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THE INTRODUCING TO SEARCH EMPLOYEES IN SOCIAL NETWORKS

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The article represents basic principles of recruiting, advantages and disadvantages of searching employees in social networks. As a result we see the importance of the formation of a special expert system for searching empoyees.

A complex process of personnel management (which includes such components as monitoring of the organization's personnel needs, recruitment, personnel selection, release, development, evaluation and personnel certification) becomes important in modern conditions of market economy forming and economic efficiency increase of enterprises. Particular attention of companies is paid to the recruitment process, because organisation's efficiency, competitiveness and profitability at the market of goods and services depend on how efficient the organization is staffed [3].

Personnel selection should be based on the following principles [4].

- The requirements for the vacant position are necessary to be known.
- The requirements should not always be tough, characteristic similarities are often enough.
- It is necessary to avoid subjectivity in the selection (patronage or bias).

A program of personnel inspection both at the stage of selection and during the operation with staff is being worked out to ensure the personnel safety. The program includes:

- Professional selection.
- Candidates study.
- Verification of the information provided.
- Complex analysis of all the information received.
- Checking activities and psychological testing of the candidates for managing positions.
- Working out of psychological portraits of organization leaders.
- Revelation of the unsuitability of the candidates for employment for certain positions.
- Acceptance with a probation term.

Based on the above-described requirements two iterations of professional selection of the candidates can be singled out: live and distant.

Live iteration is based on direct interaction with the candidate and it is usually the final stage that includes an interview or tests.

Distant iteration is of the greatest interest for us because it includes the selection based on submitted applications and the search for the candidates.

Resources and methods are required to carry out the selection. The methods of selection are focused on its various directions and have different fitness assessment.

Among classical resources we can name labor exchanges or own database of companies, formed from a variety of sources and own experience. Their main drawback is the presence of highly specialized information, often not enough for a full analysis, besides the relevance of such data is in doubt.

In 2003 – 2004 a tendency called "social networks" started to gain popularity in society.

Social Network is an online service or a web site, intended for the construction, reflection and organization of social relationships, the visualization of which is social graphs.

The term "social network" was introduced in 1954 by a sociologist from Manchester School James Barnes in his work "Classes and Meetings in Norwegian Island Parish".

We classify social networks according to their structural and functional organization. The type of interpersonal contacts, in which a particular network specializes, can act as an attribute that uniquely affects the structural and functional organization of the network.

On this basis the following types of social networks, existing today, can be singled out.

Universal networks. They are the most popular among users. Their main function: search for people (friends, relatives, acquaintances, business partners, colleagues and even future employees) and further communication with them.

Social networks of the diary type. They are usually called blog-platforms, because the user's profile is a blog. Blog (abbr. from the English Weblog – is an online journal or diary of events) – is a regularly updated web-site.

Network specializing in objective interpersonal contacts. Objective in this context are social networks, the appearance of which does not depend on the deliberate desire of the user. Contacts can be different: between relatives (kinship networks), students (student networks), partners and colleagues (professional networks) [6].

According to the description of social networks we can concluded that they can contain any information about a person and, what is more important, timely information. It is they that are one of the main sources of information for the search and selection of the candidates in modern conditions.

A recent study, the aim of which was to find out to what extent social networks are popular with recruiters, was carried out by the portal of employment www.hh.ru in September 2010. 500 HR-specialists were surveyed. Most experts (57%) admitted that they used social networks for staff searching. However, the percentage of those who does not consider social networks as one of the ways to find employees is 43%. This is mainly due to the fact that today there other, more usual variants of recruitment. This fact is confirmed by the research results: 61% of HR-managers are quite satisfied with traditional methods of search, and therefore they do not have any need to search for staff through social networks. Each fifth of recruiters admitted that the search for employees through social networks requires much time, for which it is necessary to allocate additional resources which eventually makes such a search unprofitable. 10% of employers refused to search through social networks, because they believe that the majority of the candidates in social networks do not meet the requirements for their jobs (mainly it is the companies operating in medicine and building).

As might be expected, those employers who carry out an active search for candidates, rather than waiting for feedback from applicants, are more successful in their search. Although their number divided almost equally: 53% of employers expect activity from the candidates, 47% show it themselves [7].

Based on the aforesaid, we distinguish advantages and disadvantages of social networks as a new way of recruiting.

Advantages for employers in comparison with traditional methods are:

- The relevance of the information provided.
- Substantial money saving.
- The ability to receive the information generally not specified in the résumé: style of communication, social circle, mood, friends, hobbies, social status, family, etc.;
- The search in thematic groups, classifying the candidates according to a circle of interests;
- Special-purpose candidate search (you can search for people of certain occupations, companies, including in other cities and countries);

But at the same time this method has quite a lot of disadvantages [8]:

- The ignorance of search techniques in social networks;
- Blocking the account for non-friends or providing with the minimum information (if the person does not want to report excess information) do not allow to create a full idea about the candidate;
- Time-consuming;
- Low efficiency in certain cases (for example, the potential candidates of certain groups do not have their social network accounts);
- The need for a strategy of active search for the candidates (it is more effective than waiting for a response from the applicant).

Thus, the issue of the study consists in the definition and formalization of the requirements for the candidates for employment, the identification of required metrics in social networks, based on public data provided by the application programming interface (API), and the working out of the prototype of an expert system, which performs basic tasks: the search and analysis of the candidates for employment.

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SOFTWARE IMPLEMENTATION OF DIJKSTRA'S ALGORITHM

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Currently, there are many algorithms to find the shortest way. The most effective of them is Dijkstra's algorithm. This article is devoted to the software implementation of this algorithm and its interface design, convenient for the use of schoolchildren, students and teachers in order to quickly resolve the problem of finding the shortest way.

Navigating troubled people has long been a problem. Navigation history begins from the time of trade caravans, the development of relations between nations, military campaigns. Even at those times rough maps and routes were drawn. Navigation continued to evolve. Later, travelers started to draw maps of the whole world; maps of individual regions appeared. In the XX century science and industry began to develop actively, and it led to the emergence of artificial satellites and allowed to draw a detailed map of the earth. The most recent inventions are navigators that help a person to move in the direction of a certain point, not knowing the exact route, using the communication with the satellite. Navigators are now built into all smartphones and offer a variety of programs, allowing to determine your location and build up the desired route. Also there is a possibility of communication between users with the help of navigators, tracking traffic jams, speed, accidents and even traffic police posts. The most famous ones are «Yandex Navigator», «Navitel», «OsmAnd» and others.

Roads are a network. A network is a connected digraph without loops, the weight of each arc in which is a natural number (the capacity of the arc). The shortest path is a path with the lowest cost in passing (financial, fuel, time, ect.).

One of the algorithms for finding the shortest way is Dijkstra's algorithm. The algorithm was invented by a Dutch scientist E. Dijkstra in 1959 and is today considered one of the most efficient algorithms for finding the shortest way. The algorithm works with networks without negative weight edges (if we have a one-way road it will not take into account going in the opposite direction; it will not let you go along the opposite lane). In terms of software implementation Dijkstra's algorithm is quite simple. It needs reasonable system resources increasing the speed of the construction of the way. One disadvantage is the fact that it is not free. The algorithm is patented and its commercial use is not free of charge.

An overview of analogs of the algorithm

There are several analogs of Dijkstra's algorithm. The most popular ones are:

– Bellman-Ford's algorithm finds the shortest way from one vertex of the graph to all others in a weighted graph. Weight edges can be negative.

– The A* search algorithm finds the least wasteful route from one vertex (primary) to another (target, final) using a searching algorithm based on the first best match on the graph.

– Floyd – Warshall's algorithm finds the shortest way between all nodes of a directed weighted graph.

– Johnson's algorithm finds the shortest ways between all pairs of vertices of a directed weighted graph.

– Lee's algorithm (wave algorithm) is based on the method of widthway search. It finds the way between the vertices of the graph of **s** and **t** (**s** doesn't match **t**), contains a minimum number of intermediate vertices (ribs). Its main application is tracing the electrical connections on the crystals and chips on printed circuit boards. It is also used to find the shortest distance on the map in strategic games.

– Kildall's algorithm also finds the shortest way.