**Requirements Spec for SMRMS**

**IMPORTANT!!!:**

If it doesn’t look right (and it's not yours) Do Not Edit, add Google Comment over it and we will discuss it in meeting.

| **Date** | **Contributor** | **Note** |
| --- | --- | --- |
| 9/27 | Gabe | I’ve written lots but haven’t formalized. Needs formalization later (in meeting). |
| 9/29 | Gabe | I received responses to Comments in Office Hours. They can be found by sorting Google Comments by “Resolved” (as to not clutter the live doc) |
| 10/4 | Ramses | Added my req. After 23.2 |
| 10/4 | Gabe | Added system assumptions and design decisions to top of document  Started working on formalization & working out design decisions |
| 10/8 | Dominic | Adding requirements to security of the system |
| 10/9 | Gabe | Started reworking requirements based off altered decisions on system design. Updated “Assumptions and Design Decisions” to reflect these decisions.  Finished formalizing (my) requirements.  Added new keywords to legend/table. |

**Assumptions and Design Decisions:**

1. The role and purpose of the SMRMS is assumed to be used as a monitoring tool, primarily used to assist individuals such as a brand’s marketing and analytics.
2. Furthermore, it is assumed that the role of the SMRMS will not provide the capability of external control over connected social media accounts, only monitoring.
3. It is assumed that the SMRMS is intended to be deployed, and used by a singular brand/org that has deployed it for their own internal purposes.
4. It is assumed that the SMRMS system will be accessible to any employees within the brand/org (or individuals otherwise) as appropriate. Where it is assumed individuals on all levels of authority will be interacting with this one system.
5. It is decided that custom keywords & phrases will be implemented as a one-and-only system-wide set, where modifications to this set are delegated only to users with special privilege.
6. It is decided that each user may set their own notification settings.
7. It is decided that the SMRMS will be designed to serve only one brand name per instance of the SMRMS, but can track multiple competitors against this brand.
8. It is decided there will be no user self-registration system to the SMRMS. The company deploying the SMRMS will either have to create accounts through system administrator menus, or set up the database to utilize existing company names and passwords for users.
9. It is decided that the implementation for the sentiment analysis feature shall be calculated by an external service interfaced with the DSS subsystem.

| **Keyword** | **Definition** |
| --- | --- |
| SMRMS | Social Media Reputation Management System |
| UMS | User Management System |
| SMM | Social Media Management |
| DSS | Decision Support Services |
| data element | The body of text contained in one post, comment, or review. |
| DataElement | SMRMS data on a “data element” (defined above).  Consists of:   * platform sourced * brandname * posted date * sentiment score |
| BrandAnalytics | Consists of:   * timeframe (from which DataElements were grabbed) * number of DataElements grabbed * averaged sentiment score of data elements (over timeframe) * averaged sentiment score of data elements by platform * averaged sentiment score of data elements by sub-interval (10ths of time interval) * sentiment trend prediction value |

1. The SMRMS system shall have a Graphical User Interface (GUI)
2. The SMRMS system shall be developed in compliance with the principles of open source software under the Open Source Initiative (OSI).
3. The SMRMS system shall be capable of deployability to the cloud.
4. The SMRMS system shall allow users to login using an email and a password.
5. The SMRMS shall employ a 128-bit encryption for storing passwords
6. The SMRMS shall have a session timer to log a user out after a certain period of time to ensure only a user with proper access can get into the system
7. The SMRMS shall salt all user passwords before storing the hashed password in the database
8. [some stuff, legal privacy, data regulations, etc]
9. [some stuff, on user authority… i.e. levels of authority, Who has control to do What over Whom else??]
10. The SMM subsystem shall provide the capability for each user to configure their notification settings.
11. The SMM subsystem shall provide the capability for system administrators to set keywords and phrases for the SMM to monitor
    1. The SMM subsystem shall store one set of keywords and phrases for the SMM to use
12. The SMM subsystem shall be capable of tracking only one company brand.
13. The SMM subsystem shall be capable of tracking multiple brand competitors.
14. The SMM subsystem shall provide the capability for system admins to select which social media platform connections (API) to enable or disable.
    1. The SMM subsystem shall provide the expansibility for software developers to add new social platforms for system admins to select from.
15. The SMM subsystem shall provide the capability for system admins to select brand’s social media accounts for the SMM to monitor.
16. The SMM subsystem shall provide the capability for system admins to select competitor brands social media accounts for the SMM to monitor.
17. The SMM subsystem shall be capable of monitoring each SMM-tracked social media brand
    1. The SMM subsystem shall monitor each SMM-tracked brand for for posts, comments, and reviews
    2. The SMM subsystem shall monitor each SMM-tracked brand only among the set of system administrator-enabled social media platform connections (API).
    3. The SMM subsystem shall monitor in real-time, gathering live data
       1. The SMM subsystem shall retrieve live social media data via an API
    4. The SMM subsystem shall be capable of detecting posts, comments, reviews for mentions of each brand tracked by the SMM.
    5. The SMM subsystem shall be capable of detecting posts, comments, reviews for the set of custom keywords and phrases for each brand tracked by the SMM.
18. The SMM subsystem shall be capable of tracking each brand's reputation.
    1. The SMM subsystem shall be capable of tracking each brand's reputation up to 2 years of reputation history.
19. The DSS subsystem shall be capable of retrieving sentiment analysis of each data element’s (post, comment, or review) body of text.
    1. The DSS subsystem sentiment analysis shall return an numerical score which can be correlated with a result of positive, negative, or neutral
20. The DSS subsystem shall be capable of brand comparison with any SMM-tracked competitor brand.
    1. The DSS subsystem shall be capable of identifying areas where the brand can improve.
       1. The DSS subsystem shall identify areas of improvement relative / with respect to brand competitors' analytics.
21. The DSS subsystem shall be capable of retrieving analytics for an SMM-tracked brand.
    1. The DSS subsystem shall retrieve brand analytics from a provided set of data elements.
    2. The DSS subsystem shall retrieve brand analytics from brand’s data elements that were published within a particular time frame.
    3. The DSS subsystem shall retrieve brand analytics that compose of the following things: (1) number of data elements within time frame (2) averaged sentiment of data elements (3) averaged sentiment of data elements by platform (4) averaged sentiment of data elements by time sub-interval (10ths of timeframe) and (5) number of data elements grabbed and (6) sentiment trend prediction value
22. The DSS subsystem shall be capable of displaying retrieved analytics on a brand to a system GUI
23. The DSS subsystem shall be capable of “intelligent” trend prediction
    1. The DSS subsystem shall utilize external algorithm services to retrieve a sentiment trend prediction score based on an input set of sentiment scores arranged by time.
24. The DSS subsystem shall be capable of generating reports that summarize analytics for a set of selected brands, which include brand comparison, sentiment analysis, and sentiment trend prediction
25. The DSS subsystem shall be capable of sending information to users
    1. The DSS subsystem shall be capable of sending information to users via Email
    2. The DSS subsystem shall be capable of sending information to users as a system notification on the system GUI
    3. The DSS subsystem shall be capable of sending reports to users
    4. The DSS subsystem shall be capable of sending alerts of detected keywords and phrases to users
    5. The DSS subsystem shall disburse alerts as frequently as scheduled by each user
26. The DSS subsystem shall be capable of generating reports on-demand, as requested by user
27. The UMS subsystem shall provide the capability to system admins to manage users
28. The UMS subsystem shall be capable of employing methods for user security such as authentication, authorization, and auditing of users.
29. The UMS subsystem shall be capable of a user management function to store user details
30. The UMS subsystem shall have a user login mechanism

4.1 Functional Requirements:

4.1. The User Management (UMS) sub-system shall provide the capability for User management functions include storing user details and credentials (e.g., user id, password, name,etc.).

* The User Management (UMS) sub-system shall provide the user a login mechanism.
* The User Management (UMS) sub-system shall provide the capability for user to enter User Id.
* The User Management (UMS) sub-system shall provide the capability for user to enter Password.
* The User Management (UMS) sub-system shall provide the capability for user to enter Name.
* The User Management (UMS) sub-system shall provide the capability for user to Change Password.
* The User Management (UMS) sub-system shall provide the capability for user to select Forgot Password.

4.1 The Social Media Management (SMM) sub-system shall provide the capability for the entity to select from a list of platforms.

4.1 The SIE Social Media Reputation Management System (SIE SMRMS) shall provide the capability for user to Customize alert notifications that are sent to the brand when certain keywords or phrases are mentioned on social media.

* The SIE Social Media Reputation Management System (SIE SMRMS) shall provide the capability for user to search by keywords.
* The SIE Social Media Reputation Management System (SIE SMRMS) shall provide the capability for user to search by phrases.

4.2 Non-Functional Requirements:

4.2 The SIE Social Media Reputation Management System (SIE SMRMS) system shall use open-source software system.

4.2 The SMRMS system shall provide intelligent, real-time monitoring, analysis, prescription, and prediction tools that include social media listening, sentiment analysis, along with reporting and analytics.

* The SIE Social Media Reputation Management System (SIE SMRMS) system shall provide real-time monitoring capability.
* The SIE Social Media Reputation Management System (SIE SMRMS) system shall provide analysis capability.
* The SIE Social Media Reputation Management System (SIE SMRMS) system shall provide prescription capability.
* The SIE Social Media Reputation Management System (SIE SMRMS) system shall provide prediction capability.

The SMRMS system shall provide monitoring on social media platforms for mentions of the brand or organization including posts, comments, and reviews.

The SMRMS system shall provide analyzing capability on the sentiment of social media mentions, identifying whether they are positive, negative, or neutral.

The SMRMS system shall provide a competitor analysis is the process of comparing the brand’s reputation to that of its competitors, identifying areas where the brand can improve.

The SMRMS system shall provide reporting and analytics insights into the brand’s social media reputation over time.

The SMRMS system shall provide the capability of being hosted in the cloud.

The SMRMS system shall have four main subsystems. User Management (UMS), Social Media Management (SMM), and Decision Support Services (DSS).

The DSS subsystem shall manage the different social media platforms the organization wants to track.

The DSS subsystem shall provide the capability for reporting and analytics provide insights into the brand’s social media reputation over time.

Not sure if F or NF:

The SMRMS system shall provide customizable alerts via notifications that are sent to the brand when certain keywords or phrases are mentioned on social media.

The SMRMS system shall have recurring operating costs for cloud hosting. ??????????

The User Management (UMS) sub-system shall provide a login mechanism.

The DSS subsystem shall provide Scheduled Reports (e.g., daily, weekly, monthly, annually, etc.) and on demand reporting whether descriptive, predictive, or prescriptive including automated alarms and alerts.

The DSS subsystem shall provide the capability for customizable alerts and notifications that are sent to the brand when certain keywords or phrases are mentioned on social media.