THE   FUNDAMENTALS
OF
INFORMATICS
AND
COMPUTER ENGINEERING

Authors:

Alexander V. Zadereyko – Ph.D. associate professor
Natalia I. Loginova - Ph.D. associate professor
Dmitry F. Bazarov - assistant professor

EXIT   NEXT

COURSE LOGICAL SCHEME

Section 1. Theoretical aspects of informatics and computing engineering (lectures)

Theme 1. Development of informative processes in society

Theme 2. The components of personal computer. Peripheral units

Theme 3. Operating systems. The Windows operating system.

Section 2. Practical seminars

Theme 4. MS Word text editor

Theme 5. MS Excel spreadsheets

Theme 6. MS Publisher

Theme 7. The Internet technologies in jurisprudence

TEST → **ATTESTATION**

Section 1.

THEORETICAL ASPECTS OF INFORMATICS AND COMPUTING ENGINEERING

Lecture 1. DEVELOPMENT OF INFORMATIVE PROCESSES SOCIETY

Lecture 2. PERSONAL COMPUTER HARDWARE AND **AND** COMPUTER PERIPHERALS

Lecture 3. OPERATING SYSTEMS. WINDOWS OPERATING SYSTEM

EXIT   BACK

Lecture 1.

DEVELOPMENT OF INFORMATIVE PROCESSES SOCIETY

1. The information role in society:

   - *Basic types of information*
   - *Legal informatics*
   - *Legal information sources*

2. Forming informative society in Ukraine:

   - *The basic directions of public informative policy*
   - *National legal resources*

INFORMATION ROLE IN SOCIETY

Computer systems have long been used in large and complex government administrative operations. Central governments in many countries are aided by computers for the collecting, storing, and processing of information about their citizens. Most of this information is stored independently. As a consequence: large databanks social services, health services, housing agencies, and general population registration appear. The possibility of linking all these databanks, however, is always present. This has motivated the drafting of privacy legislation in several countries to provide the citizen with some protection against the abuse of personal information.

The overall benefits of information can be summed up as it helps in:

- improved capability of a country by availing the existing knowledge and know-how achieved within and outside the country.

- Rationalization and systematization of a country's research and development efforts, with the help of the existing information (knowledge).

- Problem solving based on wider knowledge base.

- In improved efficiency of technical production oriented activities.

THE FUNDAMENTAL DIRECTIONS OF PUBLIC INFORMATIVE POLICY

Providing the effective information using

Creation the national systems and networks

Providing access of citizens to information

Assistance for permanent update, increasing and saving of national informative resources

Technical, financial, organizational, legal and scientific bases of informative policy

Assistance for international cooperation in information area and guaranteeing Ukraine informative sovereignty

Creation the general system of guard information

INFORMATION

Information has been defined innumerable ways:

1. Information may be defined as the characteristics of the output of a process, these being informative about the process and the input.

2. Information is a sequence of symbols that carries a message, a set of items in which meaning is conveyed, or a specified arrangement of complex structures that conveys a message to a receiver.

3. Information does not exist on its own. It is contained within something and is coded.

4. Information is often defined in terms of the human mind, although it is clear that very similar phenomena can be studied in lower level.

5. Information is the product of the human brain in action. It may be abstract or concrete.
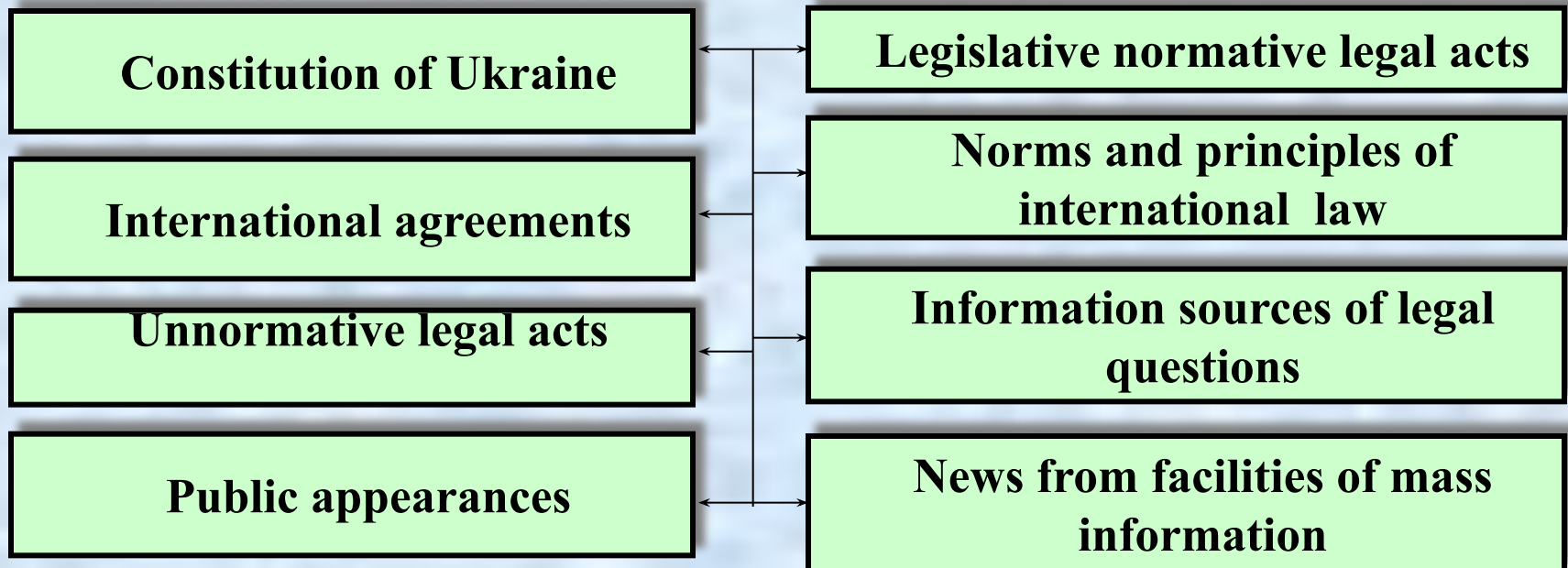
The term "information" has been defined by E.Hoffman as: "Information is an aggregate (collection or accumulation) of statements, or facts, or figures which are conceptually (by way of reasoning, logic, ideas, or any other mental "mode of operation").

The term data information are used interchangeably, but this is incorrect. The results of observation or measurement by human brain in action are called data. Information is quite different from data. The data are raw, unevaluated or unprocessed messages, information is organized or processed data which conveys significant or specific meaning about something.

LEGAL INFORMATION RESOURCES

Legal information shall be understood as complex of documented or publicly announced information about laws, the legal system, sources, implementation, juridical facts, legal relationships, law and order, transgressions, and ways to prevent them.

In order to secure access to legislative and other normative acts to all citizens, the State shall provide for mass publication of such acts within the shortest possible time since their enactment.

Constitution of Ukraine	**Legislative normative legal acts**
International agreements	**Norms and principles of international law**
Unnormative legal acts	**Information sources of legal questions**
Public appearances	**News from facilities of mass information**

LEGAL INFORMATICS

The contact between computer science and the law can be symbolically placed in 1949 when Lee Loevinger, in his essay «Jurimetrics. The Next Step Forward» introduced into the legal vocabulary the term Jurimetrics. "It signifies the scientific investigation of legal problem" in particular it refers to that discipline destined to deal with the problems relating to the relationship between law and new technologies. After that, in 1963, the jurist Hans Wolfgang Baade used, for the first time, the word Jurimetrics to describe the application of the informatics to the law.

In short, the main focus of the legal informatics is in the following areas:

- *Legal automatic documentation;*
- *Intelligent legal information systems;*
- *Computer-aided legal drafting;*
- *Law data base management system;*
- *Law expert systems;*
- *Law knowledge based systems;*
- *Law educational programs.*

LEGAL INFORMATICS

In common case **informatics** is defines as "the science of the structure and properties of information, as well as application of technology organization, storage, finding, and dissemination of information".

Legal informatics is belongs to the application of informatics within context of the legal environment and involves law-related organizations, such as law offices and law schools, users of information and information technologies within these organizations.

Sanda Erdelez & Sheila O'Hare, Legal Informatics: Application of Information Technology in Law, 32 Ann. Rev. Info. Sci. & Tech. 367, 367 (1997) (a heavily cited definition).

LEGAL INFORMATICS

Legal informatics includes a several conceptual areas:

 information retrieval (both manual and automated systems such as artificial intelligence);

 law and policy (issues such as privacy, copyright, and security), information access issues (such as making legal and government information more accessible to the public, both physically and intellectually);

 practice issues (applications which help lawyers in their day-to-day operations).

Law enforcement implies the need of extensive filing data persons, the application of computers for operations of the police and the judiciary is evident. Computer has been introduced into the law office to manage the large volume of paperwork that is part of the lawyer's job. The main function of legal informatics systems today are design is information storage and decision support.

The purpose can also be more general the computer-based documentation of texts on general jurisprudence. Legal informatics is also designed for use outside the legal profession.

UKRAINE LEGAL RESOURSES

UKRAINE LEGAL RESOURSES CATALOG
WWW.LAWUKRAINE.COM

Available topics of resources:

Law Firms - listing, online directories and ratings of top law firms in Ukraine.

State Authorities - main Ukrainian lawmakers and regulators; general information about Ukraine.

Organizations - professional associations, law schools, libraries, arbitration tribunals, projects.

Law Databases - databases of Ukrainian laws and regulations, legal research software.

Newspapers - law and business related newspapers and magazines published in Ukraine.

Miscellaneous - general overviews, specialized sites, dictionaries, reference materials.

Foreign Law - selected non-Ukrainian web sites with useful information for lawyers.