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Modern Text Message System

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Abstract - *Short Message Service (SMS) is an integral service of the mobile phone for users to communicate with people which is faster and convenient way to communicate. However, it has some limitations like incapability of searching and categorization of SMS, scheduling, marking SMS and there is scope to improve it. To overcome various limitations, we have proposed a mobile application with title MojoText - Text Messenger which solves real time problem of text messaging. Our system provide core functionalities of text messaging and beside to that various facilities like categorization of messages based on personal, social, transactional and user defined categories with color codes, searching with customized date, scheduled text delivery, hiding of messages inside the app, reminders for due dates of billers, validity of texts, starred messages, pinned chats, signature, backup and recycle bin.*

Key Words: Android, Text-to-Speech module, Natural Language Processing (NLP), Text pattern matching.

1. INTRODUCTION

We are in 21st century where we cannot imagine our life without mobile phone. We handle everything like our bank account, our professional work, some office work, etc. through the mobile phones[6]. In our system we are going to invent the application for the handling the text message. As we can see the number of messaging apps are provided with the multiple functionalities and features in android mobile phones. But for the convenient use of text messages there is no any system is provided[1,3]. In this system we are going to add some extra feature to the text messages where the use of text message is going to be easy. Now a days we associate the mobile number to our bank, various shops, PAN cards, ATM cards, Aadhar cards or in shopping malls, etc for getting the details or important information like OTP's, educational purpose, etc[7,8].

The convenient or the best text classifier is a classifier that efficiently categorize large text messages in a reasonable time and with an accuracy, and that provides helps to the human for the accuracy and easy to access[4]. Many techniques and algorithms are provided for automatic text categorization of the messages and the text of the message. The text classification task can be defined as classify the text into new documents based on the knowledge and by using the algorithms provided in a classification system[2,4]. In the phase we are going to classify the text and speech it out the same time by using the text-to-speech module[5].

Classification is an important task in our system which we are going to develop and classification is an important concept of both data mining and machine learning[10], however, most of the learning techniques and algorithms comes from the machine learning community[7]. The text categorization or classification is coming from machine learning techniques and research[5,9]. A number of text classification techniques are applied through the development of the system a lot of approaches have been proposed in the our system, the automatic text categorization after the incoming massage is arrive is still a major area of overview because the effective and improvement of the text message are still needs and its the time to provide some additional features to the text message[4].

In this paper, we focus on some classification of the text messages and also propose a new model including the speech out module so it made more easy to the humans to apply it on the daily basis for the classification of text SMS into some user defined categories of the messages like our Gmail is provide to us[4,11]. The use of text SMS is become very wide and it is preferred for personal messaging, banking messaging and authentication methods[2, 3]. These all text messages are stored in our inbox combine format to avoid this trouble situation or getting easy access of the important messages we are going to develop the system. Short Message Service (SMS) of the mobile phone for users to communicate with people which is convenient and easy way for the communication[2].

2. PROPOSED SYSTEM

The proposed system provide more functionalities and feature for the text messaging and various facilities that are like categorization or classification of messages and speech out the message based on the categories personal, social, transactional and user defined categories with the some different color codes, storing the starred messages, recovering the deleted messages , searching with customized date, scheduled text delivery, hiding of personal messages inside the app, it also provides the reminders for due dated messages like phone bills, electricity bills and recharge etc[11]. It also provides reminders for some occasions like important meetings, reminders for the important events etc. the system is also provide the recycle bin for the messages and starred(favourite) messages[6].

The following diagram shows the flow of the system how the system will work and how the process will actually happens in the system the system will able to categories the messages by using the some features of the text and by using NLP and many different algorithm[2,9]. The proposed system will

also be able to speech out the incoming messages with the help text to speech module[4]. The messages will speech out in the specific manner not in random places or at any where.

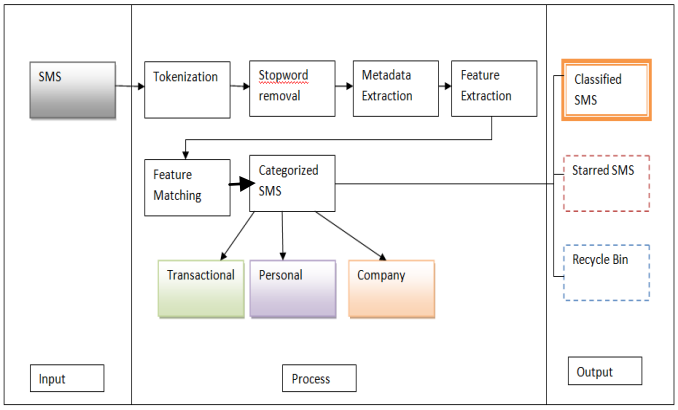

Fig -1: Modern Text messenger System Architecture

3. OBJECTIVE

To provide system for use of social and personal use, now a days text message is very essential part of the net banking or any transactions or many uses, and also it is best way of authorization or authentication of the user's credential and contact information by using an OTP or any other activation methods. After implementation of the system application, it will reduce the human efforts for the searching the text messages. The application will definitely be helpful in storing the messages and also aim to speech out the message and it will also recover the deleted text message.

4. PROBLEM STATEMENT

In this system the classification or the categorization of the text messages for the easy access accuracy or convenient use of the text messages like Gmail account the categories of messages are the user defined categories. The prosed system is also provide speech out module which is used to speech out the messages by using the technique called text to speech.

5. MATHEMATICAL MODULE

The mathematical module is used to represent the system the system which will contains the input, output, functions and operation of the system. Here the system is containing the input, functions and output where the input is the incoming message in the inbox this is the first and very essential part of the system. Then next part will be implemented there are many function will used after that the module will content the output portion of the system. The following is the representation of the mathematical module:

S= {I, F, D}

I= {i1}
Where,
I is a set of inputs
i1=Incoming Messages

F= {f1, f2, f3, f4, f5}
Where,
F is a set of function
f1=Broadcast Receiver to receive sums
f2=Read all messages
f2i= speech out
f3=Tokenization & stop word removal
f4=Pattern Matching
f5=Detect category of sums

D= {d1, d2, d3}
Where,
D is a set of outputs
d1=Classified sms
d2=Starred sms
d3=Recycle bin

6. ALGORITHM

The system provides solution to the categories of the messages and audio messages for the convenient use of the users[10,11]. When the incoming message is arrive at the receiver end then it will starting fot the pattern matching of the incoming text if the message[5]. And when its relates to the particular pattern then it will put the message into the that particular category. This is the important to the users who are going to access the system. This system implements an algorithm for the categorization of the message. The next step after this processing it will extract the some unique feature of text message and classifying the message[9,10]. This feature is used in this system for classification purpose this modern classifier belongs to the many new features in it.

Input:
SMS text

Process:
1. Read the SMS text
2. Stop word removal for the text.
3. Pattern matching for the input text
4. Regular expression is apply on the sms
5. Get the different patterns
6. Take a decision and put the sms in the related category
7. Detect the date patterns for the due dates

Output:
Classified SMS

7. UML DIAGRAMS

UML (Unified Modelling Language) is used to represent the pictorial representation of the work flow. There are many types or forms of the uml diagrams but in this we are going see only few.

1. USE CASE DIAGRAM

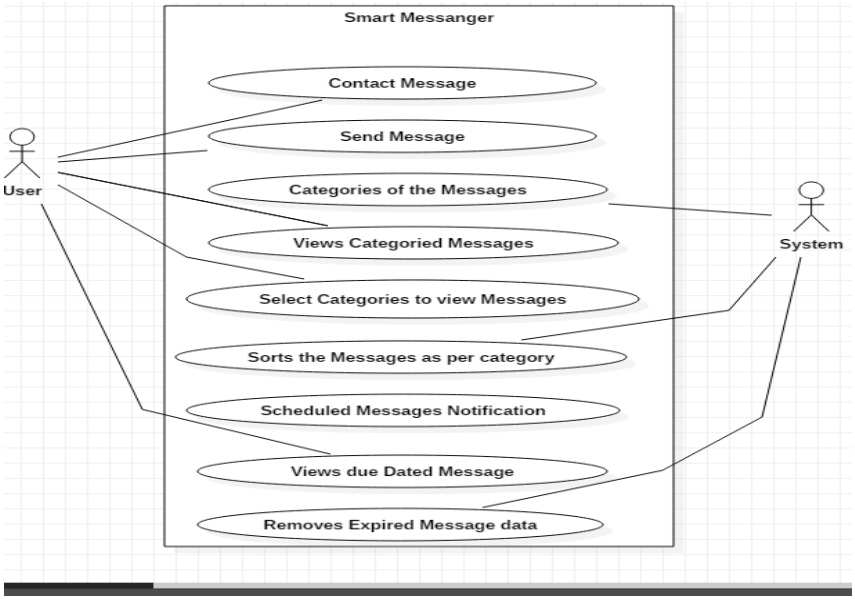

Fig -2: Use case diagram of text message classifier

2. CLASS DIAGRAM

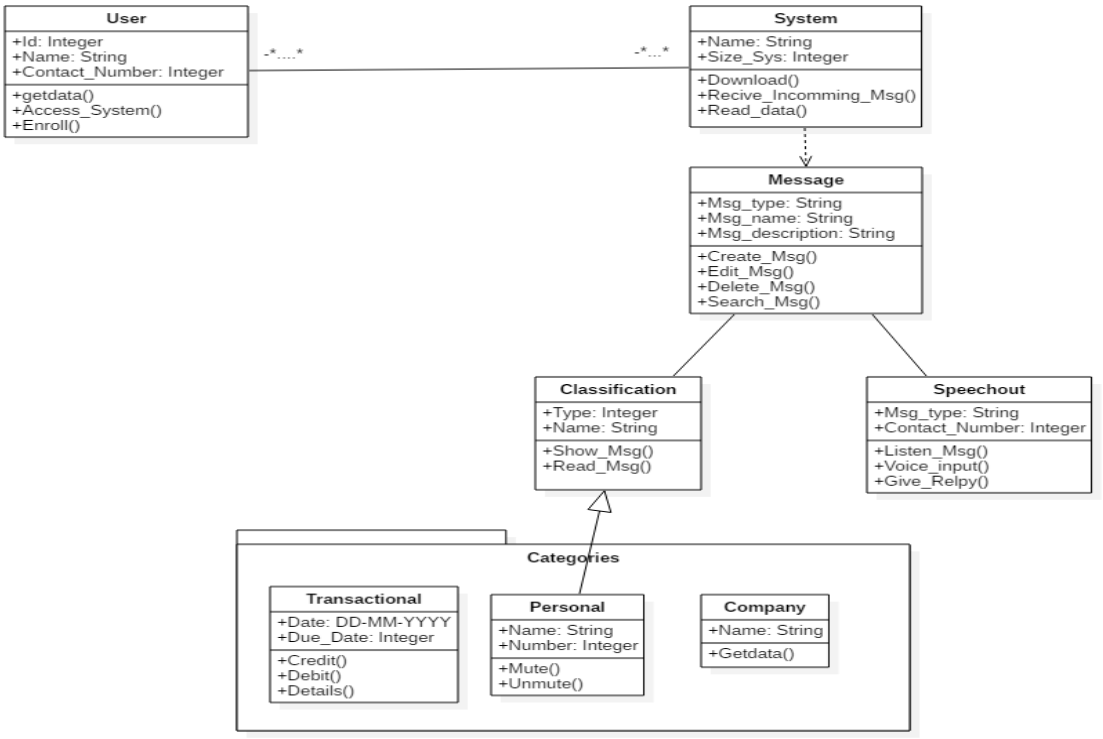

Fig -3: Class diagram of text message classifier

8. MODULE INFORMATION

The module information is nothing but actual resulting system. In our proposed system there two important modules. These modules will show the how system is successfully implemented or not. Our system is main aim to provide the classification or categories of the text messages this categories can be a different for the easy access of the system this will very useful for the users to use it in their daily lives for the convenient use like other messaging app. This classification of the text messages is provide in the first module of the system this is very important in proposed system.

The second module is going to speech out the incoming message for the people who don't able to see the messages when driving or doing some important works. This module is also very important for the blind people who cannot able see the messages so they can listen the audio of the message. In this we are also providing the important feature to this modue that if someone will need my help or the message will contain the words like emergency, urgent, help, accident, etc. then this type of message will popup the another type of tone of the message so the person who is going to received the message is knows that this particular person needs my help or there is some urgent issues.

The third module of the system is going to contains the starred message and recycle bin. In this module the users can able to save their favorite messages or they can make the particular message as favorite message. This will be aso shows the due dated messages in this system if the recharge is going to end it will shows the automatic reminders in the system. Then the another feature of the system which is not used for the text message yet is the recycle bin. In this you can able recover the messages which are deleted before but you need it for a reason so here you also access the deleted message. As this modules of the system which is going to used in the are system.

9. CONCLUSION

This paper will design an android application of a content based categorization or classification of SMS (text Messages) We expect the system will implemented successfully and efficiently implementation of this module is the further in the future. In the proposed model the we have studied the many different things. To provide convenience to use text messages in a daily life the system proposed to prevent classification SMS which is an important problem now a days. The system can help peoples to use mobile text messaging instead of using other applications.

REFERENCES

1. Castiglione, A., De Prisco, R., De Santis, A.: 'Do You
2. Trust Your Phone?', E-Commerce and Web Technologies, Linz, Austria, September 2009 pp. 50-61.
3. Ho, T., Kang, H., Kim, S.: 'Graph-based KNN algorithm for spam SMS detection', Journal Of Universal Computer Science, 2013, 19, (16), pp. 2404-2419.
4. Church, K., & Oliveira, R.D. (2013). What's up with
5. whatsapp?: comparing mobile instant messaging behaviors with traditional SMS. Mobile HCI.
6. Silalahi M., Hardiyati R., Nadhiroh I. M., Handayani T., et al.: 'A text classification on the downstreaming potential of biomedicine publications in Indonesia', International Conference on Information and Communications.
7. 'NLP with gensim (word2vec)' http://www.samyzaf.com/ML/nlp/nlp.html accessed: January 2018 .
8. Wensen L., Zewen C., Jun W., et al.: 'Short text classification based on Wikipedia and Word2vec' 2nd IEEE International Conference on Computer and Communications (ICCC), Chengdu, China, October 2016, pp. 1195-1200 .
9. Z. Cataltepe and E. Aygun. "An improvement of centroid-based classifcation algorithm for text classification". IEEE 23rd International Conference on Data Engineering Workshop, 1-2 pp. 952–956, 2007.
10. S. Dumais and H. Chen. "Hierarchical classification of Web content". In Proceedings of the 23rd Annual International ACM SIGIR conference on Research and Development in Information Retrieval, Athens, Greece, pp. 256–263, 2000.
11. A. McCallum and K. Nigam. "A comparison of event models for naive bayes text classification". In AAAI-98 Workshop on Learning for Text Categorization, 1998.
12. G. D. Guo, H. Wang, D. Bell, Y. X. Bi, and K. Greer."Using kNN model for automatic text categorization". Soft Computing, 10(5), pp. 423–430, 2006.
13. R. N. Chau, C. S. Yeh, and K. A. Smith. :"A neural network model for hierarchical multilingual text categorization". Advances in Neural Networks, LNCS, 3497, pp. 238–245, 2005.
14. Makato Iwayama and Takenobu Tokunaga. "Cluster based text categorization: a comparison of category search strategies". In proceedings of the 18th Ann Int ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR'95), pp. 273-281, 1995.
15. Bozan, Y. S., Çoban, Ö., Özyer, G. T. et al.: 'SMS spam filtering based on text classification and expert system' 23nd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, May 2015, pp. 2345-2348.