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## ANALYSIS OF INTERNET PORTAL DEVELOPMENT

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*The article presents the results of the analysis of Internet portal development. The World Wide Web is an ever-evolving network that has gone far ahead of its concept in the early 1990s, when its creation was determined by specific tasks. High-tech experiments at CERN (The European Particle Physics Laboratory, known today as the owner of the Large Hadron Collider) produced an incredibly large amount of data that was too large to be disseminated among the participating scientists scattered around the world.*

**Introduction.** Currently, the main source of information is the Internet. As information grows in size and complexity, we are faced with increasing content and user management challenges. Be it a seller of certain goods and services or the head of a large corporation, they need to create an Internet portal in order to conduct their work efficiently and bring information from diverse sources together in a uniform way. We will also focus on creating corporate Internet portals [1].

**Main part.** Portals are a class of software systems for which the terminology and classification have not been fully developed yet. You can find various definitions of the concept of "portal" and its software implementations that are different in functionality.

The following definitions are most commonly found in the literature:

1) a portal is an integrated and personalized web-interface for users to access information, applications and means of cooperation;

2) a portal is a tool for managing intellectual property, e.g. various kinds of information and data. The portal brings information from diverse sources together in a uniform way, i.e. organizes, categorizes and personalizes it in order to present it in the right way, at the right time, in the right place;

3) portals are websites that are focused on specific audiences and communities and provide content aggregation, i.e. the delivery of information to the appropriate audience; collaboration and community support services (employees, customers, shareholders); services and applications giving access to the target audience.

Let us compare a Web site with a portal. A Web site is a set of logically interconnected pages accessible through a Web browser via HTTP; a portal is a Web site that has a wide range of functions. Portals provide the user community with expanded functionality and centralized access to the necessary information and services.

Portals can be classified according to various criteria. In the classification below the main criteria are the portal topics, target audience, tasks solved by the portal and the technologies used (Fig. 1).

According to the topic criterion, portals can be divided into horizontal and vertical.

Information and thematic content and functions of the horizontal portal are aimed at a wide range of users. On the Internet, such portals are called mega-portals (Yahoo!, Yandex, etc.), because they provide information (weather, news, etc.) and functions (search for sites, sending e-mail, etc.) useful to almost all web users.

Vertical portals provide a complete list of the necessary information and functions for a specific and narrow circle of users. An example of industrial vertical portals can be portals for insurance, automotive, etc.

If the target audience of the portal is not be limited, the portal is open, otherwise the portal is closed. Open portals are available to a wide community of users. Most often, such portals are placed on the Internet. Closed portals provide access to a limited circle of users [2].

User registration in such portals usually goes through the verification stage, when the right of the person registered to access the portal is confirmed by authorized persons. This type usually includes portals located in corporate networks of organizations. They are intended for company employees and are known as B2E portals.

According to the target task criterion, the portal can be focused on the performance of one or more tasks. Several classes of portals can be distinguished, and each portal can be assigned to one or more classes:

1) Analytical portals allow decision makers to receive and create reports.

2) News portals deliver updated content on a specific topic or group of topics.

3) Business process support portals implement specific functions and support specific processes and applications, e.g. B2B, B2E, or B2C portals.

4) Collaboration portals provide users with virtual space for coordination and collaboration.

5) Solution search portals are designed to attract experts to solve problems. To do this, the portal keeps track of users and their competencies, which allows you to select experts in specific areas of knowledge, find them and use their expertise in solving problems.

- 6) Document management portals.
- 7) Portals for managing structured information.
- 8) Knowledge management portals. They are called upon to help the company make better use of its explicit and implicit knowledge by managing knowledge at each stage of its life cycle - at the stages of identification, creation, storage, distribution and use.
- 9) Portals-catalogs organize available information resources and search for the necessary resources.
- 10) Portals-electronic markets connect sellers and buyers with each other, providing specific information about markets, goods and services.
- 11) ASP portals (ASP, Application Service Provider) are designed to provide services to other companies, that is, they are B2B type portals. They provide an opportunity for client companies to lease both goods and services.

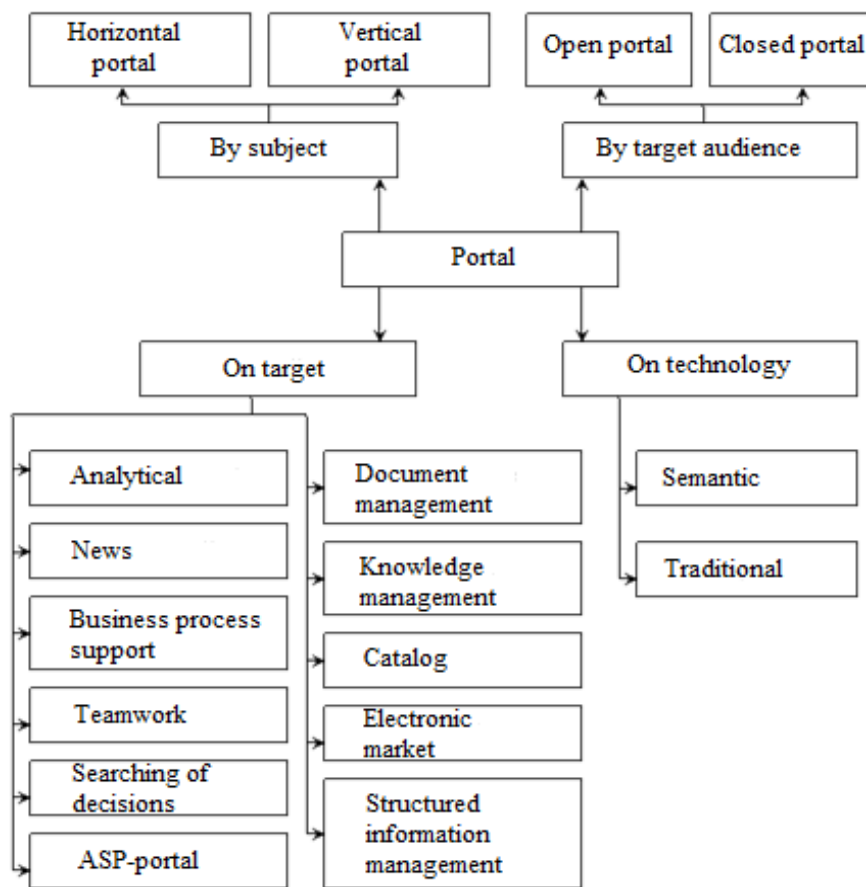


Figure 1. – Portal Classification

According to the technologies used criterion, portals can be divided into traditional and semantic. In traditional portals, information is processed regardless to its semantics.

Semantic portals are a new class of portals that contain a knowledge model of a certain subject area and use it to process information based on semantics. In addition to traditional technologies, actively developing semantic technologies are used to implement such portals.

The approaches, technologies and standards used both within the framework of the portal infrastructure and in the implementation of its functional modules are common. This allows us to describe the generalized architecture of the portal, covering the potential functionality.

At the user interface level, a thin client (Web browser) is used that can visualize the presentation of information described in HTML. To use some functionality of the portal, the user can use some other client applications (for example, email client, RSS client, etc.).

To implement the portal infrastructure, there are a number of widely used technologies and application servers. The most common application servers include software products such as Microsoft IIS, Apache HTTP

Server, Oracle Application Server. Relational databases are used as data storages, accessed using OLEDB, ODBC, JDBC, etc. Such programming technologies as ASP, ASP.NET, PHP, JSP and others are used. The visual presentation is described in HTML, which is interpreted by the user's web browser.

Although the approaches to the development and implementation of portals can be considered sufficiently developed in terms of methods and the technologies used, there is an objective need for their development. This need is justified by the development of telecommunication technologies that make information more accessible, as well as an objective increase in the volume of information.

The portal is such an information system (IS) that provides the user community with unified access to the information space, and therefore the problem of improving the quality of information processes is especially relevant. One of the approaches to solving this problem is the transition to the semantic level in the collection, processing, accumulation, storage, retrieval and dissemination of information. This approach is being developed within the framework of the Semantic Technologies area [3].

**Conclusion.** An Internet portal is a website that provides the Internet user with various interactive services that operate within the same website. Horizontal, vertical, mixed and corporate Internet portals can be distinguished. A corporate Internet portal is a complex designed not only for advertising goods and services, but also for the effective organization of the company's internal and external information space. In its most general form, a corporate portal is understood as a link between the end user and the internal information base. Representing a company on the Internet is essential for business development. The main goal of creating corporate Internet portals is to increase the profitability of the business. When creating corporate Internet portals, the main emphasis is on the convenience of obtaining information, on maintaining various levels of information access. When developing such portals, technological platforms of major software manufacturers are used. The most popular technology platforms are Oracle, IBM, Microsoft, SAP.

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