
Educating future Information systems experts

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Outline

- Context
 - Requirements on IS Developers
 - Theory and Practice Relation
 - Propagation into the Study Programme
 - Implementation at Masaryk University
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Context

- Changing **goals**
 - Changing **environment**
 - Changing software **development processes**
 - Changing **lifecycle**
 - Changing **technology** for development and deployment
 - **Proactive approach needed!**
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Education vs. Practice

- Students **combining learning and practice** already during study
 - Practice is a **component of study**
 - We should not only educate **employees**
 - Necessity to foster entrepreneurship and initiative
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Requirements on Developers

- IS Developer profession covers new areas
 - **constructive communication** and **teamwork**
 - **quality** of work and **sharing**
 - Focus at **security**
 - Overall **quality**
 - **User** orientation (UX, agility)
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Changing development processes

- **Agile development**
 - Loose and heterogenous **teams, creative** professions
 - **Community** development, **open source**
 - New development **technology**
 - “live” (**online**) development platforms
 - Software **lifecycle**
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Changing lifecycle

- dynamism, flexibility, responsiveness
 - rapid development and deployment cycles
 - focus at services and interfaces
 - change and lifecycle management
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Changing technology

- New **development and deployment environments**
 - distributed systems, clouds, “containers”
 - **mobile** platforms
 - system-, platform-, and application **monitoring**
 - focus at **security, reliability, robustness**
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Studies for IS developer must change

- Case of **Masaryk University**
 - **Profile** the study field
 - **Priorities and opportunities:**
 - Security, critical infrastructures, energy industry, software architectures, reliability, monitoring
 - CERIT Science Park, industrial collaboration
 - CERIT Scientific Cloud, ICS MU
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Specializations

- Three specializations:
 - **Secure and reliable systems** (“security-assured IS”, critical infrastructures, monitoring systems)
 - **Software architectures and technologies** (enterprise- and web-technologies, mobility)
 - **Software engineering** (focus at quality and agility)
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New education forms

- Short stays in real environments
 - Entrepreneurship
 - Soft-skills
 - Personal growth
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Stays (Interims)

- Short-terms stays during study
 - at MU (ICS, IS)
 - in companies from CERIT Science Park, SPP
 - abroad in research and industry
 - another companies
 - Courses at FI
 - inspired PA180, PA185/186 Interim Project SSME
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Entrepreneurship and innovation

- Creative work for „ourselves”
 - “pre-incubation” in labs, eg. Lasaris
 - startup/coworking in CERIT Science Park
 - Courses at FI
 - PV242 Podnikání a inovace v IT (under reconstruction)
 - Continuation of PV242 (under preparation)
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Personal growth

- Carrier planning
 - Collaboration with Carrier center of MU
 - Soft-skills
 - Existing courses PV206 and PV209
 - Consultations
 - Legal and business aspects
 - Collaboration with TTO MU, SMIC
 - Mentoring
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Thank you for your attention!

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