Research and analysis of systems for monitoring the behavior of employees on the computer

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Abstract: CrocoTime software is a necessary tool for monitoring the behavior of employees on their computers. CrocoTime program is a program installed on the computer of employees and serves to collect statistical information about the activity of this computer. CrocoTime Server is a program that receives employee statistics in CrocoTime and displays the data in graphic and text form through a web interface in an Internet browser. Statistical data is collected in the CrocoTime time tracking system by real-time monitoring that transmits data to the server via the corporate local network or the Internet.

Keywords: CrocoTime, monitoring, input devices, company structure, minimum and maximum working, progress indicator

Introduction

Digital technologies are so deeply rooted in our lives that today we cannot imagine not only our daily activities, but also the development of socio-economic fields without them. Of course, as in other areas, the introduction of advanced technology in the tax office will fundamentally change its operation. It not only refers to the relationship between the taxpayer and the tax authority, but brings innovations from reporting to ways of paying taxes and recording data.

First of all, a modern method of input, collection, formation and analysis of data was created by creating a unified electronic platform of the system. As a result, the process of submitting tax returns was reduced by 5-7 times. To date, an online portal has been created for one electronic classification of goods and services of the Republic of Uzbekistan, consisting of 112 groups and 1348 categories of goods and services. More than 900,000 electronic invoices were created with product and service ID codes.

Widespread adoption of electronic invoices has improved tax administration. In the second half of last year, the turnover included in the tax base through this electronic system was 798,400 billion, i.e. the indicator increased by 3.5 times compared to the first half of the year.

Today, digital technology is developing rapidly and requires staying up-to-date in all areas. For example, the adoption of artificial intelligence technology helps to detect tax evasion, prevent fraud, analyze data and automate processes and increase transparency. Big data - big data allows the tax authority to store and process large

amounts of data, better forecast revenues and improve document exchange between the taxpayer and the tax authority.

FYI, artificial intelligence is a separate field of informatics and a computer or machine must imitate the capabilities of the human mind. Simply put, AI is a technology that aims to make computers think like humans and come up with solutions. Big data is a term used for more than 100 gigabytes of data flow per day. Later, thanks to the rapid growth of knowledge, this concept took on a wider scope. The term is often used to refer to large amounts of data at the terabyte, exabyte, and petabyte scales.

Tax evasion, industrial fraud and the current state of data storage, processing and analysis are several national and international challenges today. For example, according to a 2020 report by the Tax Justice Network, tax evasion and tax evasion cost countries around the world $427 billion a year. The United States alone loses $188.8 billion annually to tax evasion, while China loses $66.8 billion and Japan $46.9 billion.

As the number of requests to the database through electronic government services and information systems increases every year in our country's tax system, improving the rapid analysis of data is on the agenda. The memory capacity of the Tax Board's existing server equipment is currently 90 percent in use. The equipment of the data processing center is outdated, and the existing servers cannot quickly process and analyze large volumes of data generated both by online billing and online checkout, as well as from external sources. In this regard, the adoption of smart and big data technologies is beneficial.

Main part:

It is also possible to track non-PC activities associated with clients using the automatic time tracking feature. The system takes into account the activity of peripheral input devices (keyboard, mouse) and calculates the time of working with an active program window or an active browser tab. If the computer mouse or keyboard is not used for 5 minutes, the system does not consider this time as the employee's working time.

The system replicates the company structure; reports are compiled by department and each employee (Fig. 1). The program calculates the total working time and also divides it into productive time and distraction time. Reports show all the programs and sites you've logged into, worked on, which allows you to quickly analyze how well your employees are spending their time. CrocoTime displays the activity chart: you can automatically monitor the minimum and maximum working hours of employees. Statistics are available by day within a week or month, as well as hourly within a day. You'll find out in detail what your employees did, when they did it, and what programs they used. This is very convenient for monitoring the work of remote specialists. The start and end of work, the working hours and breaks of employees are clearly indicated

and you can see the details for each individual period. The progress indicator shows at which time the employee worked on which task. In addition, you can display meetings and conferences in corporate calendars, as well as calls when integrated with IP telephony systems.

Category	Purpose	Example
Prediction and flagging	Used to identify or deter perceived rule-breaking or fraud.	Downloading sensitive documents to personal computers. Visiting sites with malicious codes
Biometric and health data	Collected through wearable technology such as fitness tracking apps and biometric timekeeping systems.	Fatigue monitoring systems are designed to decrease accidents and can be used to monitor things such as truck driver speed, driving behavior, pulse and heart rate and even general "state of mind" or alertness.
Remote monitoring/time tracking	Used to manage workers and measure performance, especially of work done remotely.	• Tracking things such as number of keystrokes, time in an application (active vs. idle time), number of meetings/hours online. • Detecting possible wage theft - can potentially provide employers for what they think is justification to trim what counts as paid work time.
Management by algorithm	Passive collection of data used to send workers automated "nudges" based on performance/productivity sometimes in real-time	Can sometimes be used as a form of automated decision-making (e.g., promotion, other types of mobility, continued employment).

Figure 1. Employee Monitoring Software

Conclusion

Using the Crocotime program to automatically control the behavior of employees on their computers, it is possible to automatically monitor the start and end times of employees' work, distraction time, non-computer activity, programs and sites used during work. Employees' working time, overtime, idle time and even work efficiency are shown as a percentage. In short, this program is convenient in every way and is preferable to other programs.

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