**P3\_DOC**

1. **Design Patterns Used:**

We used the Singleton Design pattern on the FileSystem class and the Conversation Repository class to ensure only one instance of those classes exists. We also used the Adapter Design pattern with the ConversationViewAdapter and the MessageViewAdapter to facilitate the interaction of two interfaces in the project. These classes should be in the NewNewKappaPrideSMS/app/src/main/java/com/example/kappapridesms

1. **Location of the five test classes**

The path is NewNewKappaPrideSMS/app/src/androidTest/java/com/example/kappapridesms

* Nathan tested the FileSystem class and made sure that it was persistent. He tested if it was saving and loading the conversations correctly.
* Amrr tested MessageActivity setUpPermissions method.
* Alazaar tested four methods in the BlackList class to see if it was adding, removing, and getting the blacklist numbers correctly.
* Mohammad tested five methods in the Conversation class to see if it adds, deletes, and gets a message.
* Michael tested four methods of the Message class.

A lot us tested more than one method because some of the methods were easy, so

we decided to test more methods.

1. **Instruction to build and use the software, including implemented functionalities.**

The first thing you need to do is open up the android studio program and have an AVD downloaded on your desktop. Once that is completed, you can begin running the app. If it is your first time downloading the app, the app will ask permission to use your phone’s SMS and contacts. Once grant it permission, you will be at the homepage of the app and being that you just started it the app will be blank. In order to begin a conversation, click on the start conversation button on top right and a dialog will appear asking you to enter a number. Once you enter the number, you click start and that conversation will be created.

Once that conversation is created between the number, you are able to send and receive messages. The amount of characters that you can send in each message is limited to 130. Anything over that will not allow you to enter any more characters. When receiving a message, your phone will chime and a notification will appear in your notification bar informing the user who had sent them a message.

Once you have messages in the conversation, you are then able to use other functionalities of the SMS app. Such as the search function whereby clicking on the microscope icon and typing in the word you want and pressing enter, you will see a highlight of every message that contains that keyword. Next to the search feature there is three dots that when you click will show you Contacts, Blacklist, Delete, and Forward.

Starting from the bottom and going up, there is a Forward message function and by clicking this the next message you click, a dialog will appear asking you what number you would like to forward your message to. Once you click forward and go back to the homepage of the app, you will see the number you forwarded the message to has received the message. The next feature is the Delete message, similar to the Forward message once you click on it you are then able to delete the next message you click. Before deleting the message, a warning dialog will appear informing the user the message will be deleted and after confirming it, the message will no longer appear in the conversation. The next function available to you is to blacklist a number. In order to do this, you just click Blacklist Number and then whatever number you wish to block. When you click on the number you will see a dialog giving you the option to blacklist and whitelist. After blocking it, any messages that number sends you will not be viewable in the conversation. To undo this, go back to blacklist and click the number again and select whitelist and any message sent now will be viewable again.

The last function within the app is the Contacts function, this allows you to give any number you already have a conversation with a name to it. How this works is after clicking contacts, Google’s own contacts app is opened and in there you can add the name and the number and click save. After you have saved the number, anytime you go back to the conversation or the homepage of the app the contacts name will now appear.