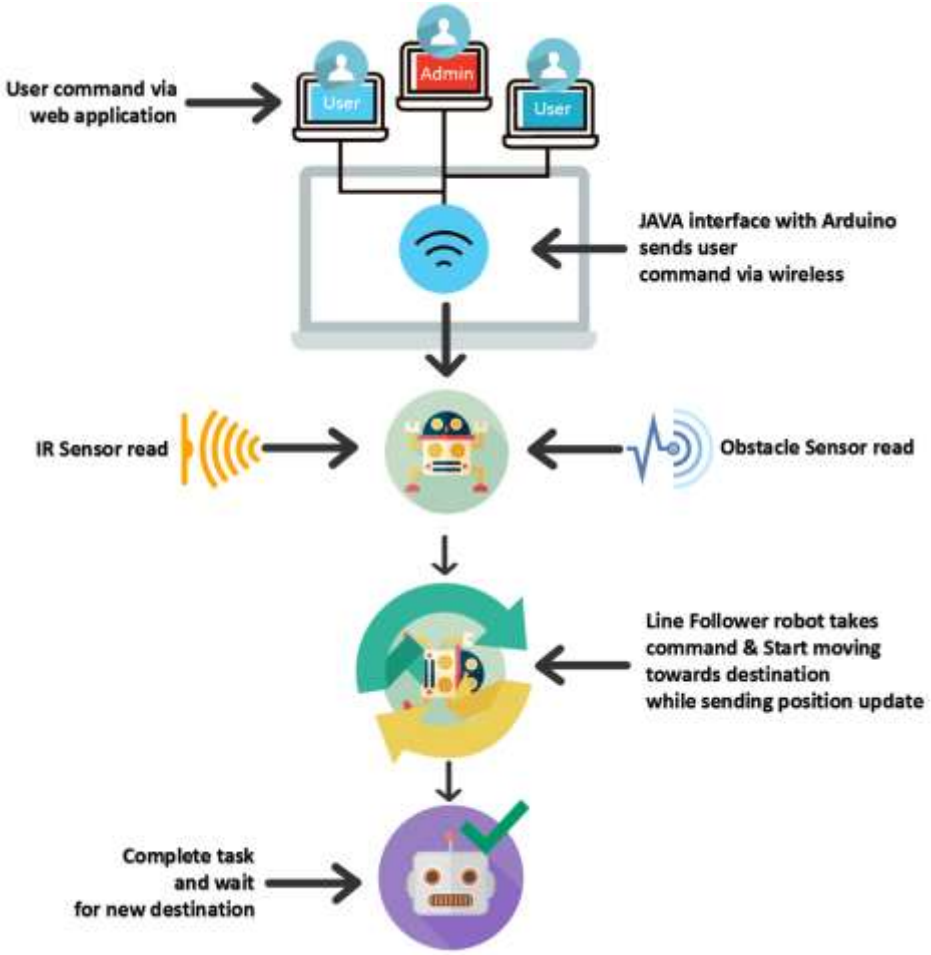

Figure 5. Mechanism of User End

Both user end and robot end are connected via the Java application with nRF24L01 connection. By default when a user make a call from a location the Java application forwards the command to the robot if it is idle. After connecting the robot will reach the location by following its path; the robot will start to move forward, left, right or turn 180 degree by reading the IR sensor and considering the destination. On the path if there are any obstacles detected by sonar sensor the bin will stop and wait until the obstacle object moved from the path. As there are defined location, the robot will stop from which location are being called by the user, rest of the locations will be ignored. After few seconds the robot will start to move; if the robot gets another call from another user it will respond to user as the same thing. After completing the task the robot will rest until it gets any call.

Path Finder Control Design

Implementing the prototype is one of the biggest challenges in our project. There are many reasons why it is not easy to implement one of them is perfecting the structure, which helps the rest of the parts to hold. The second is to write the code and choose the appropriate pin for the sensors. We have divided the implementation on two parts first is Mega second is Uno [5].

