Software Requirement Specification (SRS)

Project Name: Real-Time Sports Betting Odds Dashboard
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Version: 1.0
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1. Introduction

1.1 Product Scope

The system aims to deliver a real-time betting odds dashboard by integrating data from external REST APIs. The platform will support traders, analysts, and compliance teams with dynamic, visualized data comparisons and key metrics for actionable decisions.

1.2 Product Value

This product will enable stakeholders to identify betting inefficiencies, arbitrage opportunities, and market risks in real time, increasing operational efficiency and responsiveness.

1.3 Intended Audience

- Sports Trading Analysts
- Marketing and Campaign Managers
- Compliance Officers
- Data Engineers
- BI Developers

1.4 Intended Use

- Monitor bookmaker odds for upcoming sports events
- Identify pricing inefficiencies and arbitrage potential
- Track margin trends and implied probabilities
- Export data for reporting and compliance

1.5 General Description

The dashboard will connect to multiple RESTful APIs to retrieve JSON-based data on live sports odds. It will clean, model, and visualize the data using Power BI with filters, KPIs, and trend charts.

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2. Functional Requirements

- Pull sports odds from at least one REST API with automated refresh

- Clean and transform dirty or nested JSON data using Power Query
- Calculate implied probability, overround, and bookmaker spread using DAX
- Present odds movements and KPIs using interactive visuals
- Support filters for sport, league, bookmaker, and time

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3. External Interface Requirements

3.1 User Interface Requirements

- Responsive Power BI dashboard with slicers, KPI cards, matrix tables, and line charts
- Export functionality for Excel or CSV downloads

3.2 Hardware Interface Requirements

- End users need laptops or desktops with modern browsers (Edge, Chrome, Firefox)
- For scheduled refresh: secure data gateway and internet connectivity

3.3 Software Interface Requirements

- Integration with REST APIs using API keys
- Optional: Power BI Service + Power Automate for refresh
- Postman or similar tool for API testing

3.4 Communication Interface Requirements

- REST API with JSON response format
- Authentication via query parameters or header tokens

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4. Non-Functional Requirements

4.1 Security

- API keys must be stored securely and never exposed in front-end layers
- Dashboard access via Power BI Service must be role-based

4.2 Capacity

- Able to handle up to 10,000 daily event records across sports

4.3 Compatibility

- Compatible with Microsoft Power BI Desktop and Power BI Service
- JSON data structures should conform to standard schemas for API feeds

4.4 Reliability

- Must refresh every 15 minutes or via manual update without failure
- Failover procedures in place if API becomes temporarily unavailable

4.5 Scalability

- Future upgrades should support multiple APIs and store historical odds snapshots

4.6 Maintainability

- Clear documentation of API endpoints, DAX formulas, and data models
- Version control for changes in dashboard logic and layout

4.7 Usability

- Dashboard must be understandable by non-technical stakeholders
- Use intuitive visual cues and consistent formatting

4.8 Other Non-Functional Requirements

- API throttling and usage limits must be monitored

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5. Definitions and Acronyms

- **API** – Application Programming Interface
- **DAX** – Data Analysis Expressions
- **KPI** – Key Performance Indicator
- **Overround** – Total bookmaker margin calculated from implied probabilities
- **Arbitrage** – Risk-free betting strategy based on differing bookmaker odds
- **Implied Probability** – The inverse of decimal odds (1 / odds)