SMS Messenger Natural Language Specifications

Kendall Bailey, Michael Madrigal, Emilio Mercado, Shrey Mittal, Nesthor Perez

October 1, 2013

1   Overview

The SMS Messenger App will operate on the Andriod OS version 4.0.4 and up. It will allow users of the application to send and receive messages from other user who have installed the SMS Messenger App. The SMS Messenger App will contain the following features:

- SMS Messenger Message

- SMS Messenger Conversation

- SMS Messenger Manager/Conversation List

- SMS Messenger Database

- Background Activities

- Zooming Capabilities

- Views

2   Features

2.1   SMS Messenger Message

This is the smallest unit in the application. Each message will contain:

- A text message

- The phone number of the sender

- The phone number of the receiver

- A time stamp of when the message was received

- A id number linking the message to a conversation for the sender

- A id number linking the message to a conversation for the receiver

Each text message shall be allowed 256 characters. If this limit is surpassed, then the user will be notified and not allowed to add additional characters. In the event that a user does not send a message, but exits the application while leaving text in the text message field the application will save the unsent message so that the user may access, edit, and send the message at a later time.

Each message is limited to having one sender, but can have up to ten receivers. There can be no duplications among the receivers or between the receiver and the sender. If the id linking the message to a conversation is not found, it is assumed to be the first message in a new conversation.

2.2   SMS Messenger Conversation

This is a container for messages that is grouped by phone number of those involved. Each SMS Messenger Conversation will contain:

- A list of messages

- The phone numbers of those involved

- A id number

Each conversation shall be limited to 256 messages. If this limit is surpassed, then the oldest message within the conversation will be deleted and the newest added. If there is only one message within the conversation, if that message is deleted then the conversation is also deleted. Messages within a conversation are sorted by the time they are received or sent.

Conversations can be searched to find instances of a string within messages. When the string is found the conversation will only show the messages that contain the searched for string. If the desired string is not found the screen will remain the same and the user will be notified that the string was not found.

2.3   SMS Messenger Manager

This feature contains the main functionality of the application. There can only be one instance of an SMS Messenger Manager per instance of the application. Each SMS Messenger Manager will contain :

- A list of conversations

The SMS Messenger Manager shall be limited to 256 conversations. If this limit is surpassed, then the conversation which has the oldest last received message be will be deleted and a new conversation created. If there are no conversations within the SMS Manager, no conversations will be shown, but the SMS Messenger Manager will still exist.

The SMS Messenger Manager will be able to send, reply to, forward, and construct messages. If a message is created but is not sent before exiting the SMS Messenger App the unsent message will be stored as a draft so that it can be accessed the next time the applications is started. The SMS Manager will

handle the sorting of a message once it is received, such as making sure that the message is placed in the correct conversation or starting a new conversation when an unassociated message is received. The SMS Messenger Manager will also have the capability of deleting individual messages and entire conversations. Once either a message or a conversation is deleted they cannot be recovered.

The SMS Messenger will have a default view showing the conversation sorted by most recently received message. The SMS Messenger will also have options to sort the conversations by the contact, first showing the contacts sorted alphabetically then showing the unsaved contacts sorted numerically.

The SMS Messenger Manager will also allow a user to search through every message for a string. If the string is found only messages containing that string will be show in a list. If the desired string is not found the screen will remain the same and the user will be notified that the string was not found. The SMS Messenger Manager will also allow the users to search all of the conversations by contact name. If a conversation with that contact is found then all conversations with that contact will be listed on the screen. If the contact is not found the user will be notified.

The SMS Messenger Manager will have the permissions and capability to query the stock Contact Application to search for the contact name associated with the number of a received or sent message. If the contact is not found, the SMS Messenger Manager will provide the capability to add a new contact using the stock Contact Application's methods.

2.4 SMS Messenger Database

The SMS Messenger Database will we an SQL lite database independent of the Stock Messenger Application's database. This database will be accessed and altered by the SMS Messenger Application. The SMS Messenger Database will contain records of all of the sent and received messages. Messages, when deleted, will be removed from the database immediately.

2.5 Background Activities

The SMS Messenger will also contain some background operations. These operations are:

- IncomingSmsMessageReciever

  A broadcast receiver will listen for new SMS messages.This is a process that will run in the background and will also generate notifications that a message has been received and store the received message in the SMS Messenger Database.

- ConversationListMessageReceiver

  A broadcast receiver that will listen for new message notifications and update the Conversation if it is running on the screen.

2.6 Zooming Capabilities

The zooming capabilities of the SMS Messenger App will be limited to when the user is viewing individual messages or viewing messages within a conversation. In the case that the user tries to zoom the app will increase or decrease the font size of the message string shown. The largest font size supported will be 24pt font and the smallest font size supported will be 7.5pt font. Zooming capability will be disabled when in the conversation list view.

2.7 Views

The SMS Messenger App will have the following:

- Individual Message View
- Conversation View
- Conversation List View
- Create Message View

2.7.1 Individual Message View

The Individual Message View will show the message string, the names of the contacts associated with the message, the time stamp of when the message was sent or received, and the option to forward, delete, or reply to the message shown. The user will have the option to zoom in this view.

2.7.2 Conversation View

The Conversation View will show the messages in the conversation in a list. Messages sent to the user will be shown on the left side and messages sent by the user will be shown on the right side. This view will have the option to reply to the latest message in the conversation, search the messages within the conversation, delete the conversation, and to enter the Individual Message View by clicking on a message. The user will have the option to zoom in this view.

2.7.3 Conversation List View

The Conversation List View will have a list of the conversations stored by the SMS Messenger App. This view will have the option to sort the conversations shown, search the conversations, create a new message, delete a conversation, and to enter the Conversation View by clicking on a conversation. The user will not be able to zoom in this view.

2.7.4 Create Message View

The Create Message View will have a blank area to enter contacts, a blank space to type the message, a button that send the user to the contact list to select one or more contacts, and a button to send the message. Once the message is sent the SMS Messenger App will enter the Conversation View for the newly created conversation.