



Challenges in designing educational information system

Zaharije Radivojević, Miloš Cvetanović, Saša Stojanović
School of Electrical Engineering, Belgrade University

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Balkan Countries and Beyond”

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Agenda



- Background
- Designing the information systems,
- Usage of the information systems,
- Usage of data from the systems.

Background



- Faculty Information System – FIS
 - 40+ faculties
 - 10 universities
- University Information System
 - 2 universities
- Registers
 - Different institutions

Designing the information systems



- Identification of:
 - legal framework,
 - actors,
 - business processes,
 -



Legal framework



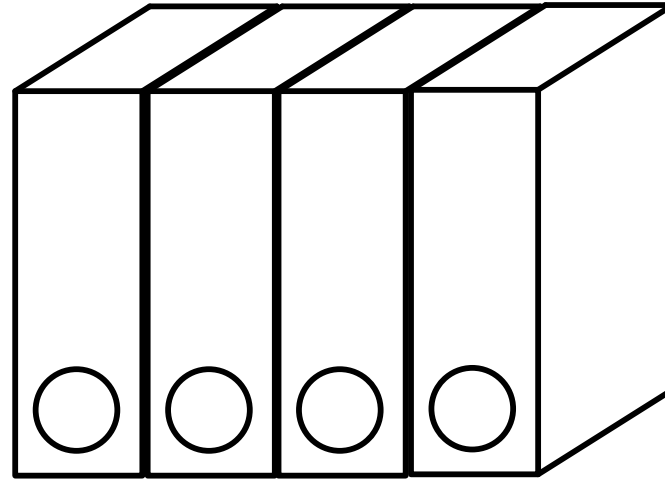
- Legislation:
 - Basics of the Education and Upbringing Law
 - Primary Education Law
 - Secondary Education Law
 - Higher Education Law
 - ...
- Rules
 - ...

Unified Education Information System

Legal framework

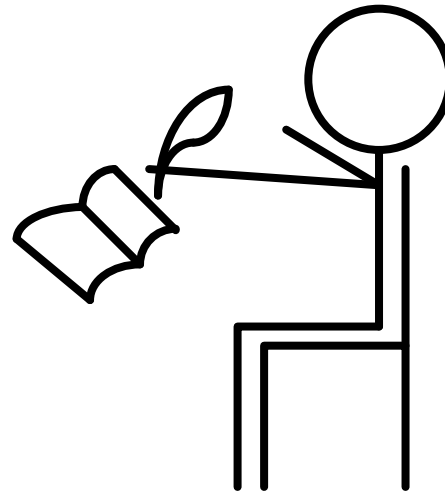


- Registers



Ministry

- Records



Users

Actors and Business Processes

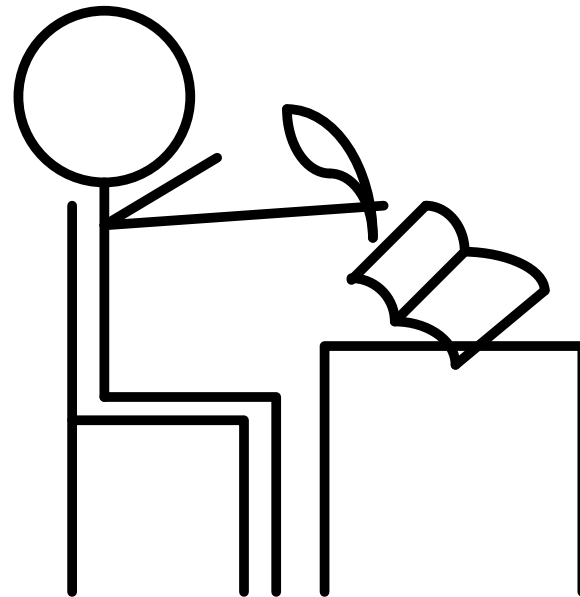


- Primary Education
- Secondary Education
- Higher Education
- More???

Primary Education



- Mandatory
- 8 years (4+4 years)
- Pupils, Teachers, Parents, ...

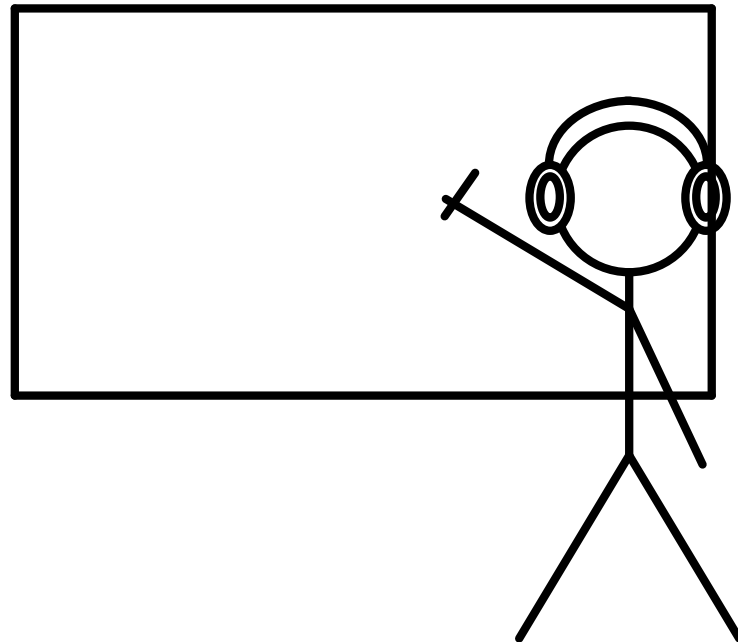


E-Registers +
E-Records +

Secondary Education



- Elective
- 3 or 4 years
- Pupils, Teachers, Parents (?), ...

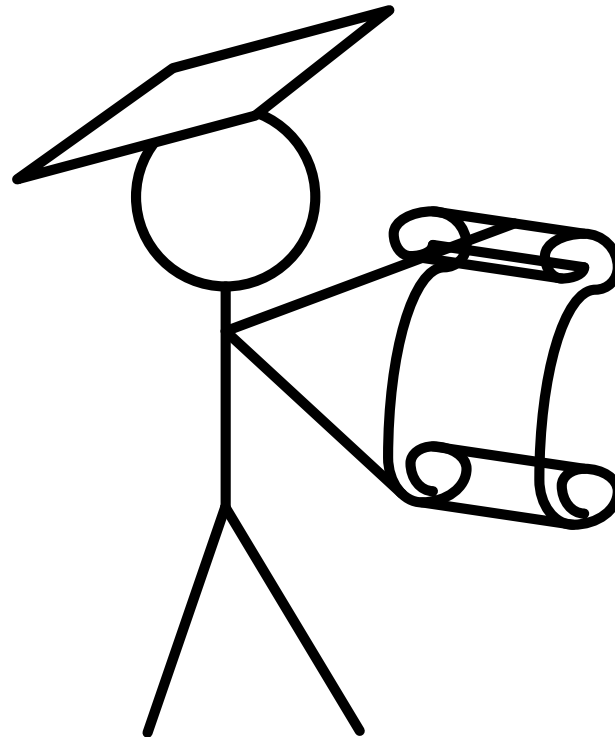


E-Registers +
E-Records +

Higher Education



- Elective
- 1, 1.5, 2, 3, 4 or 5 years
- Students, Teachers, Parents (No), ...

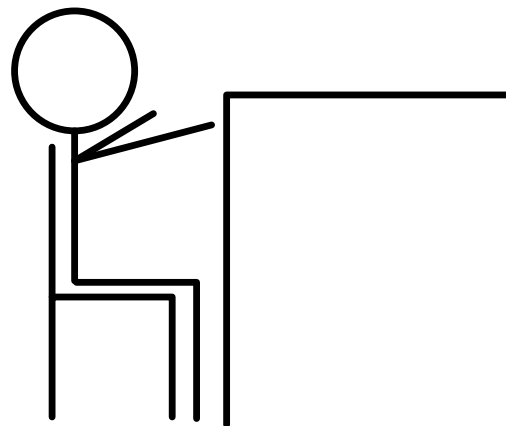


E-Registers +
E-Records -

Preschool Education



- Obligatory, what if not attending?
- 1 year
- Teachers, Parents, ...

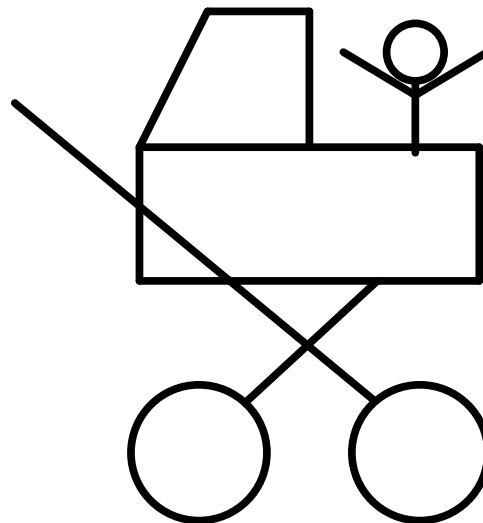


E-Registers +
E-Records +

Kindergartens



- Elective
- 0 to 6 years
- Teachers, Parents, ...

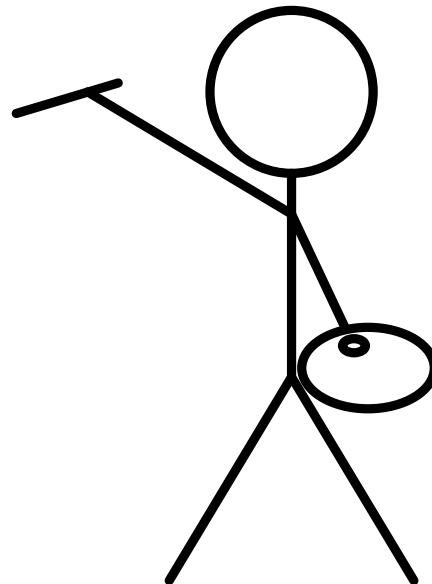
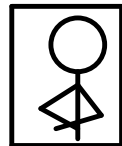


E-Registers +
E-Records +

Art Schools



- Elective
- Primary or Secondary Schools
- Pupils, Teachers, Parents, ...

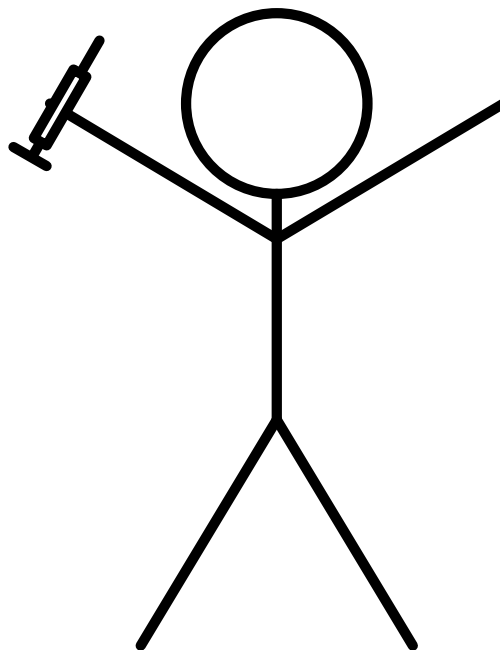


E-Registers +
E-Records – (for now)

Specialization



- Elective
- After Medical Faculties
- Students, Teachers, ...

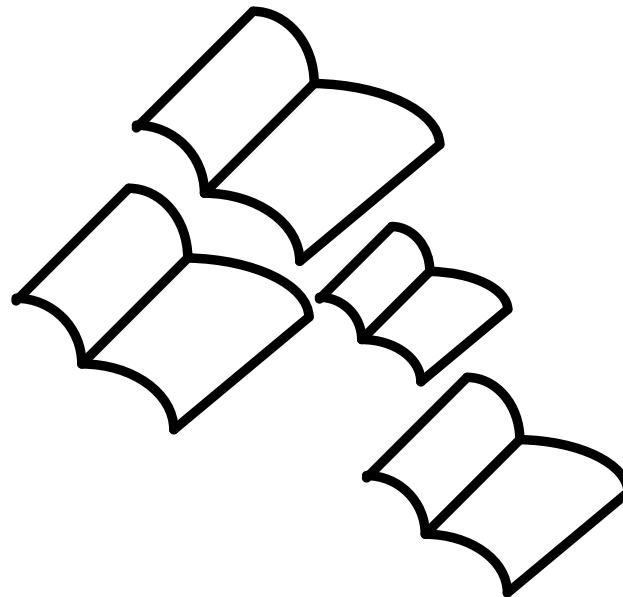


E-Registers ?
E-Records -

Books - Literature



- Register of certified books
- Primary and Secondary Education
- Publishers, Schools, General public, ...

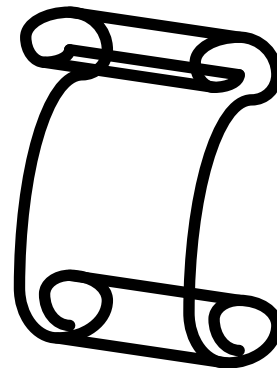


E-Registers +

Certificates



- Register of issued certificates
- Primary and Secondary Education
- Teachers, Schools, Principals, Secretary, General public, ...

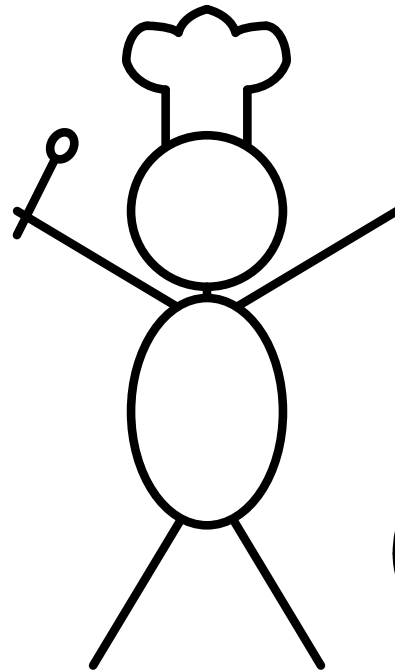


E-Registers +

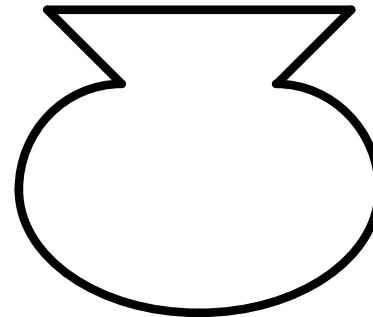
Something else?



- Schools with dorms, dorms,
- Schools, pupils, parents



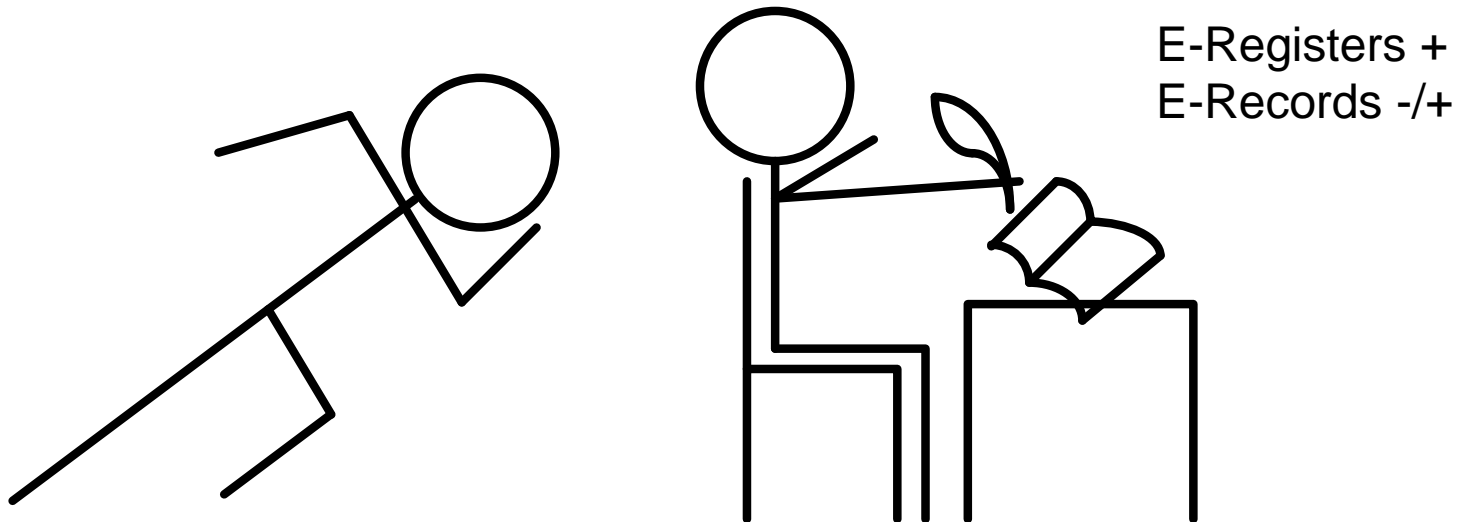
E-Registers +
E-Records -



Something else?



- Competitions, Graduations, ...



Something else?



- The institution maintains the prescribed records in printed **and / or** electronic form and issues public documents in accordance with this and special law.

Who decides?

Something else?

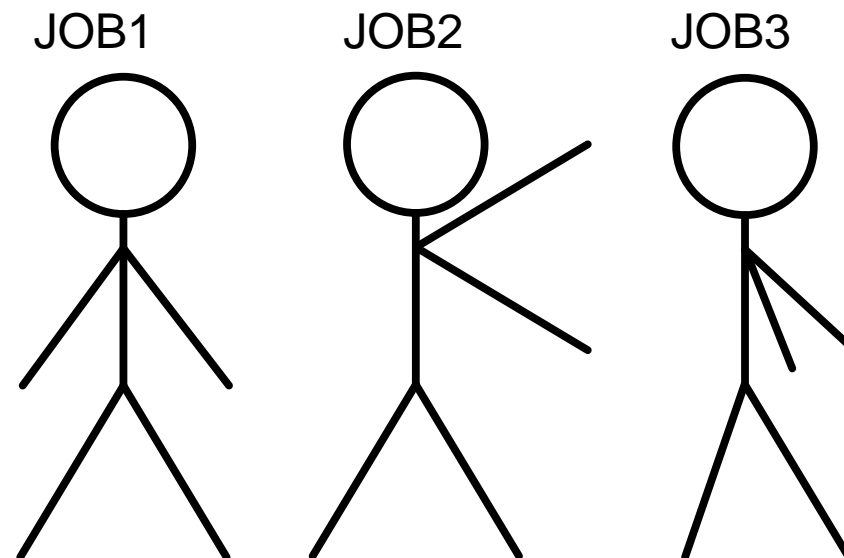


- Personal Data Protection Act!!!
- All Laws or Rules must be in consistence with the act.
- Personal data can not be stored within the registers if not stated explicitly within the law.
- Level of personal data has to be minimized
- For statistical work all the data must be anonymised.
- ...

Unique Education Number - JOB



- The JOB is an individual and unique identifier consisting of 16 characters and is awarded to a child, student and adult in an automated process through the system, upon request of the institution, upon first enrollment in the institution.



Unique Education Number



- Instead of exiting citizen ID use new unique number.
- A temporary JOB is awarded to a child, a student and an adult until they receive a unique citizen ID, foreign national, stateless person, expelled and displaced person.

How to identify a person within multiple institutions without storing its biometric data?

Usage of the information systems

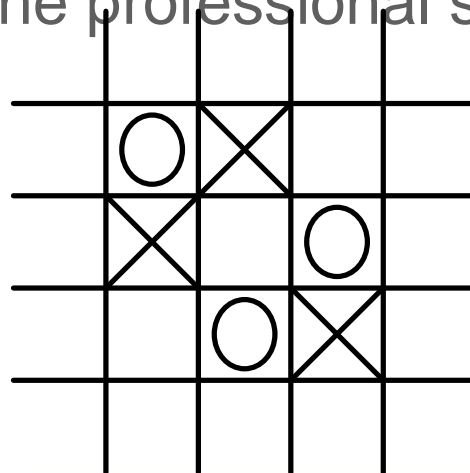


- Schools
- Pupils/Parents
- Students
- Ministry of education
- Ministry of labor
- Ministry of local administration
- Public access
- ...

Ministry of education



- provide indicators for monitoring and improving the quality, efficiency and effectiveness of the education and upbringing system;
- functioning of the education and upbringing system, planning and undertaking measures of educational and enrollment policy;
- conducting final exams and graduations;
- monitoring the professional status and training of employees;



Ministry of labor

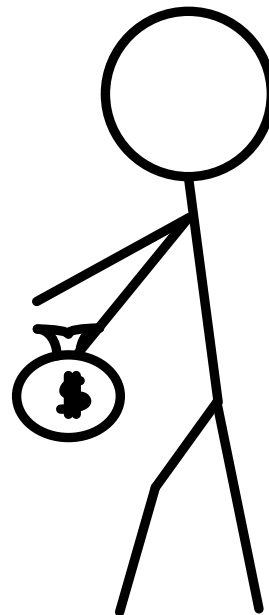


- Based on persons education, time seeking for a job, salary creates statistic.
- They use citizen ID to identify a person.
- Register uses a JOB!!!

Ministry of local administration



- Finance schools on its territory
- ...
-



Something else?



- General Data Protection Regulation!!!
- Rewrite again.

Usage of data from the systems

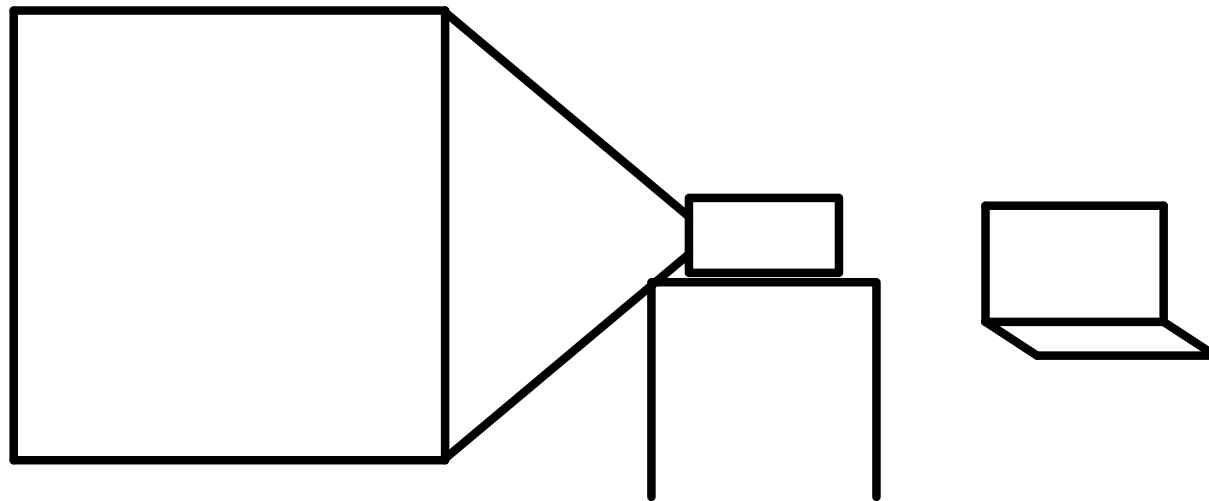


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- ...

Ministry of education



- Digitalization...



Conclusion



- Large number of different participants
- Experience ensures functioning of the existing system
- Absence of unified written documentation
- Frequent changes to the legislation
- Work with a large number of diverse users
- Early benefits or potential resistance
- Frequent updates expected
- Exchanges of data with other systems
- Correctness, transparency and privacy.



Thank you!

Zaharije Radivojevic

