

# Geo2tag Client: Doctor Search

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## Abstract

Nowadays mobile devices with the function of defining of geographical position are becoming more affordable. Also mobile Internet is getting more accessible. This two factors make Location Based services so popular today and the trend is that they will be more popular in the future. Location Based services are used in many areas of our life. What if they could not only make life of many peoples more interesting and easy but also they could prolong someone's life? Let's imagine that someone can send request for help with mobile device and information about his position can be processed and transmitted to a doctor who is occasionally walking along the neighbor street and who can give first aid before the arrival of an ambulance and may be save one more life.

Geo Doctor Search is a Location Based service for searching doctors near the patient in emergency situations. Doctors near the suffering patient will be notified by the running mobile application which is receives information about the patient or by incoming SMS.

The idea is that patients and doctors are joined to social network by means of mobile applications running on their mobile devices. This network is distributed and represented by server and many clients. The server is responsible for keeping information about users and for updating the information of their location. The main functions of mobile clients are joining to network, tracking their position to server and sending request for help. The server is responsible for finding the nearest doctors for the patient having requested for help and for notifying doctors about patient's location.

The server part is based on Geo2tag platform and has an open API for clients. Geo2tag provides the API which can be applied for different Location Based services. It operates with basic objects like Users, Channels, Tags and allows to create users and channels, to write tags to channels and request tags from channels. Retrieving tags is performed by subscription to chosen channels and requesting new tags from them. In case of Geo Doctor Search service users may represent patients and doctors. Channels may be used to track users (they just periodically write tags to their channels) and to keep events. Doctors retrieve tags from events channels which can be displayed, for example, on map and the device can alert about new events. Also Geo2tag provides spatial filters, so events are first filtered and then transmitted to doctors.

The open API allows to write different clients for different platforms. Our first mobile clients are a Qt application (which can be built for several platforms such as Symbian and MeeGo) and Android application. Open question is the network traffic and energy consumption by clients. It should be analyzed separately. The information about users' location should not be outdated and doctors should get information about events quickly. But frequent requests to server increase network traffic and energy consumption. So the balance should be found. Determination of location also consumes much energy. In this case the operating system should use system resources rationally.

**Index Terms:** Mobile Health, Location Based services, Qt, Symbian, MeeGo, Android.