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03	30/11/2016	George Soulos	ERFC	Final set of comments (internal review)

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This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

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EXECUTIVE SUMMARY

Document provides the summary of the activities resulting by the organisation of two Hackathons, MEDHACKATHON (Patras, Greece) and Baltic (Geo) Hackathon (Riga, Latvia).

Following activities took place under the Work Package 7 (WP7) "Support for External Developers" with aim to attract and provide a support for potential external developers of open (where relevant geo) data resources, technologies, ideas and knowledge provided by the SDI4Apps as well as other from other relevant projects, initiatives, and additional sources.

The main ambition of the hackathons organised was to create space where people can present what can be done with the open (where relevant geo) data resources, technologies, ideas and knowledge. Another even more important dimension of the events was the willingness to provide also space where people representing various types of stakeholders (from producers to the users) can meet and exchange their experience and knowledge.

MEDHACKATHON (Mediterranean Open (Geo) Data Hackathon & Conference) (Here and after MEDHACKATHON) took place from 13th to 15th of July in the Computer Engineering and Informatics Department (CEID) of University of Patras, Greece.

MEDHACKATHON was running in two sessions, where the Hackathon part was dedicated to the coding and development of new apps, services or data resources based on the list of identified possible resources (Data, Catalogues and Tools). The other part was dedicated to the organisation of a conference entitled “Open Data Empowering Society & Entrepreneurship”. The conference had a thematic dimension dedicated to the following specific topics:

a. Transport, Tourism & Culture
b. Agriculture & Food
c. Spatial Planning & Governance

The conference presented latest data and policies related to open data and how it could become a real opportunity for an entrepreneurial uptake. Moreover, during the conference, many opportunities raised for successful B2B cooperation, a number of Open Data projects presented as well as practical guidelines how to present open data projects, or data sharing related presentation with interesting discussions.

During the 3 days, 155 participants created unique environment delivering significant amount of data and technology resources, as well as valuable know how & expertise which were used to support set of interesting and promising ideas. Out of 12 ideas introduced on the beginning of the Hackathon, 12 projects managed to present their results after two days of intensive work. The best 3 projects were selected by the jury members and awarded with the prizes provided by the set of contributors for the prizes. Many innovative ideas were presented and the winner received a MAC book AIR and a PI Rassberry. Although participation on the event was free of charge, selection of the participants was announced based on the registration form, where organisers wanted to identify the motivation of the applicants to take part as well as ensure the event will meet their expectations. Based on real attendance lists as well as direct interaction with the participants their structure they mainly represented private sector, academia, non-governmental organisations and individual enthusiasts. We should underline here that the representation from the public sector was significant and we received interesting datasets. Additionally, one of the three prized was awarded to the application “«Visiting Museums & Transportation» which was developed especially for the Ministry of Education & Culture.

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All results are available via event website and the feedback provided by the 155 participants was the strongest satisfaction organizers could receive.

The **Baltic (Geo) Hackathon** took place between 16-18 March, 2016. The Venue of the events was Latvia two biggest universities - first two days were held in Riga Technical University, Architecture and Urban Planning Faculty and the last day in University of Latvia, Riga.

A hackathon is very often understood as some exercises of programmers or data specialists. The Baltic Open Data Hackathon extended this approach by inviting also end users. So we were looking for different types of developers, data specialists and users from different fields, not limited to the following ones:

- Open data providers
- Web GIS developers
- Web designers
- Semantic web experts
- Database experts
- User interaction experts
- Mobile developers
- Developers of apps in different areas like transport, tourism agriculture, planning
- Hardware experts focused on sensors, communication and machinery tracking
- GIS specialists for analysis
- Geographers
- Earth observation experts
- Experts on land use, landscape and land cover
- Spatial and urban planers
- Transport planners and managers
- Agronomist and farmers
- Travel agencies and tourism specialists
- Regional development agencies
- Environment protection experts
- Managers and investors interested to check or find new ideas
- Marketing experts
- Data journalists

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1 INTRODUCTION TO MEDHACKATHON

1.1 Motivation

The main motivation to organise the MEDHACKATHON in the way described by this document was creating a free access space where independent developers such as students, small micro companies or any other stakeholders could first time learn about the outcomes of the SDI4Apss project.

This public event was foreseen as initial opportunity to present the SDI4Apps platform to the wider communities of external developers and other stakeholders, together with the possibility for SDI4Apps project team to network and establish the new contacts as well as learn about the other relevant open data and technology resources. This allowed to enrich the common knowledge as a base for the set of following event foreseen to take place during the lifetime of the project and beyond.

Reflecting above motivation MEDHACKATHON was designed as a joint event of the Hackathon and the Conference that commenced the whole 3-days event. Both sessions took place in parallel, where Hackathon part was dedicated to the coding and development of new apps, services data resources, whilst Workshops were more focused on sharing the latest news about the data resources, technologies, projects, initiatives, including the panel and workshops specific discussions.

The title of the event was inspired by the MEDITERANEAN sea, providing the venue and symbolically linking the significant amount of EU and non EU countries.

Despite the increasing amount of the data that is created and made open in the Mediterranean region, its practical use is still facing various challenges. In the case of geo data, the situation is even more tricky. Similar conditions relate also to the software tools helping to collect, manipulate and publish such data.

To proof that there is potential in this data and ensure presence of participants pro-actively willing to contribute and benefit from the event anyone was invited to register and indicate their motivation and expectations from the event. This was possible to be done via presenting their work and achievements in the field, identification of the possibilities, pitching the ideas, promoting their data, re-using available open data & software technologies and creating new data, software, apps, or visualisations.

How this motivation was turned into the reality is depicted in the Figure 1 and in detail described in following sections of this document.

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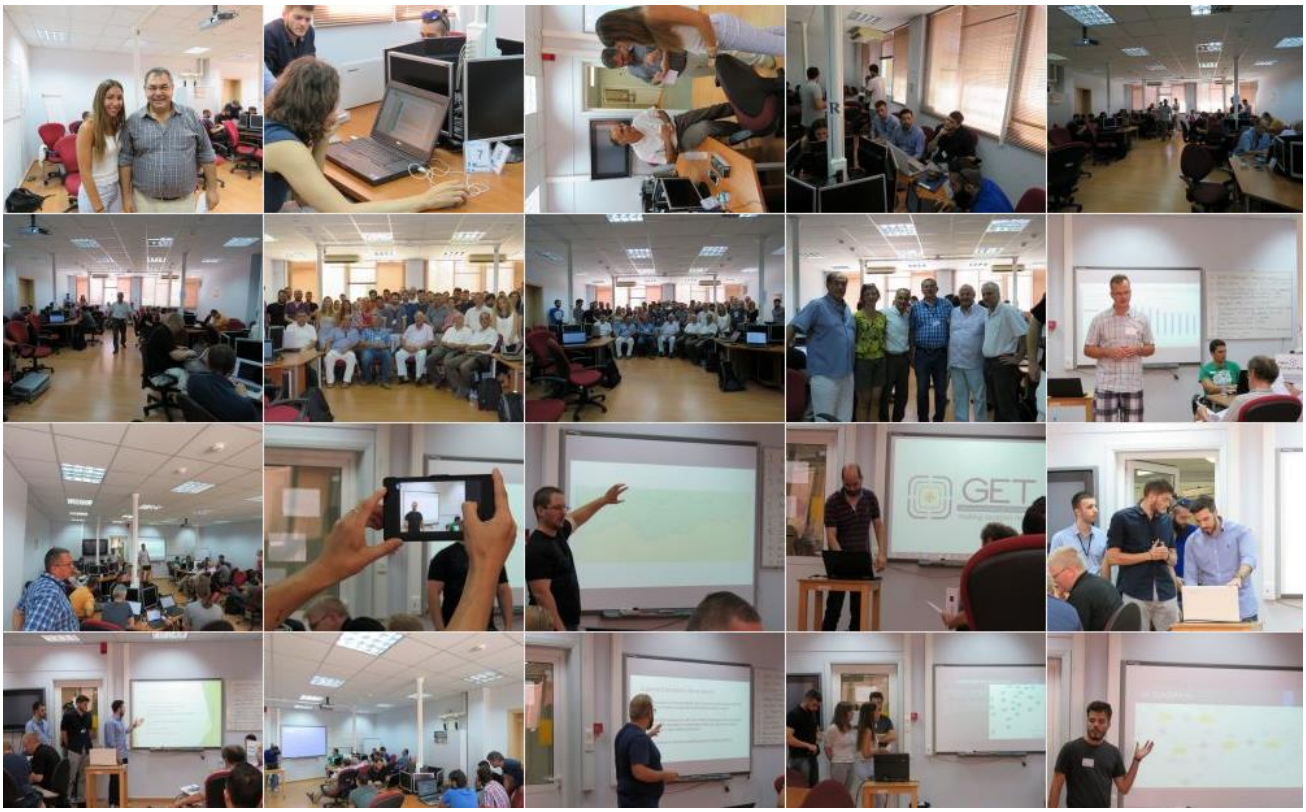

Figure 1 MEDHACKATHON photo flashback

1.2 Objectives

In order to meet the original expectations from the SDI4Apps project Description of the Work (DoW), reflect the developments with the SDI4Apps platform as well as keep the connection with the latest data, technology and communities momentum, following objectives were defined:

- Organising a conference entitled: “Open Data Empowering Society & Entrepreneurship”
- Provision of the Hackathon including the competition with the 5 projects in final
- Presentation of the SDI4Apps project
- Collection of the relevant resources (data and technology)
- Identification of the relevant Mentors (At least 10 mentors)
- Organise 3 days event
- Achieve from 50 to 70 participants

Above mentioned objectives were defined with good will to ensure the fulfilment of the expectations and ambition to achieve the credible results.

1.3 Assumptions

Having defined the objectives, set of assumptions had to be identified in order to secure their achievement in line with the project activities as well as with the relevant Open Data movement in the target region. These assumptions were identified as:

- Provision of the free access to the MEDHACKATHON
- Establish and publish the registration for the event
- Collect the offer and expectations from the registered participants

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- Ensure the consistent interaction with the participants
- Publish all relevant information via event website and Facebook event social network
- Collect all the results of the event and share them publically
- Actively present the results on relevant events

1.4 Thematic scope

For setting the thematic scene initial list of the preliminary areas was proposed with the possibility to extent them as by the organisers as well as by the participants them self.

a. **Transport Tourism & Culture**
b. **Agriculture & Food**
c. **Spatial Planning & Governance**

1.5 Additional support and acknowledgements

Many individuals and organisations have contributed to the MEDHACKATHON. Considering the ambitions defined above and available budget allocated via project, it was obvious, additional support will have to be identified in order to prepare and organise the event of such a scale.

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ORGANISERS

MEDHackathon is organised by:

SUPPORTERS

SUPPORTING PROJECTS

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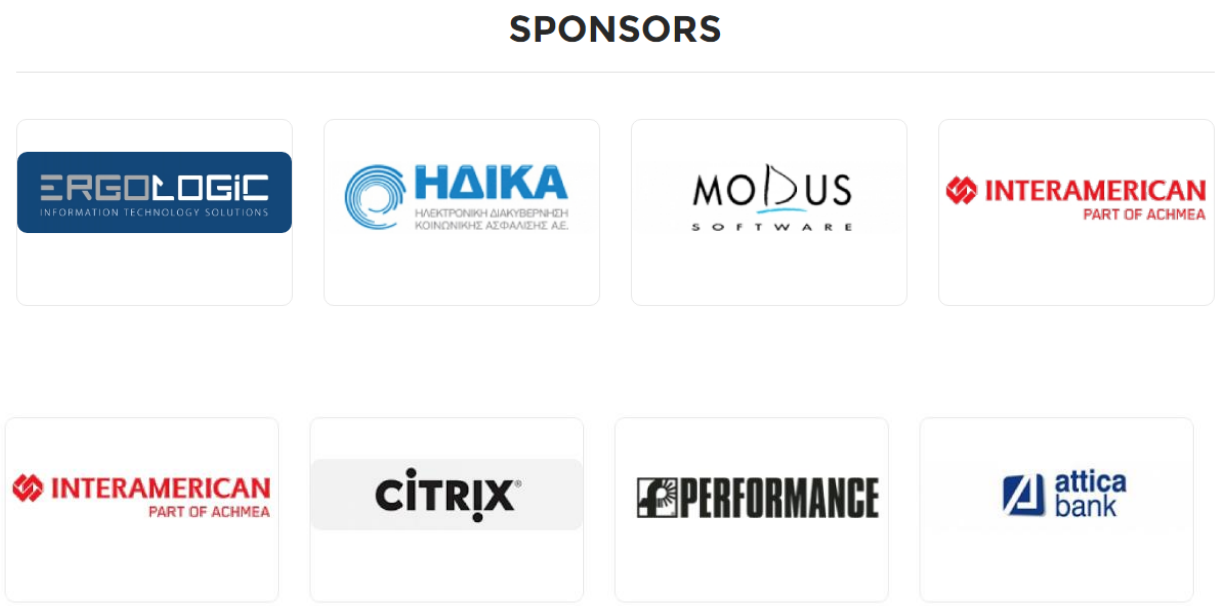

Figure 2 MEDHACKATHON Supporters

Particular acknowledgment deserves members of the project teams in Hackathon, authors of the Workshops as well as Mentors often taking the roles of the extra team members. Important role was undertaken also by the jury members evaluating the results of the final presentations from the Hackathon. Special thanks goes also to the support teams of organizers as well as the CEID at the University of Patras. Last but not least Big thanks goes to the all direct participants as well as remote sympathizers.

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2 PREPARATORY PHASE

Before the event itself took place, majority of the activities was necessary to identify and execute.

2.1 Basic structure and timing

In connection to the previous project related events, internal discussions and in line with the relevant ongoing activities the expectations for the combined event providing the possibility for knowledge exchange via set of workshops in combination with the Hackathon was obvious. Based on that concept for following two parallel sessions was proposed:

1. Hackathon - focused on coding and development of new apps, services data resources
2. Conference - dedicated to the presentation of horizontal policies related to open data at regional/national level plus the promotion of the business opportunities behind the use of such kind of data

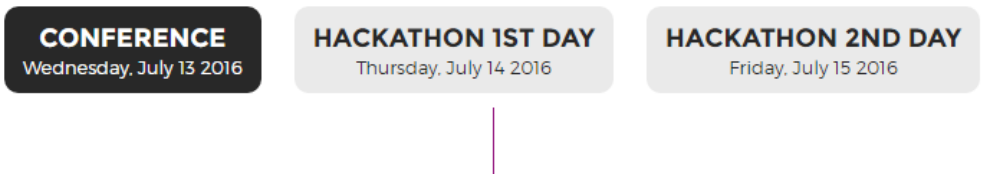

Figure 3 MEDHACKATHON RoadMap

2.2 Event website

Initial step in preparatory phase was taken during the PragueHacks[1] and DanubeHack[2] events, where basic structure have been defined including the event website prototype. Such events served as initial inspiration for the further shaping of the expectations and consequent requirements.

Figure 4 MEDHACKATHON Website

Later on registration of the dedicated web domain (http://www.MEDHACKATHON.eu) and further development of the event responsive website have been ensured with the support from SDI4APPS project partners. Website have been constantly updated with the new contributions as main communication channel providing the relevant information and resources for the participants. Content of the website have been made available in English language.

[1] http://www.praguehacks.cz
[2] http://sdi4apps.eu/2015/07/465/

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2.3 Venue

Selection of the venue is very important aspect to be taken into the consideration and in case of MEDHACKATHON it was influenced by set of factors and conditions, which had to be taken into the consideration and respect the legal condition for the public procurement. Of course the most important one was the involvement of the University of Patras in the organisation of the events. One of the main criterion was sufficient space composition, ideally represented by the concept of co-working centres, often providing this type of services. The size of the venue was defined by the expectations of more than 50-70 participants (our, ensuring sufficient space as for Hackathon section as well as for the conference, including some support space for catering, meetings etc. After the selection of the offers University of Patras, Conference and Cultural Center and University of Patras, CEID Labs were selected (Figure 5). Based on that set of meetings took place to arrange all logistic and related activities.

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Figure 5 University of Patras, CEID Labs, venue set-up for MEDHACKATHON

2.4 Facebook Event Page

Although not originally foreseen, after establishing this communication channel helped organisers share an updates about the preparation of the event and provide additional communication and interaction channel with the participant. At the same time Facebook Event Page[3] (Figure 7), helped organiser better reflect certain recommendations proposed via this channel.

[3] https://www.facebook.com/events/933007653420731/

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Figure 5 Facebook Event Page

2.5 Event registration

In order to manage the event participation and establish closer connection with the stakeholders, organizers prepared and launched the registration linked with the short questionnaire aiming to:

- Help organisers get better information about the registered participants
- Motivate the interested participants for active contribution
- Adjust the content of the event better fitting the expectations of the participants

At the same time event registration served for organizers as potential selection criterion in case the capacity of the venue could not satisfy the demand from the registration.

Registration was opened from 01st April 2016 till 12th of July 2016 83 participants registered for the event. Even after the registration was closed, additional requests and invitations have been registered (more than 29) so in total, registration was closed with 102 participants.

Out of the registered participants list, dedicated e-mail list have been established in order to communicate with the registered participants also via dedicated emails with the latest news and further instructions.

Registration form is available in Annex 2.

2.6 List of possible resources

Having available appropriate data and technology is one of the key precondition of any hack related events. In addition to the SDI4Apps datasets and technology framework, extensive list of possible resources[4] have been populated containing information about the three type of possible resources:

[4] https://goo.gl/vgC4Xn & http://medhackathon.eu/index.php/opendata

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- Data - providing the list of datasets with the potential to be used during the Hackathon. Plenty of the collected datasets have been prepared particularly for this event and each record provides basic metadata about the datasets.
- Catalogues - sheet collects the list of various catalogues providing the interface for the further data, services and other related resources. A wide number of records provided rich potential of the national, European and Global catalogues, portals and websites with significant amount of information behind.
- Tools - offered additional list of technology resources available for immediate deployment spanning from the desktop to the server tools and solutions available for the event participants with links to their home websites, short description, links for examples of implementation and information.

This list of possible resources (Table 1) was also requested by the participants and will be maintained also after the event and anybody is invited to contribute with the further update and maintenance.

Smart Points of Interest http://sdi4apps.eu/spoi global dataset of POIs SPARQL endpoint ODbl licence

Title	URL	Description (data types)	Data formats	Data sharing options	Licensing
Greek Open Data Portals					
Greek Open Geospatial Data	http://geodata.gov.gr/	geospatial, administrative, transportation, statistical, visualized	SHAPE FILE, WMS, WFS, XLS, CSV, ODS, RDF, PDF	http://geodata.gov.gr/content/applications/data-api	CC BY v.3.0 http://geodata.gov.gr/content/about/terms-of-use
Official Greek Open Data Portal (Greek Ministry of Interior - Administrative Reform and eGovernance)	http://www.data.gov.gr	various data types, including environmental ones such as public administration documents	HTML, XLS, CSV, RAR	http://www.data.gov.gr/apihelper/get	Depends on dataset
open(geo)data	http://www.opengeodata.gr	Greek geospatial data, mostly for administrative purposes	TXT, KMZ, DOC	http://www.opengeodata.gr/?feed=rss2	Depends on dataset
Hydroscope	http://hydroscope.gr	hydrologic, meorologic, hydrogeologic and geographical data from Greek public organizations. Related	TBD	http://main.hydroscope.gr	N/A

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		data-powered apps are included			
OpenArchives	http://www.openarchives.gr	Greek digital content on science and culture, such as scientific journals and archives, research publications, PhD theses, images, maps etc.	various, mostly PDF	http://www.openarchives.gr/about/opensearch http://www.openarchives.gr/about/rss	Depends on dataset
e-Per: National Environmental Information Network	http://www.e-per.gr	Various data types, including environmental. A number of data-powered apps are included.	data layers visualized on a map	http://amappl1.e-per.gr/public.php	N/A
Regulatory Authority for Energy Geoportal	http://www.rae.gr/geo	Energy- and power-related data (geospatial data, time series)	data layers visualized on a map, ZIP. Metadata available in INSPIRE, ISO and DC formats		Click for more info
Meteo.gr Climate Data	http://www.meteo.gr/meteoplus/climatic.cfm	Climate data	XLS	http://www.meteo.gr/meteoplus/ClimaticDataGR.xls	Only personal uses allowed; for any other use, users need to obtain a written permission from the National Observatory of Athens.
Hydroscope Geoportal	http://thyamis.itia.ntua.gr:8080/geoportal/catalog/quicklink/quicklink.page	hydrological and meteorological data of Greece maintained by the Special Secretariat for Water of the Ministry of Environment Energy and Climate	metadata & datasets - ZIP/GML files	download only	N/A

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		Change			
Municipality of Maroussi	http://geoportal.maroussi.gr/sdi/	geospatial, administrative, transportation, statistical, visualized	WMS, WFS, CSW	http://geoservices.maroussi.gr/geoserver/wms?request=getcapabilities http://geoservices.maroussi.gr/geoserver/wfs?request=GetCapabilities http://geoservices.maroussi.gr/geonetwork/srv/eng/csw?service=CSW&request=GetCapabilities	Data, metadata and services are provided for FREE. A more concrete licensing schema (terms applying to access and use, limitation on public access) is about to be adopted soon.
Municipality of Arta	http://gis.opendataarta.gr/	geospatial, administrative, transportation, statistical, visualized	WMS, WFS, WFS-T, CSW, WMC, KML, Atom, Shapefile	NA	Available under the GNU General Public Licence version 3 (http://www.gnu.org/licenses/gpl-3.0.html)
Municipality of Vellou Vochas	http://gis.opendatavocha.gr/?lang=EN	geospatial, administrative, transportation, statistical, visualized	NA	NA	NA
Municipality of Gortynia	http://www.opendatagortynia.gr/	geospatial, administrative, transportation, statistical, visualized	WMS, Shapefile, KML, XML, XLS	http://www.opendatagortynia.gr/dataset	Creative Commons (CC BY v.3.0) based on the Licencehttp://creativecommons.org/licenses/by/3.0/gr/
Municipality of Gortynia	http://gis.opendatagortynia.gr/?lang=EN	geospatial, administrative, transportation, statistical, visualized	NA	NA	Creative Commons (CC BY v.3.0) based on the Licencehttp://creativecommons.org/licenses/by/3.0/gr/
Municipality of Thessaloniki	http://gis.thessaloniki.gr/sdi/?lang=EN	geospatial, administrative, transportation, statistical, visualized	WMS, WFS, CSW	http://gis.thessaloniki.gr/geoserver/wms?request=GetCapabilities http://gis.thessaloniki.gr/geoserver/wfs?request=GetCapabilities http://gis.thessaloniki.gr/geonetwork/srv/eng/csw?service=CSW&request=GetCapabilities	Base map of Municipality of Thessaloniki is used according to License B, as stated by the national committee for geospatial information. ⎫ Google Maps license:http://www.google.com/intl/en_ALL/help/terms_maps.html ⎫ OpenStreetMap license:http://opendatacommons.org/licenses/odbl/ For the digital base maps of the CADASTRE S.A.information can be found at: http://www.ktimatologio.gr/Pages/Default.aspx
Municipality of Corfu	http://www.opendatacorfu.gr/	geospatial, administrative, transportation, statistical, visualized	WMS, Shapefile, KML, CSV	http://www.opendatacorfu.gr/dataset	Creative Commons (CC BY v.3.0) based on the Licencehttp://creativecommons.org/licenses/by/3.0/gr/

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Municipality of Corfu	http://gis.opendatagortynia.gr/?lang=EN	geospatial, administrative, transportation, statistical, visualized	WMS, WFS, CSW	http://services.opendatacorfu.gr/geoserver/wms?request=GetCapabilities http://services.opendatacorfu.gr/geonetwork/srv/eng/csw?service=CSW&request=GetCapabilities	Data, metadata and network services are provided for FREE. A more concrete licensing schema (terms applying to access and use, limitation on public access) is about to be adopted soon. In any case, no completeness, integrity, consistency or fitness for any purpose is guaranteed. Basemaps used are offered under the license defined by their providers. In particular: ⎫ Google Maps license :http://www.google.com/intl/en_ALL/help/terms_maps.html ⎫ OpenStreetMap license:http://opendatacommons.org/licenses/odbl/
Municipality of Mandra	http://gis.opendatamandra-eidyllias.gr/	geospatial, administrative, transportation, statistical, visualized	WMS, WFS, CSW	http://gis.opendatamandra-eidyllias.gr/	Available under the GNU General Public Licence version 3 (http://www.gnu.org/licenses/gpl-3.0.html)
Region of Western Greece	http://agrocart.pde.gov.gr/home	Agricultural Data	WMS, WFS, WFS-T, CSW, WMC, KML, Atom, Shapefile	http://agrocart.pde.gov.gr/chartes	Available under the GNU General Public Licence version 3 (http://www.gnu.org/licenses/gpl-3.0.html)
Region of Sterea Ellada	http://egis.genceng.gr/dataset	geospatial, administrative, transportation, statistical, visualized	WMS, Shapefile, KML, geojson, CSV, gml2, rar	http://egis.genceng.gr/dataset	NA
Region of Epirus	http://www.opendataepirus.gr/	geospatial, administrative, transportation, statistical, visualized	WMS, Shapefile, KML, CSV	http://www.opendataepirus.gr/dataset	Available under the GNU General Public Licence version 3 (http://www.gnu.org/licenses/gpl-3.0.html)
Region of Epirus	http://gis.opendataepirus.gr/	Motorways, Hydrography, Environment, Administrative	WMS, WFS, CSW	http://gis.opendataepirus.gr/?lang=EN	Data, metadata and services are provided for FREE. A more concrete licensing schema (terms applying to access and use, limitation on public access) is about to be adopted soon.
EU Open Data Portals (also containing Greek data)					
European Data Portal	http://www.europeandataportal.eu	Various	HTML, WMS, WFS, PDF, XML, Atom feeds	http://www.europeandataportal.eu/sparql-manager/en	Depends on dataset

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EU Open Data Portal	https://open-data.europa.eu	Various	TXT, CSV, TSV, PDF, RDF, HTML	https://open-data.europa.eu/en/developerscorner	Data are free to use, reuse, link and redistribute for commercial or non-commercial purposes.
Europe's Public Data	http://publicdata.eu	Various	CSV, XLS, XML, JSON, HTML, RDF, PDF, ZIP	Download only, API has been disabled	Depends on dataset
Data Open EU	http://dataopen.eu	Various		http://dataopen.eu/apidocs	Depends on dataset
Global Open Data sources					
CIARD RING	http://ring.ciard.info	Datasets, services and software		http://ring.ciard.info/rdf-store	Creative Commons Attribution 4.0 International License
Food Security Portal	http://www.foodsecurityportal.org	over 40 indicators related to food security, commodity prices, economics, and human well-being.		http://www.foodsecurityportal.org/api/about	http://www.foodsecurityportal.org/about/copyrights-and-disclaimer
Biodiversity Heritage Library (BHL)	http://www.biodiversitylibrary.org	titles, volumes and pages related to biodiversity, in the form of image files		http://biodivlib.wikispaces.com/Developer+Tools+and+API	Depends on resource
AGROVOC	http://aims.fao.org/vest-registry/vocabularies/agrovoc-multilingual-agricultural-thesaurus	multilingual agricultural vocabulary consisting of 32,000+ concepts having labels in up to 21 languages.		http://aims.fao.org/standards/agrovoc/access-agrovoc	Creative Commons Attribution 3.0 Unported License (CC BY 3.0)
FAO AGRIS	http://agris.fao.org	More than 8M bibliographic records		http://202.45.139.84:10035/catalogs/fao/repositories/agris	
Global Open Data sources					

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U.S. Government's open data portal	http://www.data.gov	Geospatial and non-geospatial data	HTML, XML, PDF, TIFF, CSV, RDF	http://www.data.gov/developers	http://www.data.gov/privacy-policy#license
GeoNames - Geographical database	http://www.geonames.org	Geographical data		http://www.geonames.org/export/web-services.html	Creative Commons Attribution 3.0 License
LinkedGeoData	http://linkedgeodata.org/Datasets	Geospatial data	data layers visualized on a map	http://linkedgeodata.org/OnlineAccess	Most of the LGD data is derived from information collected by the Open Street Map project (http://www.openstreetmap.org) and licensed under the same terms as the OSM data, currently the Open Database License (ODbL).
World Bank Data	http://data.worldbank.org	Various data types	XLS, XLSX, CSV	http://data.worldbank.org/about	http://www.worldbank.org/terms-datasets
UN Data	http://data.un.org	statistical, financial, socioeconomic		http://data.un.org/Host.aspx?Content=API	All data and metadata provided on UNdata's website are available free of charge and may be copied freely, duplicated and further distributed provided that UNdata is cited as the reference.
Registry of Research Data Repositories (Re3Data)	http://service.re3data.org/api/doc	catalog / registry / directory / bibliography of research data repositories.	bibliographic data	http://service.re3data.org/api/doc	Creative Commons Attribution 4.0 International License.
MODIS Level 1 and Atmosphere Archive and Distribution System (LAADS Web)	https://ladsweb.nascom.nasa.gov	atmospheric and aquatic data		FTP, OPeNDAP, MODAPS Web Services	MODIS data and products acquired through the LP DAAC have no restrictions on subsequent use, sale, or redistribution.
MODIS Land Processes Distributed Active Archive Center (LP DAAC)	https://lpdaac.usgs.gov	The Land Processes Distributed Active Archive Center (LP DAAC) is one of several discipline-specific data centers within the NASA		1) Through the corresponding tools (https://lpdaac.usgs.gov/data_access) 2) Also available to download (e..g.http://e4ftl01.cr.usgs.gov/MOLT)	MODIS data and products acquired through the LP DAAC have no restrictions on subsequent use, sale, or redistribution.

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		Earth Observing System Data and Information System (EOSDIS)		
Copernicus Space Component Data Access system (CSCDA)	https://spacedata.copernicus.eu/web/cscda/data-offer/core-datasets	Satellite images	1) API (https://scihub.copernicus.eu/userguide/5APIsAndBatchScripting) 2) Downloading (registration is needed)	Access to Sentinel data is free, full and open for the broad Regional, National, European and International user community;
NASA Landsat data	http://landsat.gsfc.nasa.gov/?page_id=2367	Satellite images	Through data tools - can also be exported as image files (JPG, PNG and GeoTIFF)	All Landsat data are available for free.
INSPIRE Geoportal Discovery / Viewer	http://inspire-geoportal.ec.europa.eu/discovery	The INSPIRE geoportal provides the means to search for spatial data sets and spatial data services, and subject to access restrictions, to view spatial data sets from the EU Member States within the framework of the INSPIRE Directive.	Depends on dataset	Depends on dataset
Land quality southern Europe	http://www.eea.europa.eu/data-and-maps/data/land-quality-southern-europe	Land quality data in southern Europe based on four factors: soil, climate, slopes, land improvements.	Download zip file (Zipped personal gedatabase (polygons, polylines and points)	Creative Commons Attribution 2.5 Denmark
GeoPole.org Public Map Service Catalogue	http://geopole.org	More than 400.000 layers from public map services	To connect with the CSW catalog service, use the URL http://csw.geopole.org in your CSW client. In the Open Source Desktop GIS QGIS you can use the CSW Client plugin for searching and adding layers.	N/A

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[TOOL] Geospatial Service Monitoring	http://registry.fgdc.gov/statuschecker/index.php	The Federal Geographic Data Committee (FGDC) provides a Service Status Checker (SSC) web service to validate, test and score geospatial web services. It returns a set of summary and test diagnostic information about the tests performed on each service.	N/A	N/A
United Nations Environment Programme (UNEP) Geodata	http://geodata.grid.unep.ch/#	more than 500 different variables, as national, subregional, regional and global statistics or as geospatial data sets (maps), covering themes like Freshwater, Population, Forests, Emissions, Climate, Disasters, Health and GDP.		
Agro-MAPS (FAO)	http://kids.fao.org/agromaps	Global Spatial Database of Agricultural Land Use Statistics	Download (shapefiles)	Only for noncommercial purposes; for other purposes a permission is required (http://www.fao.org/nr/land/lr-home/en/)
ASTER Global Digital Elevation Map (NASA)	http://asterweb.jpl.nasa.gov/gdem.asp	Data available in GeoTIFF format and the same gridding and tile structure as V1, with 30-meter	Download	JPL-authored documents are sponsored by NASA under Contract NAS7-030010. All documents available from this server may be protected under the U.S. and Foreign Copyright Laws. Permission to reproduce may be required.

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		postings and 1 x 1 degree tiles.		
Natural Earth	http://www.naturalearthdata.com/downloads	Free vector and raster map data at 1:10m, 1:50m, and 1:110m scales	Download	All versions of Natural Earth raster + vector map data found on the website are in the public domain
World Bank Geodata dump	https://sourceforge.net/projects/googleworldbank	Transforming World Bank indicators to Google Earth's KML format. Several indicators are included. Google Earth / World Bank KML Output	Download	
Global Agricultural Lands (NASA)	http://sedac.ciesin.columbia.edu/data/collection/aglands/sets/browse	The Global Agricultural Lands in the Year 2000 data set represents the proportion of land area used as cropland (land used for the cultivation of food) and pasture (land used for grazing) in the year 2000	Download	NASA data are freely accessible; however, when you publish these data or works based on the data, we request that you cite the data sets within the text of the publication and include a reference to them in your reference list.
European Environmental Agency Geodata	http://www.eionet.europa.eu	a variety of datasets from the European Environment Agency.		
European Environment Informat	http://www.eionet.europa.eu	timely, nationally validated, high-quality	SPARQL endpoint: http://sparqlclient.eionet.europa.eu	Creative Commons Attribution 2.5 Denmark

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ion and Observation Network		environmental data from individual countries.		
IRI/LDEO Climate Data Library	http://iridl.ldeo.columbia.edu	a powerful and freely accessible online data repository and analysis tool that allows a user to view, analyze, and download hundreds of terabytes of climate-related data through a standard web browser.	Download or query	
European Climate Assessment and Dataset	http://eca.knmi.nl/dailydata/index.php	The ECA dataset contains series of daily observations at meteorological stations throughout Europe and the Mediterranean	Download or query	strictly for use in non-commercial research and education projects only.
University of East Anglia, Climatic Research Unit Data	http://www.cru.uea.ac.uk/data	Gridded observation data across Europe, including cloudiness, temperature, precipitation, humidity, pressure, snow and sunshine.	Download	The various datasets on the CRU website are provided for all to use, provided the sources are acknowledged. Acknowledgement should preferably be by citing one or more of the papers referenced on the appropriate page.

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EUMETSAT Satellite Application Facility on Support to Operational Hydrology and Water Management (H-SAF)	http://hsaf.meteoam.it/overview.php	operational hydrology data, such as precipitation, soil moisture and snow	Download	All intellectual property rights of the H-SAF products belong to EUMETSAT. The use of these products is granted to every interested user, free of charge. If you wish to use these products, EUMETSAT's copyright credit must be shown by displaying the words "copyright (year) EUMETSAT" on each of the products used.
[TOOL] POETs: Python Open Earth Observation Tools (to be used with H-SAF data & other data sources)	http://rs.geo.tuwien.ac.at/poets/docs/introduction.html	a package which aims to provide a standard library that can be used for collecting, resampling and displaying geospatial image datasets.	Download	Redistribution and use in source and binary forms, with or without modification, are permitted under specific conditions
Soil Moisture & Ocean Salinity (SMOS) Data (ESA)	https://earth.esa.int/web/guest/missions/esa-operational-eo-missions/smos/content/-/asset_publisher/t5Py/content/how-to-obtain-data-7329	Soil moisture data	Downlooad	Users may not modify, publish, transmit, participate in the transfer or sale of, reproduce, create derivative works from, distribute, perform, display or in any way exploit any of the content, software, material or services, in whole or in part, without obtaining prior written authorisation.
European Centre for Medium-Range Weather Forecasts (ECMWF)	ftp://data-portal.ecmwf.int http://www.ecmwf.int/en/forecasts/datasets/public-wmo-and-acmad-datasets	weather predictions	Download	These products are available to the public and their use is unrestricted (including commercial use)
[TOOL] pytesmo	http://rs.geo.tuwien.ac.at/validation_tool/pytesmo/docs	Toolbox for the Evaluation of Soil Moisture Observations	Download	N/A
International Soil Moisture Network	http://www.geo.tuwien.ac.at/insitu/data_viewer/V2/ISMN.php	Soil moisture data	Map layers / Download available to registered users (http://ismn.geo.tuwien.ac.at/data-access)	References to the individual networks are provided on the Networks page of the ISMN site and in the readme.txt files accompanying every data download.

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Open Transport Net	http://opentransportmap.info	routable transport, network with traffic volumes	shapefile, WMS		
Open Land Use Map	http://sdi4apps.eu/open_land_use/	land use map	shapefile, WMS		various licences

Table 1 List of possible resources

WEB Services of Greek Ministry of Environment and Energy

(http://maps.ypeka.gr/arcgis/rest/services/YPEKA):

Guidelines for services: http://aepo.ypeka.gr

- YPEKA/ADMINISTRATIVE (MapServer)
- YPEKA/Arhaia_Theatra (MapServer)
- YPEKA/Astynomika_Tmimata (MapServer)
- YPEKA/BaseMap (MapServer)
- YPEKA/BATHYMETRIC_COLOURS (MapServer)
- YPEKA/Corine1990 (MapServer)
- YPEKA/Corine2000 (MapServer)
- YPEKA/Corine90_00_Changes (MapServer)
- YPEKA/DASI_Aisthitika_dasi (MapServer)
- YPEKA/DASI_Diatiritea_Mnimeia_Fysis (MapServer)
- YPEKA/DASI_ektrofeia (MapServer)
- YPEKA/DASI_eleghomenes_kynigetikes_periohes (MapServer)
- YPEKA/DASI_ethnika_parka (MapServer)
- YPEKA/DASI_katafygia_agrias_zois (MapServer)
- YPEKA/DASI_loipoi_topoi (MapServer)
- YPEKA/DASI_Prostateytika_dasi (MapServer)
- YPEKA/DASI_topoi_idiaiterou_fysikou_kalous (MapServer)
- YPEKA/DIANOMES_Ktimatologio (MapServer)
- YPEKA/DIANOMES_OKXE (MapServer)
- YPEKA/DIANOMES (MapServer)
- YPEKA/Drymoi2 (MapServer)
- YPEKA/Drymoi (MapServer)

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- YPEKA/EGY_FLOOD_RISK_MAP (MapServer)
- YPEKA/EGY_HISTORIC_FLOOD (MapServer)
- YPEKA/EGY_IBCM (MapServer)
- YPEKA/EGY_ZONESDYKP (MapServer)
- YPEKA/GEOLOGY (MapServer)
- YPEKA/Geothermika_Pedia (MapServer)
- YPEKA/HydrographyYYPN_ISOBATHSv2 (MapServer)
- YPEKA/HydrographyYYPN (MapServer)
- YPEKA/HYDROLITHOLOGY (MapServer)
- YPEKA/Ktimatologika (MapServer)
- YPEKA/LandSat (MapServer)
- YPEKA/Natura2000 (MapServer)
- YPEKA/Oikismoi (MapServer)
- YPEKA/PERIVALLON_perioxes_oikoanaptyxis (MapServer)
- YPEKA/POLEODOMIA_HOROTAXIA_AGIA_MARINA_GAZI (MapServer)
- YPEKA/POLEODOMIA_HOROTAXIA_Eidikos_Tourismos (MapServer)
- YPEKA/POLEODOMIA_HOROTAXIA_GAZIOU_IRAKLEIOY (MapServer)
- YPEKA/POLEODOMIA_HOROTAXIA_Plaisio_Ydatokalliergeion (MapServer)
- YPEKA/POLEODOMIA_HOROTAXIA_PM05069_2_16 (MapServer)
- YPEKA/PPSXA_Stadio_A2_PERMAKEDONIAS (MapServer)
- YPEKA/PPSXA_XARTIS_A2 (MapServer)
- YPEKA/Rdn_dmeo (MapServer)
- YPEKA/Wetlands (MapServer)
- YPEKA/X_RDS_Athina_Salonica (MapServer)
- YPEKA/YDATIKOI_POROI_Edres_Dieythinseon_Ydaton (MapServer)
- YPEKA/YDATIKOI_POROI_EGY_Aktogrammi (MapServer)
- YPEKA/YDATIKOI_POROI_EGY_Limnes (MapServer)
- YPEKA/YDATIKOI_POROI_EGY_Metavatika_Ydata (MapServer)
- YPEKA/YDATIKOI_POROI_EGY_Paraktia_Ydata (MapServer)
- YPEKA/YDATIKOI_POROI_EGY_Potamia (MapServer)
- YPEKA/YDATIKOI_POROI_Oria_Lekanon_Aporrois_Potamon (MapServer)
- YPEKA/YDATIKOI_POROI_Oria_Ydatikon_Diamerismaton (MapServer)

Data from SDI4Apps, OpenTransportNet and FOODIE projects

- Open Land Use (link 1, link 2)
- Smart Points of Interest (link)
- Open Transport Map (link)

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- Satellite data from Landsat and Copernicus
- DanubeHack list of Data and Catalogues (link)
- OpenStreetMap (link)
- Wikidata (link)
- DBpedia (link)

Tools from SDI4Apps, OpenTransportNet and FOODIE projects

- HSlayers NG (link, more information here)
- WebGLayer – an advanced geovisualization API (link, more information here)
- SensLog – a solution for sensor networks (link, more information here)
- Layman LayMan – The Layer Manager (link, more information here)
- Sensor catalogue
- INSPIRE metadata in CKAN extensions (link, more information here)
- DanubeHack tools (link)

2.7 FAQ

Very important part of the event website was dedicated to the collection of the all relevant information for the potential event participants in the form of Frequently Asked Questions (FAQ). With that in mind, FAQ section with the appropriate list of questions and answers have been prepared and regularly updated. Having properly defined FAQ (Figure 11) helped participants to decide, whether this event is of their interest and help organisers to eliminate individual queries delivered via webform, or emails.

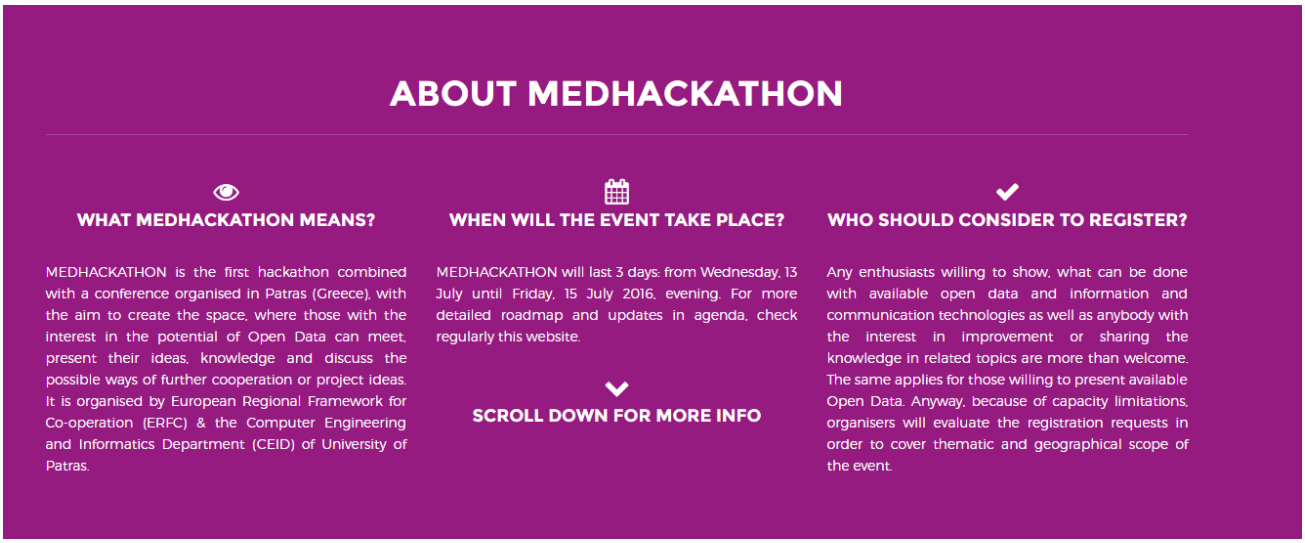

Figure 6 MEDHACKATHON FAQ

2.8 Mentors

To increase the support for the Hackathon participants as well as benefit from the presence of some important participants who acted as well as active contributors for the workshops session, concept of mentors have been proposed with the aim to provide the direct face to face support for specific topics with the experts in the field. Selection of the 19 mentors took place based on interaction with the set of experts in the fields addressed by the MEDHACKATHON and who confirm their possibility and willingness to act as

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mentors. With that final list of the mentors have been completed and published with their short profiles on the event website[5].

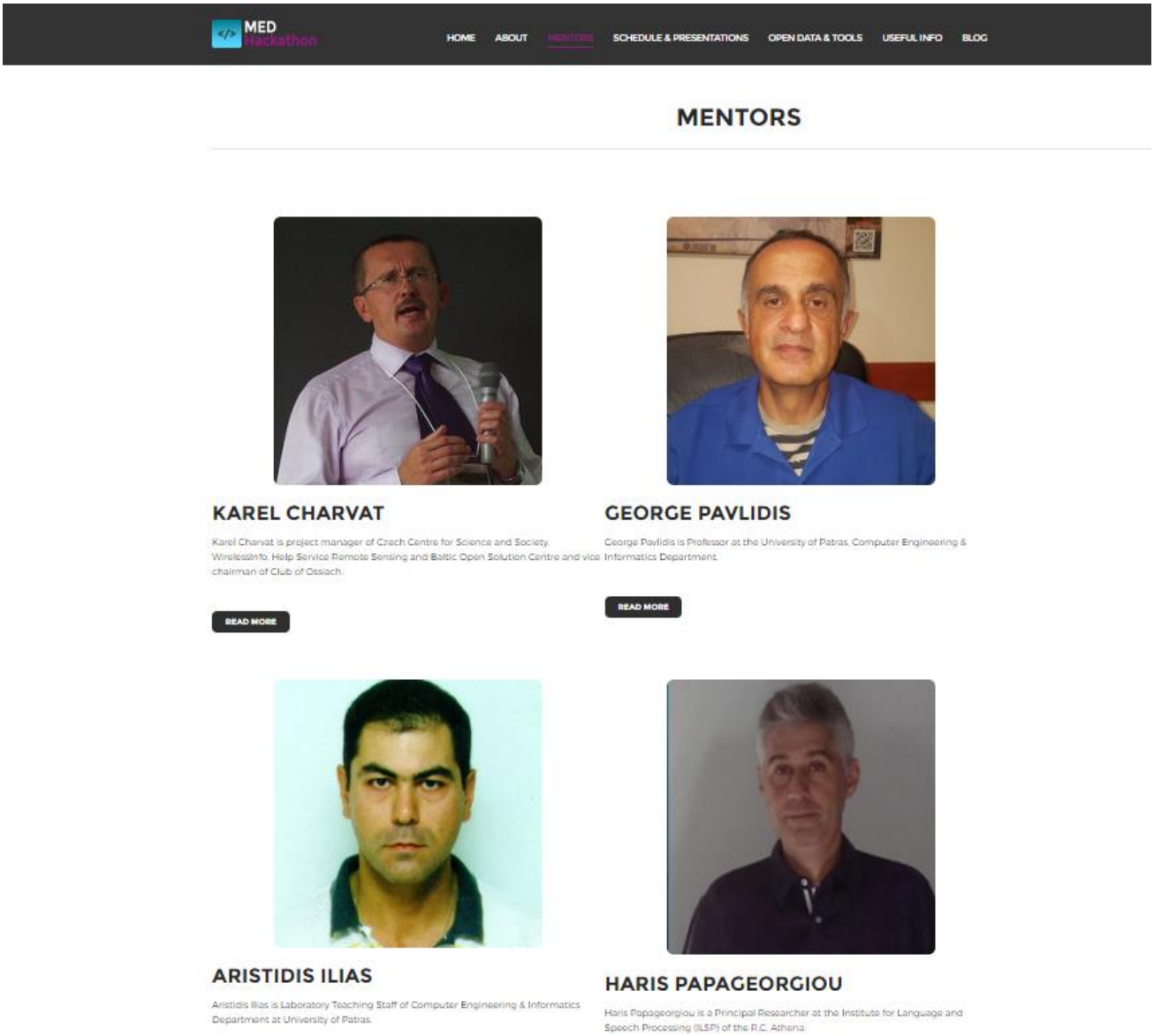

Figure 7 List of mentors - part 1

[5] http://medhackathon.eu/index.php/mentors

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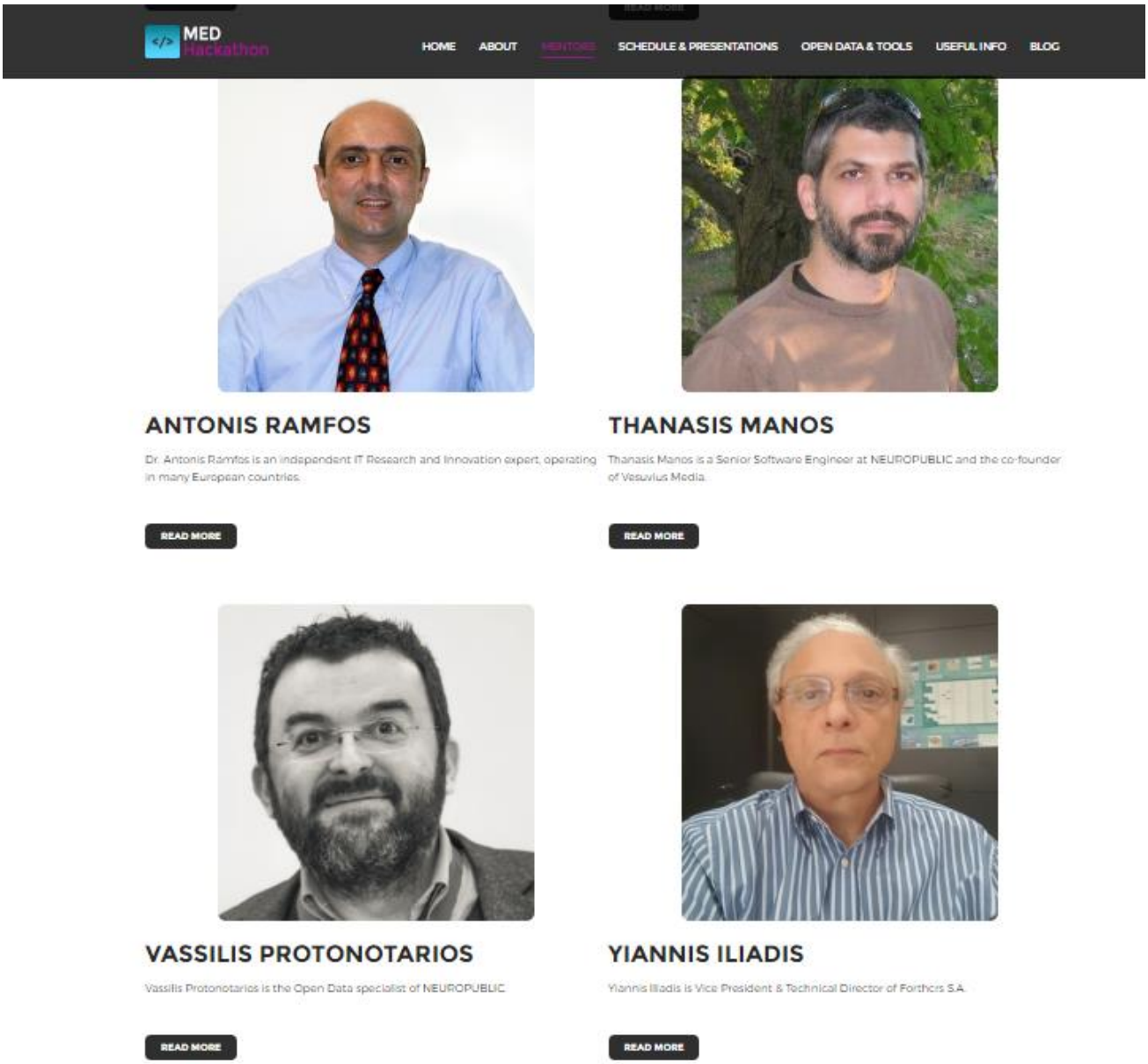

Figure 8 List of mentors - part 2

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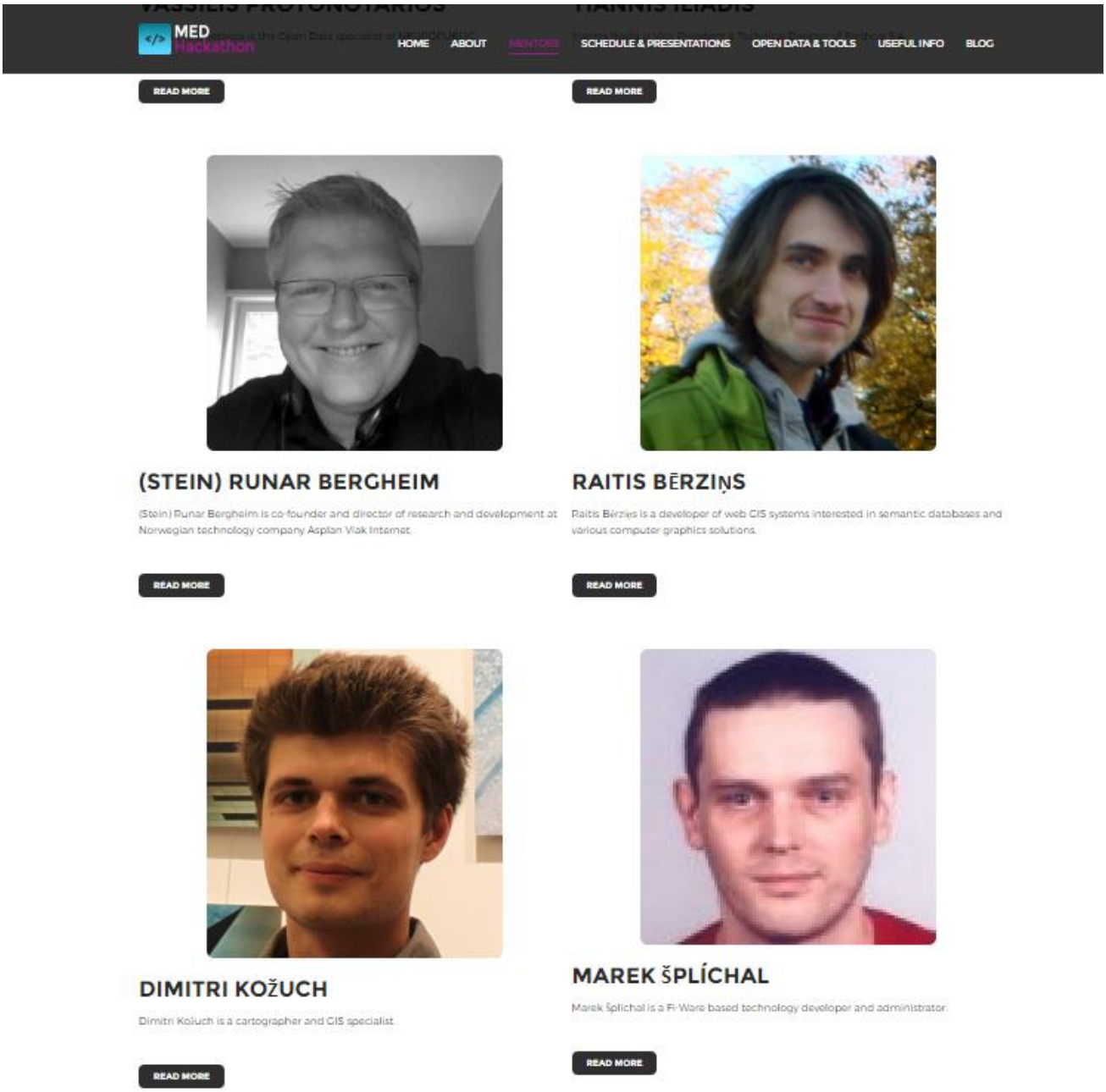

Figure 9 List of mentors - part 3

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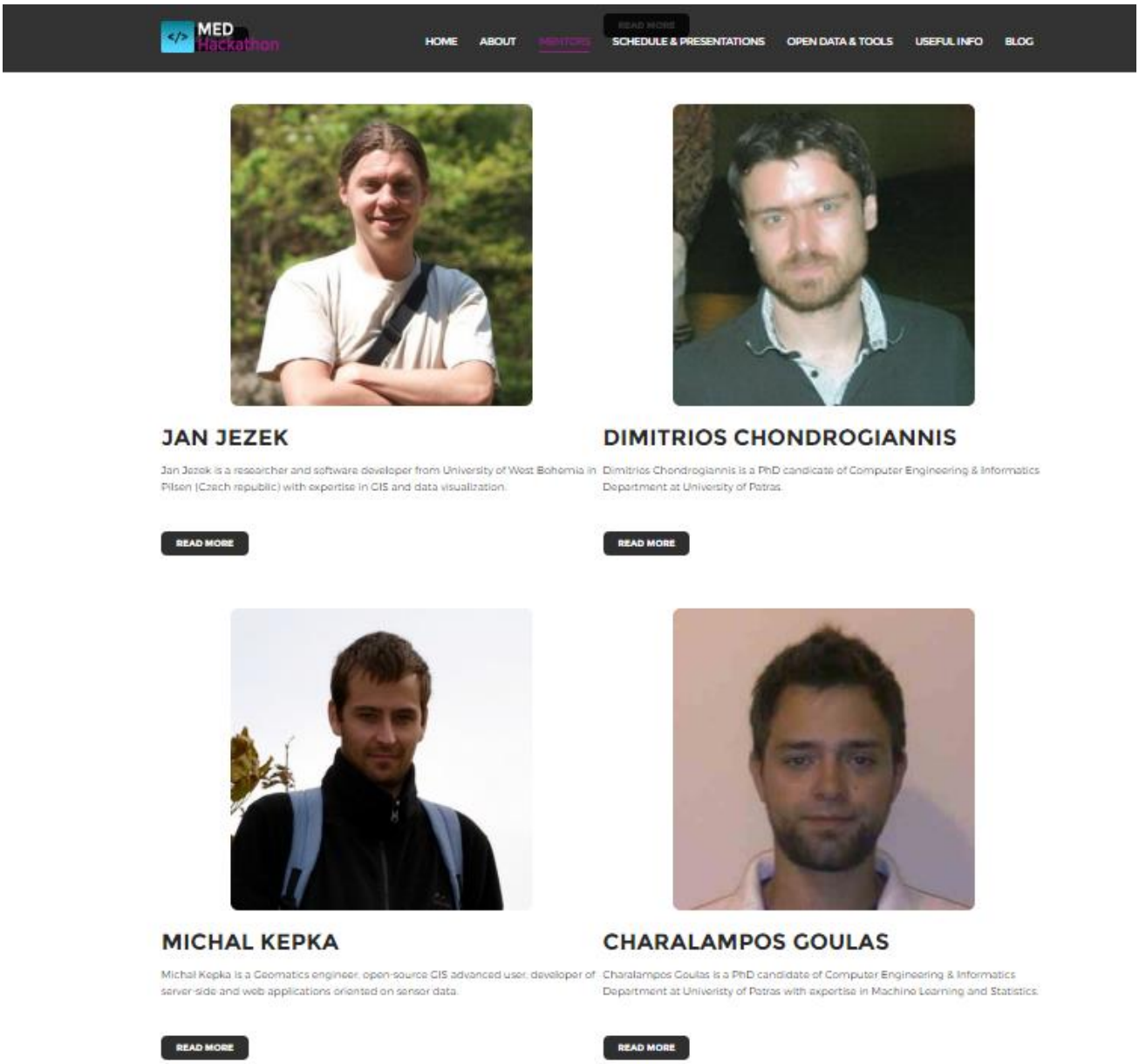

Figure 10 List of mentors - part 4

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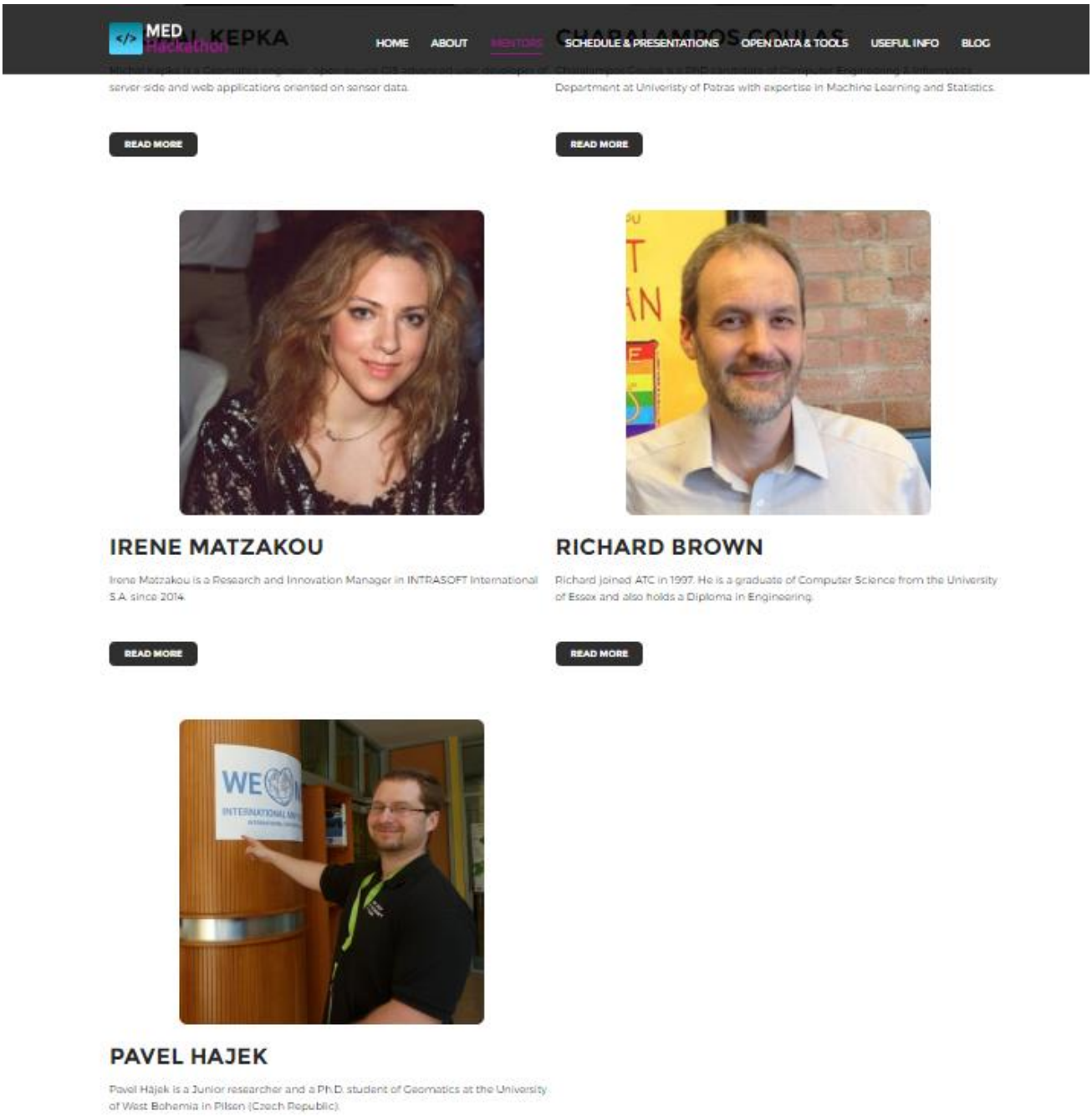

Figure 11 List of mentors - part 5

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2.9 Jury members and prizes

For final evaluation of the projects resulting from the Hackathon session group of jury members have been established, composed by the following members.

- Prof Athanasios Tsakalidis, Head of CEID, University of Patras
- Visiting Prof Fotios Nanopoulos
- Dr Karel Charvat, Czech Centre for Science and Society

For the winners of the Hackathon, set of prizes have been prepared with the contribution of the supporters:

1. A MAC Air Book plus a RASBERY Pi
2. A Drone
3. 2 Lenovo Tablets

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3 MEDHACKATHON EVENT

3.1 Hackathon

As already mentioned main aim of the Hackathon was to create the space for coding and development of new apps, services data resources. Hackathon session started on Thursday 14th of July 2016 and finished on the Friday 15th of July 2016 while on the 13th of July we organized the MEDHACKATHON Conference. To make this happen, simple roadmap was defined for the Hackathon part with following milestones:

- Day0: Conference entitled “Open Data Empowering Society & Entrepreneurship”
- Day1: Medhackathon - commencement of work, required tasks and requests for help
- Day2: Continuation of work, Final presentations, Jury evaluations, announcement of the winners

When question of possible outcomes of the projects took place following options were offered as an inspiration:

- Processed data (quality analysis, LOD)
- Visualisations
- Applications

Outcomes of the projects were the subject of evaluation made by the jury members based on following criteria:

- Benefits - new added value
- Attractiveness
- Quality of product and presentation

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Figure 12 Atmosphere on Hackathon session

3.2 Programme overview

Following table provides an overview of the programme for the whole event with the direct links for the related documentation and presentations from the Workshops. Online version is available via event website[6].

[6] http://medhackathon.eu/images/pdf/MEDHackathon_agenda_final.pdf

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CONFERENCE Title: "Open Data Empowering Society & Entrepreneurship"

CONFERENCE AGENDA – PRELIMINARY PROGRAMME

Wednesday 13.07.2016

09:00 – 09:30 Registration – Welcoming Coffee

09:30 – 10.15 Welcoming speeches

- Prof. Odysseas Koufopavlou, Dean of Polytechnic School
- Prof. Ioannis Garoufalakis, Chair Dept of Comp. Eng. & Informatics
- Mr. Kostas Peletidis, Mayor of Patras
- Mr. Georgios Aggelopoulos, Regional Vice-Governor
- Mr. Platon Marlafekas, President Chamber of Commerce
- Prof. Vasileios Anastasopoulos, President of Patras Science Park
- Visiting Prof. Fotis Nanopoulos, ex General Director of EUROSTAT
- Mr. Idomeneas Manolitzakis, President of ΚτΠ
- Mr. Dimitrios Papantoniou, President of Performance Technologies
- Mr. Stefanos Korodimos, CIO Attica Bank

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10.15-11.15

The Hosting Project

SDI4APPS presentation, Mr. Runar Bergheim

Horizontal Issues

- Ministry of Interior & Administrative Reconstruction, "GR Open Government Policies", Mrs. Kalli Aggeletopoulou
- National Documentation Center, Innovating with Open (Public) Data, Mrs Georgia Tzenou, Mrs Maro Androutsopoulou
- Overview of ESPON "open-source" tools for both territorial development analysis and policy-making, Ass.Professor Stella Kyvelou
- Corallia Cluster, Open Data Empowering Society & Entrepreneurship, Prof. Vassilios Makios
- Performance Technologies S.A., Business Development Manager, "What's your FunDex? Measuring the Real User Experience of Mobile Apps", Mr George Chemonidis

11.15 – 11.45 Coffee Break & Light Lunch

11.45 – 13.45 Thematic Sessions

a. Transport, Tourism & Culture

- Logistics Way, "The internet of things as an enabler to supply chain innovation", Mr. Dimitrios Grigoropoulos
- GALENA: Galileo-based solutions for urban freight transport, Mr. Panagiotis Liakos
- INTRASOFT International, OTN (Open Transport Network project), Mrs. Irene Matzakou
- Ministry of Culture & Sports, ICT Department, Mrs. Kleopatra Christopoulou, Mrs. Maria Kotlida

b. Agriculture & Food

- Ministry of Rural Development and Food, Mrs. Eri Zisi
- NEUROPUBLIC, Doing business with Open Data in agriculture, Mr. Vasileios Protonotarios
- CAPSELLA: Open Data supporting Agro-Biodiversity & Food Systems Innovation, Mr. Pavlos Georgiadis

The project has received funding from the EU ICT Policy Support Programme as part of the Competitiveness and Innovation Framework Programme.

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- FATIMA and FOODIE - Collection, Management & Processing of Agri-Food data, Mr. Karel Charvat
- Laboratory of Atmospheric Physics, University of Patras, ENORASIS: Weather forecasts in agriculture based on open data, Prof. Andreas Kazantzidis

c. Spatial Planning & Governance

- LD Athens, Innovative mobile services based on COPERNICUS, Mr. Angelos Maglis
- Athens Technology Center (ATC), YourDataStories: Making sense of open government data and following public money, Mr. Leonidas Kallipolitis
- PL Surveyors, CoMPi (Coastal Monitoring & Prediction Instrument), Mr. Nikolaos Petrelis
- Georpatial Enabling Technologies, Implementing PSI & Inspire directives in Greece using Free and Open Source Software (FOSS). Best combined practices, Mr. Gabriel Mavrellis

MEDHACKATHON – 14th – 15th July 2016

MedHackathon – preliminary programme

Day 1 Thursday 14.07.2016

09:00 – 11:00 Warm up, by presenting the aim of the event, input data and technology as well as participants. Pitching the ideas into the projects and setting up the project teams.
11:00 – 13:00 Main Development Phase
13:00 – 14:00 Lunch Break.
14:00 – 17:00 Main Development Phase
17:00 - 18:00 Presentation of 1st day progress per project

Day 2 Friday 15.07.2016

09:00 – 13:00 Day 2 follow up Coding
12:00 - 18:00 Day 2 follow up, presentation of the projects outcomes, evaluation and awarding of the best ones and the outlook for the future possible activities.

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Table 2 Programme overview

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3.3 Day 0 – Conference "Open Data Empowering Society & Entrepreneurship"

The first of the 3-days event, was dedicated to the organization of a conference entitled "**Open Data Empowering Society & Entrepreneurship**". The conference had a thematic orientation including the following priorities

a. Transport, Tourism & Culture
b. Agriculture & Food
c. Spatial Planning & Governance

The topics addressed during each thematic session of the conference were the following

Transport, Tourism & Culture

- The internet of things as an enabler to supply chain innovation
- Galileo-based solutions for urban freight transport
- OTN (Open Transport Network project)
- Ministry of Culture & Sports, ICT Department

Agriculture & Food

- Doing business with Open Data in agriculture
- Open Data supporting Agro-Biodiversity & Food Systems Innovation
- Collection, Management & Processing of Agri-Food data
- ENORASIS: Weather forecasts in agriculture based on open data

Spatial Planning & Governance

- Innovative mobile services based on COPERNICUS
- Making sense of open government data and following public money
- CoMPi (Coastal Monitoring & Prediction Instrument)
- Implementing PSI & Inspire directives in Greece using Free and Open Source Software (FOSS). Best combined practices

There were more than 100 participants to the event apart from those connected through internet participating through a live internet link.

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Figure 13 Day 0

3.4 Day 1

Before the start and during the whole event registration desk was opened and all participants were asked to register. In total during the whole event 71 participants have been recorded on the registration desk (Annex 3). Some participants registered before the event sent apologies not to be able to take part so only 53 registered participants took part, while some additional participants took part without the previous registration, as organisers allowed them to take part considering the current capacity of the venue. Participation covered all main societal groups, whilst majority participant came from private, non-governmental sector as well as individuals. In addition there was also obvious involvement of academia, research and development, but organisers expected stronger remote participation from more Mediterranean countries (A wide email campaign took place dedicated to all IT Faculties of the major MED Universities).

Initial day (14th of July) was dedicated to the opening of the event, invitation to the participants and explanation of all the concepts, programme, actors and all related information. After the introductory part Hackathon facilitated session started with the possibility for participants to present the ideas they would like to work on.

Despite the shy start 12 project ideas were presented by the participants defining the main objective, expected expertise for the team, including the foreseen requirements of the data and technology.

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Following this Idea pitch session, remaining participants were asked to team up with the ideas they would like to work/support.

Figure 14 Day 1

We saw as main motivation for participation on Hackathon and a good chance for networking. That was our primary goal. End users fount solution for their needs to promote their ideas; Developers learnt about new data, new tool and new business opportunities. It was also possible for them to find new talents for their company as well as to establish new business cooperation. Business oriented people fount new excellent ideas for their business or investments. At the end, there was a chance to spent two exiting days with excellent friends and in excellent environment.

During MedHackathon we expected two groups of teams:

- Professionals composed from current employers of existing companies, users, designers, business oriented persons and others (students are not excluded) – for them we see as motivation to find new possibilities of business, new ideas, and new data new cooperation and also recognize new talents.
- Student teams composed only from students, starting from high schools, trough bacillary, masters and PhD. Focus of our content will be on this teams. So we see this event as good possibilities for them to start new business or sell themselves. And our contest will help them. There will be group of mentors starting from technical experts, data experts but also business angels. We plan to offer incubation for best student team in Patras incubator.

3.5 Day 2

Last day of the event was dedicated to the finishing the projects and preparation for the final presentation. In total 12 projects (Table 3) presented their outcomes and overall results were positively received as by jury members as well as participants audience.

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MEDHACKATHON final list of projects	
No.	**Title**
1	Agri sensors datasets visualization
2	Agri plastic waste re-use (Marios)
3	Edu costs per head & Exams & geo-positioning of expertise
4	Urban Transport : http://bit.ly/29FnTro
5	Ancient Athlisis
6	3D Plugin 4 Get SDI / Hack Mo Energy
7	Green city rewards
8	Industrial Tourism
9	DAS : Donate & Save
10	Validate Public Open Data / Unemployment
11	Visiting Museums & Transportation
12	Eye View

Table 3 Final list of the presented projects

MEDHACKATHON assessment criteria

Every application was evaluated on the basis of four criteria by experts. Every criterion was evaluated by every expert was given a score of 0 – 10 (with 10 being highest score). The final score was the sum of all experts in all criteria.

The assessment criteria were:

1. **Technology readiness** evaluated the status of solution, how far it is from the market. The following definition could be used as an example: https://en.wikipedia.org/wiki/Technology_readiness_level
2. **Novelty of solution** focused on how advanced the solution offered was, if it was beyond the state-of-the-art. It was focused on novel concepts and approaches, new products, services.
3. **Business potential** – what is potential of this solution on the market, are there users, who would be ready pay for such a solution, is there chance to introduce this solution to the market
4. **Social and environmental impacts** – has this solution some important social or environmental impacts. Could this solution help to disadvantage regions, could this solution help to protect the environment, etc.

Table 4.

Results	Project Title
1prize	DAS: Donate & Save
2prize	Visiting Museums & Transportation
3prize	Eye View

Table 4 Results of the evaluation of the presented projects

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1st place: DAS: Donate & Save

Description of the idea by the developers

Firstly , we have to mention that we wish to provide an application without any cost by honoring the oath that every scientist gives ,which is to serve the mankind with the power and weapons of technological knowledge .

"Five minutes are enough to save a life" that is the moto of the Hellenic Ministry of Health and Social Security for decades now. However the posters in hospitals and other public buildings do not serve their purpose which is to activate the individual's contribution for donating by making an active citizen as Aristotle said more than 2000 years ago.

In our country the need in blood annually is 600.000 blood units and in this we do not include only the urgent need which emerges after a car accident but also for people who suffer from kidney inadequacy or thalassemia or even in case of surgeries or any other medical condition that it makes the blood quite valuable.

With an approximate calculation, we can say that if just the 10% of the Hellenic population was donating blood we could have a sufficient stock of blood units that can guarantee the support for all those who have a need.

In the same fate comes the bone marrow donation, an issue which is not adequately developed in Greece. The procedure of donating bone marrow is very simple and it is similar to donating blood. There are false rumors that is painful or dangerous. It is a simple procedure of taking sample for the drool.

During the last 20 years many transplants took place, but only few of the donors were from Greece. For example in Norway where the population has racial homogeneity only 20.000 donors are adequate to cover the bone marrow needs.

As you understand we have a major problem and we seek an optimal solution. In Greece We have a mechanism that is too "old" to deal with this kind of things. So we thought to connect 21 century technology and the excessive use of mobile network devices like smartphones and tablets.

So we have decided to create a system that it includes two parts, the one is for the mobile and the second one will be established into hospital's infrastructure.

The new system will be dynamic as well as user friendly and will exploits the internet of things, the system and the data bases that are already in use today are not unified. Despite the fact that donating blood to another hospital is really complicated in our days, this application will make the procedure much easier.

Thus, firstly, our solution to the problem needs the user-donor to download the application and visit the nearest hospital for registration. Therefore, the user receives a unique 11 digital number from the hospital along with a username and a password .Then the user will fill the right gaps in the mobile application and after the registration to the app the user will be aware of the demand.

As far as the medical staff is concerned, when an emergency case comes up and the doctor decides that there is a blood/bone marrow need then the doctor or nurse will announce the immediate demand for the specific type of blood and any user-donor who locates in a radius distance of 10 kilometres will receive a text message that will give information about the location of the demand.

Of course, the messages which ask for donation will appear firstly to the user with the matching blood type. If more donors than expected arrive, then the blood will remain to hospital's stock for future use. The whole procedure will take place according to the medical confidentiality.

To be more specific as for bone marrow donations, the whole procedure is not exactly an emergency case but it lasts 3 to 4 hours. We thought it was necessary to add the bone marrow donation so as to familiarize people with a not so popular but necessary issue.

The system-app of hospital which was referred earlier demands a unified network between hospitals along with servers and of course an admin that can maintain the system in good condition and can guarantee its efficiency.

Of course such a system demands only an average computer knowledge but it is essential to educate and familiarize the medical staff and the users with the usage of the app.

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Our problem which is the lack of blood and bone marrow donation is a big deal. In addition, despite the fact that the area of usage is limited, he results will solve a serious and big matter.

There are several traditional methods that can solve this problem such as advertising the benefits of blood and bone marrow donation. Thus, due to the fact that the posters will only coughing dust and the commercial spots will be immediately forgotten, we suggest a solution that use modern technology methods and even the younger people will be able to use.

Used data resources:

Referred at http://medhackathon.eu/index.php/opendata

Sources: http://medhackathon.eu/

2nd place: Visiting Museums & Transportation

Description of the idea by the developers

When you are on vacation, in a place you don't know very well, finding an archaeological site might be a difficult task. What if you had an app running on your smartphone, which proposes nearby sites based on your location?

Museum Finder is a simple app that helps you find and visit nearby museums and archaeological sites.

Used data resources:

Referred at http://medhackathon.eu/index.php/opendata

Sources: http://medhackathon.eu/

3rd place: Eye View

Description of the idea by the developers

In an age, of accelerating challenges, towards a new digital era of cultural heritage dissemination, the convergence of information and telecommunication technologies have given us significant advantages in promoting the cultural content in all over the world. A cultural "product" exists only if knowledge about its meaning and importance is shared among a social group. Knowledge of other cultures brings people together and creates peaceful intellectual ties among social or ethnic groups of different cultures. In this sense, culture is communication and communication is culture. It is quite clear that we are facing a real challenge of capturing one or several methods in designing and developing new ways of improving real or web visitor's experience in archeologic and other cultural interesting areas.

The proposed system, called Eye-View, is to provide a whole new, more engaging and personalized experience to every unique visitor by combining already-established and well-tested technologies, such as Wi-Fi-RFID sensors and Smartcards with real-presence viewing, recording and analysing the live interaction between people and cultural exhibits, artifacts or other intellectual creations. With Eye-View system competent authorities can manage in a better way their cultural "products" and visitors would have the opportunity to interact with them by declaring their liking. Visitors would also have the chance to learn more about the century, the creator, the architecture and other information, considering the exhibits that they like by proposed books and other museums on the same or in another

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country.

Used data resources:

Referred at http://medhackathon.eu/index.php/opendata

Sources: http://medhackathon.eu/

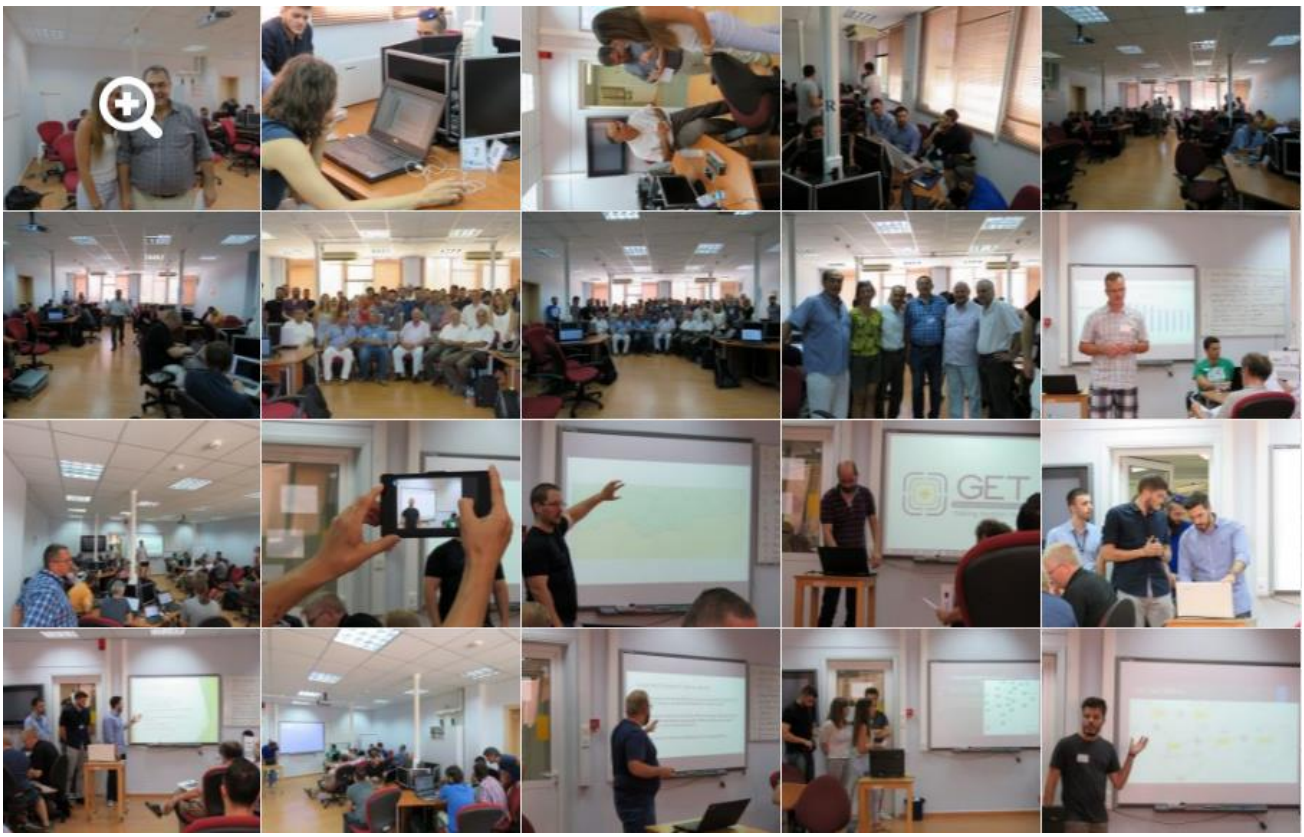

Figure 15 Day 2

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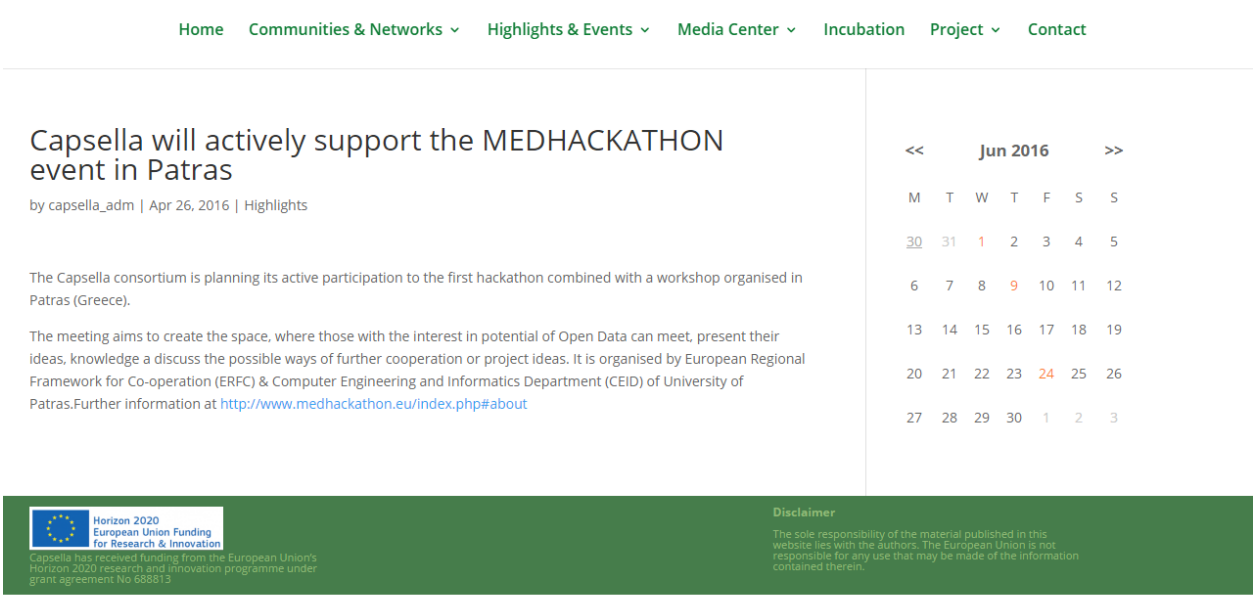
4 MEDHACKATHON AWARENESS RAISING

There has been undertaken of activities focused on awareness raising about the event before and after the MEDHACKATHON took place. Some screenshots can prove that fact:

Websites:



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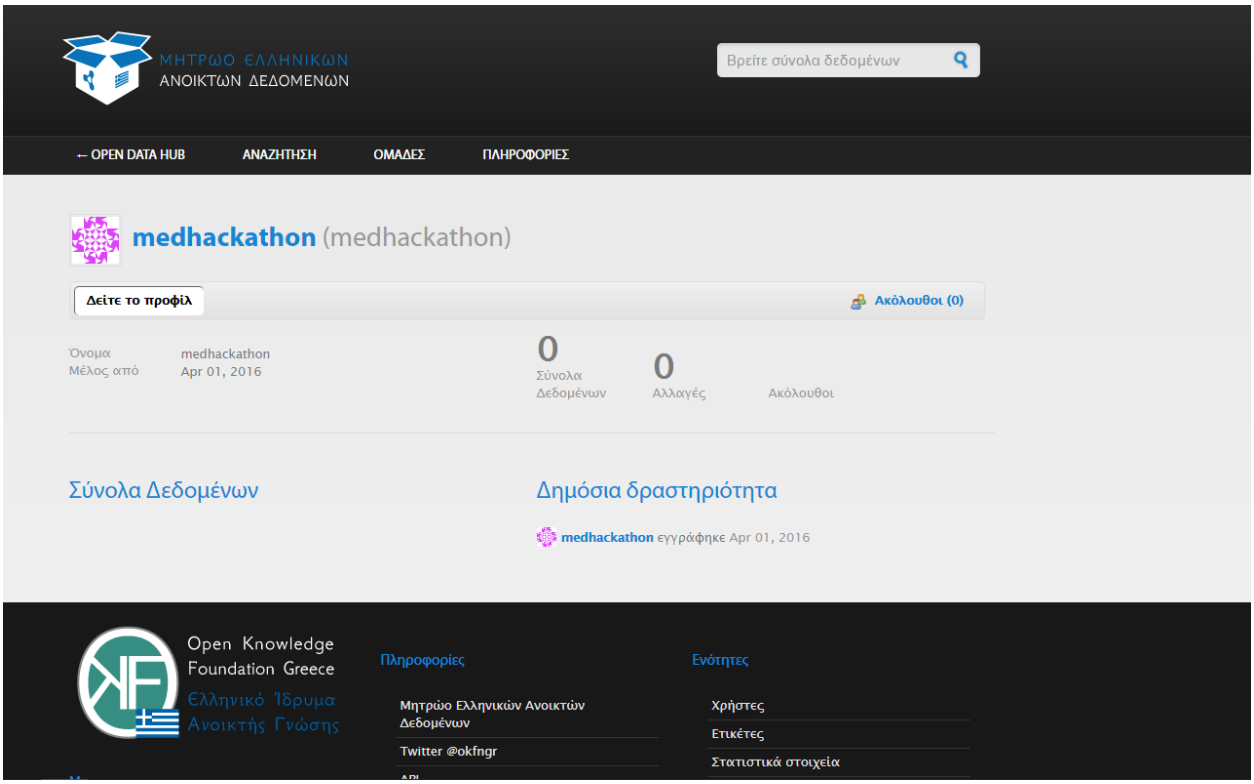

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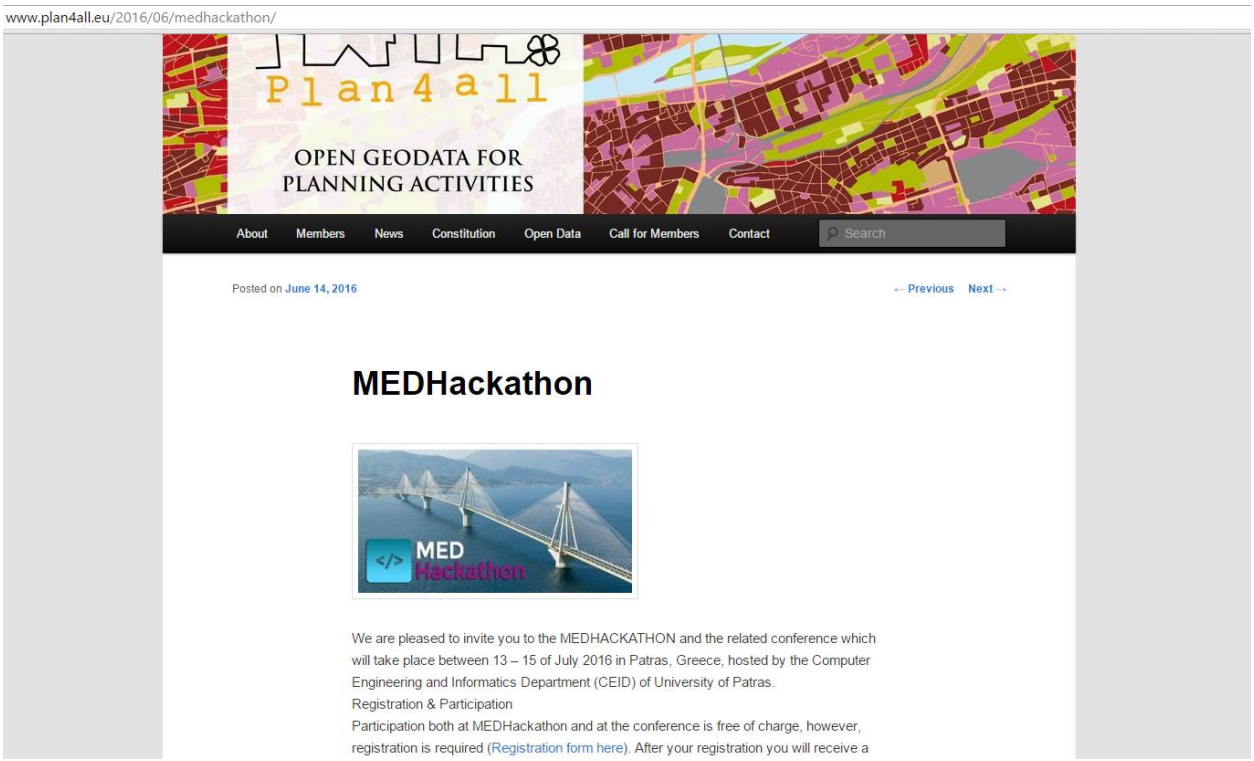
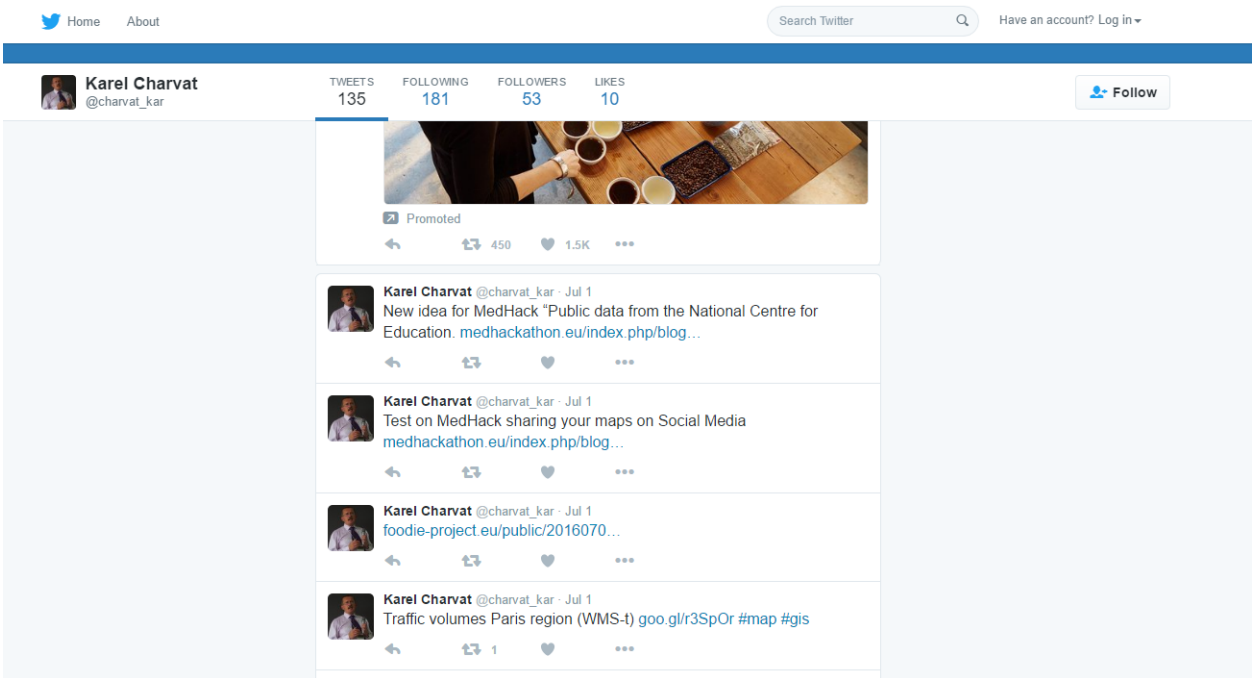


Social Networks:



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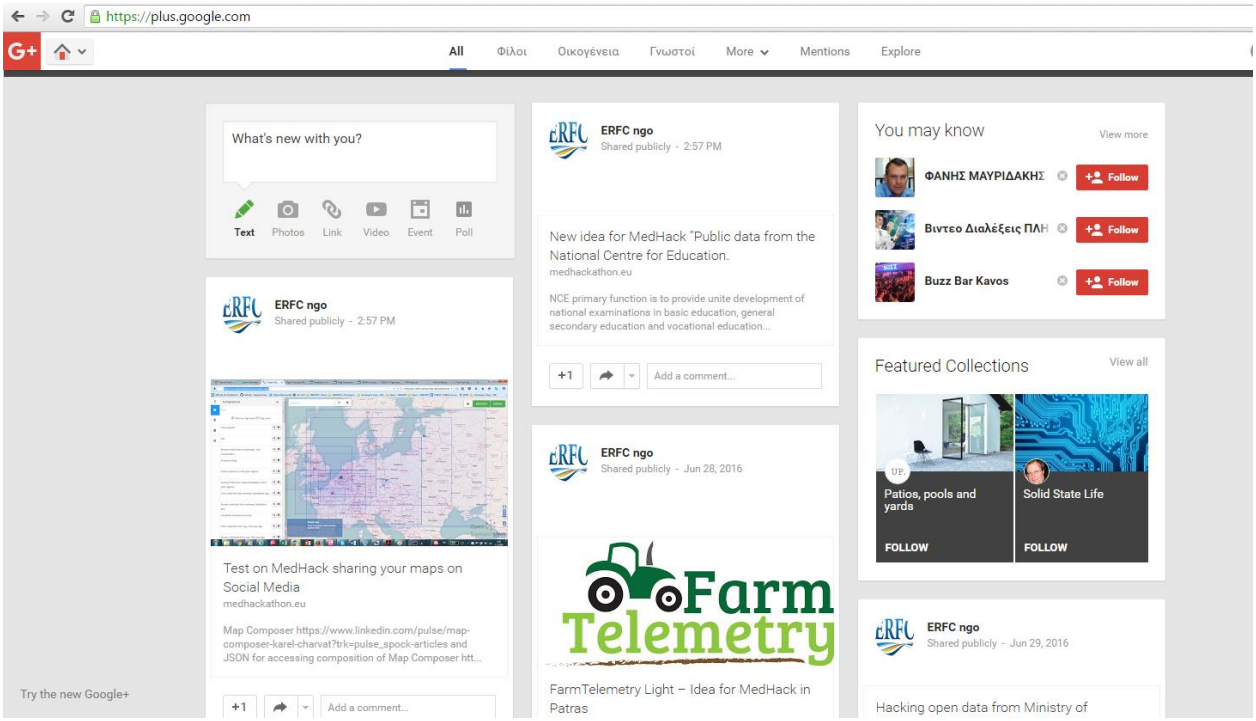

https://www.ceid.upatras.gr/el/announcements/events/med-hackathon-potential-open-data-society-enterpreneurship

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5 CONCLUSION OF MEDHACKATHON

MEDHACKATHON wanted to create the space, where anybody aware about the potential of Open (Geo) Data could come and present what can be created with related data and technology resources or simply learn more about how location information can influence our life. Although organisers didn't expect the dimension of the consequences for making such event, achieved Hackathon results and especially the Conference, confirmed it was worth to do it. Some Hackathon outcomes comes with the chance for the further development and offer provided by the European Commission Joint Research Centre for the winning project gives promising opportunity to improve the quality of the underlying apps for another dimension. Although final prizes were awarded to the first three places, all project belongs to the winners as they managed to complete their mission, which can be further developed and improved as well as used as important reference. Also results from the Conference delivered valuable information available via presentations including the interesting discussions resulting in knowledge and opinions exchange, existing policies and triggering some ideas about potential joint project proposal. Whether the MEDHACKATHON will start its own tradition is too soon to say, anyway there is strong commitment to take all lessons learnt into the consideration for any similar events organised in the future.

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6 BALTIC (GEO) HACKATHON

The importance of open data and open geodata is increasing. But the potential of open (geo) data has not been fully exploited. This is true in most parts of Europe including the Baltic Region. Similar conditions relate also to the software tools helping to collect, manipulate and publish such data. There is a need to address these challenges and where possible to improve this situation. For this reason, the Baltic Open (Geo) Data Hackathon was organized.

Event website with all practical information about the venue, programme, available data and tools, expectations was developed. Also registration was available in there.

Programmer's fuel (Vincent Brown, CC BY 2.0); code snippet by Asplan Viak Internet

(Latviešu valoda)

The importance of open data and open geodata is increasing. But the potential of open (geo) data has not been fully exploited. This is true in most parts of Europ

Programme of the event consisted of two-day coding and the presentation of the results.

The Venue of the events was Latvia two biggest universities - first two days were held in Riga Technical University, Architecture and Urban Planning Faculty and the last day in University of Latvia, Riga.

The event took place between 16 and 18 March 2016.

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Baltic Open (Geo)Data Hackathon

Date: 16.03.2016
Venue: Riga Technical University, Architecture and Urban Planning Faculty, 3rd floor, premise nr. 306

09:00–10:00	Opening of Baltic Open Data Hackathon, Introduction of the aim, introduction of available tools and data
10:00–11:00	Presentation about potential ideas for development
11:00–13:00	Teambuilding and lunch
13:00–19:00	Coding

Date: 17.03.2016
Venue: Riga Technical University, Architecture and Urban Planning Faculty3rd floor, premise nr. 306

09:00–19:00	Team work, Coding

Date: 18.03.2016
Venue: University of Latvia, Raina bulvaris 19, 4th floor, premise nr. 405

10:00–10:30	Registration, opening the conference
10:30–10:50	Presentation about existing situation in open data in Latvia/ Toms Celmillers / Ministry of Environmental Protection and Regional Development, Electronic Government Department, Information Society Policy Unit
10:50–11:20	Presentation about the SDI4apps projects and its results/ Karel Charvat, Czech Centre for Science and Society, project representative
11:20–12:00	Presentation of hackathon results by teams
12:00–12:45	Coffee break
12:45–14:00	Presentation of hackathon results by teams, awarding of best team projects, and closing the event

A hackathon is very often understood as some exercises of programmers or data specialists. The Baltic Open Data Hackathon extended this approach by inviting also end users. So we were looking for different types of developers, data specialists and users from different fields, not limited to the following ones:

- Open data providers
- Web GIS developers
- Web designers
- Semantic web experts
- Database experts
- User interaction experts
- Mobile developers
- Developers of apps in different areas like transport, tourism agriculture, planning
- Hardware experts focused on sensors, communication and machinery tracking
- GIS specialists for analysis
- Geographers
- Earth observation experts
- Experts on land use, landscape and land cover
- Spatial and urban planers

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- Transport planners and managers
- Agronomist and farmers
- Travel agencies and tourism specialists
- Regional development agencies
- Environment protection experts
- Managers and investors interested to check or find new ideas
- Marketing experts
- Data journalists

There were two possibilities to present ideas and attract potential team members:

1. First, it could be promoted in advance through the SDI4Apps developers' blog. All contributions was distributed through LinkedIn and Facebook pages. This was a chance to discuss and prepare project and build team in advance.
2. The second option was to present idea during the hackathon. Everybody was given a chance to prepare their own 5 minute pitch to attract other team members.

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6.1 Available data

The SDI4Apps, OpenTransportNet and FOODIE projects and other partners provided sets of available open data. However, hackathon activities were not limited to these data sets. A preliminary list of available data included:

- Open Land Use
- Smart Points of Interest
- Open Transport Map
- Satellite data from Landsat and Copernicus
- DanubeHack list of Data and Catalogues
- OpenStreetMap
- Wikidata
- DBpedia

Latvian open data sources:

- Register of enterprises
- The Procurement Monitoring Register
- Riga open data catalogue
- Regional indicator model
- Municipalities data providing service
- Nature data management system OAK
- Statistics database
- State budget
- Election results
- “Latvia’s State Forests” (LVM) open data

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6.2 Available tools

The SDI4Apps, OpenTransportNet and FOODIE projects offered also a set of tools and open source software, which was able to help you with building new solutions. However, hackathon activities were not limited to these tools and participants were free to use any other tools they like. A preliminary list of tools included:

- HSlayers NG
- WebGLayer – an advanced geovisualization API
- SensLog – a solution for sensor networks
- Layman LayMan – The Layer Manager
- Sensor catalogue
- INSPIRE metadata in CKAN extensions
- DanubeHack tools

6.3 Moderator

The Moderator of the The Baltic Open Data Hackathon was Karel Charvat. Karel Charvat is a project manager of Czech Centre for Science and Society, WirelessInfo, Help Service Remote Sensing and Baltic Open Solution Centre and vice chairman of Club of Ossiach. He studied on Mathematical Physical Faculty of Charles University in Prague topic theoretical cybernetics, where he received degree Doctor in theoretical cybernetics. He is member of CSITA. In period 2005–2007 he was President of European Federation for Information Technology in Agriculture Food and Environment (EFITA). Karel has participated in more than 30 European projects. He was coordinator of several EC projects (WirelessInfo, PremathMod, NaturNet Redime, Naturnet Plus) and also technical coordinator of other projects (Plan4all, FOODIE, SDI4Apps). He has also large experience as evaluator of EC projects. His key qualification are project management, Open Data, ICT for Agriculture and Environment, International cooperation, SDI design, strategic studies and management of projects in ICT and SDI. He has more than 200 publications and he is co-author of seven books.

6.4 Mentors

Mentors of the Baltic Open Data Hackathon were (Stein) Runar Bergheim and Raitis Bērziņš.

(Stein) Runar Bergheim

is co-founder and director of research and development at Norwegian technology company Asplan Viak Internet, a part of the Asplan Viak group, a Norwegian consultancy house whose roots go back to 1958. Outside of Europe, Bergheim works through the international consulting partnership NORPLAN. Mr Bergheim studied landscape management, spatial planning and GIS at Sogn og Fjordane University College and later went on to work for Sogn og Fjordane County Council as a GIS consultant. Here he took an interest in the application of GIS within spatial planning. In 2001 he co-founded Asplan Viak Internet (AVINET) to bring web map solutions to the Norwegian market and as a vessel for applied research and development within GIS. From 2002 Mr Bergheim was managing director of AVINET before he in 2008 directed his energy towards large scale projects for NORPLAN in the United Arab Emirates and the Sultanate of Oman. During the span of his career, Mr Bergheim has undertaken more than two hundred assignments in twenty countries. His key areas of expertise are design, supervision and management of information technology projects with four professional focal points: planning, land management, heritage and learning. His personal forte is to bridge the gap between technical and non-technical mindsets.

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Mr Bergheim is a frequently used speaker at national and international conferences and events. He has also been a guest lecturer in GIS at Sogn og Fjordane University College as well as at the University of Tromsø.

Currently, Mr Bergheim shares his time between Brussels, Abu Dhabi and Muscat. In Europe, he plays an active role in projects related to INSPIRE and EUROPEANA; on the Arabian Peninsula, he is supporting the implementation of new street addressing systems in the capitals of UAE and Oman.

Raitis Bērziņš

Raitis Bērziņs is a developer of web GIS systems interested in semantic databases and various computer graphics solutions. He can help with questions regarding JavaScript, Hslayers mapping library and SPARQL technologies.

6.5 Main Organizers

The main organizer was the SDI4Apps project partner Zemgale Planning Region.

ZEMGALES PLĀNOŠANAS REĢIONS

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6.6 Additional Organizers

Additional organizers were Help Service Remote Sensing, Czech Centre for Science and Society, WirelessInfo, University of West Bohemia, SAZP, EXIGEN, projects OTN and FOODIE :

6.7 Supporters

Supporters were Riga Technical University, Latvia Open Data association and Riga municipality:

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7 BALTIC OPEN (GEO) DATA HACKATHON

Baltic Open (GEO) Data Hackathon started with the speech form ZPR representative A. Builo-Hoļme with practical issues and the floor has been given to Karel Charvat, Moderator of the event, who gave the information background for the existing available tools and data.

After potential ideas presentations started – 8 persons presented their ideas – totally 11 ideas. After the team building started and it has formed 8 teams, who divided in University building for coding:

- EcoSystem Services Portal
- 3D model of buildings automatically created from open datasets
- Use of Linked Open Data (LOD) for Educational Purpose
- Delineation of yield potential zones based on satellite remote sensing
- SK INSPIRE Open Land Use Map
- Ideas and data form Open Riga
- IT system for development of national economy in the 21st century
- Open Data real-time road Maps for Autonomous Driving from 3D LIDAR point clouds

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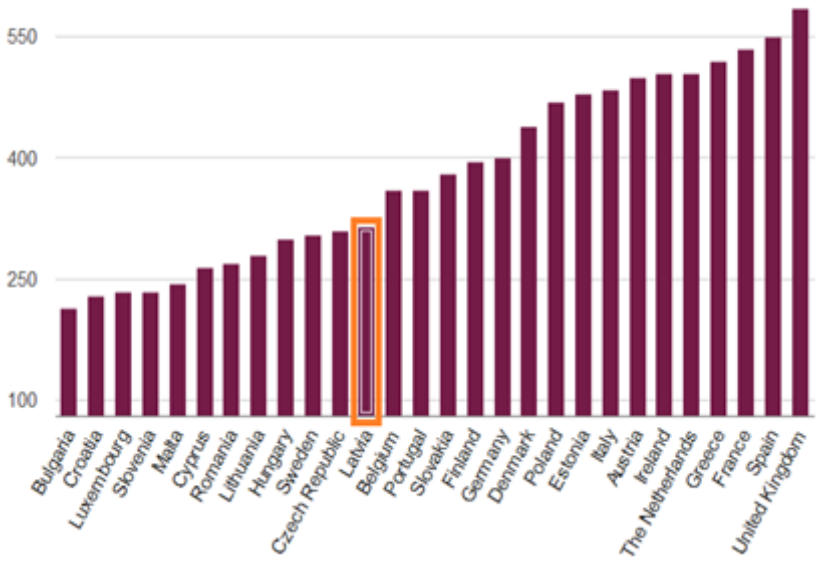
In the third day public workshop of the hackathon showed included the presentation about situation in Latvia by Toms Ceļmillers from the Ministry of Environmental Protection and Regional Development of the Republic of Latvia, which is responsible for implementing policy in three areas - environment protection, regional development as well as information and communication technologies, opened the public workshop. Toms spoke about the legislative and policy background introducing the right to access public sector information in the form of open data.



Open data in the EU scale (ePSI Platform scoreboard)

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Karel Charvat from the Czech Centre for Science and Society gave thanks to the organizers, mainly to Zemgale Planning Region and Riga Technical University, and supporters including Open Riga.

Karel gave thanks also to all the 'hackathors', the ones who took the challenge in the hackathon as active participants. Karel then introduced the idea of SDI4Apps, its objectives and potential for Europe. The key part of his presentation was the Open Land Use Map, Smart Points of Interest and Open Transport Map as key data sources used for the hackathon.

After presentations by 8 teams was done:

- Martin Tuchyna - EcoSystem Services Portal
- Pavel Hajek - all 3D model of buildings automatically created from open datasets
- Dmitrij Kožuch - Use of Linked Open Data (LOD) for Educational Purposes
- Karel Charvat Junior - Delineation of yield potential zones based on satellite remote sensing
- Martin Tuchyna - SK INSPIRE Open Land Use Map
- Pavel Hajek - Ideas and data form Open Riga
- Aldis Bulis - IT system for development of national economy in the 21st century
- Rihards Gailums Drivenet Maps – Open Data real-time road Maps for Autonomous Driving from 3D LIDAR point clouds

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7.1 Evaluation procedures – Winning Applications

Evaluation of the results were done by the jury members - Kaspars Skalbergs (Baltic Open Solutions Center, Latvia), Anna Builo-Hoļme (Zemgale Planning Region, Latvia), Inga Bērziņa (Farmers Parliament, Latvia), Sarmīte Barvika (Riga Technical University, Latvia) and Kristaps Ročāns (Vidzeme Planning Region, Latvia)

The first **three winning applications** were:

1. Pavel Hajek, Jan Macura, František Kolovský – Ideas and Data from Open Riga
2. Pavel Hajek, Jan Macura, Jakub Kočica, Irena Košková, Rinor Shala – 3D Model of Buildings Automatically Created from Open Datasets
3. Karel Charvat Jr, Vojtěch Lukas – Estimation of Crop Yield Potential

Winning applicaiton **Ideas and data from Open Riga** was created by František Kolovský , Pavel Hájek, Dmitrij Kožuch, Agris Šnepsts, Dainis Kreilis. The goals was The analysis of the optimization of public transport infrastructure was made on the level of the individual bus links but also on the level of their segments and individual bus stops. The additional factors (such as land use in the area surrounding the bus stop, the density of people in the area surrounding the bus stop and the road infrastructure was taken into the account). Main motivation was to explore the optimization of the public transport in Riga. Since just bus data are available, the focus was just on the bus links. Public transportation in Riga is highly subsidized: last year municipal authorities + state subsided public transport in Riga ("Rīgas satiksme") with around 93 mil. €, meanwhile the profit from selling tickets was estimated to be under 10 mil. €. As the outcome of the analysis there would be proposed such measures as replaning the links, changing the link intervals, i.e. something that can make public transport more efficient. Together with this, additional measures were needed to be taken - to propagate use of public transport by the wider circle of people. This might help to avoid traffic jams on the road, improve the environment and also increase the profits of the public transport company. The first step done was to calculate the frequency of the bus connections at the individual bus stops. The second step was to calculate how many people per day are entering bus at the individual bus stops. From the results of these two steps - the week spots can be identified (i.e. spots that have many connections but too little travelers). If these week spots form a cluster on the certain bus route - there can be frequency of the buses at that route changed. Further there can be relation between the density of the residential buildings/industrial buildings in the area adjacent to the bus stop (500 meters buffer zones) examined. Obviously residential areas with higher building densities (here also the densities of the people can be taken into account) require bigger number of bus connections. Areas with high industrial densities typically require high number of bus connections in the morning and in the evening when people go to and from work. On contrary areas with small densities of residential and industrial buildings don't require such frequent intervals. Further the data about traffic intensities on the road segments (such data was prepared by us before the hackathon) can be taken into the account to plan bus links routes to avoid jammed segments. Used data were:

Riga Open Data portal (https://opendata.riga.lv/)

- *bus schedules*
- *ticket validation data (for one sample working day 08/02/2015)*
- *bus stops*
- *bus links*

Open Transport Map (http://opentransportmap.info/)

- *road segments + traffic densities*

Open Land Use Map (http://app.hslayers.org/open_land_use_lv/)

- *land use map*

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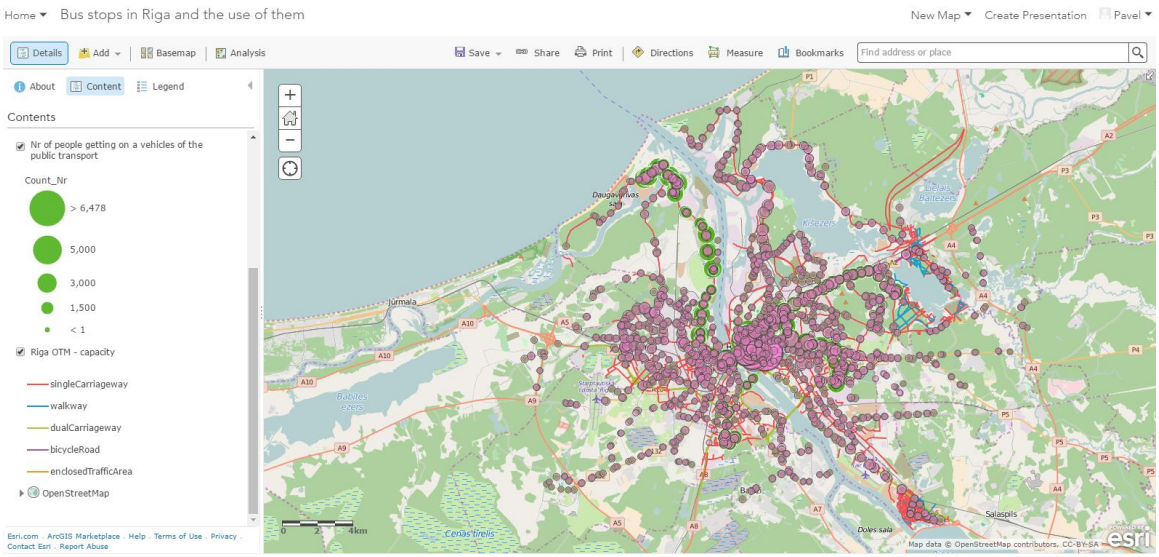
During the hackathon it was able to calculate *the number of people entering the bus at each of the stations* (an issue was that in the provided tables there is no unique identifier for the bus or validator, at which validation of the ticket was made), also the number of bus connections per bus stop per day was calculated.



The second wining application was created by Jan Macura, Pavel Hajek, Jakub Kočica, Irena Koškova and Rinor Shala with the goal **To create a 3D city map automatically from source data** for 3 areas of interest – different size of such areas and had 3 different approaches to implement => using of different source data (CAD data, Laser-scan data, images for photogrammetry. It was used Area of Gjakove (Kosovo), CAD based model with used data: Data from local providers and own created data, Area of Liberic region (Chech) with used data from Open Land Use, Registry Of Territorial Identification, Addresses And Real Estate (RÚIAN) and data from the local authorities and providers and the Area of Riga region (LV) with used data from Digital Elevation Model over Europe (EU-DEM), Buildings' Footprints, Data from Eurostat and Ortophoto Image. The created models can be used mainly for: Presentations of models, Using such models as source data for various kinds of 3D analysis: Visibilities; Spatial relationships; Crisis Management, etc. But not for example for the purposes of 3D cadastre – because the models of buildings are to course for such a use. The advantage of using CAD data is in very short time of computing such a 3D model. The computing based on data from laser scanning or from ortophoto images is very time consuming and reaching the limitations of computing capacity of standard PCs

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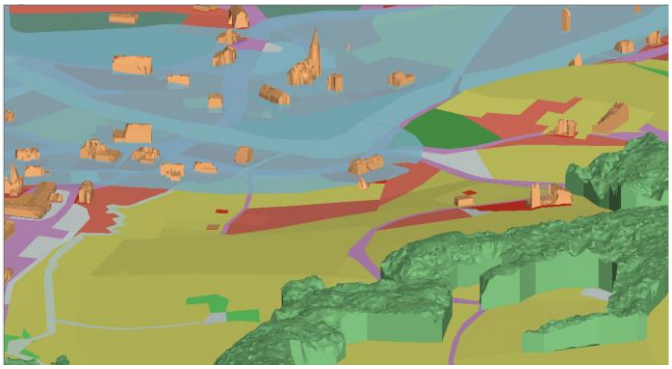
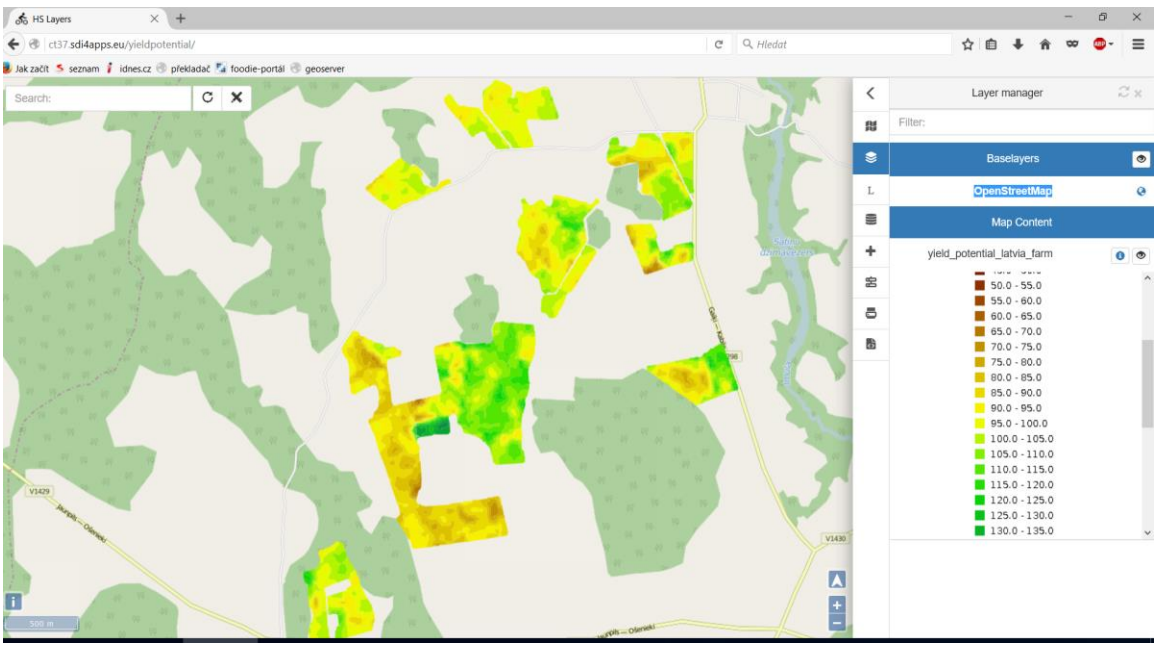


The third winning application **Delineation of yield potential zones based on satellite remote sensing** was created by Vojtěch Lukas, Karel Charvát jr. with the goal to identify yield potential zones within selected field (plot) - Yield potential zones are areas with same yield level within field and the yield level of zone is expressed as percentage of average yield within individual plot. Main data sources form Latvia were Open Data - USGS ESPA Repository of LANDSAT images. Mainly EVI and CFmask and private data about field boundaries from local farmers. The main steps were: Obtaining input data and preprocessing, Computing average EVI for each field, Computing ratio: EVI / Average EVI for each pixel, Aggregation for more years, Resampling data and Classification (5% classes). Main advantages were usable where complete series of yield maps are missing and that application was based on open data (fully or partly for different countries). Main disadvantages were low spatial resolution, many factors can cause various Inaccuracies and sometimes lack of usable Landsat scene (cloudy period).



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Other applications developed during the hackathon included:
Martin Tuchyňa, Tomáš Kliment – Ecosystem Services (ESS)
Dmitrii Kozuch, Irena Košková, Otakar Čerba, Dainis Keilis, Raitis Bērziņš – Use of Linked Open Data for Educational Purposes
Martin Tuchyňa, Tomáš Kliment, Jakub Kocica, Dmitrii Kozuch – Slovakian Open Land Use
Richards Gailums, Klāvs Taube, František Kolovský, Kristaps Krūmiņš, Pavel Hajek – Drivenet Maps – Open Data Real-time Road Maps for Autonomous Driving from 3D LIDAR Point Clouds
Aldis Bulis, Mārtiņš Dudelis – IT system for development of national economy in the 21st century

Best Online Apps

The public were invited to vote for the best app, through an online form. The result, at least in the case of the first three places, is exactly the same as the final decision of the jury that evaluated all 7 applications in Riga during the event. The people's choice of Best app of the Baltic Open (Geo) Data Hackathon 2016 is: Ideas and Data from Open Riga (Pavel Hajek, Jan Macura, František Kolovský, Dmitrii Kozuch, Agris Snepsts, Danis Kreilis). See the full voting result here.

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ANNEX 1 MEDHACKATHON REGISTERED PARTICIPANTS

No.	Timestamp	First Name	Surname
1	3/3/2016 12:21:54	Ioannis	Papagiannopoulos
2	3/10/2016 14:33:44	George	Soulos
3	4/4/2016 18:37:53	Dr. Kakha	NADIRADZE
4	4/5/2016 13:54:36	Laila	Gercane
5	4/6/2016 16:01:33	Kristaps	Ročāns
6	4/6/2016 16:10:16	Rūta	Vasermane
7	4/6/2016 16:13:27	Laila	Gercāne
8	4/6/2016 16:17:45	Jānis	Upenieks
9	4/7/2016 12:34:28	Karel	Charvat
10	4/9/2016 12:19:00	Suresh kumar	Mudda
11	4/26/2016 12:12:14	VASILIKI	BOURA
12	5/10/2016 11:52:18	Tomas	Kliment
13	6/2/2016 12:16:23	Gabriel	Mavrellis
14	6/2/2016 12:21:31	Theodoros	Vakkas
15	6/2/2016 12:27:22	Simos	Kamilieris
16	6/7/2016 18:12:18	Charis	Mallios
17	6/8/2016 13:16:11	Archontoula	Papasimakopoulou
18	6/8/2016 23:08:44	Georgios	Klados
19	6/8/2016 23:08:49	George	Tzoupis
20	6/9/2016 14:08:19	Nikolas	Petropoulos
21	6/12/2016 16:08:01	Raitis	Berzins

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No.	Timestamp	First Name	Surname
22	6/13/2016 16:43:29	Theodoros	Kouvelas
23	6/13/2016 23:18:00	ΙΩΑΝΝΑ	ΚΑΡΑΓΕΩΡΓΟΥ
24	6/13/2016 23:20:10	ΘΕΟΔΩΡΑ	ΚΑΡΑΓΕΩΡΓΟΥ
25	6/13/2016 23:21:43	ΙΩΑΝΝΑ	ΚΑΡΑΓΕΩΡΓΟΥ
26	6/14/2016 10:24:09	Stein Runar	Bergheim
27	6/14/2016 20:11:23	Kwnstantinos	Vasilas
28	6/15/2016 10:16:02	Marek	Šplíchal
29	6/15/2016 10:58:18	Martin	Kuba
30	6/15/2016 12:18:59	Martin	Tuchyna
31	6/15/2016 12:21:36	Nick Theo	ANTONOPOULOS
32	6/16/2016 10:47:56	Jan	Jezek
33	6/17/2016 14:52:30	Tomáš	Sapák
34	6/21/2016 12:12:44	Panayotis	Vroustouris
35	6/21/2016 12:27:16	Pavel	Hájek
36	6/21/2016 18:27:35	Dimitri	Kožuch
37	6/23/2016 23:12:40	Vladimir	Pavicevic
38	6/27/2016 14:52:55	DIONYSIS	LAMPROU
39	6/27/2016 14:52:55	Nikolaos	Petrelis
40	6/28/2016 16:17:56	Richard Mark	Brown
41	6/28/2016 16:43:44	Irene	Matzakou
42	6/29/2016 10:11:39	Leonidas	Kallipolitis
43	6/29/2016 18:19:55	Marios	Sarras
44	6/29/2016 18:31:36	Lydia	Papanikou
45	6/29/2016 19:31:02	Theodoros	Raptis

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No.	Timestamp	First Name	Surname
46	6/29/2016 19:47:08	Christos	Papadimitriou
47	6/29/2016 21:01:43	Βασίλης	Κόκιος
48	6/29/2016 22:56:52	Dimitris	Syrros
49	6/29/2016 23:42:42	Alkaios	Zografidis
50	7/2/2016 18:05:55	Pyrrhus	Mercouris
51	7/2/2016 18:17:36	Murtw-Sofia	Kolovou
52	7/2/2016 19:06:59	Timos	Zacharatos
53	7/2/2016 19:11:54	Giorgos	Tourgianas
54	7/2/2016 21:07:22	Eleftherios	Apostoldiis
55	7/2/2016 22:01:31	Dafni-Sofia	Kolovou
56	7/4/2016 12:28:27	Μαρία	Κοτλίδα
57	7/4/2016 12:29:29	Κλεοπάτρα	Χριστοπούλου
58	7/4/2016 16:41:59	Stavros	Lamprakopoulos
59	7/4/2016 16:52:14	Stavros	Lamprakopoulos
60	7/4/2016 17:17:19	Dimitrios	Mentakis
61	7/6/2016 13:58:26	Panagiotis	Liakos
62	7/6/2016 18:32:54	Michal	Kepka
63	7/6/2016 22:38:11	John	Tzemos
64	7/7/2016 9:43:48	Vasileios	Kasiolas
65	7/7/2016 14:01:04	Panagiotis	Simakis
66	7/8/2016 16:44:05	Vassilis	Protonotarios
67	7/9/2016 20:13:37	ANTONIS	TSIORVAS
68	7/9/2016 20:16:49	SPYROS	PAPAMENTZELOPOULOS
69	7/9/2016 21:06:54	Afrodite	Balafouti

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No.	Timestamp	First Name	Surname
70	7/10/2016 19:20:17	Andreas	Bardoutsos
71	7/11/2016 13:13:48	Csaba	Sidor
72	7/11/2016 15:55:30	Kostas	Patounis
73	7/11/2016 17:52:45	Fabio	Arieta
74	7/11/2016 17:53:30	Emanuela	Fabrizi
75	7/12/2016 11:10:13	Panagiotis	Kordas
76	7/12/2016 12:32:10	Thomas	Amorgianiotis
77	7/12/2016 17:23:45	Daniele	Tarini
78	7/12/2016 17:25:36	Alfredo	Iembo
79	7/12/2016 17:26:55	Alessandro	Pironi
80	7/12/2016 21:29:47	Christos	stefanopoulos
81	7/12/2016 23:42:41	Paris	Panagiotou
82	7/12/2016 23:47:25	Panagiotis	Chronopoulos

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ANNEX 2 REGISTRATION FORM

MEDHACKATHON registration

Name: *
Firstname
Surname: *
Lastname
E-mail address: *
Organisation/department: *
Please type your affiliation including your department (if applicable)
URL of your organisation/department:
Please type in the web address of your organisation or department.
Organisation type: *
Multiple options can be selected.

- [ ] Public authority/body
- [ ] Large private company
- [ ] Small and medium enterprise (SME)
- [ ] Non-governmenal organisaiton (NGO) including association and community
- [ ] Education/research
- [ ] Other:

What's your main specialisation? *
Multiple options can be selected

- [ ] Informatics/IT
- [ ] Geomatics/geoinformatics
- [ ] Urban and spatial planning
- [ ] Environment
- [ ] Web design
- [ ] Geography
- [ ] Tranport and logistics
- [ ] Agriculture
- [ ] Data journalism
- [ ] Tourism
- [ ] Education
- [ ] Other:

Tell us something about yourself:
Short bio, your experience with hackathons, developing apps, data, etc.

I would like to attend: *

- ( ) The conference (13/7) and the hackathon (14-15/7)

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- ( ) Only the conference (13/7)

Here you can write details about your participation

Can you attend only certain days? Do you need any help or assistance?

Have you got already an idea that you would like to work on during the hackathon?

If yes, please describe briefly the idea including the functionality of the resulting app, data and tools you plan to use and who is the target audience.

Do you know any open data sources that could be used during the hackathon and that are not listed at http://www.medhackathon.eu

If yes, please list them including their URLs

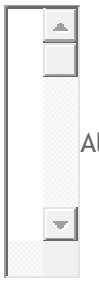
How did you find out about this event?

- [ ] From a colleague/friend
- [ ] From social network
- [ ] From the SDI4Apps website
- [ ] Email
- [ ] Other:

Do you want to participate remotely?

- ( ) No
- ( ) Yes

Any other comments?



All data above will be published to maximize collaboration between participants and interested parties whatsoever. If you do not agree, please tick the check-box

- [ ] I do not agree to publish the above data

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