DIGI-TRACK

Vehicle, people, pet, vessel, merchandise tracking and monitoring system

DIGITRACK system is an integrated tracking and monitoring solution specially designed for motion systems such as, people, vehicles, merchandise, and pets. The system enables the employment of mobile phones supported by the latest GPS tracker devices, providing realtime tracking data to the users (minimum per 20 sec., or even per second). Moreover, the employment of mobile phones enables the bi-directional communication between system users, as well as the exchange of positioning, messages and information, as required by an advanced social network.



DIGITRACK system consists of:

- 1. Server, uninterruptedly operating, where it takes place the overall management of data exchanged, as well as data storage for future processing (no installation is required, since it is already installed by UBILUS, any relative costs are borne by UBILUS).
- 2. PC clients, for the system remote monitoring, at customer site.
- 3. Mobile phone devices where all software capabilities run and maps are displayed, via a user-friendly interface.
- 4. GPS Trackers, which could be integrated to all abovementioned systems.

The following options are offered to users:

1. DIGITRACK application could be downloaded to user's Android mobile phone via the website www.digitrack.gr , at the section named "E-SHOP" and then at the section "Download the App for Android". Users can use any browser available, in order to reach the company website above. There, users can enter to e-shop so that to select software download. Where no GPS trackers have been purchased by our company, the application is fully operational for one (1) month. As soon as said one (1) month of operation has been completed, users only lose the capability to send data to third parties, but still keep on receiving data by them. After one (1) month of operation, payment of annual subscription enables server access, without any limitations.

Users are enabled to exchange positioning data, messages, calls, photos e.t.c. with other users of the application.

- 2. GPS Trackers could be purchased via the e-shop, as above, as well as download the DIGITRACK application (please refer to Option 1). Then, users shall select a mobile telephony program that provides internet data support, get a SIM card for each tracker and install it to it. It is noted that, the card PIN code request should be disabled first. Depending on the tracker, there might be required installation to be performed by a specialized technical (e.g. vehicle gps tracker case, without OBD).
- Users can enter the webpage, create an account and get tracking and positioning data of the systems monitored, in the same manner as monitored via a mobile phone (i.e. webapplication).

The mobile phone devices and gps trackers should either be permanently supplied power at installation sites or regularly charged depending on usage conditions. The operation of subsystems depends on the reception of gps signals for the verification of positioning, as well as on the existence of GPRS/3G/SMS communication for the data transfer between the subsystems. Thus, it is understood that the DIGITRACK system requires the existence of the functions above so that to transmit information to other system modules. It is customer's responsibility to select the desired mobile telephony provider, while the respective mobile telecommunication charges are borne by the customer. Taking into account the data transmission rate to the server, a program providing 100MB/month satisfy the application requirements, without taking into consideration the maps data volume, which obviously shall not be downloaded via the 3G/GPRS connection, since there is WIFI connection feature as well as the ability to store maps in the SD card (at an earlier time).



DIGITRACK features are:

- Automatic language selection in accordance to the selected language of the operating systems. Languages available: Greek, English.
- Selection of the entities monitored (mobile phone devices, GPS trackers) via the contact list of the mobile phone.
- Track recording and direct (real-time) monitoring of tracking routes progress.
- Use of offline maps and maps storage functionality to the SD card for future use.
- Streetview display at the positions of the entities monitored (WEB).
- Display of entities at graphical maps (streets, terrain).
- Display of positions, path traces, distances, directions, entities status (online, offline, within, out of zone).
- Zones management function, where possible violations of them, produce immediate alarm.
- Map rotation either in accordance to our movement or to our direction based on electronic compass.
- Display of photo thumbnails, of the entities monitored on the map.
- Zoom In, Zoom Out and Pan Functionalities on the map.

- Access assignment to exchange data with the contacts of user's choice.
- Display of contacts that have the application installed.
- Underlined contacts that, have recently transmitted unread data, have incoming messages, and are out of zones or out of communication for a long time.
- Transmission of encrypted messages (AES algorithm) between the users, enabled to indicate position on the map.
- Photos transmission as well as simultaneous usage of coordinates by the users.
- Voice communication between the users.
- Route creation starting from user's position towards any entity, while using relative voice commands. Voice commands in English or in Greek, following the relative language selection.
- Zone management function, zones graphical representation on the map.
- Area management function, enabling areas displayed on the map, where users could to find a route based on their positioning. (Positioning matching to photo).
- Route management function, even when "offline".
- Display of user's positioning data via the embedded GPS to the mobile phone, as well as of data relative to the mobile telephony cell.
- Positioning tracks recovery of all entities within a specified time period.
- Playback history, featuring functions such as play, pause, stop, back, forward and simultaneous display of the entities and time on map.
- Graphical representation of GPS satellites, as well as the respective reception level.
- Energy management towards optimized device energy autonomy.
- KML files to be imported to other software applications.
- Battery level, GSM signal level indications.
- Street, number, area of the selected entity, indication along with the respective coordinates display.
- User settings save and restore functionality.
- Real-time alarms based on sensors applicable.
- Classified user access and capabilities to the WEB application, in accordance to the user profile selected (e.g. simple user, administrator e.t.c.).

The description of the DIGITRACK application on Android follows. As soon as the software application is installed, the user selects the DIGITRACK icon on his cell phone. Before loading the application, the user could set the installation language settings preferable at his cell phone. If Greek language has been selected, DIGITRACK application will be in Greek language. Whichever language is selected, DIGITRACK application will be in English language.



Depending on whether there is a SIM card in a mobile phone or not, one of the two following screens appears:

Digi-Track

New to DigiTrack? Please register here.

Registering with your Phone Number, you agree to Terms and Conditions of this Program. Be sure that you have written your phone number correctly. To identify your number, one SMS from your phone will be sent to your phone. If you agree press REGISTER. Write your Phone Number



Digi-Track

New to DigiTrack? Please register here.

Cause, there is no SIM card inserted, pressing REGISTER, you will receive a Registration ID from Server, which you will find it at the tab INFO. With this, you agree to Terms and Conditions of this Program. If you do not agree, press BACK to cancel REGISTRATION.



That difference lies in the fact that the application takes advantage of the existing information already entered by the user at his contacts in the cell phone. That way, it is not required to reenter the entities desired to exchange information with, since those are already stored in the user's cell phone. Users need though to verify and confirm, via the application, their cell phone number, so that to be sure about the accuracy of the information. Said confirmation, at the first case where the SIM card is active, is performed via an SMS transmitted automatically by the user cell phone, back to the user cell phone.

That receipt of the SMS, by the same cell phone, automatically activates the application and the system is registered to the Server.

This SMS is required firstly to be approved by the user, just before sent, due to the fact the user is the one charged the SMS sending. In the case where the user does not wish to proceed to registration, he could simply press the "BACK" key.

The second screen, as shown above, appears when there is no SIM card on the cell phone. As soon as registration has been accepted, the user is now identified by the application, not via the cell phone number but via a serial number assigned by the Server. This activation requires internet connection. Compared to the first case, now "friends" in order to be able to exchange data, shall enter said serial number to their contacts list. Obviously, at the first case, it is easier for the user to communicate with his "friends", since their cell phone numbers are known to him, already stored in his cell phone.

Therefore, since user has been registered (or not), user runs the application where it is displayed at the center of the screen, or not, the respective indication for the right entry.





Restarting the application has as a result the following screen to appear, which remains until either the application is connected to the Server or the user clicks on the screen.



In order to connect to the Server, it is required to have an internet connection (via Wi-Fi or 3G/GPRS), which should have been activated before starting the application. Where positioning is required, the user should have activated in advance the GPS of the cell phone.



As soon as all the above have been performed the user can see his position on the map, and all indications relative to the successful connection to the internet and the Server, as well as the identification of user's position.

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In order to completely exit the application, the user should double click the "BACK" button at the cell phone facade.

Hereafter below all the functions available by the software application are described in a graphical way.





Entities Management



Entities management screen visualizes automatically all the contacts stored on user's cell phone (e.g. the entry Niki at the image on the left hand side below). Also, contacts which do not correspond to a cell phone number (e.g. an entry to a Tablet), appear. Said contacts (which should be first stored to the cell phone contacts list) have a serial number dedicated by the Server. At said screen GPS Trackers will also appear. Said GPS Trackers might have been purchased by UBILUS (e.g. Opel Astra) and have been first stored at the cell phone contacts list, by entering at the Cell Phone entry, the

respective IMEI code of the GPS Tracker delivered. The IMEI code is a 15 digit code that is unique for each GPS Tracker in the world.

Each entry / entity consists of the name of the entry / entity, the cell phone number or serial number or IMEI and the photo (if that exists). Additionally there are two columns with option boxes at the left and right hand side of the entities. The option boxes at the left hand side, where exist; indicate that the respective entity has the DIGITRACK application installed. Whichever option made at the right hand side, we state that we wish to have the data of the respective contact selected at the system, appear. Obviously if it is desired to have bi-directional communication with a contact, then both option boxes of the respective contact should be selected, while the same process should be followed by the other user, at

his application environment, for us. If it is desired to send and see all of our contacts, we should select all option boxes, for that reason there exist two boxes at the upper side of the screen, which help us that to be automatically done.

U		
SYSTEM	S	
Give Data to	Get Data from	
01322700		
MT90, Yellow 8617850003	<u> </u>	
MVT600a 01394900204		
MVT600b 013949002032		
Niki 306975606	2	
Opel, Astra 8621060243		
Outlander 8621060243		
Tablet 10000002		
ΑΓΓΕΛΟΠΟΥΛΟΣ 306977		
ΑΓΓΕΛΟΠΟΥΛΟΣ. 30694646		
ΑΓΓΕΛΟΠΟΥΛΟΥ, Δασκαλα		
306945777878		
ΑΓΓΕΛΟΠΟΥΛΟΥ		
Request Friendship		
Info Chat Ce	nter Route	
Online Inside Zone Online Ou No data New data	t of Zone Offline Data Read	



The colors at the entities descriptions indicate the respective status (as described at down side of the screen):





Information regarding the specific entity, which is automatically updated for any new transmission made by this entity. Friendship requested to the specific entity. If it is desired to share data with said specific entity, select YES. The same result appears when both option boxes at the two sides of the entity, are selected.

Info		
Opel, Astra		
Date	10-12-2014	
Time	20:21:26	
Туре	1	
Command	AAA 35	
Battery	4.22	
GPS Fix	A	
Latitude	38.02	
Longitude	23.65	
HDOP	1.3	
Direction	104	
Satellites	8	
Height	181	
MCC	202	
MNC	5	
LAC	0050	
CID	298D	
GSM Signal	24	
Car speed	0	
Total mileage	6823931	
External power	12.08	









Chat		
ΠΑΝΑΓΙΩΤΗΣ		
hello total are you doing ? 10-12-2014 20:30:45 *	To delete a m have to drag left with	nessage you just it to the right or your finger.
	To delete all m specific enti "Delete conver	nessages of the ty, press the rsation" button.
10-12-2014 20:32:57 * let' s go for a coffee 10-12-2014 20:37:34 *	Cł ΣΠΗΛΙΟΠ	nat
Chat Position	·	
Make Call Delete conversation Photo from Camera Photo from Gallery		
	10	
	DELETE CONV	/ERSATION
A positive answer deletes all messages.	Are you sure ?	
	10- Cancel	ОК
	let's go for a coffee 10-12-2014 20:37:34	
		Chat Position
	Make Call	Delete conversation
	Photo from Camera	Photo from Gallery



General information about our device.











Download maps to the SD card for future use.





With the red square we complete the selection of the area and automatically switch to the next screen, where we continue to select the limits of Zoom.

Selection of the zoom limits. "0" corresponds to zoom where the globe is a single file, the "1" corresponds to 4 files, the "2" to 16 files e.t.c.

Obviously the total number of maps depends on the zoom limits and the size of the area. So, before starting the download process, we can calculate the number of maps and then start downloading to the SD card. With the button "Select region on the map" we are transferred to the map where with the help of two blue circles, we select the area we want to save to SD for later use.

With red colored "X", we cancel the process.











With this option the map is displayed without rotating and the 4 orange colored half-lines show the four cardinal points, while the contiguous one shows north.

North as to the map



North as to movement



With this option the map is rotated and purple colored arrow shows our direction. That way we see towards the upper side of the map, i.e. the area in front of us as we move, while the contiguous orange colored line shows north.



North as to the compass



With this option the map is rotated and purple colored arrow points the direction seen by the front side of the cell phone, using the cell phone embedded electronic compass.





As long as we have transferred the center of the map at the desired point for which we search for the address, we press that option. At the upper side of the screen there appears the center address.

Map center address display





Address / Coordinates Search

Entering the wanted address or coordinates, we are transferred to the selected point on the map. An internet connection is required so that to search for an address.







Transition to our position



This option enables us focus the center of the map on our positioning point. Focus is possible only when our position has been found.



Transition to home position



This option enables us focus the center of the map on home position. Home position is selected via the general information display of our device.

Operations on the Map Screen



of GPS
satellites along
with the
respective
signal receipt
intensities.

Information management relative to our position

When pressing on the icon that shows our position, has as a result a circular disk with the following options, to appear.





Information management relative to the selected entity

When pressing on position icon of an entity, has as a result a circular disk with the following options, to appear.









When creating a new zone, the pin gets purple color to indicate the new mode. Then, we move the map so that to define the zone points we want to store. After each point we press on the purple pin and we move on the next point. The limits of the zone appear and as long as all points have been entered we select the "Finish Zone" function from the circular disc.











Via the "Show Zone Descriptions" the entities zone descriptions appear in order to distinguish them.





Via the "Find route" function for a specific entity, the route is calculated and designed, starting from our position towards this entity. AS we move, we listen to audible guidelines which direct us to this entity and recalculate our route. For this operation to take place, it is required to be internet connected. The languages available are Greek and English.

Information management relative to place





WARNING

The transmission of information content between a cell phone and a GPS Tracker is performed over 3G/GPRS. This way, relative fees apply by the mobile telecommunications operator. The user of the system should select a mobile telephone data program that suits him and install trackers at his cell phone.

Moreover, due to the fact that the operation of the system depends on existence or not of a mobile telephony signal (coverage), it is obvious that the system cannot operate when no signal exists at the areas, places where the GPS Tracker and the cell phone are located.

<u>Website</u>

http://www.digitrack.gr

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