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ІНФОРМАЦІЙНА БЕЗПЕКА ТА ІНФОРМАЦІЙНІ ТЕХНОЛОГІЇ

Збірник тез доповідей
IV Міжнародної науково-практичної конференції
ІБІТ 2022

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У збірнику опубліковано матеріали IV Міжнародної науково-практичної конференції "Інформаційна безпека та інформаційні технології". На основі теоретичних та експериментальних досліджень представлено інноваційні підходи у сфері кібербезпеки та інформаційних технологій. Обговорено та запропоновано сучасні шляхи щодо захисту інформації як на особистому, так і на державному рівнях.

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За точність наведених фактів, самостійність наукового аналізу та нормативність стилістики викладу, а також за використання відомостей, що не рекомендовані до відкритої публікації відповідальність несуть автори опублікованих матеріалів.

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Секція 2

ІНФОРМАЦІЙНІ ТЕХНОЛОГІЇ

Напрям 13

ОПЕРАЦІЙНІ СИСТЕМИ

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AMERICAN COMPANY "THE MICROSOFT CORPORATION"

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Annotation. *Described history of Microsoft Corporation, its development and identified features of its activities. BASIC for computer systems on the 8086 microprocessor as the first high-level resident language to appear for 16-bit machines. Investigated its products and given some examples of company activities: Microsoft software, personal computer, Windows operating systems.*

Keywords: *Microsoft Corporation, Bill Gates, Paul Allen, Internet Business, Microsoft Windows, Microsoft Office, Microsoft Servers, Microsoft Visual Studio, Microsoft Mobile.*

Аннотація. *Описано історію корпорації Microsoft, її розвиток та визначено особливості її діяльності. BASIC для комп'ютерних систем на мікропроцесорі 8086 як перша резидентна мова високого рівня, що з'явилася для 16-бітних машин. Досліджено її продукцію та наведено приклади діяльності компанії: програмне забезпечення, персональний комп'ютер, операційні системи Windows.*

Ключові слова: *корпорація Microsoft, індустрія програмного забезпечення, Білл Гейтс, Пол Аллен, інтернет-бізнес, Microsoft Windows, Microsoft Office, Microsoft Servers, Microsoft Visual Studio, Microsoft Mobile.*

The company Microsoft Corporation (Fig. 1) began its history in 1975, when Harvard student friends Bill Gates [2] and Paul Allen (Fig. 2), having read an article published on January 1, 1975 in Popular Electronics magazine about the new Altair 8800 personal computer, developed a Basic language interpreter for it- a popular mainframe computer programming language, for use on an early personal computer (PC), the Altair. A month later, on February 1, a license agreement was signed with Micro Instrumentation and Telemetry Systems (MITS), the manufacturer of this PC, to use Basic as a part of Altair

Fig. 1. Logotype of Microsoft Corporation

few years, they refined BASIC and developed other programming languages [14], (see the video [16]).

In 1980 International Business Machines Corporation (IBM) asked Microsoft to produce the essential software, or operating system, for its first personal computer (Fig. 3), the IBM PC. Note that MS-DOS (Microsoft Disk Operating System) was released with the IBM PC in 1981. Thereafter, most manufacturers of personal computers licensed MS-DOS as their operating system and by the early 1990s Microsoft had sold more than 100 million copies of the program and defeated rival operating systems such as CP/M, which it displaced in the early 1980s, and later IBM OS/2 [1, 14] (Fig. 4).

Fig. 3. Personal Computer

By 1993, Windows 3.0 and its subsequent versions were selling at a rate of one million copies per month, and nearly 90 percent of the world's PCs ran on a Microsoft operating system. In 1995 the company released Windows 95, which for the first time fully integrated MS-DOS with Windows and effectively matched in ease-of-use Apple Computer's Mac OS. Microsoft also became the leader in productivity software such as word-software. They thought of calling their company Allen & Gates, but felt it would be more appropriate for a law firm, so Paul suggested Micro-Soft, from microcomputer and software. Shortly afterward, Gates and Allen founded Microsoft, deriving the name from the words microcomputer and software. During the next

Fig. 2. Bill Gates and Paul Allen

Fig. 4. IBM OS/2

processing and spreadsheet programs, outdistancing longtime rivals Lotus and WordPerfect in the process [9].

Fig. 5. Encyclopedia, Encarta

Microsoft dramatically expanded its electronic publishing division, created in 1985 and already notable for the success of its multimedia encyclopedia, Encarta (1993–2009) (Fig. 5). It also entered the information services and entertainment industries with a wide range of products and services, most notably the Microsoft Network and MSNBC (a joint venture with the National Broadcasting Company, a major American television network, which began in 1995 and ended in 2012) [8].

As a result, by the mid-1990s Microsoft (Fig. 1), which became a publicly owned corporation in 1986, had become one of the most powerful and profitable companies in American history. It consistently earned profits of 25 cents on every sales dollar, an astonishing record [5].

Below we will describe it below **Microsoft software** (Microsoft office). Microsoft Office comes in several editions, the differences between which are in the package and price. The most complete edition contains:

Fig. 6. Microsoft Word

Microsoft Word (Fig. 6) is a word processor. Available on Windows and macOS. Allows we to prepare documents of varying complexity. The product occupies a leading position in the market of word processors [9].

Microsoft Excel (Fig. 7) – spreadsheet. Supports all the necessary features to create spreadsheets of any complexity. Occupies a leading position in the market. The latest version uses OOXML format with ".xlsx" extension, previous versions used binary format with ".xls" extension. Available on Windows and Apple Mac OS [9].

Fig. 7. Microsoft Excel

Fig. 8. Microsoft Outlook

Microsoft Outlook (Fig. 8) is a personal communicator. Outlook includes: calendar, task scheduler, notes, e-mail manager, address book. Joint networking is sup-

ported. The main competitors of the email client are Mozilla Thunderbird / SeaMonkey, Eudora Mail, The Bat! [9].

Microsoft PowerPoint (Fig. 9) is an application for preparing presentations for Microsoft Windows and Apple Mac OS X [9].

Fig. 9. Microsoft PowerPoint

Fig. 10. Microsoft Access

Microsoft Access (Fig. 10) – database management.

Microsoft InfoPath (Fig. 11) a data collection and management application, simplifies the information collection process.

Fig. 11. Microsoft InfoPath

Microsoft Office Communicator (Fig. 12) – designed to organize comprehensive communication between people. Microsoft Office Communicator 2007 provides the ability to communicate easily with instant messaging, as well as voice and video chat. This application is part of the Microsoft Office software package and is closely integrated with it, which allows it to work with any program in the Microsoft Office family.

Fig. 12. Microsoft Office Communicator

Microsoft Publisher (Fig 13) – an application for preparing publications.

Fig. 13. Microsoft Publisher

Microsoft Visio (Fig. 14) **–** an application for working with business charts and technical charts, lets you turn concepts and ordinary business data into charts.

Fig. 14. Microsoft Visio

Microsoft Project (Fig. 15) **–** project management.

Microsoft Query – view and select information from databases [9].

Fig. 15. Microsoft Project

Microsoft OneNote (Fig. 16) is an application for recording and managing notes.

Fig. 16. Microsoft OneNote

***Microsoft Office Groove* 2007** (Fig. 17) is a collaboration support application.

Microsoft Office Picture Manager – work with pictures.

Microsoft Office Diagnostics – diagnose and repair damaged Microsoft Office applications.

Microsoft Office SharePoint Designer is a tool for building applications on the Microsoft SharePoint platform and adapting SharePoint sites [9].

Fig. 17. Microsoft Office Groove 2007

The beginning of 1983 was marked by the release of Apple's Lisa personal computer (Fig. 18) which – though not very successfully – used a graphical interface. The instability and high price of the Lisa determined its failure among users, but the Macintosh computer, created in 1984 based on the work of the Lisa project, sold more than 100,000 copies in its first year of sales. Apple immediately benefited from Microsoft's success – its first GUI products, Word and Excel, were designed specifically for the Macintosh. Adherents of Dos simply laughed at the Lisa and PC graphics shell, calling it the WIMP interface (window, Icons, Mice, Pointers, wimp in translation "boring"). Folders and long file names, which are now an integral part of Windows, also come from Apple computers, which only in 1990 guessed Microsoft to sue for "plagiarism". In 1983 Microsoft has developed a hand-held, low-cost Microsoft Mouse computer (Fig. 19) **(**September 23 1983) [7].

Fig. 18. Apple Lisa personal computer

Fig. 19. Microsoft Mouse computer

Microsoft is a leading manufacturer of software for Apple Macintosh computers. Apple announces the use of BASIC (Fig. 20) and Multiplan for its computers at the Macintosh PC presentation in 1984.

Fig. 20. Applesoft BASIC

Microsoft is creating a new division, Hardware and Peripherals, to expand sales in the computer market, which uses Microsoft software products (April 1984). Windows development tools are being transferred to computer manufacturers and independent software vendors. This month, Microsoft is also launching Project Software, a program for hosting and allocating resources (May 1984) [9].

The number of MS-DOS installations continues to grow, with 200 computer manufacturers already licensed. August. IBM releases the latest version of IBM PC AT with Microsoft system software – MS-DOS 3.0, MS-DOS 3.1 and XE-

NIX. Microsoft announces sales of the Chart business graphics program. Microsoft creates and starts selling File and Word programs for Macintosh PCs. Windows 1.0 users are finally able to work with multiple programs at once and switch freely between them. However, overlapping windows is not allowed, which dramatically reduces the comfort of the environment. In addition, quite a few programs are written for Windows 1.0 (Fig. 21, see the video [4]), as a result, it did not become widespread in the market [8].

Fig. 21. Windows 1.0.

Microsoft and IBM announce an agreement to develop an OS / 2 operating system (1987). The first Microsoft application on CD is Bookshelf (September 8, 1987). The corporation announces a new version of Excel for Windows (October 6, 1987) [9], (see the video [15].

Thus, today, the corporation's success rests on operating systems of the Windows family, including Windows Phone mobile operating systems, as well as on Microsoft Office programs. Microsoft began planning a major replacement for all of its operating systems in 2001. The project, code-named Longhorn (Fig. 22), encountered numerous delays, in part because of efforts to address the public's growing concern with computer security and consumers' desire for PCs to have greater integration with a full range of entertainment equipment within the modern electronic home [9] (see the video [4]).

Fig. 22. Development of Windows Vista

The company started over, and the new operating system, renamed Vista, was released to other software developers late in 2006 and to the general public in 2007. Like most new operating systems, Vista met with initial problems involving incompatibilities with older computer peripherals. More problematic for the new operating system was its "bloated" structure, which required a very fast microprocessor and large amounts of dedicated computer memory for proper functioning. Its high threshold for adequate system resources deterred many companies and individuals from upgrading systems from earlier, and perfectly serviceable, systems such as Windows XP (Fig. 23) (derived from the term Windows Experience). In addition,

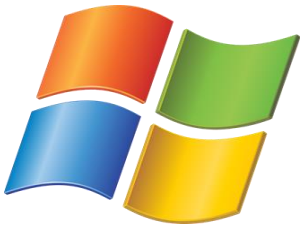

Fig. 23. Windows XP

consumers were baffled by the numerous Vista options – Home (Basic or Premium), Ultimate, Business, and others – while business users (Microsoft's core market) balked at its major change to the user interface and were unwilling to port their internal applications to the new system [6].

Fig. 24. Microsoft Skype

In May 2011, the corporation announced the purchase of Internet telephony company Skype Limited for $ 8.5 billion. After the takeover, the Microsoft Skype Division (Fig. 24) was created on the basis of Skype Limited, with Skype director Tony Bates remaining its head [9].

Fig. 25. Windows 8

In October 2012, Microsoft introduced the new Windows 8 (Fig. 25) operating system. At the beginning of September, 2013 Microsoft announced purchase from Finnish Nokia (Fig. 26) of its division on production and service of mobile phones Devices & Services for 5.44 billion euros. According to analysts, in a similar way, Microsoft, by combining the development of mobile devices and software stuffing for them, will try to compete with Apple. On November 19, 2013, Nokia's shareholder meeting approved this deal. The deal was closed on April 25, 2014 [9].

Fig. 26. Finnish Nokia

In September 2014, Microsoft acquired the Swedish company Mojang AB, the developer of Minecraft. In January 2018, Microsoft announced the acquisition of PlayFab (Fig. 27), a backend service provider for creating and launching cloud-based games. On January 16, 2018, Microsoft closes free updates for Windows 8.1 with the transition to Windows 10. Now Windows 8.1 will not receive any significant improvements and bug fixes – only patches against vulnerabilities, which will be released for another five years, until 2023 [9].

Fig. 27. Microsoft and GitHub

In conclusion, the slogan "hugs, keep and go" often describes Microsoft's strategy of entering the market with extensive use of different standards, continuing to use them with their own improvements.

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НАПРЯМ 11.
ОРГАНІЗАЦІЯ БАЗ ДАНИХ І ЗНАНЬ

НАПРЯМ 12.
ТЕХНОЛОГІЇ ВІЗУАЛІЗАЦІЇ ДАНИХ

НАПРЯМ 13.
ОПЕРАЦІЙНІ СИСТЕМИ

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