HELSINGIN YLIOPISTO
HELSINGFORS UNIVERSITET
UNIVERSITY OF HELSINKI

Specialization line on Networking and Services

Get Together

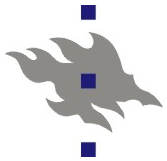
30.9.2010

Prof. Sasu Tarkoma

Agenda

- 14.15 Sasu Tarkoma: Welcome
- 14.20 Professors and project leaders present their themes
- c. 16.00 Refreshments

- Professors and PIs of the area will introduce their research, master thesis topics and requirements, possibilities of joining research projects.



Mission: networking and services

educate experts and strategic leaders
for the design and realisation of new,
global platforms or infrastructures

distributed applications and services
collaboration and interoperability
information networks / service networks
interaction, context awareness, mobility,
security

Specialization profiles

- Future internet
  - Building the internet and other global architectures, especially for mobile users' needs
  - Internet-protocols, P2P, security, specification ...
- Collaborative and interoperable computing
  - Global service-oriented architectures, interoperability issues, collaboration management, bridging to business needs
  - Collaboration of autonomous systems, software architectures, service-oriented software engineering, P2P, specification and verification, etc.
- Interactive systems
  - User experience
  - Multi-modal interfaces

Research groups

Collaborative and Interoperable computing Lea Kutvonen	• Inter-enterprise collaboration • Service interoperablity • eContracting & NFP • Trust, reputation, privacy • Service-oriented software engineering
Future Internet Collaborative Networking Jussi Kangasharju	• Information networking in the Future Internet • Quality and performance of P2P networks • Spontaneous networks • Pervasive and ubiquitous computing
Interactive Systems Giulio Jacucci	• User experience • Multi-modal interfaces
Content-centric Structures and Networking Sasu Tarkoma	• Distributed services; mobile solutions • Content in Future Internet • Energy aware computing & communication
Wireless Internet Markku Kojo	• Wireless and mobile computing • Internet Protocol enhancements • Seamless connectivity

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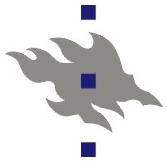
COSN: Content-centric Structures and Networking / UH

Mobile Computing Group / HIIT

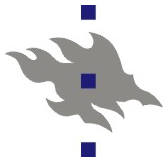
Sasu Tarkoma

30.9.2010



COSN Overview

- The research group investigates new solutions for content-centric data delivery
  - Content delivery and dissemination dominate Internet traffic
  - On the other hand, the current networking protocol stack, TCP/IP, was not originally engineered for this kind of data exchange
  - Incremental vs. clean-slate
  - Mobile computing and energy awereness
- We do both theoretical and experimental research
  - Typically we build and analyze systems



Projects

- COSN (2011-2013, Academy of Finland)
- IPOS: Information Processing in Overlay Networks (2008-2010, Academy of Finland)
- Aalto-Tsinghua project on mesh networks (2010-2012, Academy of Finland)
- Future Internet SHOK (2008-2010, cont. planned)
- Cloud Software SHOK (2010-2011, cont. planned)
- PSIRP (2008-2010 at HIIT, EU), continuation with PURSUIT
- PhD program support for post-graduates
  - HeCSE
  - FIGS

People

Markku Antikainen	MSc topic: Upgraphs for multicast (HIIT)
Eemil Lagerspetz	PhD topic: Mobile runtime & search (UH)
Dmitrij Lagutin	PhD topic: Packet Level Authentication (HIIT)
Toni Ruottu	MSc topic: Distributed index for BitTorrent (UH)
Petri Savolainen	PhD topic: Content delivery, P2P (UH)
Kari Visala	PhD topic: Interdomain rendezvous (HIIT)
Yi Ding	PhD topic: Transport layer optimization (UH)
Ville Palkosaari	M.Sc. topic: cloud systems (UH)
Weixiong Rao	Post doc (UH)
Lasse Leino	M.Sc. Topic: energy awareness (UH)
Jesse Kurtto	M.Sc. Topic: energy awareness (UH)

Thesis topics

We have many interesting theoretical and experimental research questions

Have a look at the theses done in this area in the e-thesis service

Please contact us and ask about topics, we can then narrow down the topic