Sri Lanka Institute of Information Technology

CHAT REVIEWS

System Requirement Specification

Project Id: 17-066

Submitted by

Harischandra K.P.I.E

Date of submission:
02/05/2017

CHAT REVIEWS

Software Requirement Specification Report

Member	ID Number	Signature
Harischandra K.P.I.E	IT14093760	

Supervisor: Ms. Nethmini Weerawarna

.....

Bachelor of Science (Special Honours) in Information Technology Sri Lanka Institute of Information Technology

May 2017

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.

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. Therefor meantime we do this research we will discover more and more technologies required for analyzing chat massages 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).

Table of Contents

List of Figures

List of Tables

1.0.Introduction

1.1. Purpose

This document provides all of the requirements for the Chat Reviews. All parts are developed individually and finally combined all together. This document will describe how to do the work flow and final outcome to the industry. This will help to identify trustworthiness of a chat session and identify trust users.

There are several facts which stand as sub objectives of this document.

- SRS reduce project implementation cost.
- Provides all the costs related to the project.

1.2. Scope of project

This document covers the requirements for release chat reviews. This is proposed to develop as a solution for a potential way of integrating and finding trust worthiness of Social media like Facebook. Because today there will be more fake account holders in social media network. Mention will be made throughout this document of selected probable features of future releases. The purpose of this is to guide developers in selecting a design that will be able to accommodate the full-scale application.

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 requests which is provided from above mentioned social media channels.

The final outcome of the project is identify the trustworthiness of social media account holder. It will analyze user inputs and provide a service using its built in knowledge. The Objective is to design a flexible intelligent, efficient and real time system and it's a kind of a cost effective, time saving way to a profitable business with new technologies.

Software Products and usage

To implement the system we would use visual studio ide. The programing language will be java language. Most of system and application developers use python to implement these kind of systems. We can also implement this system using php language as well. But to get more accurate result in real time we use python to implement this. When use ide it is easy to develop rather than command line text.

Goal

Now a days there have lots of social media sites and there have lots of fake account holders. We propose the system to identify real account holders and trustworthiness. We can reduce fraud activities, then we can make secure site for users. This proposed method will come up with successful chat in social media chat sessions.

Benefits

- Identify true account holders.
- Users can trust each other.
- Risk of the system will goes down.
- More reliable among users.
- Make the data to more secure.

Objectives

Main objectives

From the study on chat message characteristics, an indicative term-based and single person categorization approach for chat topic detection and study of behavior of the person are proposed. In the proposed approach, different techniques such as sessionalization of chat messages, chat message history and extraction of features from short texts and URLs are incorporated for message pre-processing. And Associative Classification, and Support Vector Machine are employed as classifiers for categorizing topics from chat sessions. This will help to opposite partner to identify their behavior and trustworthy. Nowadays there are so many fake profiles in social Medias. Then this will help to match partners as they wish.

Specific objectives

- To keep users interested in using the application. Provide a social media application to the users mainly focusing on find new friends, sharing the details with friends in real time. So if the user is fake that will be some risk to the other user, so then this guides to identify true people.
- To come up with true peoples This will help to identify if the people say true or not by analyzing their previous behaviors.

1.3. Definitions, Acronyms, and Abbreviations

The system consisting of natural language processing techniques not only captures but also stores, analyze and categorizes the user's chat sections. For example if the chat is from the personal information it will send to the personal information category.

- **Acronyms**

AI	Artificial intelligence
VS	Visual studio
NU	Neural Networks
SLIIT	Sri Lanka Institute of Information Technology
IM	Instant Messaging
AI	Artificial intelligence

Table 1 : Acronyms

- **Definitions**

Term	Description
Database	A set of data or information monitored by the system.
SRS	A document which contains description of a software system to be developed and described all the functional and

	non-functional requirements.

Table 2 : Definitions

1.4. Overview

The main goal of this system is to develop Best platform for Social media. (eg:facebook) users who are chat with other persons.

Chapter 1 of the document explains the purpose of preparing this document. The sub section scope describes clearly what the project team will going to do and that will not do. In overview explains how the SRS is organized and describe what the rest of this document contains.

Chapter 2 of the document, the Overall Description section, gives an overview of the functionality of the system. It describes requirements and is used to establish a context for the technical requirements specification in the next chapter.

Chapter 3 of the document, Requirements Specification section, is mainly for the developers and describes the details of the functionality of the product in technical terms. There we have used technical words/phases understand to the software engineers, developers, or testers of the system. External interface requirements, classes/objects, performance requirements, design constraints, software system attributes and other requirements of the system are explained in advance.

Though both the Second and third chapters describes the quite the same thing they are intended for different audiences and thus different language styles are used. Chapter 4 is based on supporting information, which can help the readers of this document.

2.0. Overall description

This system is a methodological analysis of social media services like Facebook for a chat system with the use of techniques and technologies like Natural Language Processing (NLP) techniques to enable the organization to engage with customers in order to provide mutually beneficial value in a trusted and transparent business environment. There are also many social chat systems in today's business but the problem is there are lots of impacts and they are not correctly use focusing on business to gain more benefits through social media by overcoming the difficulties of traditional chats. Social network analysis emerged as an important research topic in sociology decades ago .For customer-focused organizations, the introduction of social media presents one of the most disruptive forces facing businesses today. Research papers indicate companies are establishing the foundations of Social chat but, as could be expected, they are experiencing the growing pains of change and uncertainty .In 2010 there were more than 500 million active users on Face book, 70 percent outside the United States [3]. By March 2010, more than 10 billion messages, or Tweets, had been sent through Twitter [3]. And in the Asia-Pacific region, 50 percent of the total online population visited a social networking site in February 2010, reaching a total of 240.3 million visitors [4], this above research surveys proven that chat strategy, enabled by processes and technologies, is designed to manage user's relationships as a means for extracting the greatest value from user's over the lifetime of the relationship. These strategies typically concentrate on the operational responses required to manage the customer. With social media, though, companies are no longer in control of the relationship. Instead, user's and their highly influential virtual networks are now driving the conversation. Apart from that this system mainly working with NLP technology like chat categorization, retrieve chat messages. Hence this system is differentiating from other systems when comparing with the features of existing systems. Mainly analysis personal information that they share among the users to validate the system.

2.1. Product perspective

	Intelligent Diagnosis System	Honey Chatting	Group Wize	Proposed System
Keyword based Searching				
Topic Identification	✓		✓	✓
Emotion Extraction			✓	✓
Message Encryption		✓		✓
Detect Personal Information				✓
Evaluate Healthy				✓

Figure 1: Product Perspective

2.1.1. System interfaces

The system use already develop API to get chat history. The existing API is have features to extract chat details. This will provide by face book to developing process.

2.1.2. User interfaces

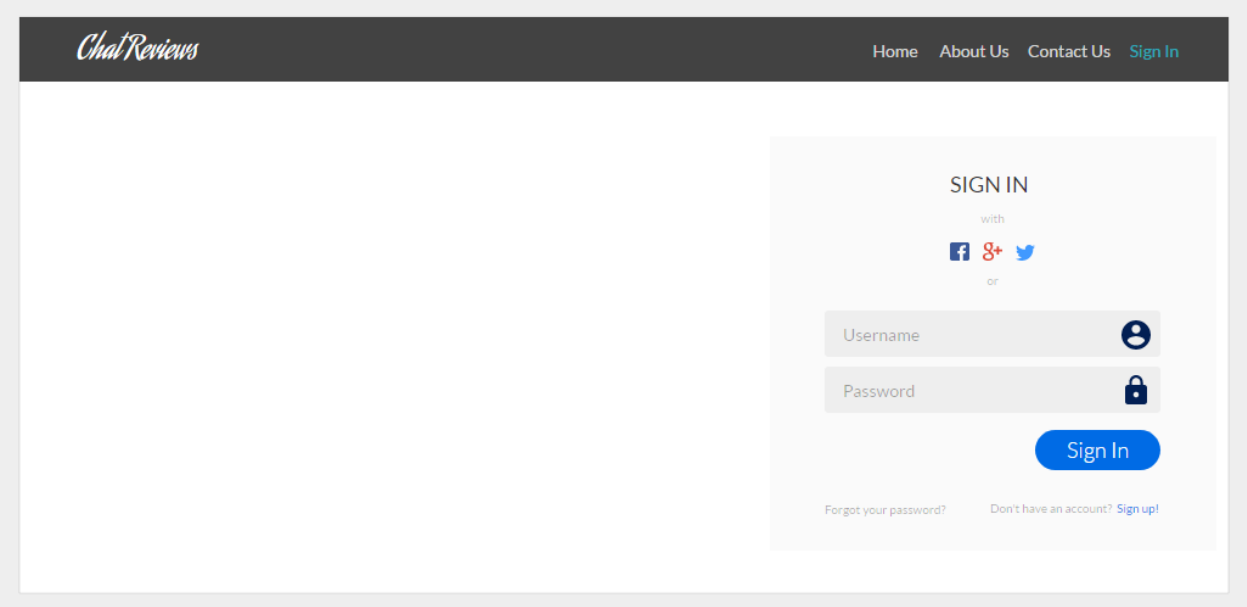

Figure 2: Login Page

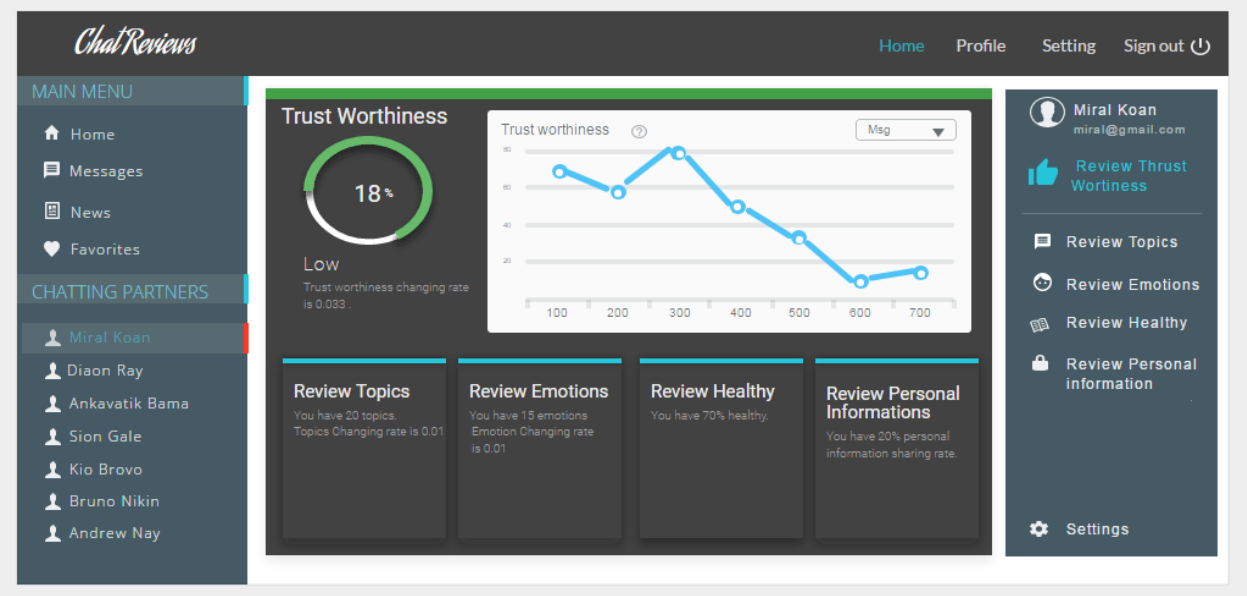

Figure 3: Dashboard

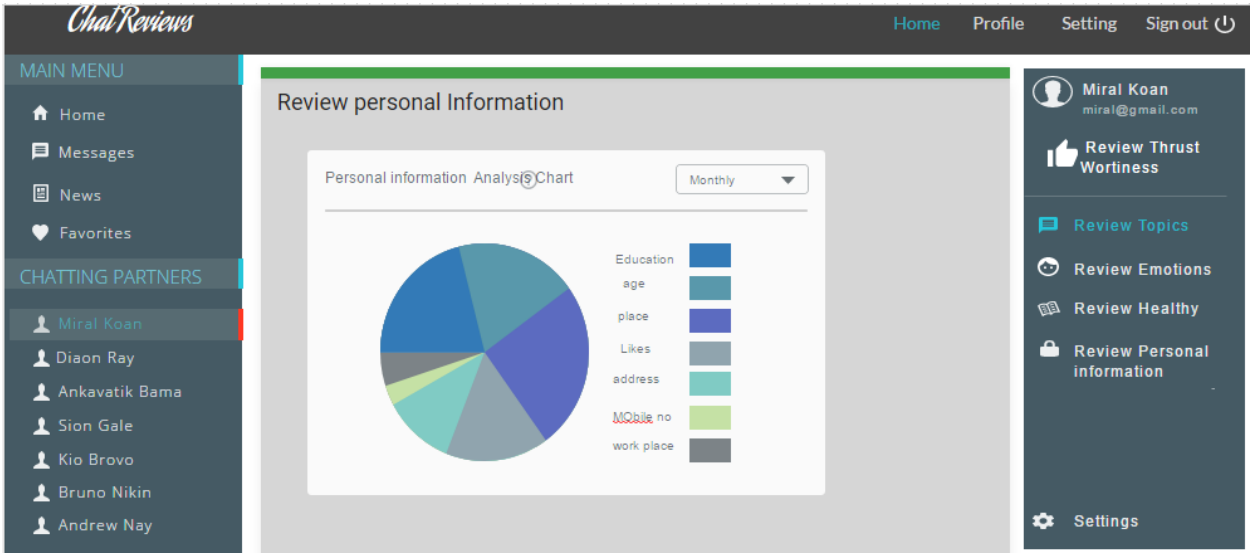

Figure 3: Personal Information Sharing

2.1.3. Hardware interfaces

This system does not need any external hardware interfaces.

2.1.4. Software interfaces

- Net Beans / Java Use to build the system interfaces and backend of the system.
- MS SQL Server 2010 Use to handle the database functionalities of the system.

2.1.5. Communication interfaces

This system need to analysis real time chat. Therefore it need to connect to internet to access chat history. So then it need to have a modem to have access internet. Private or public wireless connection internet access is also possible to access internet.

2.1.6. Memory constraints

- web space will be needed for store server components.
- Pentium IV 3.0GHz processor.
- The system should be capable of running with a minimum of 1GB of RAM. However higher the amount of memory the better.

2.1.7. Operations

People who can access internet privileged for following operations.

- Chat with person.
- Analysis the trustworthiness of other person that we need to communicate.
- Analysis personal information of the person chat with you.
- In order to perform any task in chat system first of all users have to login to the system.
- By clicking on the tabs or the links users can navigate through the pages.
- Profiles should create automatically when the user send a request or log to the web application.
- When the customer sends the request system should able to categorize it based on the Natural language processing.
- All the data in the database should backup for eliminate the risk of data losses.

2.1.8. Site adaptation requirements

There has to be a chat history because the information and their results are really important and that information must available in all the time. Therefore system needs a history in running. Server has to be stored data for data protection.

User interfaces must be in English since the user can be of any nationality. provide validity of the chat clearly. We use English as the only language to respond the chat and analysis process. For use this product need to have some more English knowledge.

2.2. Product function

2.2.1. Use case diagram

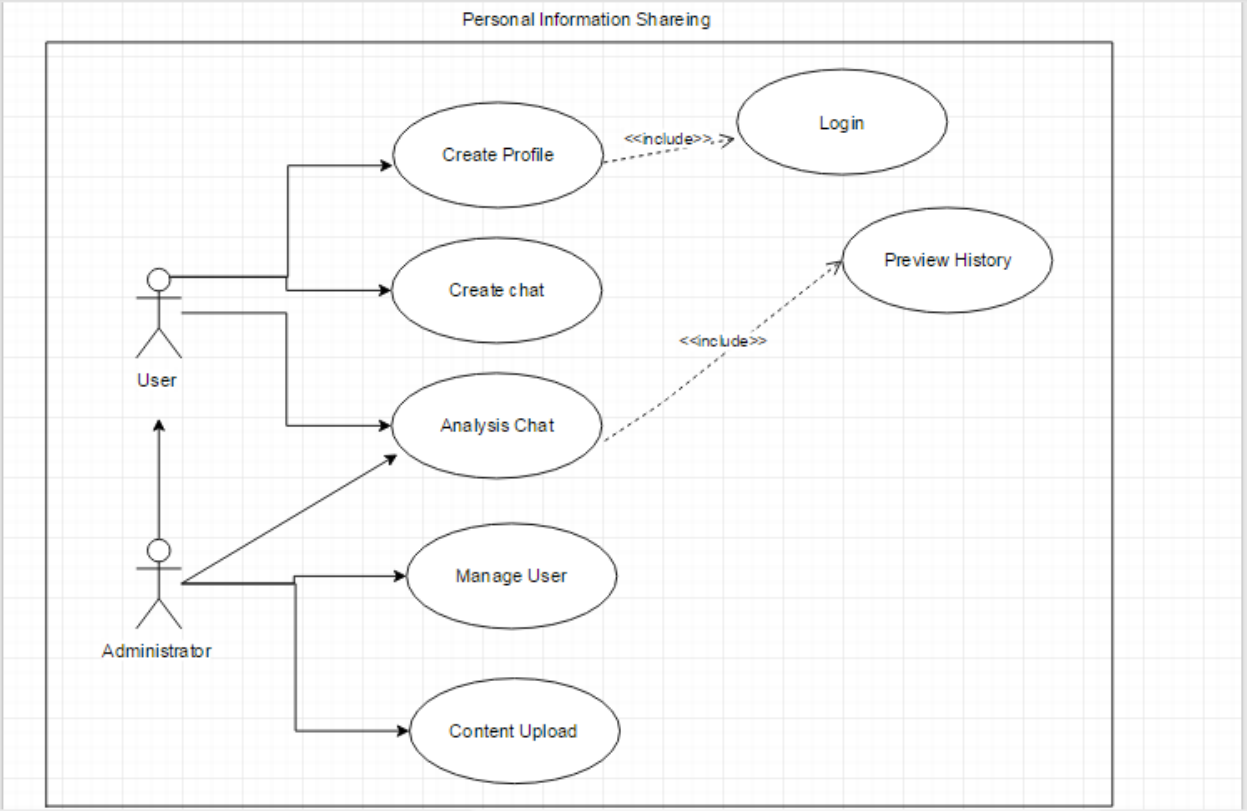

Figure 4 : Use case Diagram

2.2.2. Use case Scenario

Use case 2	Identify the Users and analysis personal information
Primary actor	application
Summary	The system will identify all account holders.
Pre conditions	Create an account in the system.
Normal Flow of event	1. Create an account. 2. Log into system 3. Chat with partners. 4. Do actions in account. 5. Analysis personal information. 6. Create graphical view of opponent person.

Figure 5: Use case Scenario

2.3. User characteristics

There are two types of users involve with the system.

Administrator: Administrator is the person who has the full authority of the system. our application and any Facebook user will be the main users of this subsystem. They are the people with highly experienced in the field of business environment in Information technology and social networking field. Administrator mainly assigns agents for the system, Display dashboard results, add knowledge articles to the system, do the customer request categorization whenever NLP unable to do this task by pattern

Users : people who are interact with chat through social media. This is easy to analysis other user details by having less knowledge.

User type	Description
Account Holder	Person who is directly involve with the chat.
Administrator	Person who is doing experiments and analyzing for efficient usage.

Table 3 : User characteristics

2.4. Constraints

We assume in operating systems versions will support for future web server applications. The system will be developed on an online runtime application. At the time of this documentation it is it need network connection. The system will be using python as the primary language and Use PHP for front end of the system. All the implementations and deployment will be done on web based. It will use good security because this is web based chat analysis application. This will integrate face book message API to continue the chat system.

2.5. Assumptions and Dependencies

The system is highly depends on user interaction. So in here it uses trustworthiness to encourage users. In future implementations with the purpose of doing that it can arrange competitions through the system. Currently reviewing process uses a rating mechanism for measure the trust worthiness of chat sessions. In further extend it can think about some other mechanisms. This can use for many chat not only face book.

2.6. Apportioning of requirements

Due to the fact that this is a research type project, some features indicated in the specification may change in the final product. The requirements described in sections 1 and 2 of this document are referred to as primary specifications; those in section 3 are referred to as requirements specifications. The two levels of requirements are intended to be consistent. Inconsistencies are to be logged as defects. In the event that a requirement is stated within both primary and functional specifications, the application will be built from functional specification since it is more detailed.

'Essential requirements' are to be implemented for this version of the system. 'Desirable requirements' are to be implemented in this release if possible, but are not committed to by the developers. It is anticipated that they will be part of future release. 'Optional requirements' will be implemented at the discretion of developers.

3.0.Specific Requirements

3.1. External interface requirements

3.1.1. User interfaces

This section will describe all the common user interfaces along with the Chat Review client.

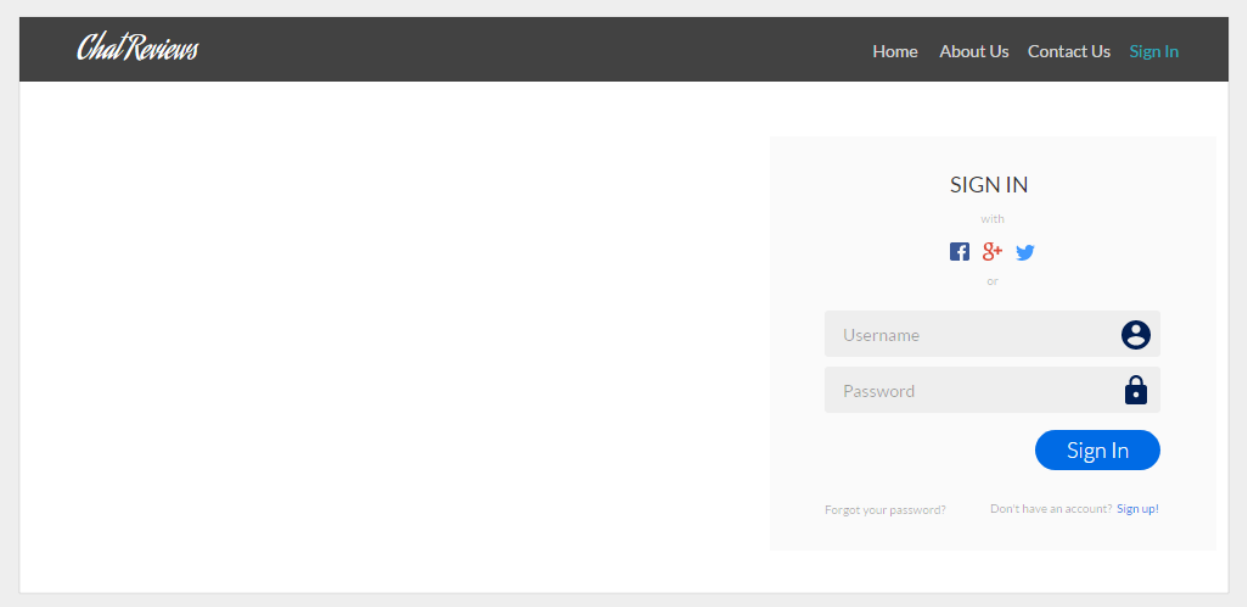

Figure 5: Login

3.1.2. Hardware interfaces

Chat Reviews application will only interact with the deice of user's log into chat.

3.1.3. Software interfaces

Chat Reviews application will not taking inputs or send outputs to any other third party software except Chat app itself and the web server.

3.1.4. Communication interfaces

The main communication method of chat project is internet. Communication will be done according to the standard Internet Protocol rules.

3.2. Classes/Objects

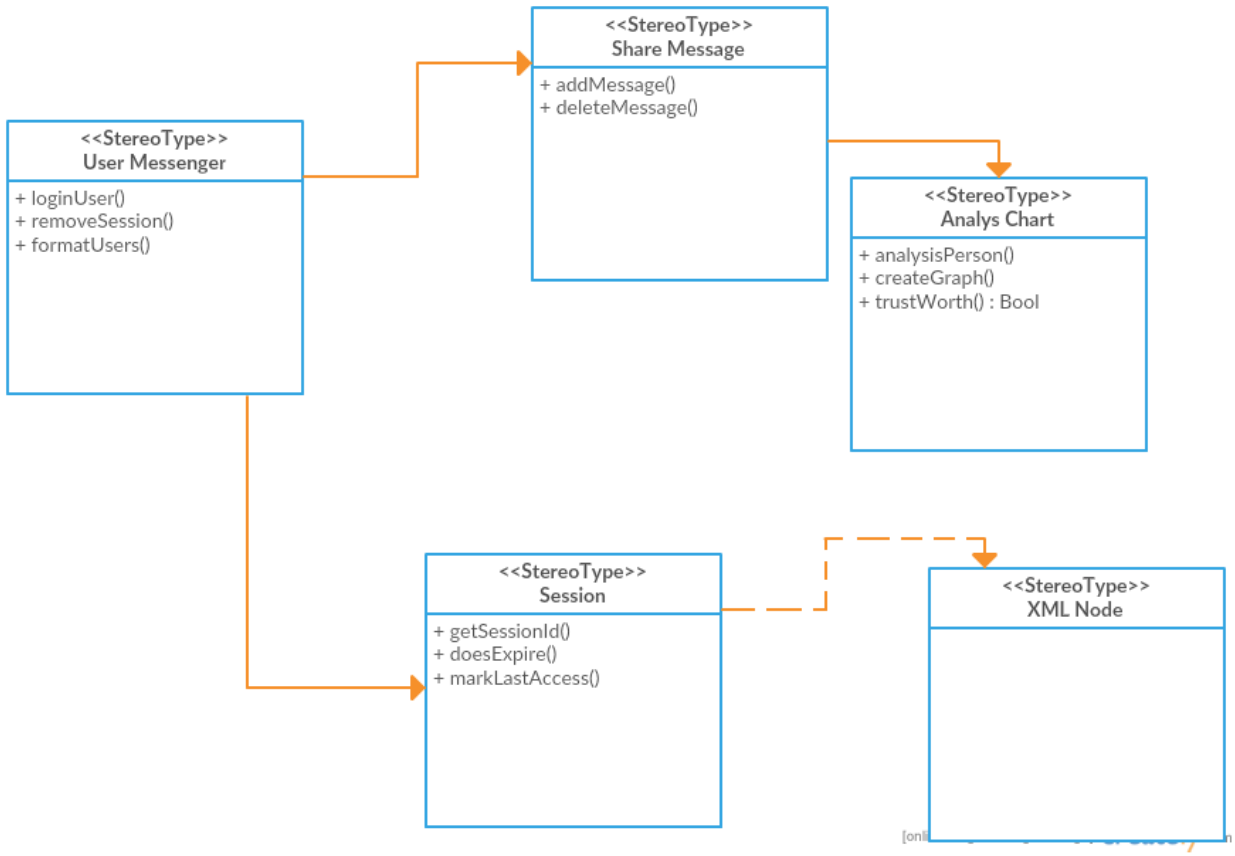

Figure 6: Class Diagram

3.3. Performance requirements

We will do our best to maximize the performance of the system. Performance of the Social chat analysis varies according to the several factors. According to our minimum hardware requirements, algorithm and some patterns. We expect the systems loading time within 10 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 of time.

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 particular areas. Social media chat analysis is mainly based on history and runtime chat 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. Another main feature of social media chat analysis is designing the chat System to work with only English language. 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 attributes

3.5.1. Reliability

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

The system must be available for one user at a time for modifications. But many users can send requests at once. More users can analysis chat in real time and deserve accurate result.

3.5.3. Security

The process of social chat depends on the web application integration. Therefore we mainly concern about security requirement in order to protect system. 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

In order to provide more accurate responses to user requests, we have to maintain the chat and analysis real time details. We can provide it by updating data with most recent information. Programming shall be well commented and documented for any further development of the system. Moreover have to maintain the backup system too.

3.6. Other requirements

3.6.1. User friendliness

The Graphical User Interface (GUI) and colorful result report will increase the readability of the use. And the client application is easy to use. There are no complex steps involve in analyzing paddy diseases.

3.6.2. Simplicity

All the user interfaces of the system should be designed in a simple and straight forward manner since the main users of this system are farmers and they should be able to operate with the system without confusion. And complete guidelines are provided about how to use the application.

3.6.3. User Guidance

Even though the application is very easy to use everyone we are providing complete guidelines of how to use the system. It is a video tutorial and based on both Sinhala and English languages.

4.0. Supporting information

4.1 Appendices

Work breakdown structure for the system

Figure 7: Appendices

4.1 References

[1] IEEE Software Engineering Standards Committee, “IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications”, October 20, 1998.

[2] Karlsson J, “A Cost-Value Approach for Prioritizing Requirements”, Norges TekniskNaturvitenskapelige Uni. 1997

[3] Mitussis, D., L. O'Malley, et al. (2006). "Mapping the re-engagement of CRM with relationship marketing." European journal of Marketing [Accessed:January 1, 2013.]

[4] Baird, C. H. and G. Parasnis (2011). "From social media to social customer relationship management." Strategy & Leadership [Accessed: January 1, 2013.]