

Moscow State University of Geodesy and Cartography (MIIGAiK)





Innovative Technologies of Learning in Moscow State University of Geodesy and Cartography (MIIGAiK)

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Agenda

- **General information**
 - Miigaik – one of the oldest university in Russia
 - Economics and Land management Faculty
 - Study Programs
 - Student contingent
 - Faculty's Departments
 - Teaching staff
- **Trends and necessary changes in Education**
- **Innovative technologies for learning**
 - Controlling Program
 - Training Program
 - Electronic textbooks
 - Slide lecture
 - Videolectures
 - Educational films
- **Innovative technologies for management of education process**



Moscow State University of Geodesy and Cartography (MIIGAiK)

- MIIGAiK - is one of the oldest universities in Russia - was established in 1779
- MIIGAiK is a leading university in Russia in the field of surveying and mapping , geoinformation, cadastre and land management
- MIIGAiK consists of 10 Faculties and trains almost 5000 students



Study Programs (Specialties)

Economics and Land management Faculty

➤ There are 4 main Master's programmes at Economics and Land management Faculty

Land Management	Urban Cadastre	State and Municipal Management	Finance
Economics	Geodesy	Land Management	Real Estate Valuation
Land Management	LIS and GIS	Economics	Investment
LIS and GIS	Land Law	Land Administration	Land and other Law
Land Law	Land Administration	Geodesy and GIS	Real estate management
Negotiations and Communication	Cadastre	Cadastre Legislation	Real Estate cadastre

Faculty's Departments

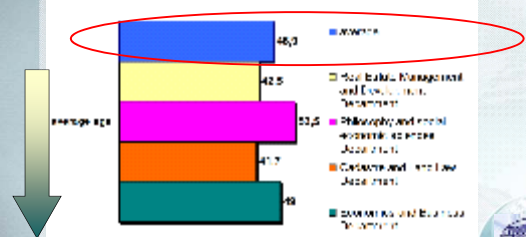
Faculty consists of four main departments:

- Cadastre and Land Law Department
- Economics and Business Department
- Philosophy and social-economic sciences Department
- Real Estate Management and Development Department



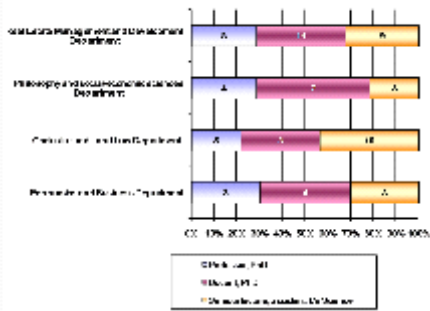
Teaching staff of Economics and Land management Faculty

Average age of faculty staff

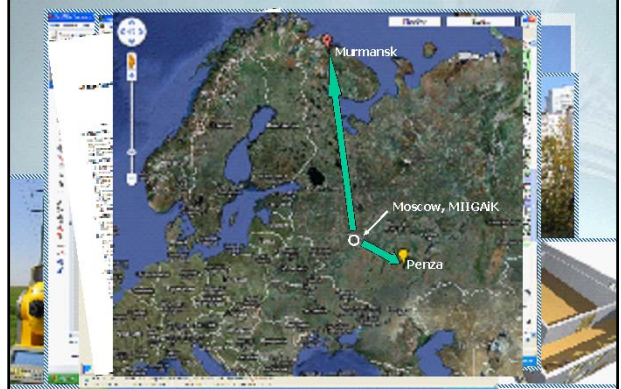


Teaching staff of Economics and Land management Faculty

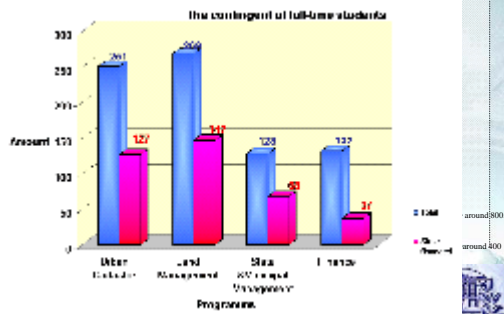
The teaching staff at Faculty



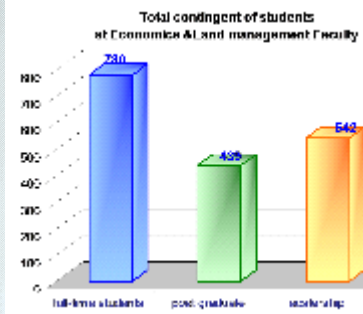
Faculty's Departments



Student contingent at Economics and Land management Faculty



Student contingent at Economics and Land management Faculty

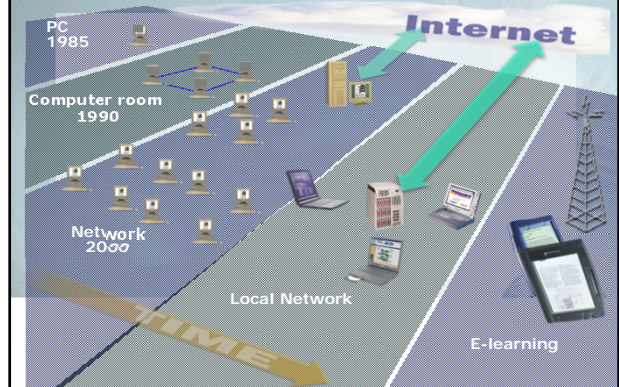


Total - over 1700 students

Building of the Faculty



Trends in the use of IT in the learning process

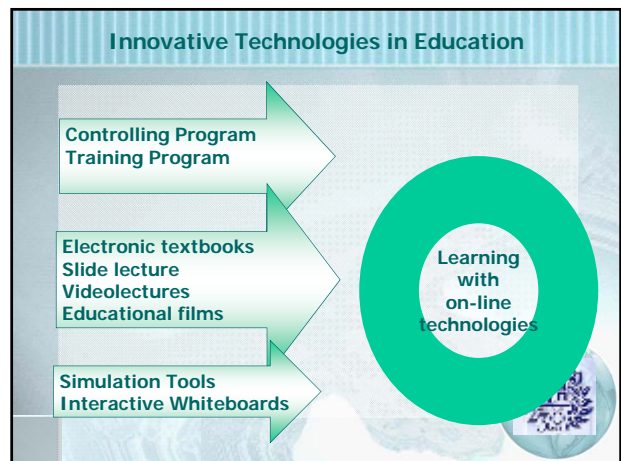


Education: the necessary changes	
Current needs	IT needs
Ensuring a high level of education	<i>Virtual learning environment</i>
The use of learning new approaches, solutions and models	<i>Integrated systems</i>
Ability to concentrate on teaching and learning	<i>Centralized, secure database</i>
The development of cooperation in sharing experiences and developing new technologies	<i>High-powered computing and custom applications for research</i>
Support research	<i>Cost-effective IT infrastructure</i>
Cost Management	
<i>Improve business processes</i>	

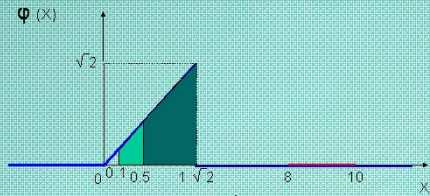
Innovative technologies developed at Faculty

- MIIGAiK adopts an integrated approach, both in learning and management of education process.
- There two main parts of innovations:
 - Innovative technologies for learning
 - Innovative technologies for management of education process

Innovative technologies for learning



Graphical representation of the probability (graph of density)



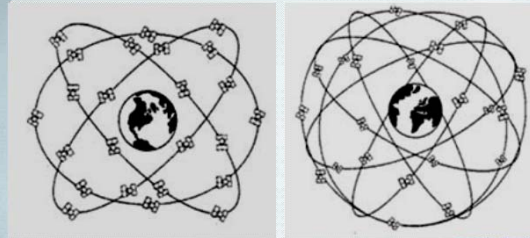
$$P(0.1 < X < 1) = \int_{0.1}^1 \sqrt{2} dx = \frac{\sqrt{2}}{2} \Big|_{0.1}^1 = \frac{1}{2} - \frac{0.1 \cdot \sqrt{2}}{2} = 0.425$$

$$P(0.5 < X < 8) = F(8) - F(0.5) = 1 - 0.5^2 = 1 - 0.25 = 0.75$$

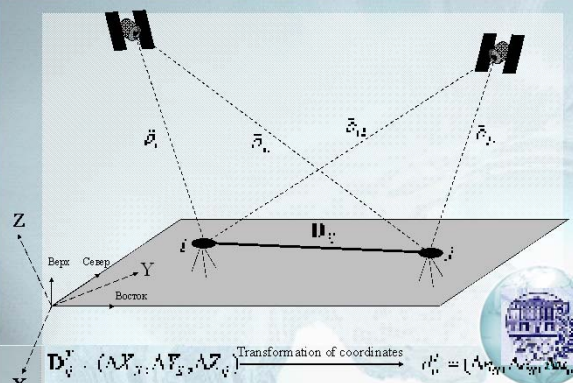
$$P(8 < X < 10) = F(10) - F(8) = 1 - 1 = 0$$



Orbits - GPS and GLONASS



Basic of positioning



Example of compound interest

/Slide lecture/

In 1626 the Indians sold Manhattan Island to Peter Minyutu for goods worth \$ 24.



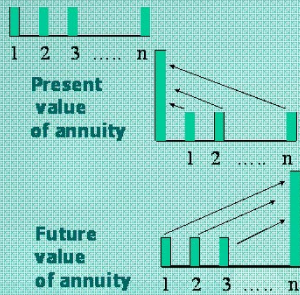
24\$	Simple Interest $i = 6\%$	572\$
1626	BANK	2007

24\$	Compound interest $i = 6\%$	100 billion \$
	BANK	

Current and future value of the annuity

/Slide lecture/

Annuity - a series of equal payments, separated from one another at the same time.



Innovative Technologies in Education

/Programs that simulate the processes/

On-line formula for calculating compound interest

Simulation of Random Variables



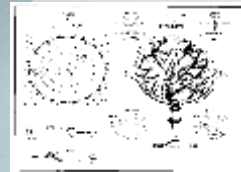
Simulation tools of measuring



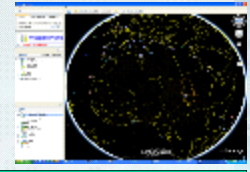
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/ slide lectures, Educational films/

History Geodesy



Google Earth

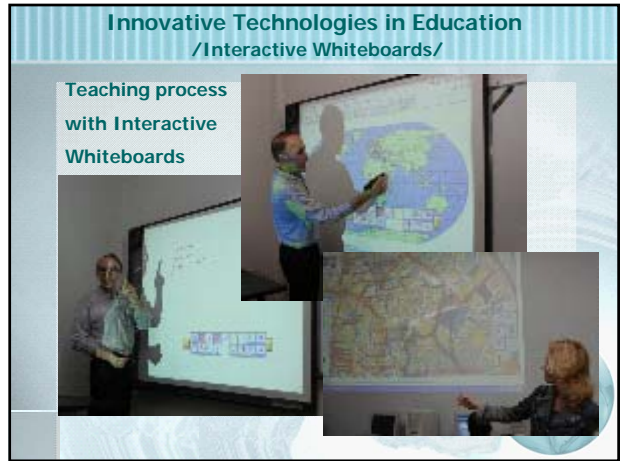
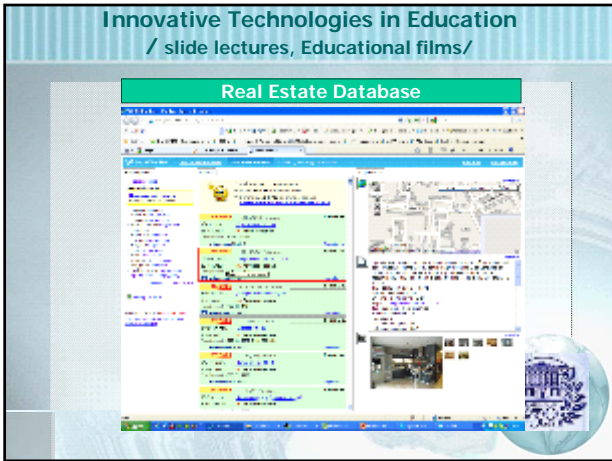


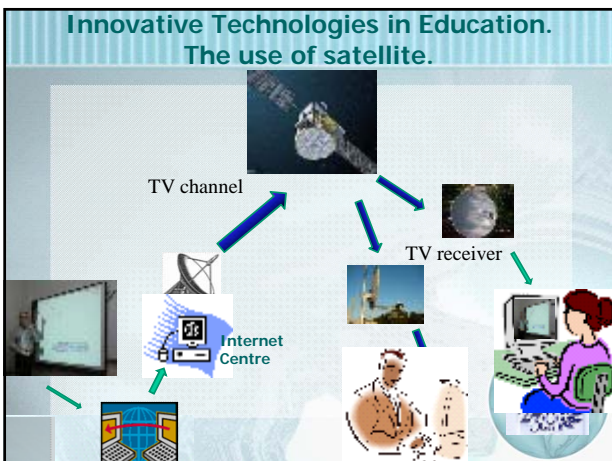
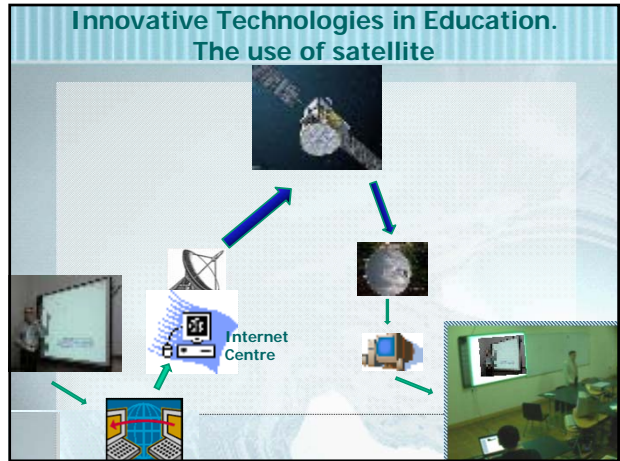
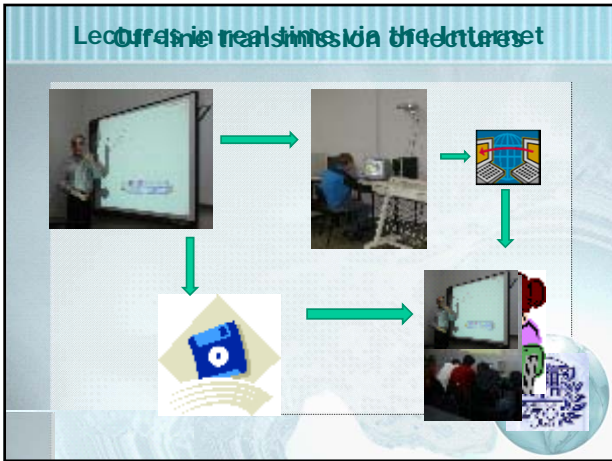
Land Law (Lecture)



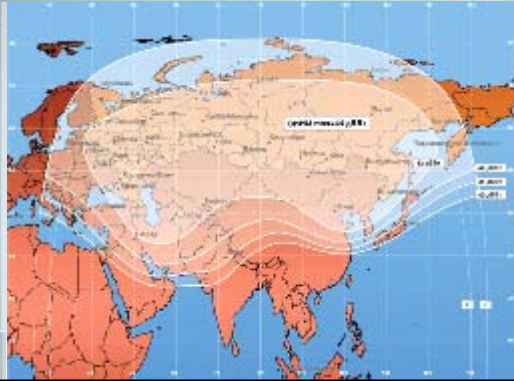
Educating film of Surveying







Beam Yamal 2009



On-line lectures

A screenshot of an online lecture interface. On the left, there is a video feed of a lecturer. The main content area displays a slide titled "Свойства осциллограммы" (Properties of Oscillograms). The slide text discusses the properties of oscillograms, mentioning the relationship between the period of the signal and the duration of the recording. The interface includes a navigation menu on the left and a status bar at the bottom.

On-line lectures

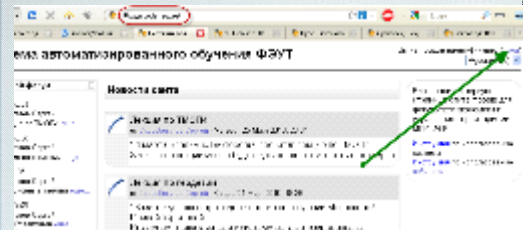
A screenshot of an online lecture interface. On the left, there is a video feed of a lecturer. The main content area displays a diagram of a triangle with points labeled A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z. The diagram shows a triangle with a point A at the top vertex, and points B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z along the sides and inside the triangle. The diagram is used to illustrate a concept in geometry or trigonometry.

Innovative Technologies in Education. Faculty on-line

A screenshot of a web browser displaying a website. The website has a blue header with the text "Innovative Technologies in Education. Faculty on-line". The main content area features a list of items, possibly a course catalog or a list of resources, with various icons and text. The browser interface includes a search bar, navigation buttons, and a status bar at the bottom.

Innovative Technologies in Education. Faculty on-line

Access to the system, logging in ...



moodle.feut.ru

Innovative Technologies in Education. Faculty on-line

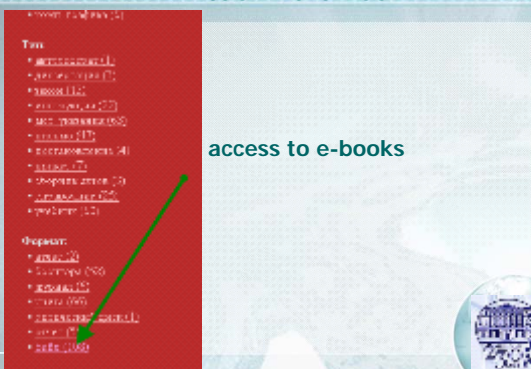
If you are not subscribed to the course, subscribe by entering a code word.



moodle.feut.ru

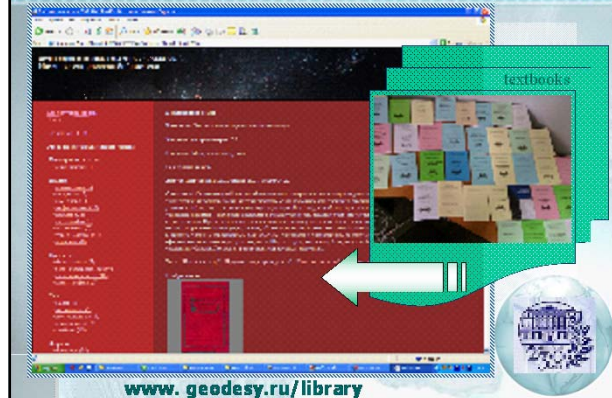
Innovative Technologies in Education. Virtual libraries

access to e-books



www.geodesy.ru/library

Innovative Technologies in Education. Virtual libraries

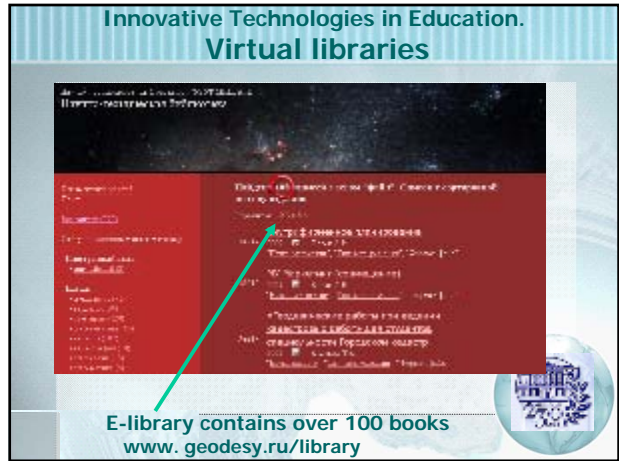


www.geodesy.ru/library

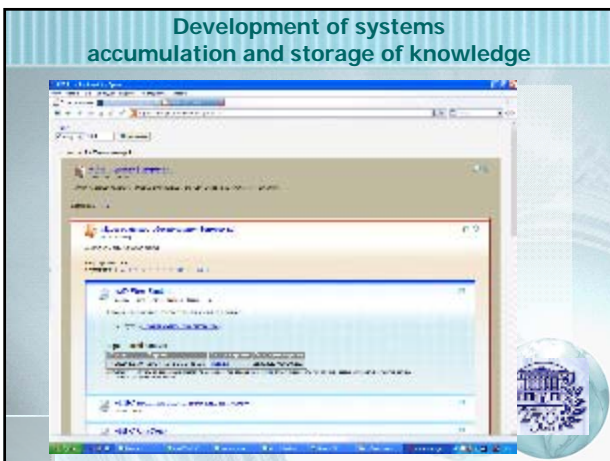
Innovative Technologies in Education. Virtual libraries



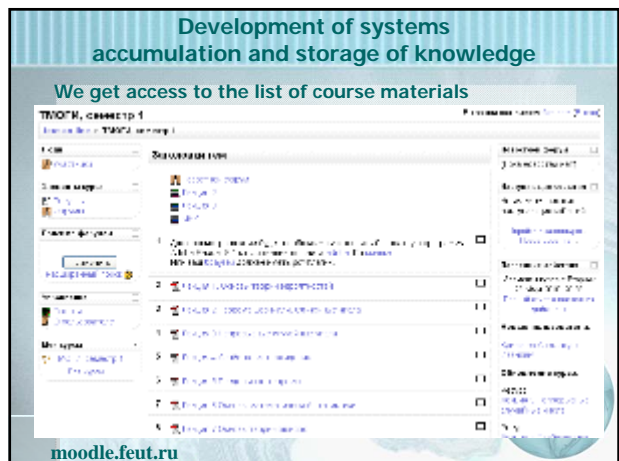
Innovative Technologies in Education. Virtual libraries



Development of systems accumulation and storage of knowledge



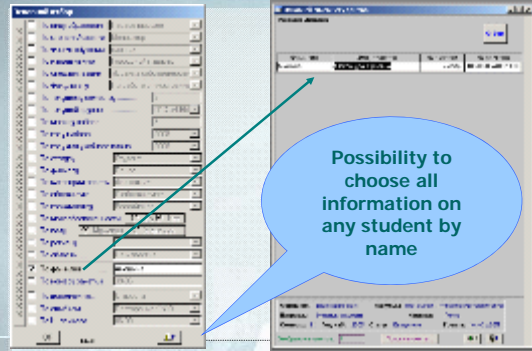
Development of systems accumulation and storage of knowledge



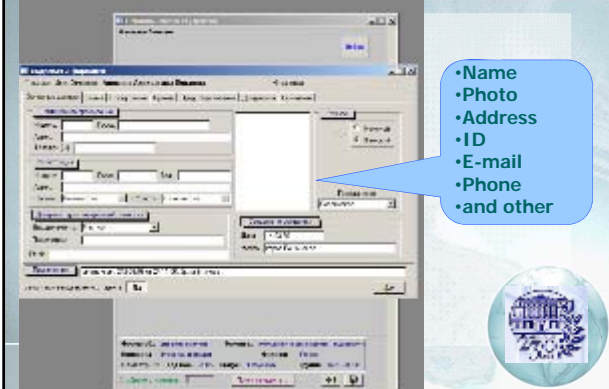
Innovative technologies for management of education process



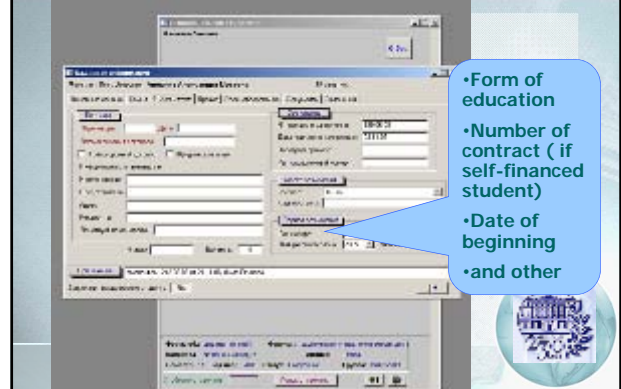
Innovative technologies for management of education process



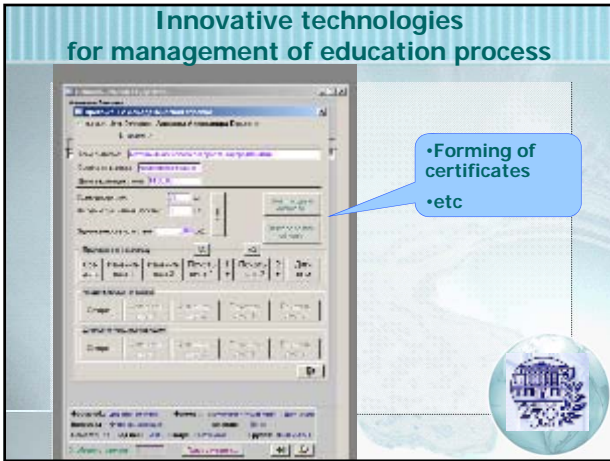
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