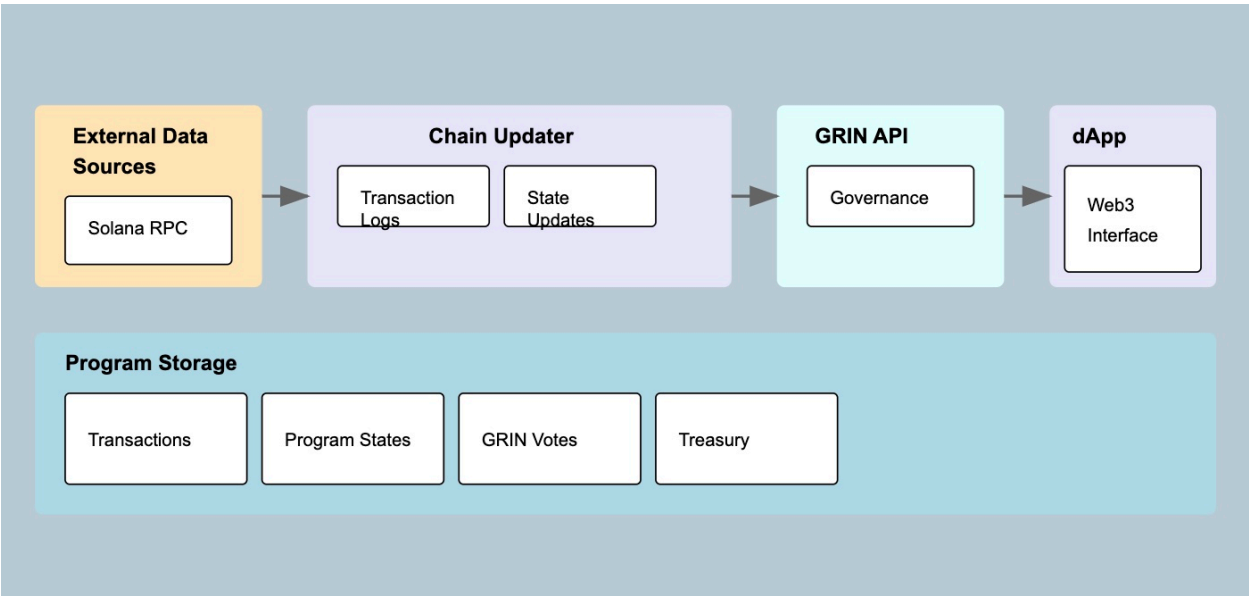


Cheshire Terminal Sports Client

1. Sports Data Sources:



NBA Machine Learning Picks (2023-01-20)									
Teams	FanDuel			DraftKings			Betmgm		
New Orleans Pelicans	-118 (89.4%)	28.28	O 228	-120 (89.4%)	27.3	O 228.5	-120 (89.4%)	27.3	O 228.5
Orlando Magic	+100	-88.87	64.3%	+100	-88.87	64.3%	+100	-88.87	64.3%
Miami Heat	120	-13.22	O 219	125	-14.8	O 219	120	-13.22	O 219.5
Dallas Mavericks	+101 (92.7%)	8.39	63.9%	+105 (93.7%)	7.87	65.9%	+100 (92.7%)	8.39	63.9%
Golden State Warriors	-260	8.88	O 224	-270	8.62	O 224	-240	-8.19	O 223.5
Cleveland Cavaliers	-320 (76.6%)	-7.28	65.2%	-325 (76.6%)	-7.62	65.2%	-300 (76.6%)	-8.81	65.2%
New York Knicks	+122 (93.4%)	18.51	U 229	+125 (93.4%)	20.11	U 227.5	+120 (93.4%)	17.44	U 227.5
Atlanta Hawks	144	-21.01	54.9%	-145	-21.23	54.9%	-145	-21.23	54.9%
LA Clippers	-280 (71.3%)	-3.28	U 231	-275 (71.3%)	-3.81	U 231	-275 (71.3%)	-3.81	U 233.5
San Antonio Spurs	+220	-5.19	69.9%	+230	-5.19	69.9%	+220	-8.07	66.0%
Brooklyn Nets	+240 (93.5%)	82.0	U 229	+250 (93.5%)	87.33	U 229	+230 (93.5%)	76.64	U 238.5
Utah Jazz	-295	-37.78	56.1%	-300	-38.04	56.1%	-300	-38.04	55.3%
Indiana Pacers	+420	21.76	U 239.5	+430	24.1	U 239.5	+450	28.78	U 239.5
Denver Nuggets	-500 (76.6%)	-9.74	54.3%	-500 (76.6%)	-9.74	54.3%	-450 (76.6%)	-11.63	54.3%
Memphis Grizzlies	-270 (66.7%)	-8.58	U 243.5	-280 (66.7%)	-9.46	U 243.5	-300 (66.7%)	-11.05	U 243.5
Los Angeles Lakers	+220	6.52	76.5%	+235	11.51	76.5%	+240	13.18	76.5%
Oklahoma City Thunder	+132	-30.72	O 241.5	+135	-29.81	O 242	+135	-29.83	O 241.5
Sacramento Kings	-156 (70.1%)	15.1	81.2%	-155 (70.1%)	15.39	81.2%	-160 (70.1%)	13.98	81.2%



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

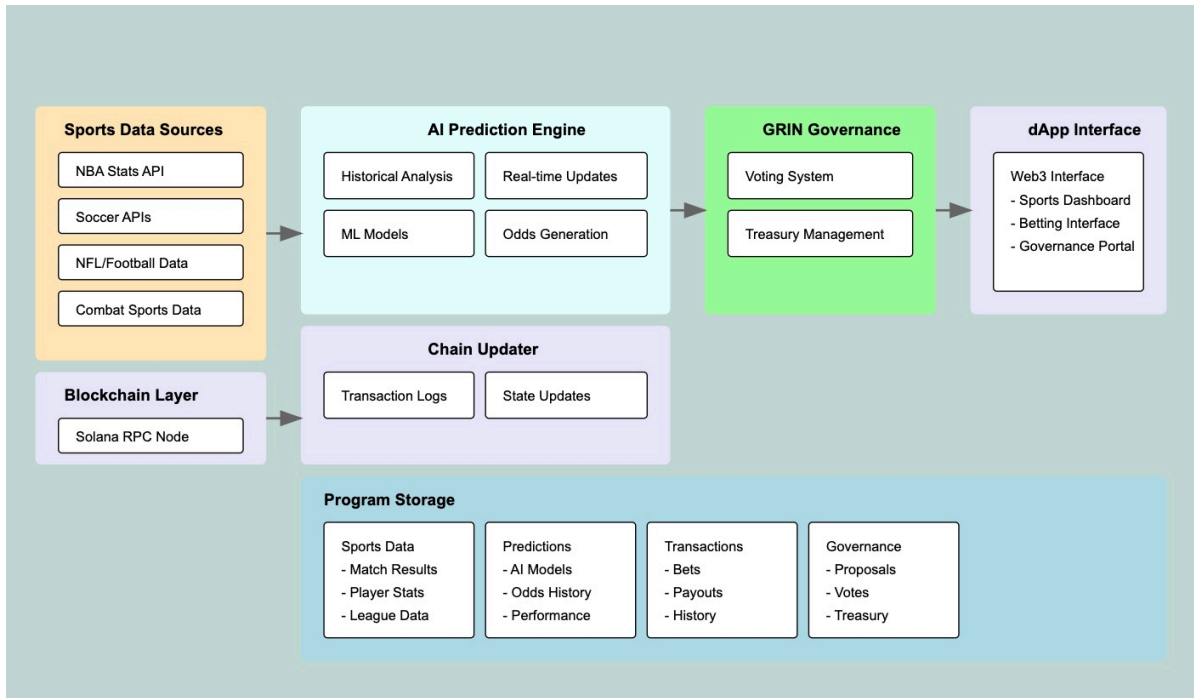
- Player performance
- Real-time odds adjustment
- Risk assessment
- Confidence scoring

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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