Software Requirements Specification for Marketing Automation Application

**Version 1.0**

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# Introduction

## Purpose

This SRS Document contains the detail requirement specifications for Marketing Automation Application. This document will be used to facilitate the various stakeholders to understand the detailed level functionalities of the system by describing how to interact with and use the application.

In section 1, it discusses the purpose of the document, any definitions or acronyms used in this document, references utilized for its preparation as well as the intended audience for this document. In the following sections, we are going to introduce an overall description and features of the project, present the specific requirements, and their detailed description.

## Document Purpose

This document is meant to delineate the features of Marketing Automation Application - a web-based application intended to provide an intuitive and user-friendly one-stop social media management solution. The document should act as a foundation for efficient and well-managed project completion and further serve as an accurate reference in the future.

The application enables the user to efficiently manage multiple social media accounts (Facebook, Twitter, LinkedIn, Instagram, Pinterest) by providing them an interface to plan and schedule posts across these accounts with one-click without the hassle of logging into each account and posting separately. The application also helps monitor comments and incoming messages via a unified inbox so that the user never misses replying to a comment, improving the user’s responsiveness, leading to a more engaged audience. Analytical capabilities of the application streamline strategic decision making for the user, utilizing the rich analytical data to expand their digital presence.

This document is intended for both the customer and the project development team. It is the intention that the presented set of requirements possesses the following qualities: correctness, unambiguousness, completeness, consistency, verifiability, modifiability, and traceability.

## Definition, Acronyms and Abbreviation

| Acronym | Description |
| --- | --- |
|  |  |

## Intended Audience

Intended audience for this document are:

* Client Stakeholders
* Project Managers
* System Developers
* System Testers and Programmers

## Document Version History

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Date** | **Title** | **Version** |
|  | 20.05.20 | Initial Draft | 1.0 |
|  |  |  |  |

# General Description

## Project Perspective

Marketing Automation Application is an independent, self-contained application that does not require additional hardware or software interfaces to function, other than the compatible OS and web-browser. It is designed as a secured system, which could be accessed only by an authenticated user.

### System Interfaces

* The application is web-based and runs on the latest version of popular web browsers like Edge, Safari, Chrome or Firefox on Windows, Linux and Mac as well Mobile devices.
* The system takes input from the user through keyboard and mouse clicks, wherever necessary.
* The system generates printable output on the screen and peripherals.
* The system also interfaces with various Social Media Platforms using APIs.

### User Interfaces

* The application has a graphical user interface (GUI) that provides menus, toolbars, buttons, panes, containers, grids allowing for easy control and manipulation by a keyboard and a mouse without the need of additional training.

### Hardware interfaces

* Hardware interfaces include desktops, laptops and mobile phones, which will be abstracted by the user's web-browser and operating system. These interfaces are required to be connected to the Internet to access the application.

### Software interfaces

* The application will interface with a Database Management System (DBMS) that stores the information necessary for the application to operate. The DBMS must be able to provide, on request and with low latency, the data that is requested from the web UI.
* The application would also need a DNS (**D**omain **N**ame **Sy**stem) for the naming on the Internet.
* The user will interact with the application through one of the popular supported web browsers.

### Communications interfaces

* The application shall use the HTTPS protocol for communication over the Internet.
* The user must have SSL certificate licensing registered web browser.
* The web-based UI is the only means of communication between the user and the system.

### Memory Constraints

* Memory usage of the application will obviously be constrained by the devices it will run on.
* Memory constraints upon the server are not likely to be an issue as it will likely have at least a gigabyte of primary memory and hundreds of gigabytes or more of secondary memory.

### Operations

* The application must be able to operate for long periods, without error.
* The application and database servers must be able to operate unattended indefinitely. It should not need physical interaction except for upgrades and failure of hardware elements.
* Backup and recovery should be handled by the DBMS and operating system, or external software running on a timed backup system. Interaction from the application should not be required.

## Product Functions

* Marketing Automation Application provides a simple and user-friendly social media management platform across of range of networks – Facebook, Twitter, LinkedIn, Instagram and Pinterest.
* Marketing Automation Application is a secure application that provides access to the application to authorized users ONLY.
* As with any web-based application, Marketing Automation Application is easy to access anytime and anywhere by using the computer’s browser, even the old and low spec devices, without having to install anything, provided there is a good internet connection and that the user knows the URL (web address), username and password for logging in securely.
* Manually logging in and out of native platforms to schedule and publish social posts is very time consuming. By providing a single interface to craft, schedule and publish their social media contents across various platforms, the Marketing Automation application provides the tools to replace such cumbersome manual tasks with automation, saving user’s time to allow them to focus on building their brand.
* The Marketing Automation Application’s unified Social Inbox enables the user to monitor messages and comments from different networks in a single view and stay on top of important interactions. Quick and personalized responses results in greater brand loyalty and engaged audience. Moreover, maintaining an active presence on social networks will improve the positioning of the brand and will increase site traffic and views and conversions. Overflowing inboxes and time-consuming tasks may lead to comments and messages left unanswered, hampering the user’s ability to deliver relationship-building experiences on social media.
* The Marketing Automation Application provides access a high-level overview of performance across all connected profiles and in-depth insights into specific social channels to quickly evaluate social growth and get recommendations to grow reach, engagement, and sales. Features include insights into understanding your top content that engages your audience the most, Optimal Posting time, Identifying the Biggest Fans, see detailed data on the user/brand’s overall growth and the performance of individual posts across social networks.
* Different pricing options are available enabling the users to pick a plan that suits their business need.

## User Characteristics

The application being web-based, the users are expected to be Internet literate, i.e., having the basic knowledge of using a mouse and keyboard to navigate around a web page and perform conceptual tasks such as logging into a secure account, inputting data into specified fields and selecting values from a drop down. The user interface will be friendly enough to guide the user.

The primary user groups of the application are:

* 1. Solo Practitioner
  2. Social Media Agency
     1. Administrator
     2. Content Scheduler
     3. Social Media Manager
  3. Guest (Read/View Only)

## User Documentation

The web-based Marketing Automation application will be primarily designed with user-friendliness in mind. The application will have a lightweight and simplistic GUI that will attempt to hide application and network complexities.

## Operating Environment

|  |  |
| --- | --- |
| Development Framework |  |
| Database |  |
| Technology |  |
| Programming Language |  |
| Application Design Structure | 3-Tier Architecture |
| Operating System Compatibility | Windows 8/8.1/10/11 |
| Browser Compatibility | Microsoft Edge, Mozilla Firefox, Google Chrome, Safari |

## Assumptions and Dependencies

* The users of the application must have basic knowledge of computers and English language.
* Each user, including the Administrator(s), must have their own application User ID and password to access the application.
* Since the application is web-based, the user must possess the supported Internet browser and meet the hardware and Internet connectivity requirements to browse through the application.
* The entire application will be needed in one language i.e., English ONLY.
* The user has access to the social media platform account(s) that s/he will connect to the application.
* The Marketing Automation Application depends on third-party controls/services (web APIs from Social Media Platforms), we are assuming this external third-party control and services will continue to work properly after integration.

## Risk

* The mentioned requirements in SRS are subject to change as per Client’s needs.
* Third party controls/services (web APIs integration) will be tested on the test environment. When the system will switch from test environment to Production server, we may face some problem which we will identified and resolve it that time.

# System Features

## System Feature 1 Registration/ Signup

* A new user shall sign up for the application using an email address.
* During the registration process, the user shall be prompted to fill the following details:
  + Name
  + Email Address
  + Phone Number
  + Password *(minimum 8 characters with at least 1 capital letter, 1 number and 1 special character)*
* After filling the above details, the user MUST agree to the Terms and Conditions to be able to sign up.
* After completing the above steps for registering to the application, the user shall verify the provided email address using a verification link sent to the registered email.
* The system shall assign a time zone automatically based on the system time the user is registering from. The time-zone information shall be used for scheduling of the posts.

## Login

* A pre-registered user can login to the system by entering a registered email address and password.
* When the user logs into the application for the first time, the user shall be prompted to connect social media account(s)
* Upon subsequent logins, the user shall be navigated to the Dashboard.

### Forgot Password

If a user forgot their password, s/he can request to reset the password using the Forgot Password link and entering the registered email. The system shall send a reset link to the registered email address.

## Account Settings

* The registered user shall be able to view and update Profile details. A notification shall be sent to the registered email notifying of the change
  + Name
  + Email Address *(the user MUST verify this email using the verification email sent to this email)*
  + Phone Number
  + Time Zone
  + Password *(same rules apply as mentioned above)*
* The user shall be able to view their Pricing Plan, Billing details and Payment Method for the paid services.
  + The user shall be provided an “Upgrade” button to upgrade to a higher plan, if desired.
* The user shall be able to view and download the invoices and receipts for paid features.
* The user shall be able to delete their account
  + The user shall be able to reactivate their account by using Forgot Password link
* The user shall be able to enable 2FA (Two Factor Authentication) using Email Address and Phone Number as an added level of security.
* The user shall be able to select their preference of notification – Email and/or App Notification. The notification shall be sent for the following events upon selection:
  + Profile Updates
  + New User Added
  + New Social Profile Connected
  + New Post Created
  + New Approval Request
  + Request Approved
  + Request Rejected
* The user shall be able to manage Saved Replies (Add, Update and Delete) used in Engage Module
  + Name and Text to be added to the reply shall be saved
* The user shall be able to manage the “Tags” (Add, Update and Delete) used for message filtering
  + Tag Name shall be saved
* The user shall be able to manage “Hashtag Suite” (Add, Update and Delete)
  + Name of the Suite and text containing the hashtag(s) shall be saved. For example, a “Coffee” hashtag suite can have the following hashtags   
    #coffee #coffeetime #coffeelover #cafe #coffeeshop #coffeeaddict #food #espresso #love #coffeelovers #breakfast #barista #latte #tea #foodie #kopi #instagood #coffeegram #foodporn #coffeeholic #caf #instacoffee #latteart #coffeebreak #chocolate #specialtycoffee #instafood #cappuccino #photography #goodmorning

## Manage Users

* The user shall be able to add “Team Members” to collaboratively manage the account(s) by sending them an email invite.
* The primary user of the account shall manage the permissions of the users.
* The following permissions can be assigned to the users:
  + Manage Social Accounts – Create, Read, Update and Delete
  + Manage Users – Create, Read, Update and Delete
  + Manage Posts – Create, Read, Update and Delete
  + Approve Posts
  + Manage Engagements – Read, Update and Delete
  + Analytics – View
* The user shall be able to delete the added Team Members, removing their access to the application.

## Dashboard

* The system shall display general information of the connected account(s) of last 7 days
* Name
* Followers
* Posts
* Queued Posts
* Engagement
* The system shall display the recent and upcoming posts by the connected account(s) with general information like Likes and Comments.
* The system shall display the recent engagements for these connected account(s)

## Connect

* The user shall be able to add multiple social media accounts as per their selected plan.
* The user can add/remove facebook, instagram, linkedin, shopify, twitter, pinterest accounts to their marketing channels.
* When prompted, the user shall provide the required authentication to the “**Marketing Automation Application**” access to the data from the mentioned channels.
* Once authenticated, the social media account shall be displayed in the list of connected accounts.
* The users shall be able to define the timeslots for queueing the social media posts for each of the connected account.
* If the credentials for social media accounts are changed, the user shall have to “reconnect” such account(s) by updating the account’s credential in the application and re-authenticate as required.
* The user shall be able to disconnect/remove any social media account.

## Publish

* The user shall be able to create, schedule and publish content across multiple connected social media accounts from one place.
* The user shall be able to view all the previously posted content in chronological order.
* The user shall be able to create content using the following:
  + Text
  + Emojis
  + Pictures
  + Hashtags *(configured in Account Settings)*
  + Audio/Video
  + Hyperlinks/Shortened URL *(configured in Account Settings)*
* If the user enters a hashtag in the input field, the system shall suggest hashtags based on the social media account(s) selected *(refer to this behavior in Twitter)*
* The user shall be able to select the specific connected account(s) to publish the content.
* The user shall be able to specify the location of the post, (for example, Los Angeles, CA) *- optional*
* Once the content is ready to be published, the user has the following options:
  + Save as Draft *– enables the user to collaborate with other team member(s) prior to posting*
  + Post Now
  + Schedule the Post – *enables the user to select a specific date and time in the future for posting*
  + Add to Queue – *each social media account will have time slots that either will be configured manually or calculated by the system to define the optimal times to post to maximize reach; adding the post to the queue schedules the content to be posted in the next available time slot in the queue.*
  + Send for approval – *the user that does not have posting rights shall see this option, which will change the status of the post to Pending Approval*
* The user shall be able to Preview the content before it goes live to see how the post will be displayed.
* The user shall be able to delete any previously posted content.

## Engage

* Unified Social Inbox is designed to help you monitor comments, reviews, or private messages from different networks in a single view at a glance.
* The system shall display the sender’s name and profile for every comment, reviews, mention and private messages and organize them in chronological order.
* The user shall be able to find important messages by filtering by keyword.
* The user shall be able to search and “tag” the messages to be able to filter them
  + Tags shall be managed through Account Settings
  + Add new option will be provided if the tag being searched is not available
* The user shall be able to change the order of the posts – Newest to Oldest or Oldest to Newest
* The user shall be able to filter the post based on their assignment:
  + All *(default)*
  + Assigned to Me
  + Unassigned
* The user shall be able to filter the messages using the following categories:
  + Comment
  + Private Message
  + Like/Share/Retweet
  + Mention
  + Review
* The user shall be able to mark a message as “complete”
* The user shall be able to perform the following actions on the message:
  + Reply *(this will enable the text input field)*
  + Like
  + Message *(for sending direct/private message to the user)*
  + Tag
  + Assign *(Assign to a team member configured in Manage Users)*
  + Delete
* The user shall be able to use “Smart Replies” while replying
  + Smart Replies shall be managed through Account Settings

## Analytics

* Marketing Automation Application’s Analytics shall enable the user to make informed strategic decisions by tracking key engagement metrics for each social account.
* The system shall measure some of the common metrics across the connected accounts:
  + Track number of engagements for each content and identify content that engages your audience the most – Most Comments, Most Likes and Most Shares.
  + Identify who interacts with posts the most with useful insights like most active shares, commenter, liker and more.
  + Recommend the best time to post by analyzing active fans during the week. This information shall be used to schedule the post at the optimal time to increase the reach.

### Facebook Analytics

The following metrics shall be measured for Facebook Page over a period (last 7 days, last month, last 6 months, Custom Date Range)

* + Page Clicks
  + Page Likes
  + Reach
  + Post Published
  + Post Engagement
  + Total Fans
  + Audience Growth *(Number of fans gained/lost each day)*

The following metrics shall be measured for performance of each Facebook post

* + Post
  + Published On
  + Likes + Reactions
  + Comments
  + Shares

### Twitter Analytics

The following metrics may be measured for Twitter Profile over a period (last 7 days, last month, last 6 months, Custom Date Range)

* + Tweets
  + Likes
  + Total Followers
  + Tweet Engagement
  + Audience Growth *(Number of followers gained/lost each day)*
  + Top 5 Influencers *(Users with the highest number of mentions)*

The following metrics shall be measured for performance of each post

* + Post
  + Published On
  + Likes + Reactions
  + Comments
  + Retweets

### LinkedIn Analytics

The following metrics may be measured for LinkedIn Profile over a period (last 7 days, last month, last 6 months, Custom Date Range)

* + Posts
  + Likes
  + Total Followers
  + Impressions
  + Clicks
  + Audience Growth *(Number of followers gained/lost each day)*

The following metrics shall be measured for performance of each post

* + Post
  + Published On
  + Likes
  + Comments

### Instagram Analytics

The following metrics shall be measured for Instagram Page over a period (last 7 days, last month, last 6 months, Custom Date Range)

* + Profile Views
  + Total Followers
  + Reach
  + Impressions
  + Post Published
  + Audience Growth *(Number of fans gained/lost each day)*

The following metrics shall be measured for performance of each post

* + Post
  + Published On
  + Likes
  + Comments
  + Impressions

# Non-Functional Requirements

## Availability Requirement

* The system should be available 99.7% of the time for all 365 days in the year. Any planned maintenance, including but not limited to software upgrades, patches and fixes, where the system needs to be taken offline shall be scheduled during non-peak hours of the application, with proper prior intimation provided to the users of the scheduled time.
* The application must be able to support a continuous level of availability under levels of normal operating volumes and concurrency, with no application performance degradation over a period between planned application restarts.
* Unless the system is non‐operational, the system shall present a user with notification informing them that the system is unavailable and the approximate time when it will become available.

## Performance Requirement

* The server shall be capable of supporting no less than **150 concurrent connections**.
* Page response time would be less than **8 seconds**, provided compatible hardware requirements & connectivity (throughput) are being satisfied.
* The application will support all latest major versions (stable Release non-beta) of the following browsers on Windows platform:

|  |  |  |  |
| --- | --- | --- | --- |
| * Mozilla Firefox | * Google Chrome | * Safari | * Microsoft Edge |

* Above Browser’s stable major versions will be considered after completion of system design phase.

## Backup and recovery

* The database must run a **full back up once a week** with incremental backups daily with minimal disruption.
* The copies of the backup should be stored in a secure location such that it may be restored to a working state, if needed.
* A disaster recovery test will be scheduled and executed annually to ensure recovery from primary site failure is achievable, and the steps to perform this process are well documented and regularly revised.
* In event of a disaster, the latest backup should be immediately restored, such that the system is offline for less than one hour.

## Security

* Connections to the application should be secured with a valid certificate to prevent unauthorized listening of communication.
* Passwords shall be encrypted and never be viewable at the point of entry or at any other time.
* Each unsuccessful attempt by a user to access an item of data shall be recorded on an audit trail.

## Usability

* The application shall be self‐explanatory and intuitive such that an end user shall be able to post on a social media platform of their choice within 30 minutes of encountering the product for the first time.
* The system should be easy to use by the end-users, without the need of undertaking any specialized training.

## Software Quality Attributes

Depending on the product used the software requirement will vary.

User on Internet : Web Browser, Operating System (any)

Application Server : WAS

Database Server : DB2

Network : Internet

Development Tools : WSAD (J2EE, Java, Servlets, HTML), DB2, OS (Windows), Application Server.

Web Browser: Microsoft Edge, Mac OS X,Mozilla ,Google Chrome or later *>*

*Mobile Device : Android , IOS.*

# Future Scope

## E**ngage Module (enhancements)**

Ø Auto-tagging the messages using AI/ML – (question, price request, order status, negative comment, potential lead) for quick filtering

## Promote Module (enhancements)

## Boost Facebook, Instagram and LinkedIn posts to reach a more targeted audience

## Track Analytics to determine which components of a campaign need to be improved so you can optimize your ads and reduce your cost per impression.

## Analyze Module *(enhancements)*

## Competitor Content Analysis - Monitor the growth of your competitors by analyzing how their accounts grow, their post-performance, and analyze their engagement to get an insight into the best and worst-performing content of your competitors.

## Monitor *(new module)*

* Also called Social Media Listening - Understand the social media landscape for your industry by monitoring hashtags, relevant keywords, and competitors.

### Consumer Research

### Spotlight vital audience demographics, including age, gender, geographic location and device usage, to better understand and reach consumers.

### Influencer Recognition

### Identify influencers and industry thought leaders based on following or post impact to cultivate brand advocates.

### Sentiment Research

Optimize positioning by exploring customer feelings and opinions on specific topics, products, competitors and more.

### Trend Identification

Track keywords and hashtags as it relates to specific topics to stay up to date with trends in your industry.

## Create Module *(new module)*

## Insert one line description about the business to generate AI generated content, editable prior to posting.

## Use predefined templates or use image editor to use stock images from Unsplash or Pexels or local

## Generate several ready-to-post captions suggestion using AI/ML based on the one-liner to choose from

* Using AI/ML get a list of hashtags based on the content and sort them based on relevancy and reach. Select the hashtags that you feel appropriate and add them to the post

# Appendix

## References

This document is prepared in conformance to the following standards:

* Software Requirements Specification (SRS) Template created by Karl Wiegers
* UML Specifications referenced at <https://www.uml.org/>
* 830-1984 - IEEE Guide for Software Requirements Specifications

The following applications were reviewed to prepare these requirements

* SproutSocial - [Sprout Social: Social Media Management Solutions](https://sproutsocial.com/)
* Buffer - [Buffer: All-you-need social media toolkit for small businesses](https://buffer.com/)
* Metricool - [Metricool - Analyze, manage and measure your digital content](https://metricool.com/)
* Hootsuite - [Social Media Marketing and Management Dashboard - Hootsuite](https://www.hootsuite.com/)
* Later - [Later: All-In-One Social Media Management & Link In Bio Tool](https://later.com/)
* SocialPilot - [Social Media Scheduling, Marketing and Analytics Tool | SocialPilot](https://www.socialpilot.co/)
* Zoho Social - [Social Media Monitoring Tool for Your Business | Zoho Social](https://www.zoho.com/social/social-media-monitoring-software.html)

## Reach vs. impressions vs. Engagement

Reach is simply defined as “the total number of people who have seen your ad or content in their feed”. This is the number of unique users who see your content. There are a couple of ways people can see the post: They are following the user who posted or following someone who has shared the user’s post.

Impressions is defined as “the number of times a piece of content was displayed to the target audience”. Your content could be displayed multiple times to the same users, so impressions is typically a higher number than reach. Even if a user did not click or engage with your content at all, if it was displayed to them by social media algorithms then it counts as an impression.

If five Facebook users each saw a post twice, the result would be 10 impressions (the number of times displayed multiplied by the number of unique people who saw it) and a reach of five (the unique people who saw it).

Engagement is the number of people that interact with your content.

* Shares
* Reactions
* Saves
* Comments
* Likes
* Interactions
* 3-Seconds Video Plays
* Photo Views
* Link Clicks