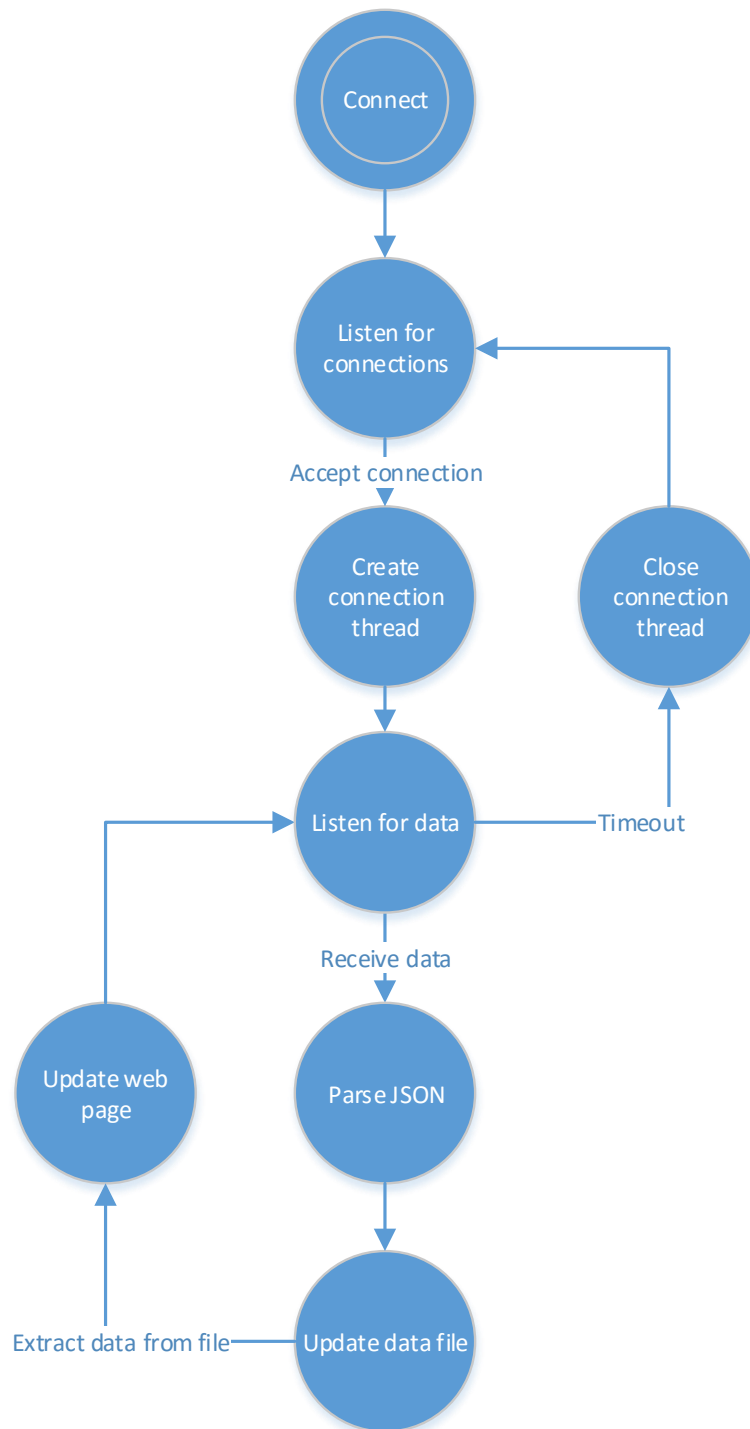


JAVA LINUX SERVER STATE DIAGRAM

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

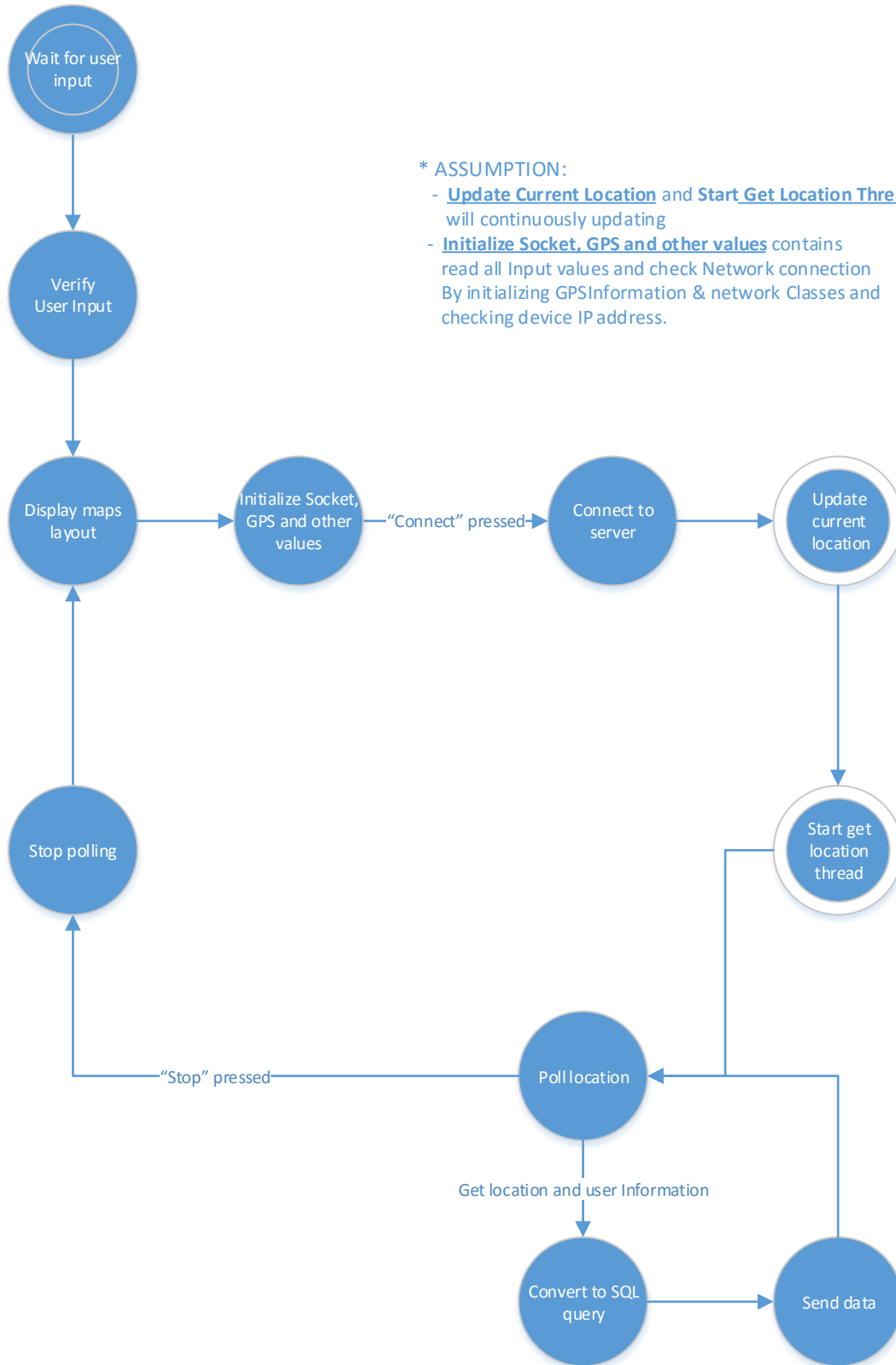
SERVER CONSTRUCTOR

- 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 gps

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 gps 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 AsyncTask

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 GPSTINFO

Initialize GPSEnabled, NetworkEnabled, GpsLocationEnabled, locationManager value to false

GPSTINFO CONSTRUCTOR

Initialize context value

FUNCTION GETLOCATION

Check SDK version and check permission 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 is possible 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 GETLATLNG

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 ONLOCATIONCHANGED

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