**Software Requirements Specification (SRS) for VentureVue**

1. Introduction

1.1 Purpose

The purpose of this document is to specify the software requirements for "VentureVue," a machine learning-powered business decision-making platform that analyzes news sentiment and provides real-time market insights for entrepreneurs, particularly tailored to the Indian market.

1.2 Scope

VentureVue aims to revolutionize business decision-making by aggregating news from diverse sources, analyzing sentiment, and offering state-wise market analysis to empower entrepreneurs with actionable insights.

1.3 Definitions, Acronyms, Abbreviations

SRS: Software Requirements Specification

ML: Machine Learning

1.4 References

Market research reports on the Indian business landscape

Invest India website by Government of India

Website like data.gov.in

The business news available on Google News

1.5 Overall Description

VentureVue harnesses machine learning to analyze news sentiment, offering real-time market performance metrics and state-wise business analysis. It automates data analysis to empower entrepreneurs with actionable insights, reducing research time by 50%.

2. Overall Description

2.1 Product Perspective

VentureVue is a standalone platform that interfaces with news channels for data aggregation and machine learning models for sentiment analysis. It will integrate with user interfaces for web access.

2.2 Product Functions

Aggregate news articles from various sources.

Perform sentiment analysis on news content.

Provide real-time market performance metrics.

Generate state-wise business analysis reports.

2.3 User Characteristics

Entrepreneurs seeking real-time market insights.

Analysts and researchers in the business domain.

Data scientists and developers involved in the project.

2.4 User Constraints

Users must have internet access to utilize the platform.

Users require basic knowledge of interpreting market insights.

2.5 Assumptions & Dependencies

Availability of reliable news sources and sentiment analysis.

Adequate infrastructure to support machine learning models and data processing.

2.6 Apportioning Requirements

Future versions may include advanced features such as predictive analytics and customizable dashboards with investors connect support as well.

3. Specific Requirements

3.1 Interface Requirements

3.1.1 External Interface

User interface: Web-based dashboard.

3.1.2 Hardware Interface

Compatible with standard web browsers (Chrome, Firefox, Safari).

3.1.3 Software Interface

Integration with Python-based ML frameworks for sentiment analysis.

Database interface for data storage and retrieval.

3.1.4 Communication Interface

HTTP/HTTPS for web-based communication.

RESTful APIs for data exchange between components.

3.2 Functional Requirements

3.2.1 Use Case Model / Information Flows

User logs in to the platform.

User selects specific regions or industries for analysis.

System aggregates relevant news articles.

Machine learning models analyse sentiment.

Generates charts and graph-based sentiment analysis result.

3.2.2 Use Case Specifications / Process Description

Use Case: Retrieve Market Insights

Description: Users request market insights for specific regions.

Inputs: User preferences (regions, industries).

Outputs: Aggregated news, sentiment analysis results.

3.2.3 Analysis Classes / Data Dictionary

Data Classes:

Article: Contains news article content, source, and publication date.

Sentiment Analysis Result: Stores sentiment analysis scores for each article.

3.3 Performance Requirements

Response time for news aggregation: <5 seconds.

Sentiment analysis processing time: <1 second per article.

3.4 Logical Database Requirements

Database to store news articles, sentiment analysis results, and user preferences.

Use Firebase cloud database for structured data storage.

3.5 Design Constraints

Use Node for backend development.

Utilize machine learning libraries like nltk for sentiment analysis.

3.6 Software System Attributes

3.6.1 Reliability

Ensure high availability and fault tolerance.

Regular backups and data redundancy.

3.6.2 Availability

Target uptime: 99.9% availability.

3.6.3 Security

Implement user authentication and authorization mechanisms.

Data encryption for sensitive information.

3.6.4 Maintainability

Well-documented codebase.

Version control for codebase management.

3.6.5 Portability

Compatibility with major operating systems and web browsers.

4. Supporting Information

Diagrams:

Structured charts

Data flow diagrams

Use case diagram

Sequence diagram

Activity diagram

Appendix:

Glossary of terms