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

**1. Introduction**

**1.1 Purpose**

The purpose of this document is to provide a comprehensive overview of the requirements for the development of the Talkalytics, a software application designed to analyze and provide insights into WhatsApp conversations.

**1.2 Scope**

The Talkalytics aims to analyze WhatsApp chat logs, generate statistics, and provide insights into user interactions. It will be a standalone desktop application designed for Windows, macOS, and Linux platforms.

**2. System Overview**

**2.1 System Description**

The Talkalytics will have the following key features:

* Import WhatsApp chat logs in text format.
* Analyze chat logs to extract data, including messages, timestamps, and participant information.
* Generate statistical reports on message frequency, user activity, most active times, and more.
* Provide graphical representations of chat data.

**2.2 Users**

The primary users of the Talkalytics will be individuals and small groups who want to gain insights into their WhatsApp conversations.

**3. Functional Requirements**

**3.1 User Authentication**

The system shall not require user authentication as it operates on publicly available chat logs.

**3.2 Chat Log Import**

The system shall allow users to import WhatsApp chat logs in text format.

**3.3 Data Analysis**

The system shall perform the following analyses:

* Message frequency analysis.
* User activity analysis.
* Most active times analysis.
* Keyword and sentiment analysis (if feasible).

**3.4 Report Generation**

The system shall generate detailed reports and graphical representations of the chat data based on the analysis performed.

**3.5 User Interface**

The system shall have a user-friendly graphical user interface (GUI) that allows users to easily import chat logs, perform analysis, and export results.

**4. Non-Functional Requirements**

**4.1 Performance**

The system shall be able to analyze chat logs of up to 1,000,000 messages without significant performance degradation.

**4.2 Reliability**

The system shall ensure data integrity and accuracy in the analysis results.

**4.3 Compatibility**

The application shall be compatible with Windows 10 and later, macOS, and popular Linux distributions.

**4.4 Security**

The system shall not store or transmit any personal or sensitive information from the chat logs.

**4.5 Usability**

The GUI shall be intuitive and user-friendly, requiring minimal training for users to operate.

**5. Constraints**

* The system will only support text-based chat logs in a format compatible with WhatsApp exports.
* The system's analysis capabilities may be limited by the quality and content of the chat logs.

**6. Assumptions and Dependencies**

* The availability of WhatsApp chat logs in text format.
* The availability of standard libraries and tools for text analysis.

**7. Conclusion**

This Software Requirements Specification (SRS) has outlined the functional and non-functional requirements for the Talkalytics. It serves as a foundation for the development of the application, ensuring that it meets the needs of its users while adhering to performance, security, and usability standards.

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