**Національний технічний університет України**

**“Київський політехнічний інститут”**

Факультет \_\_\_\_ФІОТ\_\_\_\_\_\_\_\_

Кафедра\_\_\_\_\_АСОІУ\_\_\_\_\_\_\_\_\_

**РЕФЕРАТ**

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на тему: **“Multimedia”**

Виконав: Сушко О.Г

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Викладач: Соколова Л.Ф.

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# **Introduction**

As a technology, it is called multimedia. As a revolution, it is the sum of many revolutions wrapped into one: A revolution in communication that combines the audio visual power of television, the publishing power of the printing press, and the interactive power of the computer. Multimedia is the convergence of these different professions, once thought independent of one another, coming together to form a new technological approach to the way information and ideas are shared.

Multimedia can be recorded and played, displayed, dynamic, interacted with or accessed by information content processing devices, such as computerized and electronic devices, but can also be part of a live performance. Multimedia devices areelectronic media devices used to store and experience multimedia content. Multimedia is distinguished from mixed media infine art; by including audio, for example, it has a broader scope. The term "rich media" is synonymous for interactive multimedia. Hypermedia scales up the amount of media content in multimedia application.

What will society look like under the evolving institutions of interactive multimedia technologies? Well, if the 1980’s were a time for media tycoons, the 1990’s will be for the self-styled visionaries. These gurus see a dawning digital age in which the humble television will mutate into a two-way medium for a vast amount of information and entertainment. We can expect to see: ovies-on-demand, video games, databases, educational programming, home shopping, telephone services, telebanking, teleconferencing, even the complex simulations of virtual reality. This souped-up television will itself be a powerful computer. This, many believe, will be the world’s biggest media group, letting consumers tune into anything, anywhere, anytime.

# **Multimedia perspectives**

The most extraordinary thing about the multimedia boom, is that so many moguls are spending such vast sums to develop digital technologies, for the delivering of programs and services which are still largely hypothetical.

So what is behind such grand prophecies? Primarily, two technological advances known as digitization (including digital compression), and fibre optics.

Both are indispensable to the high-speed networks that will deliver dynamic new services to homes and offices. Digitization means translating information, either video, audio, or text, into ones and zeros, which make it easier to send, store, and manipulate.

Compression squeezes this information so that more of it can be sent using a given amount of transmission capacity or bandwidth.

Fibre-optic cables are producing a vast increase in the amount of bandwidth available. Made of glass so pure that a sheet of it 70 miles thick would be as clear as a window-pane, and the solitary strand of optical fibre the width of a human hair can carry 1,000 times as much information as all radio frequencies put together. This expansion of bandwidth is what is making two-way communication, or interactivity, possible.

Neither digitization nor fibre optics is new. But it was only this year that America’s two biggest cable-TV owners, TCI and Time Warner , said they would spend $2 billion and $5 billion respectively to deploy both technologies in their systems, which together serve a third of America’s 60m cable homes. Soon, some TCI subscriptions will be wired to receive 500 channels rather than the customary 50; Time Warner will launch a trail full-service network in Florida with a range of interactive services.

These two announcements signaled the start of a mad multimedia scramble in America, home market to many of the world’s biggest media, publishing, telecoms and computer companies, almost all of which have entered the fray. The reasons are simple: greed and fear: greed for new sources of revenue; fear that profits from current businesses may fall as a result of reregulation or cut-throat competition.

Multimedia has already had a profound affect on how these businesses interact with one another. Mergers such as Time Warner, Turner Broadcasting, and Paramount have set the stage. These companies continue the race to be the first to lay solid infrastructure, and set new industry standards.

Following in the shadows will be mergers between: software, film, television, publishing, and telephone industries, each trying to gain market share in the emerging market.

So far, most firms have rejected the hostile takeovers that marked the media business in the 1980s. Instead, they have favored an array of alliances and joint ventures akin to Japan’s loose-knit Keiretsu business groupings.

TCI’s boss, John Malone, evokes “octopuses with their hands in each other’s pockets-where one starts and the other stops will be hard to decide.” These alliances represent a model of corporate structure which many see as mere marriages of convenience, in which none wants to miss out on any futuristic markets.

# **Multimedia future**

The games themselves are becoming more sophisticated and intelligent and are now offering some of the first genres capable of attracting and holding an adult audience. Just around the corner looms the promise of interactive television, which threatens to turn the standard American couch potato into the newly rejuvenated couch commando.

Through interactive television, which will actually be a combination of the telephone, computer, and television, you will have access to shopping, movies, and other types of information on demand. As this technology increases, it will give way to a form that is known as virtual reality.

Imagine, with the use of headgear, goggles, and sensory gloves, being able to actually feel and think you are in another place. For instance, going shopping at a mall could be done in the privacy of your own living room, by just strapping on your headgear. Another break through in the home market is video telephony.

These are telephone systems that also broadcast video images. Imagine being able to communicate instantly with voice, picture, and text with a business colleague or a loved one thousands of miles away.

# **Multimedia in education**

In a complex world of constant change, where knowledge becomes obsolete every few years, education can no longer be something that one aquires during youth to serve for an entire lifetime. Rather, education must focus on instilling the ability to continue learning throughout life. Fortunately, the information-technology revolution is creating a new form of electronic, interactive education that should blossom into a lifelong learning system that allows almost anyone to learn almost anything from anywhere, at anytime. The key technology in future education is interactive multimedia.

The purpose of multimedia in education as in so many other multimedia applications, is to: enhance the transfer of information, encourage participation, stimulate the senses and enhance information retention. Multimedia uses a powerful combination of earlier technologies that constitutes an extraordinary advance in the capability of machines to assist the educational process.

Interactive multimedia combines computer hardware, software, and peripheral equipment to provide a rich mixture of text, graphics, sound, animation, full-motion video, data, and other information. Although multimedia has been technically feasible for many years, only recently has it become a major focus for commercial development. Interactive multimedia systems can serve a variety of purposes but their great power resides in highly sophisticated software that employs scientifically based educational methods to guide the student through a path of instruction individually tailored to suit the special needs of each person.

As instruction progresses and intelligent systems are used, the system learns about the student’s strengths and weaknesses and then uses this knowledge to make the learning experience fit the need of that particular student.

Interactive multimedia has several key advantages. First, students receive training when and where they need it. An instructor does not have to be present, so students can select the time best suited to their personal schedules. Second, students can adjourn training at any point in the lesson and return to it later.

Third, the training is highly effective because it is based on the most powerful principles of individualized learning. Students find the program interesting, so they stick with it. Retention of the material learned is excellent. Fourth, the same videodisk equipment can be used to support a variety of training paths. Last, both the training and the testing are objectively and efficiently measured and tracked.

Educational systems of this type, offered by IBM under the product labeled Ultimedia, engage students in an interactive learning experience that mixes color movie, bold graphics, music, voice narration, and text; for instance, the program Columbus allows students to relive the great navigator’s voyages and explore the New World as it looked when Columbus first saw it. The ability to control the learning experience makes the student an active rather than a passive learner.

Other common systems include Sim City, Carmen San Diego, and a variety of popular multimedia games created by Broderbound Softwarek, one of the biggest companies in this new field. Rather than old drill and kill forms of computerized instruction that bore students, this new entertaining form of education is far more effective precisely because kids get totally immersed in an exciting experience.

Classroom computers with multimedia capabilities seem to have sky-rocketed in every faucet of the education arena. From pre-schoolers to college students, learning adapting to this multimedia craze was not hard to do.

Teachers and Professors alike share in this technology to plan out their curricular schedules and school calendar. Most will agree that classroom computers seem to have a positive effect on students of the 90’s. As schools and universities become more technology driven, there will be an even bigger plea for more multimedia enhancements.

# **Types of multimedia**

* Text

It may be an easy content type to forget when considering multimedia systems, but text content is by far the most common media type in computing applications. Most multimedia systems use a combination of text and other media to deliver functionality. Text in multimedia systems can express specific information, or it can act as reinforcement for information contained in other media items. This is a common practice in applications with accessibility requirements. For example, when Web pages include image elements, they can also include a short amount of text for the user's browser to include as an alternative, in case the digital image item is not available.

* Images

Digital image files appear in many multimedia applications. Digital photographs can display application content or can alternatively form part of a user interface. Interactive elements, such as buttons, often use custom images created by the designers and developers involved in an application. Digital image files use a variety of formats and file extensions. Among the most common are JPEGs and PNGs. Both of these often appear on websites, as the formats allow developers to minimize on file size while maximizing on picture quality. Graphic design software programs such as Photoshop and Paint.NET allow developers to create complex visual effects with digital images.

* Audio

Audio files and streams play a major role in some multimedia systems. Audio files appear as part of application content and also to aid interaction. When they appear within Web applications and sites, audio files sometimes need to be deployed using plug-in media players. Audio formats include MP3, WMA, Wave, MIDI and RealAudio. When developers include audio within a website, they will generally use a compressed format to minimize on download times. Web services can also stream audio, so that users can begin playback before the entire file is downloaded.

* Video

Digital video appears in many multimedia applications, particularly on the Web. As with audio, websites can stream digital video to increase the speed and availability of playback. Common digital video formats include Flash, MPEG, AVI, WMV and QuickTime. Most digital video requires use of browser plug-ins to play within Web pages, but in many cases the user's browser will already have the required resources installed.

* Animation

Animated components are common within both Web and desktop multimedia applications. Animations can also include interactive effects, allowing users to engage with the animation action using their mouse and keyboard. The most common tool for creating animations on the Web is Adobe Flash, which also facilitates desktop applications. Using Flash, developers can author FLV files, exporting them as SWF movies for deployment to users. Flash also uses ActionScript code to achieve animated and interactive effects.

# **Summary in English**

Computers have come a long way very fast since there start in the 1940's. In the beginning they were mainly used for keeping financial records by banks and insurance companies, and for mathematical computations by engineers and the U.S. Military.

However, exciting new applications have developed rapidly in the last few years. Two of these areas is Computer Graphics and sound.

Multimedia applications can include many types of media. The primary characteristic of a multimedia system is the use of more than one kind of media to deliver content and functionality. Web and desktop computing programs can both involve multimedia components. As well as different media items, a multimedia application will normally involve programming code and enhanced user interaction. Multimedia items generally fall into one of five main categories and use varied techniques for digital formatting.

Computer graphics is the ability of the computer to display, store and transmit visual information in the form of pictures. Currently there are two main uses for this new ability. One is in the creation of Movies and the other in Computer Games. Computer visual information is also increasingly being used in other computer applications, such as photographic storage, and the Internet.

Computers can also store, transmit and play back sound. It is hard to imagine the modern world without multimedia. Multimedia helps us to communicate with others and also to have fun, work, and even saves our lives sometimes.

# **Summary translation**

Комп'ютери пройшли довгий шлях дуже швидко,почнаючи з 1940 років. Спочатку вони в основному використовуються для підтримки фінансових звітів банками і страховими компаніями, а також для математичних обчислень, інженерами і військовими США.

Проте, нові додатки швидко розвивалися протягом останніх кількох років. Два з цих областей комп'ютерної графіки і звуку.

Мультимедійні програми можуть включати в себе багато видів мультимедіа. Основною характеристикою мультимедійної системи є використання більш ніж одного виду медіа для представлення контенту і функціональних можливостей. Web і програми можуть включати в себе мультимедійні компоненти. Мультимедійний додаток зазвичай включає програмний код і розширену взаємодію з користувачем. Мультимедійні елементи зазвичай потрапляють в одну з п'яти основних категорій і використовувати різні методи для цифрового форматування.

Комп'ютерна графіка є здатність комп'ютера для відображення, зберігання і передачі візуальної інформації у вигляді картинок. В даний час існує два основних способи застосування для цієї нової здатності. Одним з них є створення фільмів, а інший комп'ютерні ігри. Комп'ютерна візуальна інформація також все частіше використовується в інших комп'ютерних програмах, такі як збереження фото і Інтернет.

Комп'ютери можуть також зберігати, передавати і відтворювати звук. Важко уявити сучасний світ без мультимедіа. Мультимедія допомогає нам підтримувати звязок з іншими, розважатися, працювати, а деяким навіть рятує життя.

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# **Glossary**

1. CD-Rom – (Compact Disc, read-only-memory) is an adaptation of the CD that is designed to store computer data in the form of text and graphics, as well as hi-fi stereo sound.
2. Email – (electronic mail) is the exchange of computer-stored messages by telecommunication.
3. Frame – the use of multiple, independently controllable sections on a Web presentation.
4. Interface – consisting of the set of dials, knobs, operating system commands, graphical display formats, and other devices provided by a computer or a program to allow the user to communicate and use the computer or program.
5. ASCII  
   American Standard Code for Information Interchange - an ASCII file contains standard text characters as data.
6. BTW  
   By The Way. A useful e-mail acronym.
7. CGI  
   Common Gateway Interface. Runs programs or scripts on a Web Server; commonly used to handle data from HTML forms.
8. DHTML  
   Dynamic HTML.
9. ETLA  
   A four letter acronym - or Extended Three Letter Acronym.
10. LOLLOL  
    Laugh Out Loud. IRC term.
11. FAQ  
    Frequently Asked Questions; files of these are kept in newsgroups so users don't need to ask again.
12. F2F  
    Face-to-face. Pertains to communication without computers.
13. FIF  
    Fractal Image Format - image compression and display method that delivers up to 50:1 compression, with view zoom ability for the pictures.
14. FTP  
    File Transfer Protocol. System for moving files across networks.
15. FWIW  
    For What It's Worth. Common net abbreviation.
16. GIF  
    Graphics Interchange Format - for storing and exchanging pictures.
17. GUI  
    Graphic User Interface.
18. IRC  
    Internet Relay Chat - highly addictive live text-based communication.
19. ISDN  
    Integrated Services Digital Network - uses existing phone lines and computer networks to deliver fairly fast video, voice and data in standard form.
20. ISP  
    Internet Service Provider.
21. JPEG  
    Joint Photographic Experts Group - an image compression and display method; quality varies as some files can be reduced by up to 20 times their original size.
22. LAN  
    Local Area Network - when two or more computers are gathered together via cables.
23. MIDI  
    Musical Instrument Digital Interface - a standard protocol for synthesizers and computers to communicate, enabling musicians to compose on the synth keyboard and save the music information on the computer for manipulation in score writing programs.
24. MIME  
    Multipurpose Internet Mail Extensions - recent net standard for transferring sound and pictures by e-mail.
25. MP3  
    MPEG-3 - an audio compression algorithm.
26. MPEG  
    Motion Picture Expert Group - standard for encoding/decoding digital video.
27. MUD  
    Multi-User Dungeon, or Domain. Basically a net space, designed and inhabited by users who will look nothing like their MUD identities. Also called MOOs,
28. MUSHes, MUCKs and MUSEs.
29. NNTP  
    Net News Transport Protocol - transmission protocol for Usenet news.
30. OTOH  
    Net shorthand for On The Other Hand.
31. PERL  
    Practical Extraction and Report Language. General purpose language, often used for scanning text and printing formatted reports, often used to create CGIs.
32. PGP  
    Pretty Good Privacy. Encryption program.
33. PNG  
    Portable Network Graphics - a lossless image compression format designed to replace GIF.
34. POP  
    Point of Presence. Gives local access to a network service. Also, Post Office Protocol.
35. POTS  
    Plain Old Telephone System. Slang for the standard phone service. See PSTN.
36. PPP  
    Point to Point Protocol - a direct connection to the net from your computer, via modem and phone line.
37. PSTN  
    Public Switched Telephone Network.
38. ROTFL  
    Rolling on The Floor Laughing. A step up from LOL.
39. RAM  
    Random Access Memory.
40. ROM  
    Read-Only Memory.
41. SEA  
    Self-extracting archive - a compressed file that comes inside its own decompressor, so that it can expand itself without outside help (after you've told it to).
42. SHTML  
    Server-parsed HTML.
43. SLIP  
    Serial Line Internet Protocol - a dial-up connection to the net; older technology than PPP.
44. SMTP  
    Simple Mail Transport Protocol - transfer method for mail on the net.
45. SSI  
    Server Side Include.
46. TCP/IP  
    Transmission Control Protocol/Internet Protocol - in combination, the networking method used by computers to contact each other over the net.
47. TIFF  
    Tagged Image File Format. Common graphics file format for still images.
48. TLA  
    Three Letter Acronym. These abound amongst netizens and tech-heads, often used in technical matters.
49. TTYTT  
    To Tell You The Truth. Common on-line shorthand.
50. URL  
    Uniform Resource Locator - the address system used on the Web.
51. WYSIWYG  
    What You See Is What You Get. Used to refer to authoring tools which don't make you type in HTML.  
    cross-posting  
    A posting sent to several newsgroups all at once. Not always necessary.
52. download  
    Loading information from another computer into your own; the opposite is upload.
53. e-zine  
    An electronic magazine.
54. flame  
    A message that 'burns' the person it is directed at, mostly publicly. Often random and pointless, especially in newsgroups.
55. freeware  
    Software and utilities made freely available. Although you don't have to pay any fees, freeware is still covered by copyright.
56. search engine  
    A program that searches indexes of addresses using keywords. The depth of the search is up to you and/or the extent of its index.
57. shareware  
    Copyright-protected software that is publicly distributed on the condition that if a user trials a program and decides to keep using it they will send payment to the author.
58. Spam  
    Not spiced ham, but just as repulsive to most people. Spam is an unsolicited piece of advertising sent via email or posted to a newsgroup. Repeat spammers are often flamed.
59. Sysadmin  
    System administrator, or the one you call when your network goes down.
60. Sysop  
    System operator, or the one you call when a BBS goes down.
61. Telco  
    Telephone company. General term for Optus, Telstra or Vodaphone etc.
62. vaporware  
    Software that either doesn't get far, or never makes it to the market.
63. warez  
    All kinds of software. Be sure to pronounce it as "wares".
64. applet  
    A small self-contained application which can run on its own or inside another
65. program (eg a Web browser).
66. attachment  
    A file attached to email in the format it was created in, useful for documents and graphics in particular.
67. backbone  
    Main highspeed internet links between a country's major internet providers, eg There is an Australian backbone and a US backbone.
68. host  
    An older name for server. Usually seen as "remote host".
69. hyperlink  
    A touch-sensitive spot on a Web page linking it to another page or site and…
70. hypertext  
    Text that includes hyperlinks to other documents.
71. java  
    A programming language used to write java applets (amongst other things).
72. javascript  
    A scripting language from Netscape, only vaguely related to Java.
73. majordomo  
    Stands for Master of the House. A common mailing list administration program.
74. modem  
    Modulator/demodulator - a device that converts digital signals to analogue (and vice versa), thus allowing transmission of data.
75. moderator  
    A moderator ensures all contributions to a newsgroup are suitable before posting them.
76. Newsgroup  
    A discussion group on a specific topic. Part of Usenet.