Easy V-Mail
A Simplified Mailing Application

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Abstract-**Human Computer Interaction (HCI) is also sometimes referred to as Man Machine Interaction (MMI)or Computer Human Interaction (CHI).Basic goal of HCI is toimprove the interactions between users and computers by making computers more usable and r eceptive to the user's needs. The means by which humans inte ract with computers and machines continues to evolve rapidly and thus it is the need of the present to develop interactive inte raction technologies for future. Thus, instead of designing pas sive interfaces, the focus is on developing active interfaces.**
Android Smartphone have combined several tasks such as voice and data communication, multimedia consumption, mobile gaming and GPS navigation into one package, their form factor is also limiting in both input and output. To allow the device to fit into a pocket, screens are small and keyboards are thumb-sized. On many devices the thumb keyboard has been replaced by a soft-keyboard displayed on the screen to minimize the size and weight of the device. Because of this while the person is walking there may be a situation where he might type incorrect letters.
Therefore, a new idea must be presented that reduces the use of keypads in mobile. Our application is aimed for text-to-speech, speech-to-text recognition and some motion operations. We propose a new interactive technique for mailing application. For eg : Instead of typing manually, the application provides speech-to-text conversion, instead of reading the mails the application provides text-to-speech conversion, to send a mail we can swipe the mobile across and similarly many other operations can be carried out using different motions.

I. INTRODUCTION

In our day-to-day lives, we need a handy device to do all the daily operations, so that all the work done is faster. As we use our smart phones to make calls, we have gradually shifted the use of phone from mere calling purpose to sending mails and taking pictures etc.
We present a mailing application which provides some facilities which makes mailing faster. The modules included in our project which are not available in the existing system are text to speech, speech to text and some motion sensing.
A. Speech to Text Converter For Mail Application:
In this module we would facilitate the ease by not typing.
The user typically just speaks the things which have to be typed.

The application will detect patterns in the word being spoken and type the correct words for the user.This would be very beneficial for the handicapped people who can't type.In this facility the mic and the speakers of the phone will be used, which is readily available in any phone nowadays.
Real-time speech-to-text-conversion aims at transferring spoken language into written text (almost) simultaneously. This gives people with a hearing impairment, access to the contents of spoken language in a way that they e.g. become able to take part in a conversation within the normal time frame of conversational turn taking.
A real-time speech-to-text conversion - even if it is a word-for-word service - has to chunk the continuous stream of spoken words into sentences and phrases with respect to punctuation and paragraphs in order for the text to be comprehensible.

B. Text To Speech Converter For Mail Application:
In this module we would facilitate the ease of not straining your eyes.
In this, the application would speak out all the content which is written in the mail.
The app will understand for itself the words / characters written in the mail and choose the most appropriate word which matches what is written and the app then speaks out those words.
This would be very beneficial for the visually impaired people who can't see.
In this facility only the speakers of the phone will be used.

C. Motion Sensing Features For a Mail Application :
This module would give some fancy touch to our app.
In this module, a user typically makes one gesture and a mail is sent!
So we would add in some gestures in this app, make the app learn the gestures and then whenever a user typically swipes in or through, certain task could be done.
We have added this feature to our app so that we could minimize the task of pressing buttons and make it a 2 step process for just doing a menial task.
The motion can be done by 2 ways: Either by using the accelerometer or the gyroscope of the phone, which would facilitate the motion by swinging the phone by keeping it in

your hand Or by using the Front cameras of the mobile phones by which we can do some over the air gestures and the mobile phone detects them.

Many phones in Sony Brand do offer accelerometer as well as gyroscope, though gyroscope is not available on the lower end phones of Samsung and Sony Xperia, so we would be making an effort of eliminating the need of gyroscope in motion sensing.

1) ACCELEROMETER: An acceleration sensor measures the acceleration applied to the device, including the force of gravity. Conceptually, an acceleration sensor determines the acceleration that is applied to a device (Ad) by measuring the forces that are applied to the sensor itself (Fs) using the following relationship.

$Ad = - \sum Fs \, / \, mass$

However, the force of gravity is always influencing the measured acceleration according to the following relationship:

$Ad = -g - \sum F \, / \, mass$

For this reason, when the device is sitting on a table (and not accelerating), the accelerometer reads a magnitude of g = 9.81 m/s2. Similarly, when the device is in free fall and therefore rapidly accelerating toward the ground at 9.81 m/s2, its accelerometer reads a magnitude of g = 0 m/s2. Therefore, to measure the real acceleration of the device, the contribution of the force of gravity must be removed from the accelerometer data. This can be achieved by applying a high-pass filter. Conversely, a low-pass filter can be used to isolate the force of gravity.

Accelerometers use the standard sensor coordinate system. In practice, this means that the following conditions apply when a device is laying flat on a table in its natural orientation.

- If we push the device on the left side (so it moves to the right), the x acceleration value is positive.
- If we push the device on the bottom (so it moves away from you), the y acceleration value is positive.
- If we push the device toward the sky with an acceleration of A m/s2, the z acceleration value is equal to A + 9.81, which corresponds to the acceleration of the device (+A m/s2) minus the force of gravity (-9.81 m/s2).

The stationary device will have an acceleration value of +9.81, which corresponds to the acceleration of the device (0 m/s2 minus the force of gravity, which is -9.81 m/s2).In general, the accelerometer is a good sensor to use if you are monitoring device motion. Almost every Android-powered handset and tablet has an accelerometer, and it uses about 10 times less power than the other motion sensors. One drawback is that we might have to implement low-pass and high-pass filters to eliminate gravitational forces and reduce noise.

II. K9 MAIL:

K-9 Mail is completely community developed and is hosted at Github. The mail client is based on Gmail's original email client for Android but it comes in with a whole lot of other features. K-9 supports IMAP, POP3 and Exchange 2003/2007 (with WebDAV). K-9 Mail Is Open Source

1) K-9 has a unified inbox apart from separate one's for your accounts. The Unified Inbox pulls in all the emails from all your accounts and by default displays them from the latest to the oldest. In K-9, you can apply various sorting functions to all your inboxes.
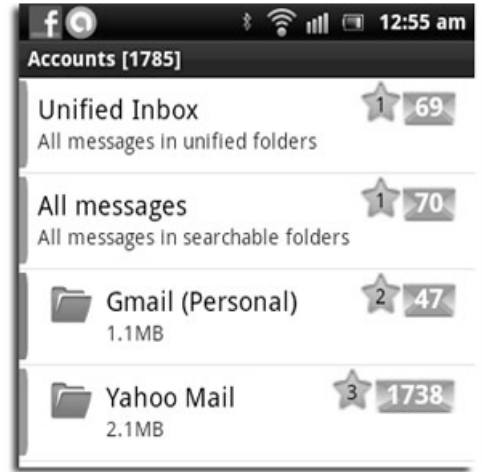

Fig.1 K-9 mail

2) K-9 also gives you a search feature from its landing screen. It will search all your folders for the keyword of your choice. K-9 can retrieve the email provided it has loaded (synced) all the mails you have in your account.K-9 has good email organizing features for instance you can move emails from one folder to another, copy it to another folder, archive it as usual, or mark it as spam.

3) K-9 Mail comes close to being a complete email client package for Android. The emails loaded pretty fast and the email management features made for an easy user experience.
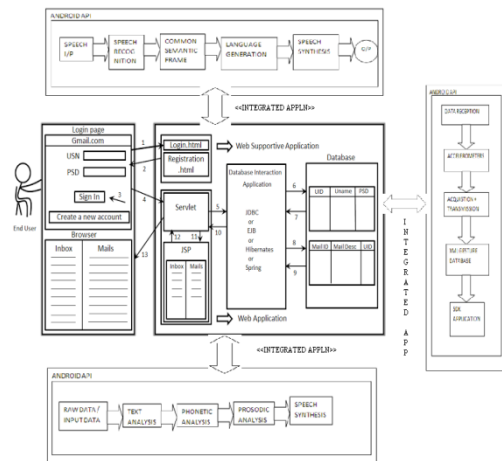
III. SYSTEM ARCHITECTURE:

Fig. 2 System Architecture

A. Procedure design (Algorithm) Project Flow/Steps:
1) The User Visits The Mobile Application.
2) The User Has To Log In.
3) The User Specifies An Email Id While Logging On To The Application.

4) The Server Then Traces The Email Id And Successfully Logs In To That Email Id. If A Non Existing User, Sign Up With The Mail Application.

5) Select An Option To Be Performed By The Mail Application.

6) If The User Wants To Read A Mail, Then The Text To Speech Mode Is On.

7) If User Wants To Compose A New Mail, Speech To Text Mode Is On

8) To Perform Certain Operations On The Mail Server Like Sending Replying Or Forwarding, Motion Sensing Mode Will Be On.

CONCLUSION:

Till date, some mailing applications have been developed which has features like text-to-speech and speech-to-text conversion but they do not include motion based operations which is our unique feature which will help us to grab out target audience which are smart phone users.

ACKNOWLEDGEMENT

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