Project Title: Bye, Felisha: Spam Call Blocker

1) Project Goal:

The “Bye Felisha” program is a comprehensive program built to deal with spam calls on cell-phones. The program is designed to help registered users block “confirmed” spam numbers and gives them access to the list of calls blocked by the program, as well as have the opportunity to add more numbers to the blocked calls database since spam numbers are constantly being created and used. The program includes a text file database which has all the confirmed spam numbers recorded.

2) Potential Users

Potential Users for the Bye, Felisha Spam Call Blocker program are mobile phone users who receive a pestering amount of unwanted spam calls. Users must be able to download the app (must have a smart phone). Also the users have to agree to the Terms and Conditions because the program has access to user information (Name, Number, Call History, etc) and requires certain phone permissions. Note: our program is a text-oriented program for project release 1, but practically speaking in the far future it would be a downloadable application from the AppleStore or GooglePlayStore.

3) Use Cases/ Implemented Functionalities

a) **USE CASE 1:** This is the **USER MENU OPTION 4,** called “Check for Spam”. Class name in the code is “UseCase1”. The user is asked to input a number that may or may not be a scam number. If the user enters any values other than digits or enters a value that doesn’t have exactly 10 digits, the user is told that the user entry is an invalid number. If the user inputted value follows the condition that the values in the entry are all numbers and that it has exactly 10 digits.The system reads the user input and compares it to the list of numbers that are said to be scam numbers. It reads through the entire list, line by line, number by number, searching to check if the number the user entered is a scam number. According to whether the user input is found in the list or not, the user is notified if the number is a scam or not.

b) **USE CASE 2:** This is the **USER MENU OPTION 1,** called “Register to BeyFelisha Spam Blocker”. This use case basically acts as the front end of the program implementing some ASCII art for the visuals and taking advantage of javax.sound for audio effects for interactiveness. The use case registers the user’s name and phone number and displays a license/user agreement for the user to read and accept in order to proceed with the program . Class name in the code is “UseCase2”. This use case also has the class name “Audio” which takes care of the audio functionality in the program.

c) **USE CASE 3:** This is the **USER MENU OPTION 2,** called “Report Spam Number”. Class name in the code is “number_report”. This use case serves as an interface

for the user to add a scam number to the permanent block numbers list. The user is able to report a number if the number is a valid number, and they have received more than five calls from the number they want to report. If this criteria is not met, the number will not be stored. If the criteria is met, the ten-digit phone number as well as the number of calls received will be recorded. The user will receive a confirmation if it is reported. This information will be eventually added to the blocked call list once a certain amount of calls have been reported.

d) USE CASE 4: This is the **HIDDEN IMPLEMENTATION**, called, "Manage Database". Use Case 4, the hidden implementation, generates a random list of scam numbers. Use Case 4 takes in a text file of all U.S. area codes with their associated states and a random number generator. It then only extracts each random 3-digit area (and not the state) code from the text file to output them to a different file, then concatenate it with 7-digit numbers using a random number generator. This then produces a random phone number for the database. Then we will repeat this multiple times through looping to get a big list of random scam numbers.

e) **USE CASE 5:** This is the **USER MENU OPTION 3,** called "Display Blocked Calls". This use case prints out to user the list of blocked calls from their phone. Use case 5 works with Use case 1. Use case 1 modifies the file <user_log_blocked_calls.txt> of the numbers blocked from a user's phone. After use case 1 identifies a spam call, it adds the blocked phone number to the file <user_log_blocked_calls.txt>. Use Case 5 prints out all numbers present in that text file.