SMS Classification 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 SMS Classificatin - Text Messenger which solves real time problems of text messaging. Our system provides core functionalities of text messaging and beside to that various facilities like categorization of messages based on Company, OTP, Transactional and user defined categories 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.*

Keywords: Text Messaging App, SMS, Messenger, Categorization, Android SMS App

I. INTRODUCTION

Now a day, SMS is necessary part of every mobile user for communication, getting important alerts, banking OTPs etc. Beside of the basic functionalities there is scope to improve it. To overcome various limitations, we are developing an android application is going to enhance the use of SMS by people in their day to day life . Also, the various kind of new features are added to the application that will be helpful in removing the drawbacks faced in the current SMS applications in mobile devices.

Short Message Service (SMS) is a text Messaging service component of a phone, Web, or mobile communication systems.

SMS Application is an interface or the middleware between the human and message to communicate with each other.

SMS Application can be helpful in customization and adding the various features with respect to
the user interface

SMS messages are thought to be more cost effective, swifter to deliver and more likely to receive a faster response than letters.

Security, confidentiality, reliability and speed of SMS are among the most important guarantees industries such as financial services, energy and commodities trading, health care and enterprises demand in their mission-critical procedures

II. LITERATURE REVIEW

The exhaustive literature survey consisting of the conceptual base for this project is briefly outlined here.

Short Message Service (SMS): SMS is growing in its applications. Not only banks and companies, but even Doctors, Libraries and many other service providers are using SMS as a direct communication media to customers. Promotion, marketing, delivery tracking and customer feedback of most of the service providers is based on SMS .

Mobile Chat: This is the most popular services over mobile phone networks. This paper intended to explore customer's intention to use Mobile Messaging Applications (MMA) in India. This indicates that Indian students use mobile messaging to express themselves, to pass the time and assortment of the services in MMA. Perceived usefulness also plays a significant role in student's intention to use MMA .

Voice SMS: It is an application developed in this work that allows a user to record and convert spoken messages into SMS text message. User can send messages to the entered phone number or the number of contact from the phonebook. The application is adapted to input messages in English. In this article we will give basic features of the speech recognition and used algorithm. Speech recognition for Voice SMS uses a technique based on hidden Markov models (HMM - Hidden Markov Model).

III. PROPOSED SYSTEM

Figure 1 shows our category process for Mobile SMS. This process is made up of six main corridor; Tokenization, Stop word removal, Metadata Extraction,Feature Extraction, term weighting, and Neural Network bracket.. At first, the collected SMS documents are preprocessed as text documents. Text documents would go through feature selection process. Term weights are assigned to each term. Then PCA is applied to reduce dimensions. Then we use these selected features as input to the artificial neural network, which in turn classify the sms in to some well known categories namely All, Transactional, Company, favorites, Due Dates etc. The details of each process of classification system will be discussed in the following section.

- SMS Documents Retrieval: This step gathers various SMS documents. We have collected various SMS from internet belonging to different categories. Those retrieved SMS are stored in the local database for further processing.
- Preprocessing: At this stage, terms that do not provide any information about class or category selection are to be removed. Two concepts should be introduced here:
- Stop-word Removal: Stopping is a process of removing most frequent words that exist in a web document by using a stop words dictionary.
- Word Stemming: Stemming is used for the morphological analysis of words. However, stemming reduces the occurrence of term frequency, which has similar meaning in the same document. Porter Stemming is extensively used stemming algorithm.
- Feature Selection: many feature selection techniques are used in the area of text classification such as mutual information, CHI statistics, Information Gain, Term strength, document frequency, etc. In our classification document frequency thresholding is used for feature selection.
- Tokenization: Tokenization refers to a process by which a piece of sensitive data, such as a credit card number, is replaced by a surrogate value known as a token.
- Pattern Matching: Pattern matching is the act of checking a given sequence of tokens for the presence of the constituents of some pattern. In contrast to pattern recognition, the match usually has to be exact: "either it will or will not be a match." The patterns generally have the form of either sequences or tree structures. Uses of pattern matching include outputting the locations (if any) of a pattern within a token sequence, to output some component of the matched pattern, and to substitute the matching pattern with some other token sequence (i.e., search and replace)

IV. FUTURE SCOPE

Since the SMSs have been classified, the Project's Scope has expanded. Some of the capabilities of various online chat software will be added automatically by doing this. People will be encouraged to use the application as a result of its implementation since they will be informed when their activities and transactions are complete.

V. MOTIVATION OF PROJECTS

For different personal use or social use, SMS today even being extinct, these days the SMS is treated because the best approach of authorization ANd authentication of the user's certification and make contact with info by victimization an OTP or the other activation strategies. when the implementation of the automaton application, it'll scale back the efforts of categorizing the SMS. the applying will certainly be useful in storing the messages and even in sick if deleted by erroneously. one amongst the most important profit the user can get in optimizing the memory i.e., when the validity of thus me SMS is invalid, it gets mechanically deleted so house and efforts square measure saved.

VI. MATHEMATICAL MODELING

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

VII. BLOCK DIAGRAM

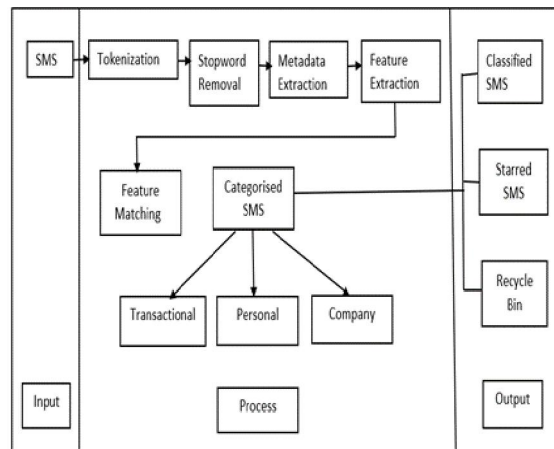Figure 1. System Architecture

VIII. IMPLEMENTATION

The implementation plan facilitates the execution of a plan, idea, model, design, specification, standard, algorithm, or policy by presenting clear implementation steps that need to follow. Thus, an implementation plan is the documented steps you need to take to successfully achieve your implementation pursuits. Implementation plans are usually made to support the strategic plan created by an organization. Now, what is a strategic plan you ask? Well, a strategic plan is a document defining the strategy by which our team will accomplish certain goals or make decisions. Strategic plans are made to guide a business decision, a new business venture, or an upcoming project or initiative.

IX. RESULT

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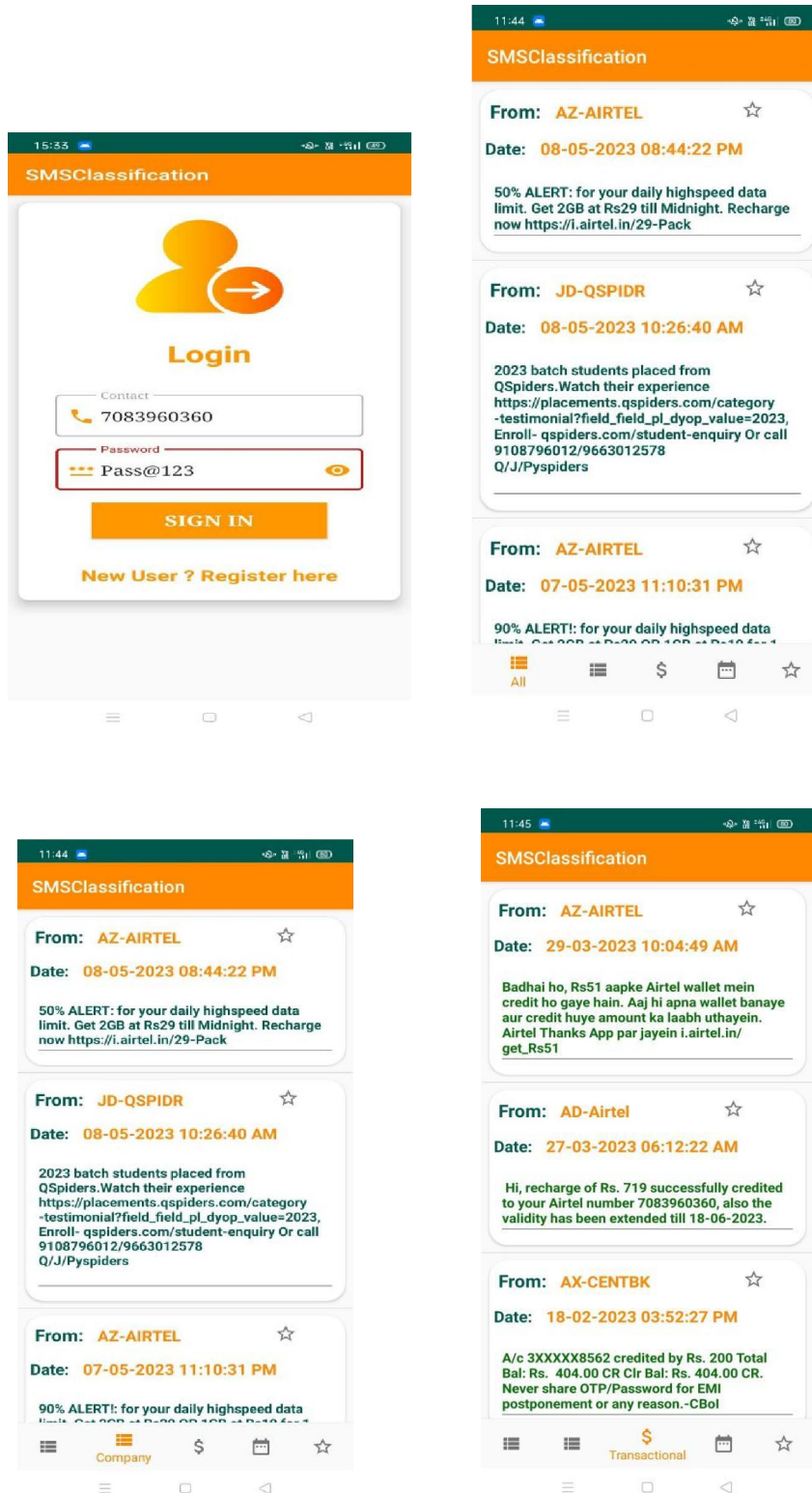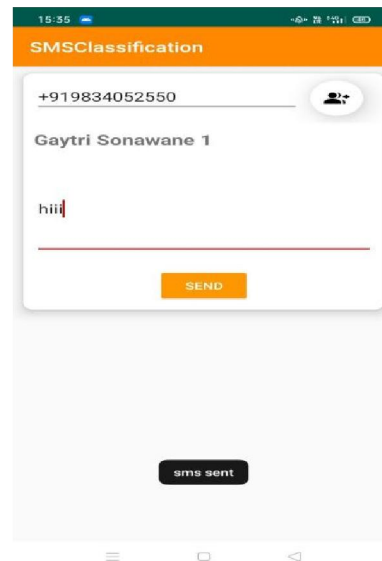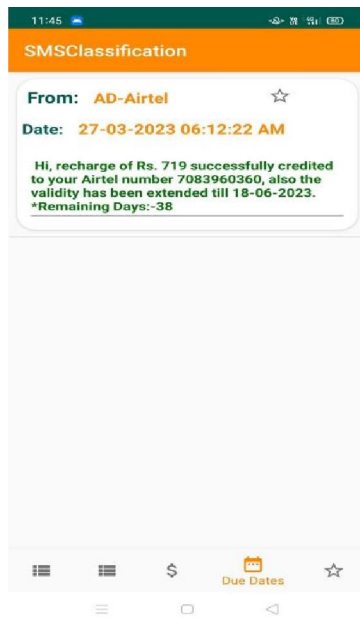
X. CONCLUSION

As discussed in features of apps, we have implemented various features. Categorization is working successfully and having accuracy 90-95%. Starring of messages is working accurately and separate tab is showing list of starred messages. OTP validity feature is correctly working and OTP is counted and deleted by clicking a button. Customized search is working properly having accuracy 90-95% and considered all factors. Popping of due dates is working correctly for various date formats and remaining number of days is showing properly. Multiline signature is automatically added at the end of messages

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