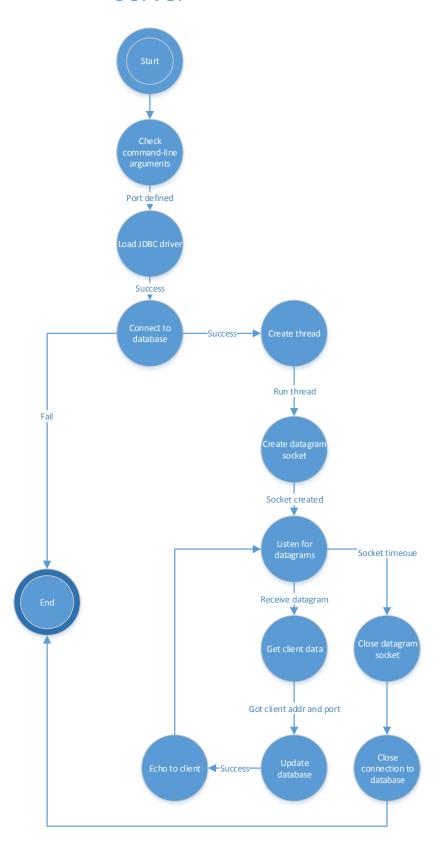
JAVA LINUX SERVER STATE DIAGRAM

Server



JAVA LINUX SERVER PSEUDOCODE

UDP SERVER

MAIN

Check command-line arguments for port number

Load JDBC driver

Attempt to establish connection to the database

Create a thread for the server

Run the server class

SERVER CONSTRUCTOR

Create the datagram socket for data from the clients

Set timeout for the socket

SERVER RUN

Run until the socket timeout

Listen for datagrams from clients

Get the client address and port from the datagram

Parse client data

Update the database with the client's data

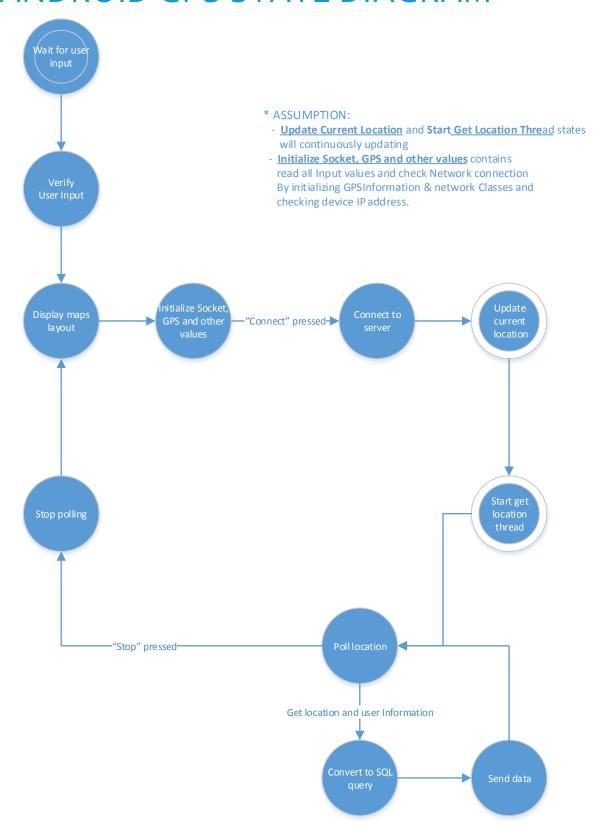
Echo back to the client with the client's data

If the socket timeout

Close the datagram socket

Close the connection to the data

ANDROID GPS STATE DIAGRAM



ANDROID GPS PSEUDOCODE

CLASS MAINACTIVITY

FUNCTION ONCREATE

Display mainpage xml

Call init function

FUNCTION INIT

Initialize name ip, port, error message field, and buttons in xml Initialize editText field value empty

Start button listener setup

Verify input values

Initialize intent to location

Add name, ip, port information to intent

Run intent (move to location page)

CLASS LOCATIONACTIVITY

FUNCTION ONCREATE

Display location xml

Initialize fragment for google map

Initialize values

FUNCTION INITVAL

Get intent from previous page and get name, server, and port value from intent

Initialize Network information

Initialize GPSInfo class which name is qps

Initialize xml text fields and home button

Initialize home button click listener

Move to main page and Close gps

Initialize start button listener

Check if it is started to send gps info or not

It is not started $\,$ open & connect socket and start to get GPS information

and change start button name to stop

If it is started stop qps and Change start button name to start

FUNCTION ONMAPREADY

Initialize map whose default value to BCIT and move map centre

FUNCTION DRAW MARKER

get latitude and longitude value using location

if it is first value of location zoom in to the map

move camera to location and add marker

Class Mapupdate as a AsynTask

initialize count to 10

FUNCTION DOINBACKGROUND

This is continuously running if it was start – update value in start button listener

Get current location using gpsInfo value

If previousLocation is null initialize previousLocation and send & mark location

Else if count is zero or currentlocation is not same to previous one

Change latitude and longitude value to string

Send current location value to onProgrssUpdate function

Send latitude, longitude and clientName using socket

Update previous location

Otherwise deduct count value

Sleep 10 second to prevent continuous update

FUNCTION ONPROGRESSUPDATE

get first value in current location

if this value is not null, update latitude & longitude value in xml, and add marker in the map

CLASS GPSINFO

Initialize GPSEnabled, NetworkEnabled, GpsLocationEnabled, locationManager value to false

GPSINFO CONSTRUCTOR

Initialize context value

FUNCTION GETLOCATION

Check SDK version and check permision SDK version is over 22

Initialize locationManager

Request location Update

GPSEnable and NetworkEnable check using locationmanager

Initialize Criteria which accuracy is high and battery usage is low

Initialize 2 providers which type are ACCURACY_HIGH and ACCURACY_COARSE

Either GPSEnable or NetworkEnable ispossble to use, start get information

If there is no myLocation value, request update using ACCURACY_HIGH type provider and update mylocation

If myLocation is still null, update location info using ACCURACY_COARSE type provider

FUNCTION GETWIFIADDRESS

Initialize Wifimanager and get ip address

Convert ipaddress into String using ByteType array

FUNCTION GETNETWORKIPADDRESS

Get Network interface value and keep checking if there valid address

Check IPv4 address and return it

FUNCTION STOPUSINGUPDATE

if locationManager is not null and have permission to use location

disable Getlocation and remove location update from location manager

FUNCTION GETNETWORK

return 'networkenable' value

FUNCTION GETLATING

return mylocation

FUNCTION SHOWSETTINGALERT

Initialize alert dialog (set up alert pop up message, and add dialog to change 'location' in setting menu)

Show alert dialog

FUNCTION ONLOCATION CHANGED

Update mylocation variable

FUNCTION ONSTATUSCHANGED

Check LocationProvider condition which are out of service, temporary not available or available.

Display condition message depending on LocationProvider condition.

CLASS NETWORK

NETWORK CONSTRUCTOR

Initialize server ip address and port number

FUNCTION CONNECT

Get InetAddress name using ServerIP

Open udp clientsSocket

Initialize new packetData in byte type

FUNCTION SEND

Get clientString using CreatePacket function

Convert clientString value to byte type

Create datagram packet using server information and Byte type String

Send datagram using clientSocket

FUNCTION CREATEPACKET

Make string using parameter information to SQL syntax type string and return