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POSSIBILITIES OF MAP SERVICES

Currently, the presence of different web applications on the Internet has become commonplace, and their use - routine matter. With the help of the internet maps you can find a company, for example, a repair shop or a studio near your house. You can see the map of the metro and even find out how long it will take you to get from one station to the other. Besides the searching, online map services often give the opportunity to generate the optimal route from point "A" to point "B". They can also offer several options of such routes (service DrivingDirection) and provide much more information and additional services that are useful; for example, planning your trip or moving to a new place of residence. Resources MapQuest and Yahoo! Maps can be called among the most prominent portals with the support service DrivingDirection. They contain road atlases and maps of the world with the ability to select the optimal route online and obtain information about traffic jams. Technically it is easy to get the best route.

Map service is the way to provide Web access to maps or it is the introduction of web site pages with interactive maps. It shows objects on maps, as presented on the website. It is normal using of the service. Users can use the map services in web applications and other applications, such as mobile applications.

Map services provide the users with created maps, located on the server. They are designed in such a way that they can work with a lot of scripts on the Internet. The same map service can be used by one user, web-based application - by the other, and mobile application - by the third .

Map service creates maps, objects and attribute data in many types of client applications. Currently, there are a few basic techniques for working with map services. There are HTML5+JavaScript, Flash, Java, C#.

All existing map services have both advantages and a lot of disadvantages. You can also evaluate online services according to the following categories:
- refining and coverage;
- availability and quality of service navigation;
- interface / usability of the maps;
- availability of visualization layers;
- presence of advertising;
- additional services;
- charge for the usage.

Most services provide the ability to view both a map and a satellite view. But it is necessary to mention that cartographic view is not notable for the level of refinement in terms of image quality. Although, in case of considering details in a scheme, most general map services fulfill this task. The map shows not only roads, buildings, subway and public transport stations, but also stalls and crossings.

When considering the coverage, the pattern changes significantly. You can even highlight the services that provide mapping, where the whole world is covered equally well. But there are some services that have detailed maps of one particular country or where the former USSR countries and Europe have more detailed coverage, whereas the rest of the world is covered by only a couple of most important roads. If we consider a satellite view, the picture is completely analogous to the above-described.

Besides, some map services do not take pictures of the Earth, and use the images from DigitalGlobe, MDA Federal, Navteq or TeleAtlas. Resolution is different for different areas. Most of the land surface is covered with images obtained from DigitalGlobe, having a resolution of 15m per pixel. There are some parts of the surface (usually covering the capitals and some major cities in most countries) with a more detailed resolution. For example, Moscow is taken with the resolution of 0.6 m per pixel, and many cities in the U.S. - with the resolution of 0.15 m per pixel. Landscape data have a resolution of about 100 m. At a scale of z = 23 one can see elephants and human faces. Aerial photography is used for images with high magnification. It is reported about mass updates of high-resolution images on the official websites and blogs.

But not all browsers and mobile devices will be able to display the maps that provide map services, so some companies care about the users of their products and provide information about the devices, which will correctly display the desired inquiry. That is, if a gray rectangle will be visible instead of the map, then, apparently, the user of the web site uses an unsupported version of the browser.

All map services have simple and intuitively understandable interface. All the possible options are available in one or two clicks and it is not difficult to call them.

The services are also distinguished by a wide range of provided functionality, good geographical coverage and convenience for end users. Among their strengths we can name advanced navigation and scaling (zooming), the availability of specialized information resources (maps of major cities streets, traffic flows in real-time operation mode, etc.).

Besides, the imaging layers are visible in the majority of map services. You can choose to display different types of objects (schools, railroads, rivers, etc.), traffic congestion, it is also possible to display a variety of different places, but only connected with leisure activities (restaurants, bars, etc.), as well as images in certain places.

There is no advertising in the map services except Yahoo! maps, where there is a small link to the advertised object in the map window, which cannot be closed. Furthermore, in the absence of data results in 2GIS, there is an advertisement in their place.

One can also single out the map services that provide additional opportunities, such as just a simple view from the street or the view which can show you a detailed information about the object (the number of flats, when it was built, what organizations are located inside, etc.). In 2GIS by clicking on the building, a brief information about it (the address) is displayed, as well as the organizations present in the building. In addition, all online map services have a quick search.

One of the weaknesses of the web applications using map services is their lower performance in comparison with the desktop applications, which use the whole maps or their parts, downloaded and installed in advance. This is especially important due to the significant influence of the productivity factor on appeal of the software from the user perspective. Typically, the performance of Web applications depends on the following factors:

- the technology used to create them;
- the type of browser;
- bandwidth of Internet connection;
- operating system and many others.

To summarize, we can say that, depending on the purpose, various map services should be used. But when you choose, you should not forget about the browser support, the degree of coverage of different areas of the globe and the need to obtain the mapping data.