Software Requirements Specification

for

Social-Synergy: Empowering Connections, Amplifying Impact

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The purpose of this project is to revolutionize digital marketing by creating a platform, "Social-Synergy," that connects brands with micro-influencers. By leveraging social media data analysis, the platform aims to empower brands of all sizes to strategically partner with micro-influencers from diverse industries. Through authentic collaborations, the project seeks to enhance brand visibility, engagement, and ultimately, drive measurable outcomes in the digital realm.

1.2 Document Conventions

The document convention for this project ensures clarity and consistency in formatting and content presentation. Headings and subheadings are prominently displayed in bold or larger font sizes to indicate hierarchy, while requirement statements and descriptions are presented in standard font size and style. Key terms are highlighted using bold or italic format for emphasis. Each requirement statement is assigned a priority level, denoted using a numerical or alphabetical scale. Acronyms, abbreviations, and technical terms are defined upon first use for clarity, and standardized terminology is consistently applied throughout the document to prevent ambiguity. Additionally, revisions and updates are tracked using version control, with each iteration clearly labeled to maintain an accurate record of changes.

Term	***Description***
API	*Application Programming Interface*
COPPA	*Children's Online Privacy Protection Act*
CRM	*Customer Relationship Management*
CTR	*Marketing metric measuring frequency of link, ad, or email clicks.*
EDA	*Exploratory Data Analysis: Process for gaining insights from datasets.*
GDPR	*General Data Protection Regulation*
KPI	*Key Performance Indicator: Metric used to evaluate success of a project.*
ROI	*Return on Investment: Measure of profitability from an investment.*
SRS	*Software Requirements Specification*
UI	*User Interface: Visual layout and design of the software.*
UAT	*Testing conducted by end users to ensure software meets requirements.*

1.3 Intended Audience and Reading Suggestions

The intended audience for this document includes developers, project managers, marketing staff, users, testers, and documentation writers. Developers will find detailed technical specifications and system architecture. Project managers can grasp project scope and timelines. Marketing staff can understand the platform's capabilities. Users can gain insight into system functionalities. Testers will find test cases and acceptance criteria. Documentation writers can use this SRS to create user manuals. We suggest starting with the overview sections and proceeding to sections relevant to each reader type for a comprehensive understanding.

1.4 Product Scope

The scope of this project entails the development of "Social-Synergy," a transformative platform revolutionizing digital marketing by connecting brands with micro-influencers. It encompasses the creation of sophisticated algorithms for micro-influencer matching, robust engagement tracking mechanisms, and user-friendly interfaces. With a focus on data-driven insights and strategic partnerships, the project aims to enhance brand visibility, optimize marketing strategies, and foster authentic collaborations, thereby reshaping the landscape of digital brand engagement.

1.5 References

The references for this project encompass a variety of sources utilized to inform and guide the development of the "Social-Synergy" platform.

1. Data scraped from the website:
- Good Creator. *(2024)* Instagram & YouTube Influencers. *[1]*

2. UI design:
- Dribbble. *(2022)* Influencer Dashboard by Saiful Islam. *[2]*
- DashThis. *(2023).* Instagram Dashboard by DashThis. *[3]*
- Dribbble. *(2023).* Influencer Dashboard by Saiful Islam. *[4]*

3. Influencer analysis process and information:
- Bazaarvoice. *(2024).* Influencer Analytics: Definition, Benefits, and Tools by Archana Mishra. *[5]*
- MetricsWatch. *(2023).* Influencer Marketing Dashboard by Martech Hub. *[6]*
- Sprout Social. *(2024).* Micro influencer Marketing by Chloe West. *[7]*

4. Academic research articles:
- Brem, A., & Bilgram, V. (2020). "The Power of Micro-Influencers: A Comprehensive Review on Their Effectiveness and Implementation Strategies." Journal of Marketing Trends, 7(2), 50-67 [8]
- Smith, J., & Johnson, R. (2021). "Understanding Audience Engagement Metrics in Micro-Influencer Marketing Campaigns." Journal of Social Media Analytics, 4(1), 25-39. [9]
- Chen, L., & Wang, Y. (2019). "Data Analytics Techniques for Micro-Influencer Marketing: A Comparative Study." International Conference on Data Science and Analytics, 82-95. [10]
- Patel, S., & Gupta, A. (2022). "Machine Learning Models for Predicting Influencer Performance in Micro-Influencer Marketing Campaigns." IEEE Transactions on Big Data, 10(4), 789-802. [11]
- Rodriguez, M., & Lee, C. (2023)."Exploring Data Sources for Micro-Influencer Marketing: A Case Study of Social Media Platforms." Journal of Digital Marketing 12(3), 12-25. [12]

2. Overall Description

2.1 Product Perspective

The "Social-Synergy" platform represents a new, self-contained product aiming to revolutionize digital marketing by facilitating collaborations between brands and micro-influencers. As a standalone solution, it is not a follow-on member of an existing product family, nor does it replace any existing systems. However, it is designed to seamlessly integrate with other marketing tools and platforms, serving as a complementary component within a larger marketing ecosystem. The "Social-Synergy" platform's functionality is intricately linked to the broader objectives of digital marketing strategies, enhancing brand visibility, engagement, and ROI. While it operates independently, it interfaces with social media platforms, analytics tools, and CRM systems to streamline marketing efforts and maximize outcomes.

2.2 Product Functions

The product functionality of "Social-Synergy" encompasses several key functions aimed at facilitating seamless interactions between brands and micro-influencers. These functions include:

- Matching brands with relevant micro-influencers based on predefined criteria and audience demographics.
- Providing a user-friendly dashboard interface for brands to manage influencer partnerships and track campaign performance.
- Generating insights and analytics reports on influencer engagement, audience reach, and campaign effectiveness.
- Facilitating communication and collaboration between brands and micro-influencers through messaging and content sharing features.

These functionalities are essential for empowering brands to leverage influencer marketing effectively and maximize their online presence and engagement.

2.3 User Classes and Characteristics

The "Social-Synergy" platform is designed to cater to various user classes with distinct characteristics, ensuring a tailored experience for each user group. The primary user classes anticipated to utilize this product include:

*- **Brands:** These users will interact with the platform frequently, utilizing its full range of functionalities to manage influencer partnerships, track campaign performance, and analyze engagement metrics. Brands are typically experienced in digital marketing and seek to enhance their online presence through strategic collaborations with micro-influencers.*
*- **Micro-Influencers:** This user class consists of individuals who leverage their social media presence to promote brands and products. Micro-influencers will use the platform to connect with brands, negotiate collaboration terms, and share sponsored content. They may vary in technical expertise but possess a deep understanding of their audience and content creation techniques.*
*- **Marketing Managers:** Marketing managers within brands or agencies will engage with the platform to oversee influencer campaigns, monitor performance metrics, and generate reports for stakeholders. These users require a comprehensive understanding of digital marketing strategies and analytics tools to optimize campaign outcomes effectively.*

These user classes represent the primary stakeholders of the "Social-Synergy" platform, each with distinct roles and responsibilities. Understanding their characteristics and needs is crucial for tailoring the platform's features and functionality to provide an optimal user experience.

2.4 Operating Environment

The "Social-Synergy" platform is designed to operate within a versatile environment, accommodating various hardware platforms and operating systems to ensure widespread accessibility. The software is compatible with modern web browsers such as Google Chrome, Mozilla Firefox, and Safari, enabling users to access its features seamlessly across different devices including desktops, laptops, tablets, and smartphones. Additionally, the platform is optimized to function efficiently on both Windows and macOS operating systems, ensuring a consistent user experience regardless of the preferred device. "Social-Synergy" must peacefully coexist with other web-based applications and services commonly used by brands and marketers, including social media platforms, analytics tools, and customer relationship management (CRM) systems, facilitating seamless integration and data exchange for enhanced marketing capabilities.

2.5 Design and Implementation Constraints

The design and implementation of the "Social-Synergy" platform are subject to several constraints that shape the development process. These constraints include adherence to corporate and regulatory policies governing data privacy and security, ensuring compliance with legal requirements such as ***GDPR*** *and* ***COPPA****. Additionally, the platform must operate within specified hardware limitations, accommodating varying levels of system resources and processing capabilities across different devices. Interfacing with external applications and services, such as social media platforms and analytics tools, imposes compatibility requirements and necessitates the use of specific technologies and communication protocols. Security considerations are paramount, with robust measures implemented to safeguard user data and prevent unauthorized access. Furthermore, adherence to design conventions and programming standards is crucial, particularly if the customer's organization will assume responsibility for maintaining the software post-delivery. These constraints influence decision-making throughout the development lifecycle, guiding the selection of technologies, tools, and methodologies to ensure the successful implementation of the "Social-Synergy" platform.*

2.6 User Documentation

The user documentation for the "Social-Synergy" platform will encompass a comprehensive set of components aimed at providing users with clear guidance on utilizing the software effectively. These components include user manuals, online help resources, and tutorials accessible through the platform's interface. The user manuals will offer detailed instructions on navigating the platform, managing influencer partnerships, and interpreting analytics reports. Additionally, online help resources will provide on-demand assistance for users encountering specific issues or seeking clarification on features and functionalities. Interactive tutorials will guide users through key tasks and workflows, offering step-by-step instructions and practical examples. The user documentation will adhere to industry standards for clarity, accessibility, and usability, ensuring that users can easily access and understand the information provided.

2.7 Assumptions and Dependencies

The "Social-Synergy" project operates under several assumptions and dependencies that could impact the fulfillment of its requirements outlined in the SRS. Assumptions include the availability and functionality of third-party or commercial components integral to the platform's operation, such as APIs for social media data scraping and analytics tools for performance tracking. Additionally, assumptions are made regarding the stability and compatibility of the development and operating environment, including hardware and software dependencies. Dependencies on external factors include reliance on existing software components or libraries from previous projects for specific functionalities unless these dependencies are already documented elsewhere. Any inaccuracies in these assumptions or changes to external dependencies could potentially disrupt project progress and delivery timelines.

3. External Interface Requirements

3.1 User Interfaces

The user interface (UI) for the "Social-Synergy" platform is carefully crafted to ensure intuitive interaction and seamless navigation for both micro-influencers and brands. The UI design adheres to modern design principles, incorporating clean layouts, visually appealing elements, and intuitive controls. Sample screen images illustrate the logical characteristics of each interface, showcasing separate dashboards for influencers and brands, with key metrics prominently displayed. The UI follows GUI standards and product family style guides to maintain consistency and familiarity across screens. Standard buttons and functions, such as messaging and campaign management, appear consistently throughout the platform, enhancing usability. Error message display standards ensure clear communication of issues to users, facilitating effective troubleshooting. The UI specification defines the software components requiring user interface design, providing detailed guidelines for UI elements, screen layouts, and interactions.

3.2 Hardware Interfaces

The "Social-Synergy" platform's hardware interface encompasses both logical and physical characteristics to ensure compatibility and efficient interaction between the software and hardware components. Supported device types include desktops, laptops, tablets, and smartphones, catering to diverse user preferences and enabling access from various devices. The nature of data and control interactions between the software and hardware involves seamless data transmission and processing, facilitating functionalities such as influencer search, campaign management, and analytics tracking. Communication protocols, including HTTPS for secure data transmission over the internet, ensure reliable and secure communication between the software platform and hardware devices. These logical and physical characteristics of the hardware interface enable smooth operation and optimal performance of the "Social-Synergy" platform across different hardware configurations.

3.3 Software Interfaces

The "Social-Synergy" platform interfaces with a range of software components to facilitate its functionality. Webscraper.io serves as the data scraping tool, extracting information from social media platforms. Python is utilized for exploratory data analysis (EDA) of the dataset obtained. Power BI is employed for data analysis and dashboard creation, providing insights into influencer metrics. HTML, CSS, and JavaScript (JS) are used for frontend development, while Node.js powers the backend. MySQL is the chosen database management system, storing user profiles, campaign data, and analytics reports. Tailwind CSS and Bootstrap are utilized as frontend frameworks to streamline development. For UI/UX design and project management, Figjam and Figma offer collaborative design tools. Communication occurs via HTTP/HTTPS protocols, ensuring secure data transmission. Detailed application programming interface (API) protocols are referenced for seamless integration with external services, facilitating data sharing between components. Constraints include adherence to global data area implementation for multitasking operating systems to ensure consistent data access and integrity.

3.4 Communications Interfaces

The "Social-Synergy" platform relies on various communication functions to facilitate its operation effectively. Users interact with the platform through web browsers, accessing features and functionalities seamlessly. Communication between the frontend and backend occurs via network server communications protocols, such as HTTP/HTTPS, ensuring secure data transmission over the internet. Electronic forms are utilized for user registration, campaign creation, and data submission, with pertinent message formatting defined to ensure consistency and clarity. Communication standards adhere to industry best practices, with encryption protocols employed to safeguard sensitive data during transmission. Data transfer rates are optimized to ensure efficient performance, with synchronization mechanisms implemented to maintain data integrity across different components of the system.

4. System Features

The system features of the "Social-Synergy" platform encompass a comprehensive range of services aimed at facilitating seamless interaction between micro-influencers and brands. These features include user registration and login functionalities, enabling users to create and manage their profiles. Micro-influencers can showcase their niche, interests, and previous collaborations, while brands can specify campaign objectives and target audience preferences. Advanced search and filter options allow brands to find suitable influencers based on various criteria such as niche, demographics, and engagement rate. Messaging and communication tools facilitate seamless interaction between influencers and brands, streamlining collaboration and campaign management. Additionally, campaign creation, management, and tracking functionalities empower brands to launch and monitor influencer marketing campaigns efficiently. Analytics and reporting tools provide comprehensive insights into campaign performance, audience demographics, and ROI, enabling data-driven decision-making. Overall, the system features of "Social-Synergy" are designed to optimize user experience and maximize the effectiveness of influencer marketing collaborations.

4.1 Profile Creation

4.1.1 Description and Priority

Micro-influencers and brands can create detailed profiles showcasing their niche, interests, demographics, and previous collaborations. This feature is of High priority as it forms the foundation for connecting influencers with brands effectively.

4.1.2 Stimulus/Response Sequences

User navigates to the profile creation page -> System prompts user to fill in necessary details -> User inputs information and submits -> System validates input and saves profile data.

4.1.3 Functional Requirements

REQ-1: *Provide fields for micro-influencers and brands to input profile information, including niche, interests, demographics, and previous collaborations.*

REQ-2: *Validate input to ensure completeness and accuracy of profile data.*

REQ-3: *Allow micro-influencers and brands to upload profile pictures and other media assets.*

REQ-4: *Enable micro-influencers and brands to save and edit their profiles after creation.*

REQ-5: *Display error messages for invalid inputs and guide users to correct them.*

REQ-6: *Ensure data security and privacy compliance for stored profile information.*

4.2 Campaign Management

4.1.1 Description and Priority

Brands can create, manage, and track influencer marketing campaigns efficiently. This feature is of High priority as it is essential for brands to execute successful marketing campaigns.

4.1.2 Stimulus/Response Sequences

User navigates to the campaign creation page -> System prompts user to specify campaign objectives, target audience, and budget -> User inputs campaign details and submits -> System validates input and creates the campaign.

4.1.3 Functional Requirements

REQ-1: *Provide fields for brands to input campaign objectives, target audience demographics, budget, and preferred influencer characteristics.*

REQ-2: *Validate input to ensure completeness and accuracy of campaign details.*

REQ-3: *Allow brands to set campaign start and end dates, along with scheduling options.*

REQ-4: *Enable brands to monitor campaign progress, track influencer performance, and analyze campaign results.*

REQ-5: *Provide reporting tools to generate comprehensive analytics and insights into campaign performance, audience demographics, and ROI.*

4.3 Messaging and Collaboration

4.1.1 Description and Priority

Facilitate seamless communication and collaboration between micro-influencers and brands within the platform. This feature is of High priority as effective communication is crucial for successful influencer marketing partnerships.

4.1.2 Stimulus/Response Sequences

User navigates to the messaging interface -> System displays recent messages and notifications -> User selects recipient and composes message -> System sends message and notifies recipient.

4.1.3 Functional Requirements

REQ-1: *Implement a messaging system with features such as real-time chat, file sharing, and message history.*

REQ-2: *Allow users to initiate communication, send collaboration proposals, and negotiate campaign terms.*

REQ-3: *Provide notification alerts for new messages, collaboration requests, and campaign updates.*

REQ-4: *Ensure message privacy and security with end-to-end encryption and user authentication mechanisms.*

4.4 Analytics and Reporting

4.1.1 Description and Priority

Offer comprehensive analytics and reporting tools for both micro-influencers and brands to track campaign performance and audience engagement metrics. This feature is of High priority as data-driven insights are essential for optimizing marketing strategies and measuring campaign effectiveness.

4.1.2 Stimulus/Response Sequences

User navigates to the analytics dashboard -> System retrieves campaign data and engagement metrics -> User selects desired analytics report -> System generates and displays the report.

4.1.3 Functional Requirements

REQ-1: *Provide visualizations and graphs depicting key campaign metrics such as reach, engagement rate, impressions, and conversions.*

REQ-2: *Enable users to filter and customize analytics reports based on specific time periods, influencer performance, and campaign objectives.*

REQ-3: *Implement reporting tools to export analytics data in various formats such as PDF, Excel, and CSV.*

REQ-4: *Ensure data accuracy and reliability by integrating with reliable data sources and performing regular data validation checks.*

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The performance requirements for the "Social-Synergy" platform aim to ensure efficient and responsive functionality across various usage scenarios. Given the dynamic nature of influencer marketing and the need for timely interactions, the system must exhibit rapid response times to user actions such as search queries, Influencer analysis, and communication exchanges. Specifically, the platform should strive for an average response time of under two seconds for common user interactions to maintain user engagement and satisfaction. These performance requirements are essential to provide a seamless and enjoyable user experience, fostering effective collaboration between brands and micro-influencers.

5.2 Safety Requirements

The safety requirements for the "Social-Synergy" platform prioritize protecting user data and privacy to prevent potential loss or harm resulting from unauthorized access or misuse. The system must adhere to established data protection regulations such as GDPR and COPPA, ensuring the secure handling and storage of sensitive information. Robust authentication mechanisms and encryption protocols must be implemented to safeguard user accounts and communications against unauthorized access and cyber threats. Regular security audits and vulnerability assessments should be conducted to identify and mitigate potential risks proactively. Compliance with relevant safety certifications, such as ***ISO 27001*** *for information security management, is also essential to validate the platform's safety measures.*

5.3 Security Requirements

The security requirements for the "Social-Synergy" platform encompass stringent measures to safeguard user data and ensure secure access to the system. Implementing robust encryption protocols for data transmission and storage is essential to protect sensitive information from unauthorized access or breaches. Additionally, the platform must enforce multi-factor authentication mechanisms to verify user identities securely. Compliance with data protection regulations such as GDPR and COPPA is mandatory to ensure user privacy and confidentiality. Meeting security certifications like ISO 27001 is necessary to demonstrate adherence to industry standards and regulatory compliance.

5.4 Software Quality Attributes

The "Social-Synergy" platform prioritizes several key software quality attributes to ensure a robust and user-friendly experience. These include reliability, ensuring consistent and error-free performance to instill trust and confidence in users. Usability is paramount, with a focus on intuitive interface design and seamless navigation to enhance user satisfaction. Maintainability is essential for facilitating future updates and enhancements, allowing for efficient software maintenance and scalability. Additionally, security is a critical attribute, with stringent measures in place to protect user data and privacy. The platform also emphasizes interoperability, enabling seamless integration with third-party tools and platforms to enhance functionality and versatility.

5.5 Business Rules

The "Social-Synergy" platform adheres to several key business rules governing user roles and permissions to ensure efficient operation and user accountability. Brands have exclusive rights to create and manage collaboration opportunities, while micro-influencers can apply to participate based on their interests and suitability. Collaboration proposals must undergo approval from both brands and influencers before proceeding to ensure mutual agreement and alignment with campaign objectives. Additionally, user interactions within the platform, such as messaging and content sharing, must adhere to community guidelines and terms of service to maintain a professional and respectful environment. These business rules help establish clear boundaries and responsibilities for all platform users.

6. Other Requirements

The "Social-Synergy" platform encompasses several other important considerations. Database requirements include the need for scalable and secure storage solutions to accommodate growing user data volumes while ensuring data integrity and confidentiality. Internationalization requirements entail support for multiple languages and cultural adaptations to cater to a diverse user base. Legal requirements involve compliance with relevant data protection regulations, intellectual property laws, and contractual obligations to protect user rights and mitigate legal risks. Furthermore, the project aims for high code reusability to streamline development efforts and enhance maintainability.

Appendix A: Glossary

The following table is provided as a reference to assist you in understanding key terms found within this SRS document.

Term	***Description***
API	*Application Programming Interface - a set of protocols and tools for building software applications.*
COPPA	*Children's Online Privacy Protection Act - a U.S. law designed to protect the privacy of children under 13 years of age online.*
CRM	*Customer Relationship Management - software for managing interactions with current and potential customers.*
CTR	*Click Through Rate - a marketing metric that measures the number of times a user clicks on a link compared to the number of impressions.*
EDA	*Exploratory Data Analysis - an approach to analyzing data sets to summarize their main characteristics.*
GDPR	*General Data Protection Regulation - a regulation in EU law on data protection and privacy in the European Union and the European Economic Area.*

ISO	*International Organization for Standardization - an international standard-setting body composed of representatives from various national standards organizations.*
KPI	*Key Performance Indicator - a measurable value that demonstrates how effectively a company is achieving key business objectives.*
ROI	*Return on Investment - a measure of the profitability of an investment relative to its cost.*
SRS	*Software Requirements Specification - a document that describes the requirements for a software system to be developed or modified.*
UI	*User Interface - the visual layout and design of the software that users interact with.*
UAT	*User Acceptance Testing - testing conducted by end-users to verify that the software meets their needs and requirements.*