

# Friends Tracker: A mobile social network application

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## Introduction

### Mobile Social Networking

One or more individuals of similar interests or commonalities, conversing and connecting with one another using the mobile phone.

### Global Positioning System

Provides reliable location and time information from GPS satellites.

**“Develop a social networking application for mobile phones, to collect and provide information about the geographical position of each member of a community, using Global Positioning System”**

## Functionality

- ❖ Developed in Java
- ❖ Uses location information from GPS enabled devices.
- ❖ Client/Server application
  - ❖ Users register to a community.
  - ❖ Client Sends location information via Wi-Fi or GPRS to the Server depending on availability.
  - ❖ Server stores user location information and timestamps.
- ❖ If authorized, users can obtain other user location information.
- ❖ Location visualization on Google Maps or OpenStreetMap (OSM)

## Technical Details: Server – Side

### ➤ Server is multithreaded

### ➤ Start the Server:

- ❖ Open a socket
- ❖ Wait for a client to connect

### ➤ On Client connection:

- ❖ Retrieve user's information
- ❖ Perform authorization and friend matching



### ➤ Send location data

- ❖ Retrieve and store location information
- ❖ Visualize user location on map
  - ❖ Retrieved from Google Maps or OSM

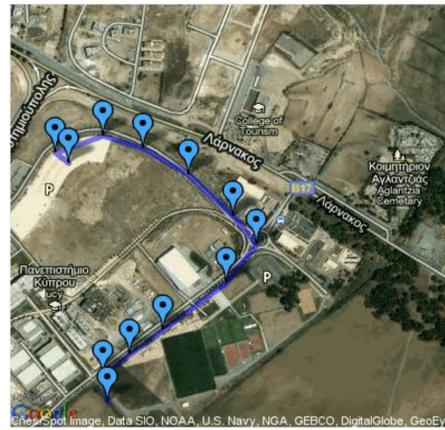


### ➤ Get location data of a user:

- ❖ Retrieve the stored location information data (longitude, latitude)
- ❖ Convert longitude and latitude to place name
- ❖ Send to the user the name of the place and the longitude, latitude values

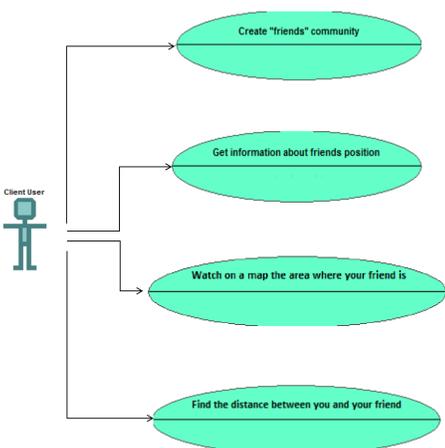
### ➤ User mobility visualization:

- ❖ Show a map or satellite picture on a window
- ❖ Works with Google Maps and OSM
- ❖ Create the trace on the map

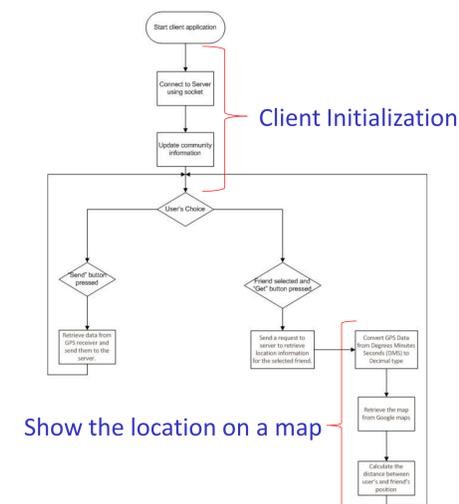


## Technical Details: Client – Side

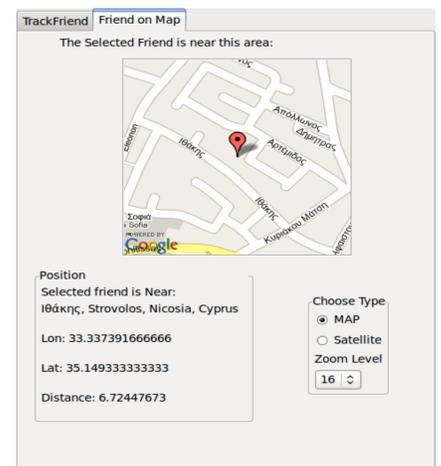
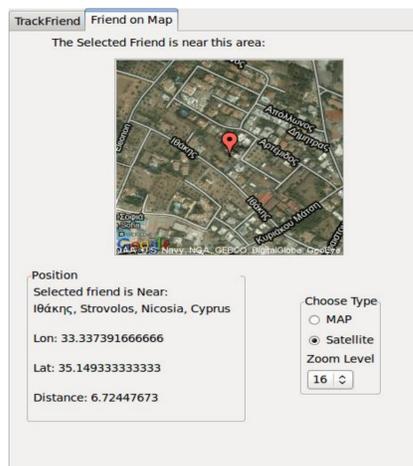
### ➤ User can:



### ➤ Client application runs on mobile device



### ➤ Visualization on mobile device



The user choose to get the position of a friend. The position is shown on a map or a satellite picture, with a zoom level that user choose

## Achievements

- ❖ Create and manage communication between members of the same community
- ❖ Utilization of Google Maps and OpenStreetMap API
- ❖ Show the position of a friend on a map (not only as longitude and latitude values)
- ❖ Show the name of the requested friend place, using reverse geocoding
- ❖ Watch the trace of a device which uses the application
- ❖ Platform independent application