USER INSTRUCTIONS:

Step1: Import the UserInterfaceTest project into the Android Studio.

Step2: Set up the lampp server and import the htdocs into the directory /opt/lampp/htdocs.

Step3: Copy the TCPClient.java file into the htdocs folder and compile it to create the .exe file.

Step4: Bootup the Raspberry pi board using VNC viewer.

Step5: Setup Lampp on the Raspberry Pi.

Step6: Copy the htdocs into the following folder /var/www/html.

Step7: Open BlueJ and import the TCPServer.java file

Step8: Compile and run the TCPServer.java file

Step9: Two files namely ipaddr.txt and macaddr.txt will be created as the output of NMAP running on the java code.

Step10: The IP address of the server is determined by ARP mapping and the socket is established to the server with the help of IP address and the roles of each device on the network are also displayed.

Step11: The status updates from the Mobile app are passed from the laptop server to the Raspberry Pi through the socket.

Step12: Few LEDs are interfaced with the Pi board to observe the status updates and changes

Step13: The status updates in the databases occur parallely and changes can be viewed through the phpmyadmin.

Step14: If the Pi is down the mobile app toasts an error message.

Step15: The webcam interface is achieved through IP webcam which allows live streaming of videos and recording. The recorded videos are available on the server for retrieval.