



A Review on Full Stack Realtime Medical Pager Chat Messaging App with Authentication & SMS Notifications

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Abstract—

Chatting applications are very popular among Internet users and Smartphone's owners. Hundred millions of smartphone owners use chat applications on monthly basis. These chat applications offer the communication free of charge and majority of them are free to install which makes it very appealing for the potential customers. These chat applications offer different services and built-in features to their users while in majority of the cases, they neglect security aspects of their usages and messages.

Keywords: Chat, Cryptography, Encrypt, Security

1. INTRODUCTION

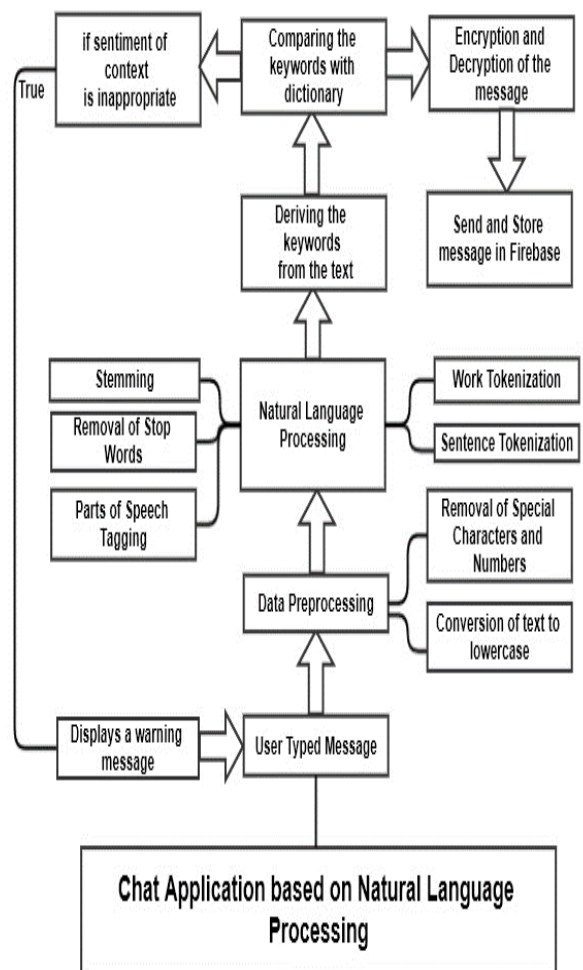
Accessing health information in broad range and vast scope is possible due to information technology development. Nowadays, many people try to acquire health-related information for themselves and their relatives. Medical consultations are completed with other information resources such as the internet, brochures, books, magazines, TV and radio. Among them, the internet has the main role via health-related websites. This is a mass medium and an international network for people searching information on every possible subject, including health care information. Searching the internet for health information is continuously increasing so that about 50% and 75% of adults in the UK and the USA use the internet for retrieving health care information, respectively. This network facilitates the search of and access to health information and exposes users to broad scope of many information items and increasingly involves them in their health-related issues. Health websites contain various information items, advices, guides, recommendations, and assessments related to health and related issues and their management. These websites support patients and their families by providing information and can help them to have better patient-physician interaction though expanded information. In addition, Internet-based information affects individuals' overall decisions on self-care issues and interaction with health providers. Individuals need to high-quality information for involvement in their self-care. The internet, however, has not any required standard for qualified information and information in websites is not controlled. This means that some websites may publish information with low quality or incorrect content not

accord professional guidelines . Therefore, people encounter with low quality information.

2. PROPOSED METHOD

Failure to identify the inappropriate context in the text message is the main reason for various problems. The proposed system solves these issues by developing an NLP based android tool which identifies and warns the user if the sentiment of the message contains lewd or vulgar context.

The proposed system illustrated in Fig.1 consists of three phases. Fig. 1. Block Diagram of the Proposed System



The first phase deals with data pre-processing. The result of the first step given as an input to the second phase. The second phase deals with implementation of NLP concepts like the removal of stop words, stemming, entity recognition, tokenization and parts of speech tagging which derive keywords from the user typed the message. These keywords compared with user dictionary to identify irrelevant terms. The third phase deals with sending and receiving the messages using the internet and saving the messages in encrypted form in the real-time database "FireBase".

3. PROBLEM STATEMENT

This project is to create a chat application with a server and users to enable the users to chat with each others. To develop an instant messaging solution to enable users to seamlessly communicate with each other.

The client-server communication model is used in a wide variety of software applications. The main weakness of client-server chat application is that there is no security provided to data which is transferred between clients. Any unauthorized client can hack the client account and can change the data. This is the main objective of this project (To develop a secured Client-Server Chat Application).

4. METHODOLOGY

The methodology employed in this paper is organized into several stages and sections as indicated below:

3.1 General Objectives Since it's a real time application, the main objective is to design and implement an application that will create an online platform to help connect people and enable them chat with doctors about their health status before visiting the hospital

4.1.1 Specific Objectives

1. To develop an application that will create an avenue to be able to chat with doctors about health matters and issues.
2. The system will also display various health articles and tips about healthy diets.

4.1.2 The scope of this chat application development are Text-based communication system with multiple user connection

4.2 System Requirement Specification The application requirements can be divided into Functional and Non-Functional requirements. Functional requirements define the capabilities and functions that a system must be able to perform successfully. Non-Functional requirements define the qualities and criteria that can be used to judge the operation of a system

4.2.1 Functional Requirements

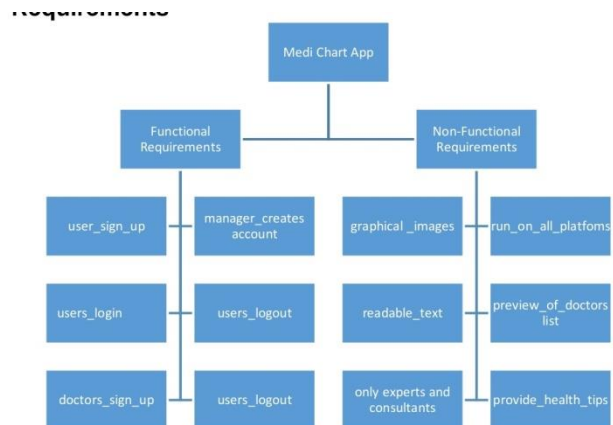
- I. Users must be able to sign up.

- II. Manager must create account for certified doctors
- III. Users must be able to log into the system.
- IV. Users must be able to logout of the system at any time.
- V. System must provide an error message in case of login failure for certain number of times
- VI. System must provide a chat list of doctors online.
- VII. System must allow all users to send and receive messages.
- VIII. System must allow sign-in users to access doctor's profile.
- IX. System must publish health related articles and tips.
- X. Any user (both normal users and doctors) will be able to enter the system using his own unique ID and password

4.2.2 Non-Functional Requirements

- I. The graphical user interface and sub interfaces of the application must be user friendly
- II. The system should show clear and detailed notification messages to the user.
- III. The system must have lack of bugs and inform the user of every wrong operation.
- IV. The system will be able to run on all devices.
- V. The system will request a password for each user account.
- VI. The system supports simultaneous users.
- VII. User manual must be developed to help a new user understand the usage of the system.

4.3 Block Diagram of Functional and Non-functional Requirements



5. CONCLUSION

The chat application provides a better and flexible system for chatting. It is developed with recent advanced technologies in a way to provide a reliable system. Main advantages of the system are instant messaging, real-world connectivity, adding security, group chat, etc. This application can find better need in the market for most of the organizations aim at having private applications for them. Additional features will also be included in the system based on the public need which includes

conference call, video chat. Location share, etc. based on the need.

The goals of the project were to development a chat application to facilitate communication between doctors and patients built on the platform. Another goal was to add a blog column to the app, where users can read health related articles. The main goal was accomplished as well as their related functional and non-functional requirements were met. The agile development model was used in the development specifically prototyping. It is discussed that android software development does not follow a structural design or pattern, hence it is mostly difficult for developers to work on application but with the agile model allows, it enable us to easily modify or small incremental releases of the software helps us quickly improve the application's design, add more features and fix the bugs.

Having researched about health and how it can be used to address common health issues in Ghana, we can provide an overall account of our project. To begin with, in our project we created a real-time chat

communication application that can enable person who medical attention need be able to have access to a doctor via the internet. The concept for this application is an essential and effective way to seek medical advice with little effort. To conclude, we believe that, with further improvement from future developers, this useful application we created could become fully operational with the health sector system, as it has much to offer by enormously adding to and evolving the educational process. Further enhancements would be involved in the area of security, video call, large size transfer and some additional features that are required in the competing world. Other work is involving in implementation of the system in private networks.

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