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Software Requirements Specification

Evaluate Healthy of Particular Chat for Chat Reviews System

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Software Requirements Specification Report

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Declaration

We declare that this is our own work and this project proposal does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of our knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text

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ABSTRACT

The use of Internet chat applications has benefited many different segments of society. It also creates opportunities for criminal enterprise, terrorism, and espionage. We present a study of a real-world application of chat analysis which will analyze chat messages in four ways such as topic detection, Emotion Extraction, evaluate healthy and Personal information sharing analysis. Also, analyzing chat traffic has important applications for both the military and the civilian world. Here on this document, it compares the results of an unsupervised learning approach with those of a supervised classification approach with regards to chat review application. The paper also discusses some of the specific challenges presented by this chat review application.

Unsupervised learning techniques such as clustering are very popular for analyzing text for topic identification as well as emotion extraction. These techniques have several attractive features, the most significant being that they do not require labeled training examples. This however is also a disadvantage under some circumstances. Therefore meantime we do this research we will discover more and more technologies required for analyzing chat messages based on four different categories such as topic detection, Emotion Extraction, evaluate healthy and Personal information sharing analysis.

With use of this chat analysis application user will be able identify the chatting partner in analytical way. And system will keep an analytical review for each chat session user interacted. Also, system will be capable of showing its analytical data in a user friendly manner (in a graphical way).

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1. Introduction

1.1 Purpose

The purpose of Software Requirement Specification (SRS) document is to give an in-depth description about the functions and features of the proposed system and it will methodically describe the processes that the proposed system operates, this document includes requirements, definition and specifications and the design with in-detail description about interface design, database design, technical design and detailed design which requires in implementation of the system and this SRS includes all the functional and non-functional requirements of the project and also the details about operational environment etc. with total guidelines for its users

Nowadays we meet strangers all the time in our day to day life. we attempt to have partnership with them without any fear at all. some time they are more and more smart than we think, then it's very difficult to find the characteristics by only looking at their messages. we can Analysis particular chat sessions and Extract fewer first-person pronouns, fewer exclusionary words, unusual details from collected messages. I identify those tics with message counts using write algorithms and visualize using diagrams and graphs format. after analysis, we can get a better idea of particular chat. Compare and analysis the identified module based on analytical data of topic. We hope to use machine learning technique to analysis process. It's a web application that analyses messages in the chat box in sort time of period. It simply gives us clear idea about the message by analyzing it in various ways. It that can be very much aware about our chatting partner. this application let you deal with that stranger people in understandable way.

The SRS document will be organized into the following sections and each of these sections will describe the items mentioned under the respective section headings.

1.2 Scope

The system which is named as “chat review for Evaluate healthily of particular chat sessions” is proposed to develop as a solution for a potential way of integrating an intelligent SCRM with Social media chat messages like Facebook , what’s app. Business today is increasingly focusing on services through social media and it has been getting more attention, in line with this trend, designing CRM effectively and efficiently shed light on the connection between CRM and the social media, since they want to improve their performance efficiently.

Research will investigate the problem to find what extent CRM can be inferred from the chat analysis and to illustrate the problem, proposed system will analysis customer messages through provide services for their requests at real time by using the Natural Language Processing technology (NLP).

Other than that, the system extracted data from the social media will be categorized automatically. The information can be general knowledge based information regarding the customer messages which is provided from above mentioned social media channels. In information retrieval, Natural language processing will come to play a handy role to understand the user queries which will be in Natural Language (English). So, when the queries submitted by the user it will pass to the core system and get categorized to the appropriate s/w or h/w category. Agents will get the notification mentioning that they got a question for their category. Agents can answer the questions using text chat or any other way user preferred. Natural Language Processing ability as well as semantic information storage capabilities make the proposed system unique as well as efficient. These capabilities will allow agent to represent and understand the user provided information meaningfully like the way humans does

The “Chat review” is a web based application which helps peoples or companies to analysis their chatting information’s. the application should be free to download from either pc application store or similar services.

In my research area “evaluate healthy of particular chat” particular chat message information will category’s three ways.

- ✓ Extract fewer first – person pronouns.
- ✓ Fewer Exclusionary words.
- ✓ Unusual details from the collected messages.

The Objective is to design a flexible intelligent, efficient and real time SCRM system and it's a kind of a cost effective, time saving way to a profitable business with new technologies.

1.3 Definitions, Acronyms, and Abbreviations

Table 1 - Definitions

Term	Definition
User	Someone who interacts with the “Chat Review” web application
Web-Portal	A web application which present special facilities
Application Store	An installed application on PC which helps user to find new compatible applications with web platform and download them from Internet
Stakeholder	Any person who interacts with the system who is not a developer
CMC	Computer-mediated communication
ML	Machine Learning
NLP	Natural Language Processing
SCRM	Social customer Relationship management
CRM	customer Relationship management
SLIIT	Sri Lanka Institute of Information Technology

Natural Language processing

A field of computer science and linguistics concerned with the interactions between computers and human (natural) languages. Natural language generation systems convert information from computer databases into readable human language.

Controlled natural languages

All subsets of natural languages obtained by restricting the grammar and vocabulary to reduce or eliminate ambiguity and complexity and get the correct meaning.

1.4 Overview

The goal of executing this research project is to build up a chat messages analysis web application, identify characteristics of the chatting partner by analyzing chat messages.

Identify characteristics of the chatting partner by analyzing chat messages. Nowadays we meet strangers all the time in our day to day life. So, we attempt to have partnership with them without any fear at all. Also, some time they are more and more smart than we think, then it's very difficult to identify the characteristics by only looking at their messages, because any one can send anything. Nowadays it is highly required to have intelligent way to detect those frauds (may be what that message really mean). Solution is to use analytical application for online chatting. Then we can review our messages in analytical way or it will lead us to think about our chatting partner in analytical way. main objective of the application is simply gives us clear idea about the message by analyzing it in various ways. In that case, we can be very much aware about our chatting partner. So, this application let you deal with that strange people in understandable way. It shows you auto generated graphs based on emotion, personal information sharing and topics discussed etc. And also, we can confirm the outcomes of this system by analyzing public profile, and other related social profiles of particular user or other data sources if possible

Chat is an increasingly important form of CMC (Computer-mediated communication). It is employed by many sectors of society to improve communication, create value, and commit crimes. In this chapter, we explore chat first as it relates to other human language modalities. Then, we explore Natural Language Processing (NLP) and its goals, followed by its applicability to chat.

Finally, we discuss the idea of topicality and previous Machine Learning (ML) techniques used to detect topics in chat. The objective of automatically revealing the topic of any form of communication is twofold. The first motive is to increase the knowledge of how humans communicate, to unravel the mystery of information conveyance. The second is to build useful systems. Topic detection and emotion extraction in this context are steps toward automating tasks that would otherwise be untenable, because the sheer volume of data makes it impractical. Section A provides working definitions of CMC, chat, and natural human languages

Goals

➤ Develop a user-friendly environment

We are hoping to build this software in a way that it will enable the users to easily manipulate and use the system. It would be simple and very much understandable to any level of user. It would provide all required functionalities via

User Friendliness and attractive graphical user interface. Listed below are some ways of how we are planning to accomplish this objective:

- Attractive system interfaces
- Having various communication methods with the system.

➤ Accurate response for the requests based on the category

There is no widely accepted way to measure the accuracy of the response. The accuracy of the result depends on the accuracy of the input requests. Since we have limited control over the user input, we mainly focus on improving the healthiness of particular chat:

- Use structured and well-designed algorithms and necessary computer instructions to analyze.
- Improve the validity and the correctness of the user input by providing a proper guidance to the user.

Develop the software for a wider range of users

We are hoping to build this software for a wider range of users where it would enable them to use the software as and when required. Some of the targeted users are:

- Group chats
- Organizations

Objectives

At the heart of any business are customers and the proposed system with social networking represents an opportunity to build even more mutually rewarding and candid relationships with those customers and create a bond.

The general objectives are

- The main objective is to develop a web application integrated with social media which will enable customers to have services efficiently at real-time by being in a social chat analysis.
- The secondary objective is to design and build the project to achieve non-functional requirements such as response time, reliability, usability, supportability etc.

Specific objectives are

- Work better, together - **tracking and filtering customer messages.**
- Services Sell in the new social era- **tracking and filtering customer messages, storing and retrieving knowledge**
- Publish fresh content in graphical format-**Handling user chat profiles**
- Engage everyone with social experiences-**View Dashboards**

Mainly this system is focus on two different users who will get benefits from the chat analysis application will be:

1. social media users who can identify to the problems of extract topic including each chat
2. Business people who expect indirect flow of money for their business

2. Overall Description

This section will give an overview of the whole system. The system will be explained in its context to show how the system interacts with other systems and introduce the basic functionality of it. It will also describe what type of stakeholders that will use the system and what functionality is available for each type. At last, the constraints and assumptions for the system will be presented.

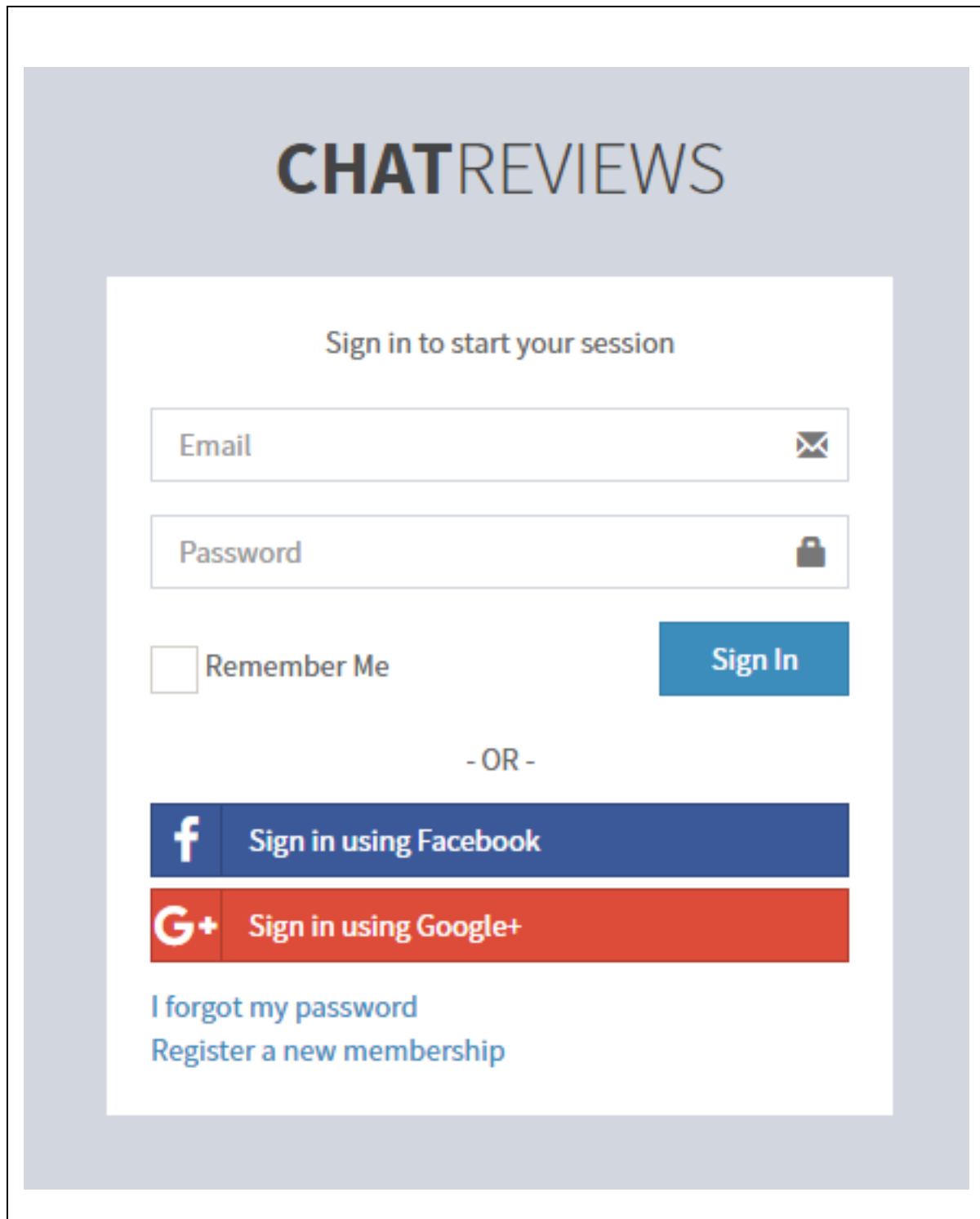
2.1 Product Perspective

This system will consist of two parts: one web application and one data based portal. The web application will be used to find evaluate healthy of chat and check information about them. while the web application will be used for managing the information about and the system.

2.1.1 System interfaces

- ✓ Evaluating of “Extract fewer first – person pronouns” using percentage diagram interface.
- ✓ Evaluating of “Fewer Exclusionary words” using percentage diagram interface.
- ✓ Evaluating of “unusual details from the collected messages” using percentage diagram interface.
- ✓ Visualized interface of Important details of particular chat.
- ✓ Main chat box.


2.1.2 User interfaces




The image shows a login page for a system named CHATREVIEWS. The page has a light gray background. At the top, the text "CHATREVIEWS" is displayed in a large, bold, sans-serif font. Below this, the instruction "Sign in to start your session" is centered. There are two input fields: "Email" with an envelope icon and "Password" with a lock icon. Below the password field is a checkbox labeled "Remember Me". To the right of these fields is a blue "Sign In" button. Below the "Sign In" button, the text "- OR -" is centered. There are two social login buttons: a blue one with the Facebook "f" logo and the text "Sign in using Facebook", and a red one with the Google+ "G+" logo and the text "Sign in using Google+". At the bottom, there are two links: "I forgot my password" and "Register a new membership", both in a smaller, blue font.

CHATREVIEWS


Sign in to start your session


Email 

Password 

☐ Remember Me **Sign In**

- OR -

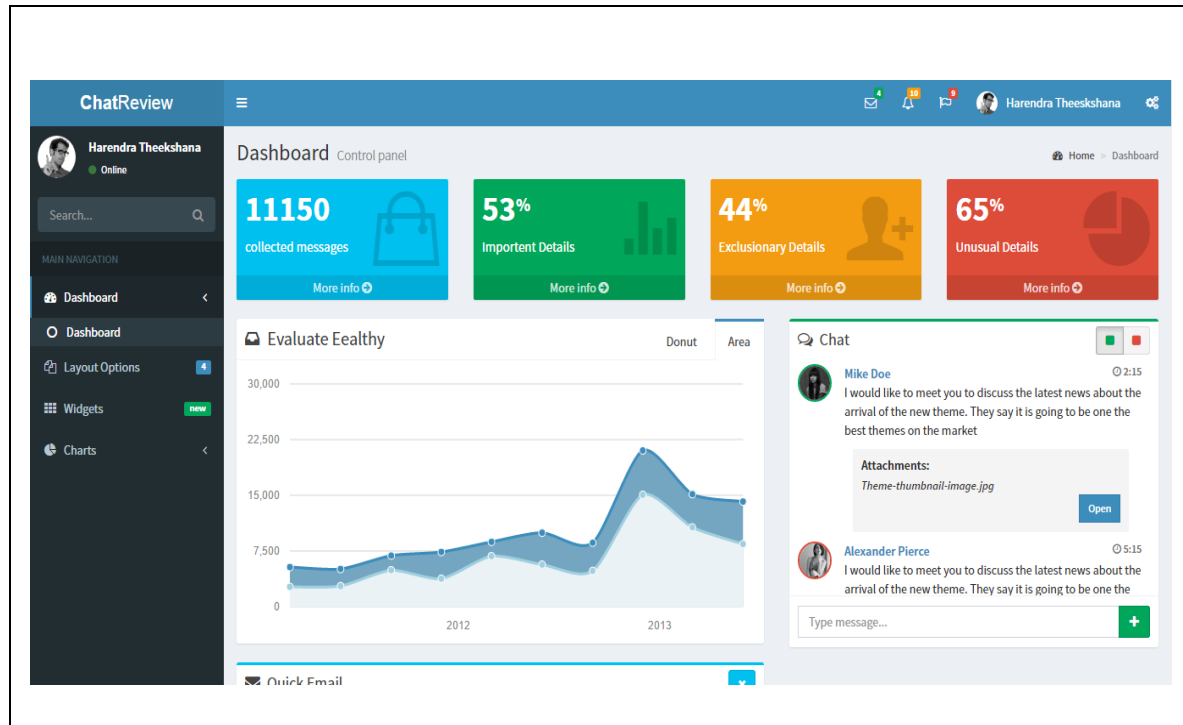
 Sign in using Facebook

 Sign in using Google+

[I forgot my password](#)

[Register a new membership](#)

Login page



Evaluate Healthy of particular chat Home Page

2.1.3 Communication interfaces

The communication between the different parts of the system is important since they depend on each other. However, in what way the communication is achieved is not important for the system and is therefore handled by the underlying operating systems for web application

2.1.4 Memory constraints

The system expected to use no more 1 GB and less than 512 MB of RAM.

2.1.5 Operations

- The system will allow users to perform the following actions,
- To perform any task in first Administrator, must login to the system.
- By clicking on the tabs or the links users can navigate through the pages.
- Administrator is the only person who has the authority to create customer accounts.
- A start analysis their chat messages, and after analysis display graphical manager.

- All the data in the database should backup for eliminate the risk of data losses.

2.1.8 Site adaptation requirements

There must be a backup server because customer information and their results are important and that information must available in all the time. Therefore, system needs a server and another backup server up and running. Server must be stored in a fireproof room for data protection.

2.2 Product Functions

With the application, evaluate extract fewer first-person pronouns, fewer exclusionary words and unusual detail from collected messages using chat. The result will be based on the criteria the collected messages. There are several search criteria and it will be possible for the administrator of the system to manage the options for those criteria that have that.

The result of the “evaluate healthy of chat” will be viewed either in a list view or in a graphical view, depending on what criteria included in the chat. The list view will have one list item for each particular chat matching the chat topic criteria and show a small part of the topic information so the user can identify the probability of the chat conversation. The graphical view will show particular chat usual and unusual details. In both views the users will be able to either select a restaurant as target destination or get information how to get there, or view the information of a specific restaurant.

The web portal will provide functionality to manage the system and the managing healthily information. It will also provide information about the system,

2.3 User Characteristics

There are two types of users that interact with the chat review system: users / customer (user is a person who enroll with the particular chat) of the chat review web application and administrators. Each of these two types of users has different use of the system so each of them has their own requirements.

A goal of administrator, to an Identify characteristics of the chatting partner by analyzing chat messages. Nowadays we meet strangers all the time in our day to day life. So, we attempt to have

partnership with them without any fear at all. Also, some time they are more and more smart than we think, then it's very difficult to identify the characteristics by only looking at their messages, because any one can send anything. Nowadays it is highly required to have intelligent way to detect those frauds (may be what that message really mean). Solution is to use analytical application for online chatting. Then we can review our messages in analytical way or it will lead us to think about our chatting partner in analytical way.

2.4 Constraints

The application is constrained by the system interface to the chat review system within the web. Since there are multiple system and multiple conversation manufacturers, the interface will most likely not be the same for every one of them. Also, there may be a difference between what chat features each of them provide.

The Internet connection is also a constraint for the application. Since the application fetches data from the database over the Internet, it is crucial that there is an Internet connection for the application to function.

Both the web portal and the application will be constrained by the capacity of the database. Since the database is shared between both application it may be forced to queue incoming requests and therefor increase the time it takes to fetch data.

2.5 Assumptions and Dependencies

One assumption about the product is that it will always be used on mobile phones that have very cheap performance. If the phone does not have enough hardware resources available for the application.

An application name is "GroupWise", we can import our chat conversation and application will automatically analysis our conversation and display results using graphical mana. But problem was results was not correctly gives every time. Succus fulling probability was less.

2.6 Apportioning and Requirements

In the case that the project is delayed, there are some requirements that could be transferred to the next version of the application. Those requirements are to be developed in the second release.

3. Specific Requirements

3.1 External Interface Requirements

This section provides a detailed description of all inputs into and outputs from the system. It also gives a description of the hardware, software and communication interfaces and provides basic prototypes of the user interface.

3.3.1 Hardware Interfaces

Processor: 800MHz Intel Pentium III or equivalent, 64-bit (x64) processor, Dual-core 2.66-GHz

Web cameras

3.3.3 Software Interface

Operating System:

- Microsoft Windows 7

Development Environment:

- MS Visual Studio 2010 Pro
- MS SQL Server 2008
- Microsoft .Net Framework 4.0

Servers:

- SQL Server 2008

Tools:

3.3.4 Communication Interface

Internet –modem or router

3.2 Classes / Objects

3.3 Performance Requirements

We will do our best to maximize the performance of the system. Performance of the chat revise application varies according to the several factors. According to our minimum hardware requirements, we expect the systems loading time within 30 seconds and every page loading time within maximum 2-3 seconds. But it will be changed depending on the hardware performance also. Moreover, quick and accurate response generation should be performed in a minimum period.

3.4 Design Constraints

During the design stages the major constraint that will be faced is the limitation of available time. The project group is expected to complete this project during the period of 10 months. Another constraint that will be faced is that it is difficult to find past research and model projects that relate to the project that the group is carrying out. We have limited boundaries in some areas. Chat Review is mainly based on knowledgebase of the system. Therefore, we have to mainly concern of generating responses according to the requests. Hence one of the critical point is designing the knowledgebase. It will be very huge and complex. Moreover, we have to pay our attention to design the interfaces and web site in more attractive and efficient way. The team should process the design to maximize the software quality attributes.

3.5 Software System Attribute

3.5.1 Reliability

When consider any system; System reliability is the most important part of it. Because, the entire system process is depending on that. If there is any crash or error occurs those can be recovered without any harm to the system or without any data losses. A system may come up with some hardware or software failures within its processing time. Hardware failures can be occurring more frequently than the software failures. To enhance that reliability in this system backup system will be used in order to ensure the system data security. It is very important to the user. Because if any case if the system crash user can rely on the backup. This system should be a highly reliable system, with a Mean Time to Failure greater than 8000 hours. The system should be tested for errors while developing units or modules. Then testing will be done while integrating the modules and then the

final testing will also be performed on the final system assuring high reliability. Multiple users can access system simultaneously.

3.5.2 Availability

When it comes to the availability it plays major role in this system. The system must be available for one user at a time for modifications. But many users chat messages evaluate at once.

3.5.3 Security

Security one another important thing which must highly consider with the implementation of the system, the process of evaluating healthy of chat session depends on the knowledgebase. Therefore, we mainly concern about security requirement to protect the knowledgebase. We facilitate that system requirement by controlling the access to updating system. Only authorized people can access to that system by giving their username and password to do some changes. Unauthorized access to the database data is restricted.

3.5.4 Maintainability

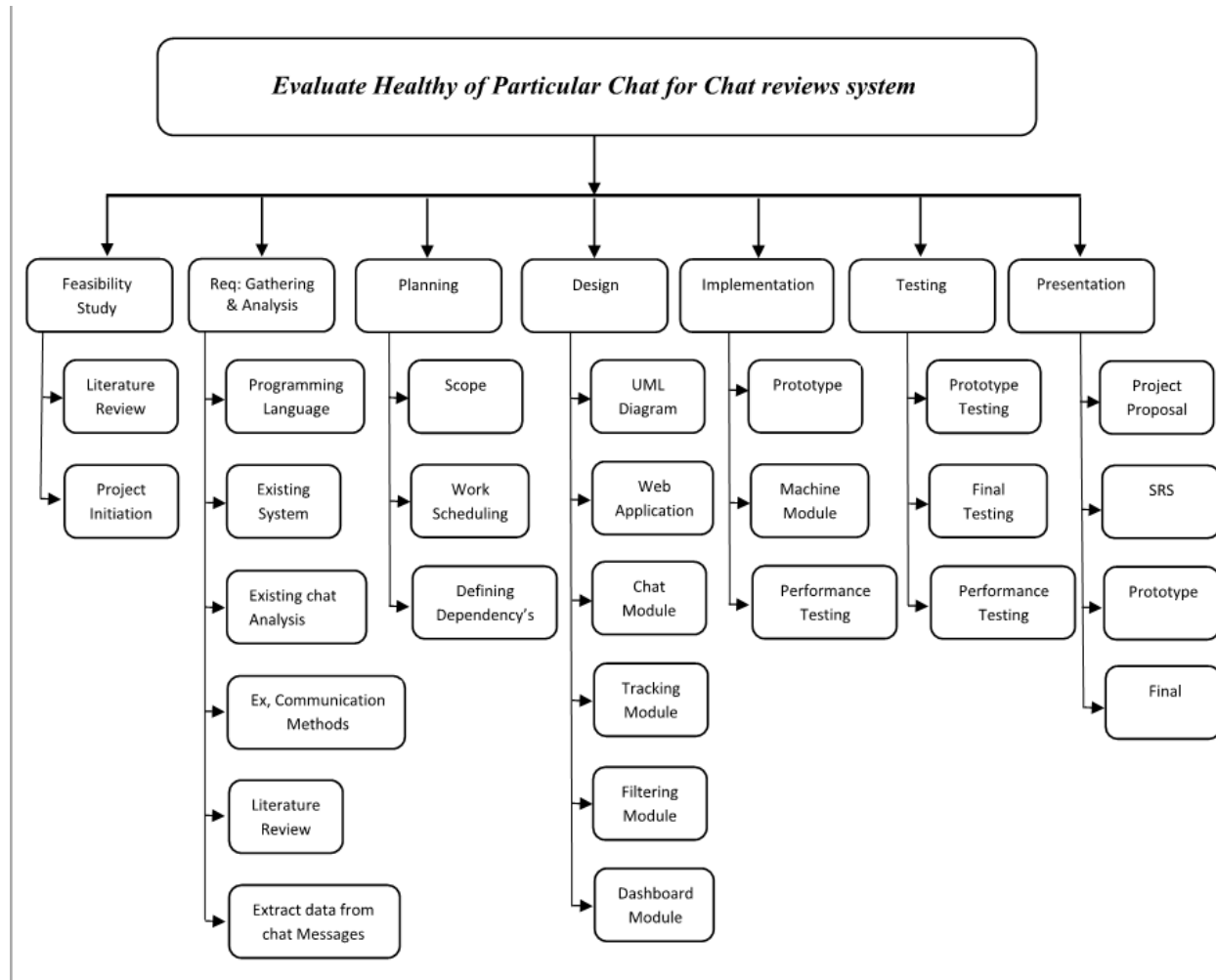
To provide more accurate responses to evaluate chat messages, we must maintain the knowledgebase. We can provide it by updating knowledgebase with most recent information. Programming shall be well commented and documented for any further development of the system. Moreover, must maintain the backup system too.

3.5.5 Other Requirements

User friendliness – for web based system user friendliness is important. If it is easy to navigate through the web application; those web applications can have more user attractiveness

4. Supporting Information

4.1 Appendices



4.2.1 work breaks down structure

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