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## EDUCATION PROGRAMMES

### SUMMER SCHOOL PROGRAMME – SYLLABUS

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**RESULT NUMBER O3 – NUMBER OF ACTION: O3-A2**

**PROJECT**

***E-GOVERNMENT 2.0 IN PRACTICE***

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**CRACOW 2015**

# SUMMER SCHOOL PROGRAMME - *e-services* *and secure e-Governance*

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**The summer course offers interoperability between different domains** (policy, law, IT, security, design thinking and engineering) where participants should have an opportunity **1)** to understand public sector requirements for service orientation **and e-government 2.0 developments 2)** to learn what means are necessary for changing governing techniques moving towards **digital administration and eGov 2.0 platform 3)** how to design a safe environment including law-related issues **for eGov 2.0 applications 4)** how to implement innovative eGov 2.0 solutions, applying change management **and creating supportive learning environments for that.**

Estonia is one of the most advanced e-societies in the world- an incredible success story that grew out of a partnership between a forward-thinking government, a pro-active ICT sector and a switched-on, tech-savvy population. Estonia boasts the world's leading IT infrastructure and e-services. The creation of different e-services as well linking them to government databases and rising popularity among users has greatly influenced and given an enormous boost to the ICT sector in the country. Aforementioned success enables to share the Estonian knowledge and competence on a wider scale. Tallinn University of Technology (TUT) has been providing this knowledge for several years by having many different masters' programs related to these topics. As the business models and service ecosystems are shifting more into the networked world, both in the private and public sector, there is a strong need to understand the background of e-services from the idealization to realization. By the end of the course students will have at the very least pitched one e-service description to be ready for prototyping! Also, the necessary knowledge related to change management during the implementations moving towards the networked world will be an important focus here.

The knowledge gained through this course is the first step to (re)design e-services either in the public or private sector which is one most important aspects of e-governance. Therefore, the students might benefit from having the background of the domains previously mentioned, but it is not mandatory.

## **Learning method**

The course will be conducted in a form of active learning (lectures and seminars about concrete topics), also, many subjects will be covered **on the e-learning platform (video lectures + squeezes) developed during the eGov 2.0 project activities. Many activities are built and based on the** Web application which has been developed during the project. It will also be one of the utilized tools enabling students to participate online workshops simulating processes of social consultations online, crowdsourcing, and civic audit etc. Therefore, the functions of this application will be included to the learning program case by case.



### Learning outcomes

The participants have an understanding of:

- how the public sector implements e-governance and applies service orientation while implementing eGov 2.0
- how and why have business models and service ecosystems shifted into the networked world
- how security and legal frameworks relate to the e-governance
- what should be considered while designing environments for the public services
- how to conduct changes and lead change management
- the background of e-services from the idealization to realization
- (re)designing e-services in the public and private sector
- **Hackaton (48 h) offers students a very practical experience to test their acquired knowledge in creating an e-service, pitching a service prototype and implementing it. Hackataon will take place At Mektory (Tallinn, Raja 15)**

### Minimum staffing

The volume of the summer school: 104 ac.h (lectures 50 ac.h + independent learning 54 ac.h); 4 ECTS  
Lecturers: Katrin Merike Nyman-Metcalf, PhD; Kuldar Taveter, PhD; Ingmar Pappel; Mihkel Lauk; Ingrid Pappel, PhD; Koit Saarevet; Hogle Sarapuu; Enn Õunapuu, PhD

### Professional profile of a graduate

The graduate is able to conduct the development and implementation of the eGov 2.0 solutions and applications in the public sector. The graduate can lead and manage whole process by understanding the nature of development process as well as the requirements for these kind of solutions.



## WEEK ONE

### **Day I**

#### **Introduction to Summer School**

- Meet & Greet event at TUT campus and a guided tour of the City Picnic. Introduction of the summer school, overview of the Tallinn University of Technology.

### **Day II**

#### **Introduction to e-Estonia**

Introducing the e-Estonia from the government level to give an overview of how things are rolling in the ICT sector in Estonia. Many obstacles related to e-governance implementation phases as well as methods how to overcome these issues will be explained in a form of LESSON LEARNED. Also broadening the understanding of the value that e-services could provide for different stakeholders (citizens, public entities and privately held companies etc.) nationwide and internationally.

**Keywords:** Information society. X-road. State registries. ID-card. Digital signature. National e-services. Cross-border e-services.

**Case study:** we will compare upon the based criteria the main aspects as well differences between two countries (Estonia vs) based on their digital agenda.

### **Day III**

#### **Legal aspects of e-governance, cyber security & secure governance**

Law gives instructions and rules how to govern any society and needs to be adapted to a greater use of ICT or other technologies. Moving from the paper world to the digital world is a remarkable change although basic legal relationships stay the same. However, the legal framework needs to be adjusted to enable different e-governance components to be applied. To start building an e-service one has to understand the legal framework to know if there are any obstacles to doing transactions electronically, if there are any threats and risks and so on.

**Keywords:** Regulative and legislative norms and acts of ICT and e-governance. ICT procurement. Private and public partnerships. Issues related to the digital signatures and data exchange, cross-border exchange of digitally signed documents, recognition. Principles of intellectual property. Principles of cyber security (organization's and state's perspectives).

**Case study:** we will compare approaches of ICT related documents and strategies of Estonian and Tunisian – what kind of acts enabled to move our countries into digital society. To start building an e-services one has to understand the aspects of legal framework and issues related to intellectual property.



we will prepare assignment where cyber-attack is occurred and students have to find the proper measures to minimize risks and guarantee safety.

## **Day IV**

### **From digital administration towards e-services: building interoperability and digital data exchange**

Digital administration is an important success factor while implementing e-governance – it is good foundations and framework for e-governance. Digital administration (paperless management) is a basis for a good e-governance as well to the e-services and it creates an efficient work method in the public sector. Well held and applied information management is an important input for that. There is a need to understand the importance of data as well to make all services efficient and effectively functioning. This topic will cover the architecture of Estonian Information Society and Framework of e-Governance and gives an overview of the Estonian Information Society Architecture.

**Keywords:** Different phases of transition processes of the services. Administration system for the state information system RIHA; Data Exchange Layer X-Road (incl. Document Exchange Centre DEC); Public Key Infrastructure PKI; Data Communication in Public Administration ASO; State e-services portal: eesti.ee; Information security (Critical Information Infrastructure Protection CIIP, CERT Estonia, IT Baseline Security System ISKE); Data ownership and legal foundations; Building e-services.

## **Day V**

### **Business processes automatization & optimization**

Businesses need to adapt constantly in nowadays, however, but are often struggling by static IT systems that are not designed to change with the business. Business processes needs to be re-engineered during that as well. To do that you have to figure out: What and how is your service delivering? To whom are you providing the service? Who are the stakeholders of the service ecosystem? What is the value and how is the IT-system backing it up?

**Keywords:** Business Process Management (BPM canvas) and automatization. Bizagi process modelling. Agent Oriented Modelling (AOM). IT systems architecture. Quality management.

## **Day VI**

### **Working with IT application**

Students will work on (conducting different teamwork assignments provided by the lecturers from the previous days) Web application which has been developed during the project. As it is one of the utilized tools enabling students to participate online workshops simulating processes of social consultations online, crowdsourcing, and civic audit etc the usability and functions will be tested out.



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## **Day VII**

### **A day off.**

- Free time or a trip to West-Estonia.



## WEEK TWO

### Day I

#### **Defining the scope for e-services**

Before renewing current or designing a new service it is necessary to evaluate what and how it should be changed or done differently process-wise. What are the resources and how to optimise structure of service delivery? How to describe services and use analytics to measure their efficiency later on? Data and its relevance to organisational service environment. What should be considered with semantics, and why is it important in the context of data? How can services be analysed in the context of their efficiency based on data organisation has about this service? How to manage the symbiosis of IT and Data?

**Keywords:** Concepts of services. Design thinking. Data descriptions, meta data, semantics. Big data and analytics and its usefulness in information management. Conducting ITIL approach.

**Case study:** students will analyse chosen service ASIS and create a vision about this service TOBE.

### Day II

#### **Information management & digital archiving**

Documents and records play a huge part in organizations, both public and private. They are used in conducting business processes, to enable decisions to be made and actions taken. Electronic document management systems increases the efficiency of organisations by capturing records and storing information digitally and enabling digital workflows. Which, in fact, gives transparency of the procedural steps as well as gives an overview of the activities related to processes. The requirements for the documents and records management systems in order to prepare for the digital archiving will be discussed here. Besides that, everything (information, data, documents etc) created in these systems should be preserved for the future as well. Digital Dark Age raises many questions such as **How? Where?** Would it be possible to preserve the digital content guaranteeing its readability in 100 years? Therefore, we need to carefully plan the preservation strategies as well, analysing restriction to access, managing file formats etc.

**Keywords:** Information management and documents and records management. Digital archiving and preservation, core functions of archive and processes linked with these functions. Digitalisation and access, accountability. Digital obsolescence and risk management in digital preservation.



### **Day III**

#### **Transformation and change management, Benchmark. Auditing project and requirements**

Change management is a very important success factor. In order to understand the implementation success of e-governance, we need to understand change management itself. Overall, changes are about people not so much technologies. In order to transform mind-sets we need to influence people and make them understand importance of changes. However, how to define leader and bosses? How to evaluate the success of resource usage in the service developments and manage organizational changes? Besides that, it is important to comprehend the main indicators and measurement sets for evaluating the implemented e-governance solutions and e-services itself. Auditing and assessing project outcomes will show us changes in efficiency – did organisation raise it's effectiveness and efficiency? **How to measure changes?** In the context of benchmarking, different criteria and indexes (EU) will be discussed. How will analytics and statistics help to understand organisational performance? How to evaluate the success of resource usage in the service developments and how to manage organizational changes? The main indicators and measurement sets for evaluating the implemented e-governance solutions and services themselves will be comprehended.

**Keywords:** Change management, main methods and organisational types. Transformation of the mind-sets. Leaders vs bosses – management differences. Project planning and conducting different phases. Initiating and planning. Lean production. IT systems requirements and quality measures. Performance data for government services (UK), EU indexes. Benchmark. Benchmarking and measurements criteria based on different indexes.

**Case study:** we will prepare a implementation plan there different student teams will have different roles inside as well outside of Organisation X (including systems operations and maintenance of IT systems and management, financing, auditing and validation).

### **Day IV**

#### **Virtual environments' usability**

Today's world is measured by computer clicks – how many steps you have to do to get the results you need. Therefore the user-friendly and fast virtual environments are crucial initiatives during the e-governance implementation projects. Usability and user experience (UX) as well as user interface (UI) of virtual environments are essential cornerstones to increase the access and usage of the e-services. Responsible design (accessing services through Mobile). How should the WCAG requirements applied to the IT. development?

**Keywords:** Profiling customers, creating personas, creating process models for e-service environments. Analysing and testing the UI/UX of web pages (eye-tracking).





**Case study:** Practical hands-on session where webpages (selection Estonia, Tunisia and country X) will be analysed and compared based on requirements related to web usability's.

## Day V

### **Start-up world & Prototyping ideas**

What are the most important things to think about if you have **only counted hours to set up a business?**

Participants will be provided with an overview of the culture of a start-up community as well as an option to prototype and pitch your business idea to mentors at the Mektory, Innovation Center under TUT. **Hackathon begins with the idea pitching and brainstorming and ends with the** prototyping and final assessment of the future product or e-service. Pitching and presentation of the developed solution.

## Day VI

### **Final wrap-up of the Summer School**

-Highlights of the Summer Course and handing out certificates.