For this project, we are developing a phone network system. This project will implement the basic functions of what we believe is most important in a phone network. This includes allowing at least 2 different users, one administrator and one consumer. The consumer will be allowed to make and receive calls and view their call activity. The administrator will be allowed to add and delete numbers and view the logs of all activity on the network. The ability to switch between users will be handled by a login system that will open either side based on the information given.

This project will have functionalities for both a consumer-based user and a company-based administrator user. This program is intended for consumers that have recently joined a phone company’s consumer base. For the administrator user, this will be an employee of said company that has access to the phone records and the has the ability to add or remove a consumer from the network.

Login – the login functionality login allows the either user to login and access the functionality given to both. The users are also given the ability to log off from their account and be sent back to the login page to re-login as another user. Both the consumers and administrators have access to this feature

makeCall- the functionality call will allow the consumer to make a call to another number. If that number is in use, the call will be automatically declined. If the other number is not in user, the call will continue forward for an amount of time.

answerCall – not included in this release. Will give the consumer the ability to answer calls from random numbers. The user will have the ability to either answer the call or deny the call. If the user answers the call, they will be on the call for a given amount of time before the call ends.

viewActivity – gives the user the ability to view the activity(logs) of the users calls that have been made or received. The logs display the number that started the call, the number the call was going to and how long the call was going for.

addNumber – the first functionality given to the admin user. This function gives the admin the ability to add a number to the system. This allows the number and consumer attributed to that number access to the other numbers on the system for the purposes of making calls and giving the other numbers access to that number for the purpose of sending calls.

deleteNumber – allows the administrator the ability to delete a number from the system. This will remove it from the network and disallow other numbers access for the purposes of making calls.

ViewLog – allows the administrator access to the logs of the entire network. This gives the admin the ability to view all calls made, which number called which, for how long, and the numbers that did not connect.

Not included in the functionalities is the engine and the code that operates the process of the numbers other numbers making and receiving calls. While this is not a function that either user groups have access to directly, it is a very import piece of code to the entire project. This code operates a thread that pings the numbers that are pre-loaded in the program. When the number gets pinged, it randomly selects another number. If that number is available, the two numbers connect and make a call. If that other number does not connect, the first number is put to sleep until a certain amount of time passes or they are called again. The process runs at the start of the program and continues until the program is closed. When another number is added or deleted, the engine restarts with that alteration made.