

Current Research Topics@Lasaris

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October 2010 — Brno, Czech Republic

Agenda

- 1 Overview
- 2 Research
- 3 Projects
- 4 Academic Partners
- 5 Industrial Partners
- 6 Strategy

Lab Software Architectures and Information Systems

History the youngest lab @FI (established spring 2009)

Location Šumavská Center (Šumavská 15, Brno, CZ)

Staff **Bára Bůhnová** (deputy leader), **Radek Ošlejšek**,
Jarda Ráček, **Tomáš Pitner** (leader)

PhDs Pavel Drášil, Tomáš Gregar, Jirka Kolář, Michal Kolínek, Honza Konečný, Tomáš Ludík, Jarda Škrabálek,

Collaborators **Jiří Hřebíček** (F. of Science), **Jan Pavlovič** (TTO), **Lukáš Rychnovský** (ICS), **Martin Osovský** (ICS)

Goals *Teaching, Primary and Applied Research in SWA, IS, CEP...*

Lasaris Research Areas

- 1 **Information Systems** (Jarda Ráček)
- 2 **Software Architectures and Technologies** (Bára Bühnová)
- 3 **Complex Event Processing** (Tomáš Pitner)
- 4 **Software Development and Management** (Radek Ošlejšek)
- 5 **Technology-enhanced Learning** (Tomáš Pitner)
- 6 **Modern Mobile Platforms** (Jaroslav Škrabálek)

Information Systems

- 1 **Enterprise information systems** (leader **Jarda Ráček**)
- 2 Information technology in public administration
(eGovernment, eHealth, environmental informatics) (Jiří Hřebíček, Jarda Ráček)
- 3 Crisis management (Jarda Ráček)
- 4 **PhDs:** Tomáš Ludík (Visualization in Crisis Management)

Software Architectures and Technologies

- 1 **Software architectures** (leader **Barbora Bühnová**)
- 2 Enterprise systems technology (Jan Pavlovič)
- 3 Web-based systems (Tomáš Pitner)
- 4 **PhDs: Jan Konečný** (*Quality in Infrastructural Services*)

Complex Event Processing

- 1 **CEP for Service Systems** (leader **Tomáš Pitner**)
- 2 **PhDs:** Michal Kolínek (*Rich User Interfaces* for CEP, monitoring, . . .)

Software Development and Management

- 1 **Software engineering and management** (leader **Radek Ošlejšek**)
- 2 Business process management and workflow systems (Jan Pavlovič)

Technology-enhanced Learning

- ① **Person-centred approach and technology-enhanced learning** (leader **Tomáš Pitner**)
- ② Virtual learning environments for technology-oriented and enterprise learning (Jan Pavlovič)
- ③ E-learning effectivity evaluation (Jaroslav Ráček)
- ④ **PhDs: Jarda Škrabálek, Jirka Kolář** (project Medusy), **Martin Komenda** (Quality of E-learning),

Modern Mobile Platforms

- 1 **Apple iOS and Google Android development** (leader Jaroslav Škrabálek)

Scientific

- Standard **GAČR** project proposal with Charles Uni (MFF, Jarda Pokorný), Uni of Pilsen (FAV, Karel Matoušek)
- **iCom** (Uni Vienna, Renate Motschnig, Nino Tomaschek)
- Semantic e-learning (MU Rector's programme, Tom Gregar)
- Albireo II Webtop (FI Dean's programme, Martin Novák et al)
- Inovations in Learning (FRVŠ, Jarda Škrabálek)

Innovation Vouchers

- IT Logica (document management)
- Takeplace.eu (all-in-one conference service system)

Teaching

- .NET course

Faculty of Informatics

- Lab of **Service Systems** (Zdenko Staníček)
- Lab of **Search and Dialogue Systems** (Luděk Bártek)
- Jarek Pelikán

Masaryk University

- Institute of Computer Science (Lukáš Rychnovský, Martin Osovský, Jan Konečný, Matej Bosák, Jarda Šeděnka,...)
- Technology Transfer Office (Honza Pavlovič, Jarda Škrabálek, Honza Slovák)
- Faculty of Science (Jiří Hřebíček a studenti)

- **MU spin-offs** (MycroftMind: Filip Procházka)
- JIC and MIC (Microsoft IC)
- Industrial partners (see further)

Vienna

- University of Vienna, F. für Informatik
- **RLeT** (Renate Motschnig) — long term partner, teaching (Soft-skills for SSME), research, projects
- Postgraduate Center (Nina Tomaschek, Edith Hammer) — iCom project leader
- Knowledge und Business Engineering (Uwe Zdun) — teaching Software Architekturen
- Zentraler Informatik Dienst (Hartmut Eich) – Master Thesis at FI
- Others (Sonja Kabicher, Michael Derntl, Simone Kriegelstein) – Research and/or master thesis at FI
- ERASMUS stays – Michal Kolínek, SS 2011

- Team for **Software Architectures** (prof. Ralf Reussner)
- PALLADIO framework
- short-term mobility – Jan Konečný, Matej Bosák, WS 2010, SS 2011,...

- Virtual learning environment, project **MEDUSY**
- `medusy.sourceforge.net`
- FI: Jirka Kolář, RH: Martin Marciniszyn, Radek Vokál, Petr Matoušek

Microsoft

- On-line courses/.NET
- **.NET in teaching** at FI (many courses)
- MS: Filip Řehořík, FI/ICS: Bára Bühnová, Martin Osovský a kol.

- **Rational Team Concert** in teaching, extensions, case studies, . . .
- Software Summer Camp
- Teaching (Enterprise Java)

Javlin

- **ETL systems** (Clover ETL)
- Extensions, modules, . . .
- Integration with CEP applications
- Javlin: Jaromír Juřena, Michal Tomcsányi

Abstract

- **Community Systems** — development and integration with social networking systems (FB, Twitter)
- `bydleni.cz`
- Abstract: Josef Morávek, FI: Radek Ošlejšek, Tom Pitner, DP/BP studenti

Mycroft Mind

- **Complex Event Processing** — monitoring of network security, large infrastructure management, service systems
- www.mycroftmind.com
- **Network Security Monitoring Cluster** (MPO project)
- MM: Filip Procházka, FI: Tom Pitner, Jan Konečný, Michal Kolínek, ICS: Martin Osovský, Lukáš Rychnovský

IBA CZ

- Java Enterprise systems and technology
- Development tools and extensions (modules)
- **Software Summer Camp**
- IBA: Petr Adámek, FI: Jarda Ráček, Tom Pitner, DP/BP studenti

Goals

- Competitive in **primary research**
- **Excellence/leader in applied** (industrial) research and development
- Strategic contributors to **Science Park**
- Areas into **technology platforms**
- **Industrial projects** with Grant support (TAČR)
- Stable position in **teaching** (not extensive development, quality-oriented)
- Introduce new platforms (**mobile**)

Measures

- **Strategic documents** for both internal and external needs
- **Consolidation** in the core team, **common research** topics and papers
- **Habilitations** in progress (Jarda R.) or planned/short-middle term (Bára B., Radek O.)
- Growing **number of PhDs** in other areas (Jarda R., Radek O.)
- **Guest professors**
- Closer **cooperation with Faculty of Science**
- Closer **cooperation with SSME**