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Data Communications (Comp 4985)

Android GPS

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# Requirements

* Android application that allows a smartphone to access a server via TCP/IP
* Must implement the channels between two client devices and the server using TCP/IP
* No constraint on languages or tools
* Must be completed on android and/or iOS

## Client Application

* Client acquires its current location
* Client sends the co-ordinates to a receiving server over Wi-Fi using TCP or UDP connections to the server
* Client app prompts the user for an IP address and port number of the server
* After entering the address information of server, app collects location info and sends it to the server periodically

## Server Application

* Runs on Linux machine with apache web server running
* Receives the location data and formats the data in a file
* Data should include:
  + The time the co-ords were received
  + IP address and name of the client device
  + Latitude of device
  + Longitude of device
* Generates a file in the default apache home directory for the web page
* Can receive updates from multiple client devices and generate update files accordingly

## Server Web Page

* Server will read the file and plot the co-ords of the clients on a map using google maps API
* Can be viewed remotely using web browser
* *Must* have password authentication for access

# State Flow Diagrams

## Server Application



## Client Application



## Server Website



# Pseudocode