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UJI computer specialists draw the map of the talk in social networks

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The spin-off from the Universitat Jaume I (UJI) Ubik Geospatial Solutions has developed a web service that is able to search and retrieve data from social networks and position them on a map for further study and use. The geolocated analysis of social networks performed by this "Web 2.0 Broker Service" enables to visualize where people are talking about something, thus allowing, for example, that advertising agencies can track, measure and analyze the impact of advertising campaigns, or that agencies such as the European Forest Center detect in real time where and when people are talking about a forest fire. Ubik works with international bodies like the United Nations or the European Union, in developing tools and services based in geospatial technologies, a field that is experiencing exponential growth in recent years.

"Geoinformation is a valuable tool, for example, for the companies that want to know the geographic distribution of sales, as well as strategies and results of their communication campaigns", explains Joaquín Huerta, researcher at the Department of Computer Languages and Systems at the UJI, noting that each analysis can be adapted to the search on social networks, the time and the environment that each company or organization requires. "Currently, there are many social networks analysis tools, but they are not localized", says the co-founder of Ubik, which is a technology-based company established in order to pay attention to a niche market with great future and to value the knowledge and technology developed over more than 15 years of work by the research group GEOTEC (Geospatial Technologies Research Group).

Knowing who and where people are talking about an advertising campaign on social networks, warning of a forest problem by geolocation data; developing a map of air quality through a collaborative application; improving European territorial cohesion through the comparison of data or developing a sound map playing a battle against noise are just some of the projects developed by this group at the UJI thanks to geolocation technology. As a spin-off, Ubik spreads these advances to society by offering all types of computer-related and geolocation services. The company collaborates with market-leading technology suppliers such as the multinational Esri and works with free software.

The Web 2.0 Broker Service tool has already been used in international projects as the one developed in collaboration with the European Forest Center to detect where people are talking about a forest fire. Ana Sanchís, who is also a co-founder of Ubik, explains that they have seen how the social networks map in which people are talking about a specific real-time forest fire matches the perimeter marked by the authorities after fire.

Optimizing data in facilities

Ubik has developed the Smart Campus project on UJI campus. It allows users to access services such as searching by name, area, department or building; walk navigation from anywhere in

the town to those spaces, finding caterers, recycling bins or parking spaces; real-time monitoring of electricity, water and gas consumption in buildings or damage or failure complaints, among others. It is a system that can be extrapolated to any type of enclosure that allows, in Sanchis' words, "to integrate different sources of information that use different technologies such as sensors, maps, existing data bases or even the data provided by users through their mobiles. Thus, we get to see information as a whole and can create better management tools and more intuitive displays".

Advanced geovisualization techniques also enable to obtain useful information from large amounts of data. This applies, for example, to the Citybench project of the ESPON 2013 programme, promoted by the European Observation Network for Territorial Development and Cohesion for promoting policies that foster territorial cohesion and a harmonious development of the different regions of the European Union. This involves collecting and analyzing large amounts of data and comparing socioeconomic indicators. "We collect and combine varied public data ranging from EUROSTAT information to the mention of keywords like 'crisis' in social networks, which allows to know in which areas of Europe network users are speaking over the crisis". The web tool developed allows an initial view of the risks and opportunities of different territories and a benchmarking.

The so-called *geo-gaming* is another service offered by Ubik. It consists of the development of applications based on game mechanics to get more engaged and participatory users. "For example, we have developed an app called 'La batalla del ruido' in which users must record audio clips of different areas to conquer and compete against each other using the noise levels they have collected. At the end we will achieve a noise map collaboratively developed through play", explains Sanchís. "This technology opens up numerous possibilities for a wide variety of studies and projects", she adds.

Serving the environment

Researchers have extensive experience in developing geolocation technologies to serve the environment. For example, through the project *Nueva generación de aplicaciones para la gestión de riesgos medioambientales*, funded by the Bancaixa-Caixa Castelló Foundation, they have developed the AirQuality mobile application for visualizing, through maps and other kind of graphics, the data collected by the Valencian Network of Surveillance and Control of Atmospheric Pollution, which collects information on air quality in urban and industrial areas of the Valencian Community. The developed programme allows to read, prepare and integrate this information to be available on line, thus giving an added value to this information. Currently, the app is available for Windows Phone 7 and it will support Windows 8 and Windows Phone 8. Another multi-platform web application developed by researchers is Meteoreader, which enables geospatial queries over time based on user location. It also gives access to all data provided by Meteoclimatic, the network of climate data sensor.

Also in the environmental field, Ubik researchers have participated in the design of a software tool that integrates all the information on forest cover, drought and biodiversity produced by different European systems of Earth observation. This is a unique technology developed within the EuroGEOSS European project combining resources from official sources and public input

and it aims to facilitate access to relevant data to improve monitoring and management of the territory.

UBIK: <http://www.ubikgs.com/>

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