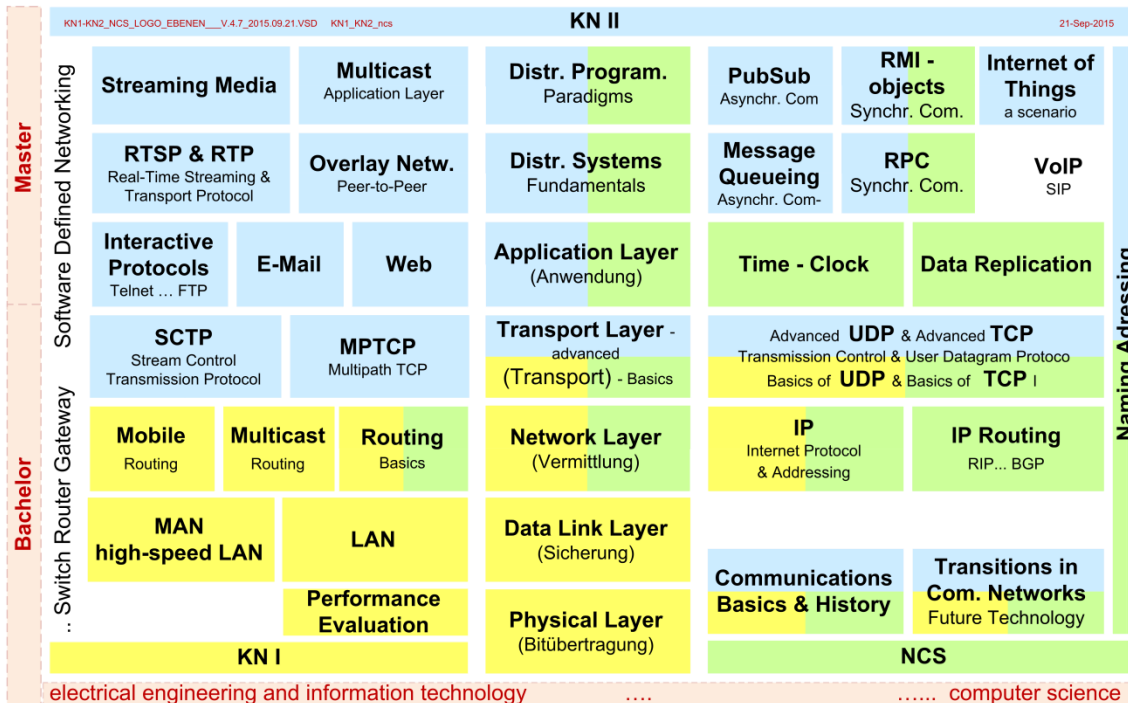


Communication Networks I

Administration - Organizational Details



TECHNISCHE
UNIVERSITÄT
DARMSTADT



Prof. Dr.-Ing. **Ralf Steinmetz**
KOM - Multimedia Communications Lab



Overview

1 Introduction – Who is who

2 Background: We (TUD KOM & htgc)

3 KN 1 - SS2016

3.1 Changes to Previous Term

3.2 Lectures – On-Campus

3.3 Recordings – Off-Campus

3.4 KN1 Moodle - Off-Campus

3.5 Tutorial and Exercises - On-Campus

3.6 Bonus System

4 Further Details: Exam, etc.

4.1 Exam

4.2 Services – Office Hours

4.3 Overview of Facilities

4.4 Notes – Slides

4.5 References - Literature

4.6 Schedule

4.7 Enhancements & Dedicated Issues

5 Evaluation

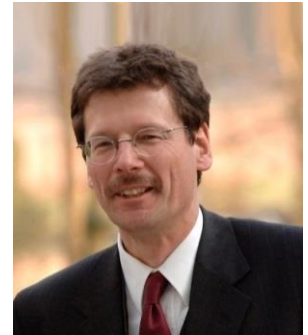
6 Further Multimedia Communications Teaching Offers

1 Introduction – Who is who

Ralf Steinmetz

- Multimedia Communications (KOM) in Darmstadt (S3|20)
- Member of etit (FB18) and Informatik (FB20)

▪ htc 



Ralf Steinmetz

KN I – Team



Alaa Alhamoud



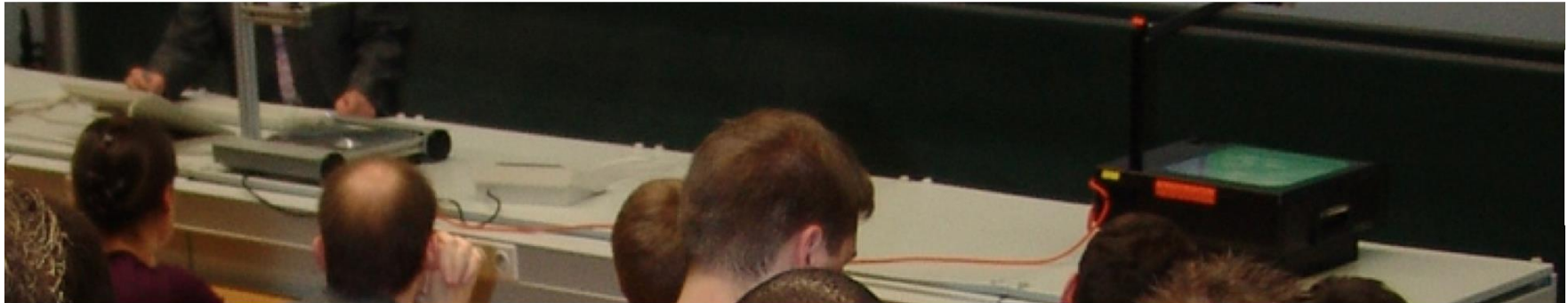
The An Binh Nguyen



Wael Alkhatib

Student assistants

- Sooraj Madotti (MOODLE, Tutor)
- Shadi Shahood (RECORDINGS, Tutor)



Multimedia Communications Lab » Teaching » **Current Courses**

Teaching

Current Courses

- Communication Networks I
- Communication Networks II
- Communication Networks IV: Performance Evaluation
- Social Learning and Knowledge Sharing Technologies
- Serious Games Lecture
- Game Technology
- Ubiquitous Computing in Business Processes
- Net Centric Systems
- Algorithms for Mobile Networks
- Wireless Sensor Networks


Courses in summer term 2016

In the current summer term 2016 KOM offers the following courses:



Lectures

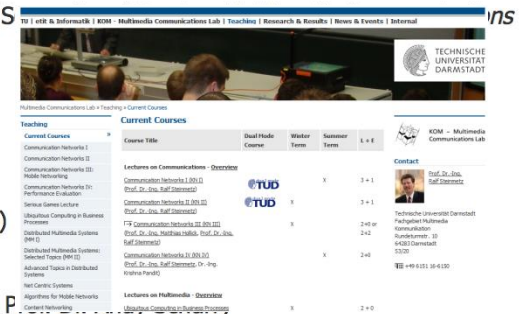
- Communication Networks I (KN I) (Prof. Dr.-Ing. Ralf Steinmetz)
- Serious Games (Dr.-Ing. Stefan Göbel)

Seminar/Proseminar

- Current Topics in Web Applications, Information Management and S 1/2 / Proseminar ETIT) (Prof. Dr. Ralf Steinmetz)
-  Serious Games Seminar (Dr. Stefan Göbel)

Projects, Lab Exercises

- Multimedia Communications Lab / Project (Prof. Dr. Ralf Steinmetz)
-  Serious Games Lab / Project (Dr. Stefan Göbel)
-  Industry Colloquium (IT in the car) (Prof. Dr. Ralf Steinmetz & P



Some topics in the web, on our notice board & upon request

<http://www.kom.tu-darmstadt.de/en/teaching/theses/open/>

- [Learning Diary: Quantified Self Meets Learning](#)

Overview Organizing and keeping track of your learning is a tedious job. We are currently working on automated solutions, where sensors in a smartphone are used to track the user's current activity. Such solutions focus mainly on learning activities, like attending a lect... [\[more\]](#)

Tutor: [Irina Diaconita](#)

- [Competition of Resources in Disasters - A Resource-Market in distributed, uncoordinated Communication-Environments](#)

Motivation: Bei Katastrophenereignissen ist zu beobachten, dass große Teile der Bevölkerung häufig schon unmittelbar nach Katastropheneintritt beginnen helfend tätig zu werden. Darunter zählen Menschen die Ihre Hilfe oder unterschiedliche Hilfsgüter anbieten ... [\[more\]](#)

Tutor: [Patrick Lieser](#)

Currently open theses

- [Learning Diary: Quantified Self Meets Learning](#)
Overview Organizing and keeping track of your learning is a tedious job. We are currently working on automated solutions, where sensors in a smartphone are used to track the user's current activity. Such solutions focus mainly on learning activities, like attending a lect... [\[more\]](#)
Tutor: [Irina Diaconita](#)
- [Competition of Resources in Disasters - A Resource-Market in distributed, uncoordinated Communication-Environments](#)
Motivation: Bei Katastrophenereignissen ist zu beobachten, dass große Teile der Bevölkerung häufig schon unmittelbar nach Katastropheneintritt beginnen helfend tätig zu werden. Darunter zählen Menschen die Ihre Hilfe oder unterschiedliche Hilfsgüter anbieten ... [\[more\]](#)
Tutor: [Patrick Lieser](#)
- [Artificial Intelligence-based Transmission Planning for Vehicular Communication](#)
ThemaZukünftige Fahrzeuge werden unterschiedliche Kommunikationsmedien parallel nutzen, um eine Internetverbindung herzustellen. Dafür benötigen sie eine geeignete Steuereinheit, die entscheidet, welche Applikationsdaten über welches verfügbare Netzwerk gesendet werden ... [\[more\]](#)
Tutor: [Tobias Rückert](#)
- [Designing a Smartphone PPG-based remote cardiac monitoring system](#)
[\[more\]](#)
Tutor: [Augusto Garcia-Agundez](#)
- [Wie ist der aktuelle Zustand? Entwicklung und Umsetzung einer Demonstration eines adaptiven Systems](#)
Motivation Dynamik in der Umgebung z.B. durch Nutzer-Mobilität und in Netzen z.B. durch die hohe Anzahl der verschiedenen Applikationen stellen heutige Systeme vor viele große Herausforderungen. Problem spezifische Lösungen sind nicht mehr vorteilhaft und werden zunehmend... [\[more\]](#)
Tutor: [Nils Richerzhagen](#)
- [Graphen + Performanz + Analyse = ?!? Graph-basierte Topologie-Analyse und Adaption in einem adaptiven Monitoring System](#)
Motivation Heute gestaltet sich in unserem Alltag vieles mobil: Menschen nutzen Ihr Smartphone, um über Gruppenchats in WhatsApp zu kommunizieren und sich zu koordinieren. Wartezeiten werden mit Facebook, YouTube oder Snapchat überbrückt. All diese Anwendungen sind vom mo... [\[more\]](#)
Tutor: [Nils Richerzhagen](#)
- [Towards NDN based Autonomous Collaboration Framework for Mobile Crowd Sensing](#)
Background and Idea: Mobile Crowd Sensing (MCS) [1] is an emerging sensing paradigm, in which mobile devices carried by people are utilized to collect and contribute data sensed from the surrounding environment. In comparison with stationary sensor networks, mobile crowd sen... [\[more\]](#)
Tutor: [The An Binh Nguyen](#)
- [Effective Inter-device Communication for Context Processing and Exchange](#)
Insight into the main topic:Recent years have seen a steady increase in the number of context-aware middleware systems, which adapt their services based on the user context (e.g. location, activity, stress level, etc.). In this work, the prime motivation is context-aware com... [\[more\]](#)
Tutor: [Rahul Chini Dwarakanath](#)
- [Monitoring in Information Centric Networks](#)
OverviewThe Information Centric Networking (ICN) paradigm promises deconstraining the current Internet architecture by allowing clients to directly address the desired content throughout the network. For the Internet this is a further evolutionary step from the idea of a nar... [\[more\]](#)
Tutor: [Michael Zink](#)
- [Technologien für Lernen am Arbeitsplatz im Kontext von Industrie 4.0](#)
Industrie 4.0 ist derzeit ein gängiger Begriff und es existieren mehrere Definitionen in der Literatur. In unserem Forschungsprojekt werden wir uns mit der Auswahl passender Lernmethoden befassen, um Mitarbeiter auf das Industrie 4.0-Zeitalter vorzubereiten und zu qualifizieren... [\[more\]](#)
Tutor: [Lena Despres](#)
- [Low Latency Event-Based Communication in Software-Defined Networks \(SDN\)](#)
Event-based communication is a very important communication paradigm used in a wide set of application, such as logistics, stock exchange, traffic management, or monitoring to exchange information between multiple producer and consumer of information. A key character... [\[more\]](#)
Tutor: [Boris Koldehove](#)

Thesis at KOM

<http://www.kom.tu-darmstadt.de/en/teaching/theses/open/>

In general

- Do not hesitate to contact us
- You should definitely know about your skills
- Topic in question should be thriving to act as motivator during your thesis
- Each year the best student work is awarded →

<http://www.kom.tu-darmstadt.de/en/teaching/theses/best/>

Best Theses

Die Auszeichnungen

Beste Diplomarbeit bzw. Masterarbeit des Jahres und

Beste Studienarbeit bzw. Bachelorarbeit des Jahres

erhalten im Jahr

2014

Beste Bachelorarbeit

Christoph Peusens:

Kontextbezogene Verlaufsvorhersage von Straßeneigenschaften als ortsbezogener Dienst

2013

Beste Masterarbeit

Dimitrij Burlak:

Analyse, Design und Implementierung von algorithmenbasierter Lerngruppen-Optimierung

Beste Bachelorarbeiten

Florian Jomrich:

Crowdsourcing als Möglichkeit der Online Evaluation von Empfehlungssystemen in E-Learning

Milan Schmittner:

Secure and Reliable Distribution of Replicas in Mobile Peer-to-Peer Scenarios

2012

Beste Masterarbeit

Thomas Rodenhausen:

Ranking Resources in Folksonomies by Exploiting Semantic and Context-specific Information

Beste Bachelorarbeiten

Alexander Müller:

Cloud Computing in der Bankenbranche - Sicherheit und Compliance

Till Schmitt:

Entwurf und Umsetzung einer Datenerfassungs-Umgebung mit Strom- und Spannungssensoren sowie deren Anbindung an ein PC-System

2011

Beste Masterarbeit

Sebastian Schmidt:

Language-Independent Semantic Relatedness of Web Resources using Wikipedia as Reference

Beste Bachelorarbeit

Maxim Babarinow:

Konzeption und prototypische Implementierung eines Muster-basierten Ansatzes zur Erstellung von Computerspielen für Sehgeschädigte

2 Background: We (TUD KOM & htcc)

Computer networks = communication networks

- No computer without communications
- Communication systems are ubiquitous
 - Home and business networks
 - Internet,...

Objective of the lecture:

- Basic knowledge, actually for all students of EE IT, CS, Business/Industrial EE./CS
- Services, Protocols, Layers, etc. & as base for Lifelong Learning

Further: Establishment of scientific core competence at TUD

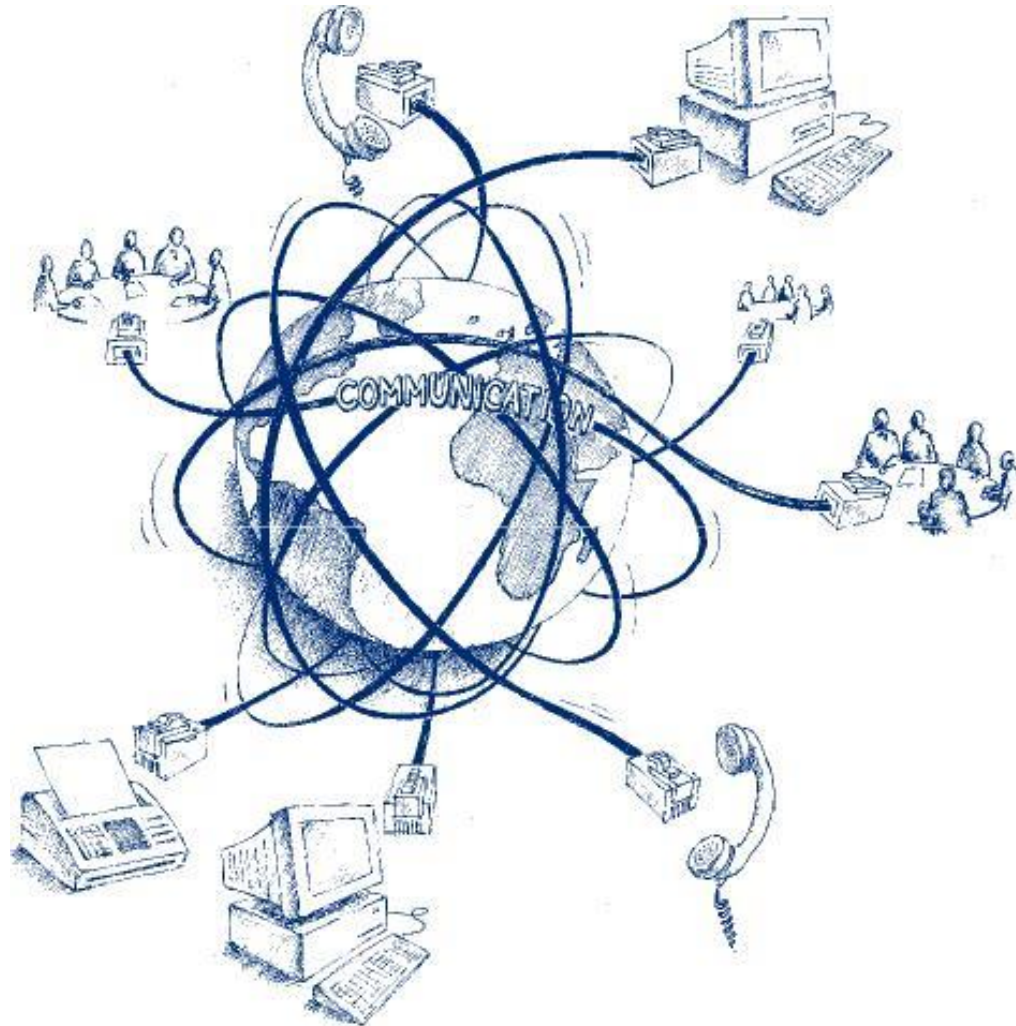
- Centers@Darmstadt
 - Htcc
 - (Research Cluster) Future Internet
- and further joint activities with
 - Opel, IBM, NEC, NSN, Siemens, Telekom, ...
 - SME: kimeta, werdenktwas, ...
- international close cooperation and exchange with universities, e.g.
 - Lancaster, Madrid (UC3M & IMDEA Networks), Oslo, Vienna
 - Ottawa, Santiago de Chile, Urbana Champaign, ...

KOM Research - Goals

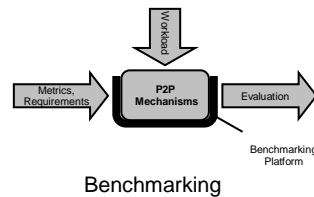
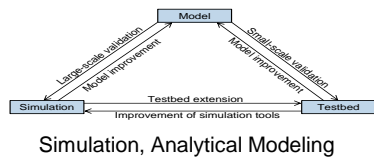
Adaptive Seamless Multimedia Communications



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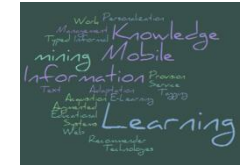
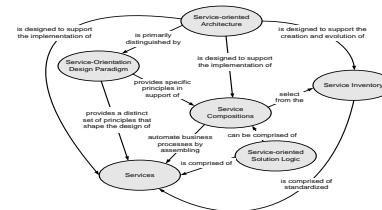
Source: http://www.sycor-asia.com/opencms/as/products_services/complementary_services/Telecommunication/



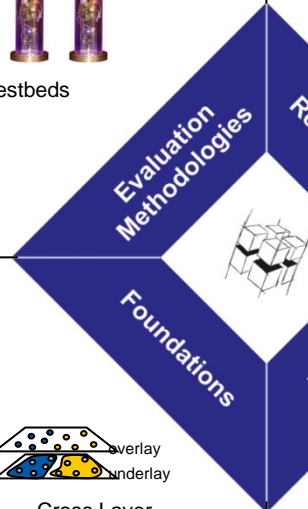
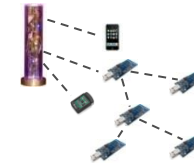
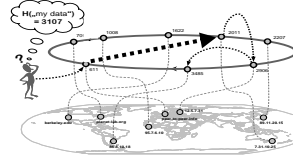
Usability



Testbeds



Knowledge &
Educational Technologies



Monitoring



SOCIAL LINK



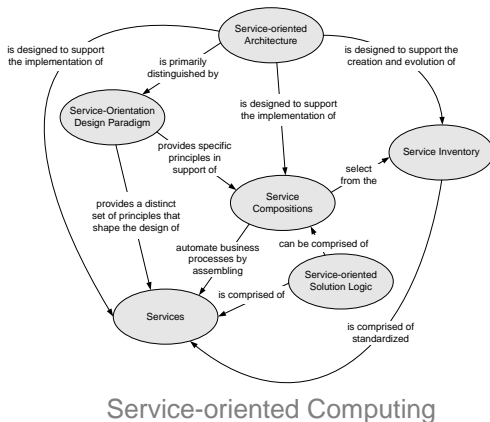
ISPRAT
Institute for Information Systems, Software
Administration and Technology e.V.



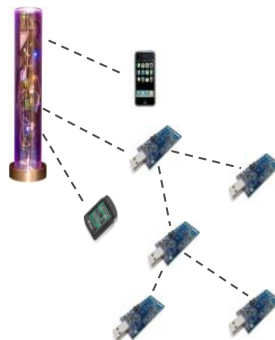
- Knowledge & Educational Technologies
- Multimedia Technologies & Serious Games
- Mobile Systems & Sensor Networks
- Self-organizing Systems & Overlay Communications
- Service-oriented Computing



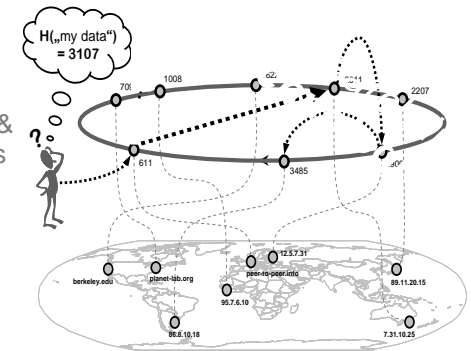
Knowledge & Educational Technologies



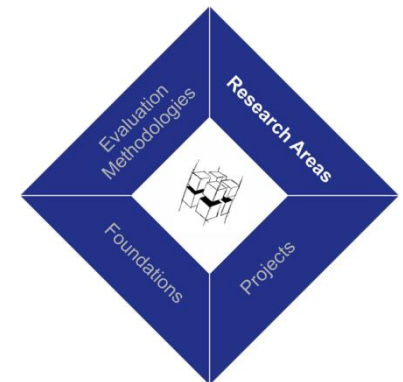
Mobile Systems & Sensor Networks



Self-organizing Systems & Overlay Communications



Multimedia Technologies & Serious Games



Lecture language: English

- International Master ICE,
- Distr. Systems Software
- Importance of fluent English in technical and business environments
- Content in English
 - Lecture
 - Hand-outs
 - Exercises, recordings
 - Exam
- But you can always ask questions in German, too!

Type of event

- On-campus
- Off-campus (kn1-online)

- Traditional lecture
- But much more
 - KN1 Moodle
 - etc.

- Comprises
 - Lectures
 - Regular Tutorials
 - Recordings
 - KN1 Moodle

On-Campus

On-Campus

Off-Campus

Off-Campus

3.1 Changes to Previous Term

As before

- Everything in English
- Lectures & tutorial **on-campus**
- Hand-outs, recordings, **off-campus**
- Exam
- Lecture administration and information with Moodle
- Bonus system (see later)

Actual Changes of Content

- Some slides and topics have been reordered
- Some slides have changed



Please interact!

- Ask questions
- Participate in Polls
- Don't be afraid of giving wrong answers

KN1 contains both Basics and State-of-the-Art

- Actual issues in communication networks
- With essential knowledge in Darmstadt
- i.e. some topics may change from year to year
 - New Findings and technologies
 - Some topics become less relevant

3.3 Recordings – Off-Campus

Offline repository of lectures

- Recorded during actual lecture
- Slides + Annotations + Voice

Organization

- Individual handling
- Available via KN1 moodle (usually after 1-2 days)
- Live + (online) recording to be done
- Some recording already available (past terms)

3.4 KN1 Moodle - Off-Campus



How to find

- <https://moodle.tu-darmstadt.de/> (Login with TU-ID)
 - Course: Komm. Netze I 18-sm-1010-vl SoSe 2016
- <https://moodle.tu-darmstadt.de/course/view.php?id=6390>
 - Automatically enrolled if registered in advance on TuCAN
 - For self-registration use the key “cn1ss2016”

What to find there

- Teaching materials
 - slides,
 - recordings,
 - exercises,
 - solutions, ...
- Discussion forums
- Feedback
- Bonus system

The screenshot shows the Moodle course interface. At the top, the breadcrumb trail reads: Dashboard > SoSe 2016 > FB18 Elektrotechnik und Informationstechnik > Kommunikationsnetze I 18-sm-1010-vl SoSe 2016. A 'Bearbeiten einschalten' button is in the top right. The left sidebar contains two main sections: 'NAVIGATION' and 'EINSTELLUNGEN'. 'NAVIGATION' includes links to the Dashboard, Startseite, Website, and a tree view for 'Dieser Kurs' (This Course) with sub-items like 'Kommunikationsnetze I 18-sm-1010-vl SoSe 2016', 'Teilnehmer/innen', 'Auszeichnungen', 'Allgemeines', 'Announcements', 'External Materials for self-study', 'IMPORTANT', 'Lecture Material', 'Exercises', 'Bonus System', 'Feedback to improve the lecture', and 'Meine Kurse'. 'EINSTELLUNGEN' includes 'Kurs-Administration', 'Bearbeiten einschalten', 'Einstellungen', 'Nutzer/innen', 'Filter', 'Berichte', 'Bewertungen', 'Setup für Bewertungen', 'Auszeichnungen', 'Sicherung', 'Wiederherstellen', 'Import', and 'Zurücksetzen'. The main content area has a welcome message: 'Welcome to the moodle of the Communication Networks I (KN1) lecture in Summer Term 2016 given by Prof. Steinmetz.' Below this are links for 'News Forum' and 'Course Forum'. There are three section headers: 'Announcements' (with a note that further announcements will be found here), 'External Materials for self-study', and 'IMPORTANT' (with a note to check email settings and that email addresses used on Moodle are correct and functioning). At the bottom is 'Lecture Material' (with a note that materials are from the last year and will be updated). The right sidebar contains three sections: 'SUCHE IN FOREN' (Search in Forums) with a search box and 'Erweiterte Suche' link; 'NEUE NACHRICHTEN' (New Messages) with a 'Neues Thema hinzufügen...' button and '(Keine Nachrichten im Forum)'; 'AKTUELLE TERMINE' (Current Dates) with 'Keine weiteren Termine' and 'Zum Kalender... Neuer Termin...'; and 'NEUE AKTIVITÄTEN' (New Activities) showing 'Aktivität seit Donnerstag, 17. März 2016, 15:22' and 'Alle Aktivitäten der letzten Zeit Keine vorherige Aktivität'.

3.5 Tutorial and Exercises - On-Campus

Tutorial

- Each week, planned Dates: see KN1 Moodle (usually Thursday after lecture)
- Questions regarding to the lecture and the exercises
- **Interactive!**

Exercises

- Optional
- Hands-on experience
- Style: like in the exam
- "handed out" with sample solutions
- Questions can be discussed in the tutorial

Hints

- e.g. more than 90% of really active students in one term scored better than 2.0
- WHY ? ... work on the exercises **BEFORE** they are discussed

3.6 Bonus System



Goal(s)

- To study (i.e. to learn) during the period of the lecture
- To enhance your knowledge on specific lecture topics
- To enhance the content of the lecture
 - KN1 compendium

Mechanisms

- Incentive system
- Advantage for successful & active participation
- Participation via KN1 Moodle
- Bonus to the exam result
 - 0.0 to 0.3
 - Only if exam result **at least 4.0**



Task

- Develop an application/a simulation
 - Topics provided by us
 - If you have a nice idea, which is related to the content of the lecture but not listed in the offered topics, discuss with the teaching assistant team to get approval

Applications/Simulations

- Develop an own solution for one of the provided topics/approved self-proposed topic
- SVN can be provided by us
- Nice to have: multi-platform (an application that runs on windows, linux, mac, smart phones etc.)
- A two-pages documentation is required which explains the functionality, features of the application

Be Aware of Plagiarism!

Bonus System



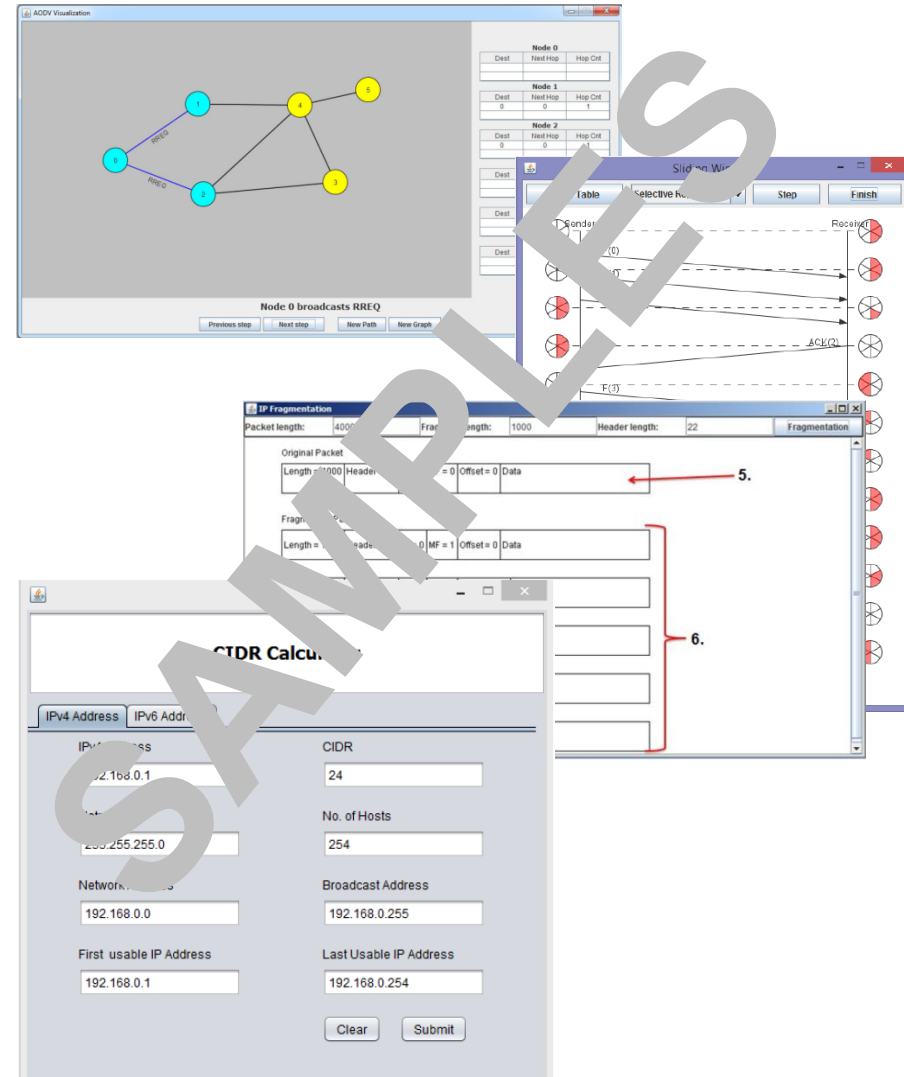
Important Dates

- Ideas proposal until 27/4/2016
- Register until 10/5/2016
- Submission from 10/6/2016 till 10/7/2016

Grading Criteria

- Clean structured, commented codes
 - Correct implementation
- “Nice” and easy to understand visualisation
- Application features, e.g., parameters configuration
- Quality of documentation

→ More details on Moodle



4 Further Details: Exam, etc.

Grade statistics from a previous term

Grades from Summer Term 2014



4.1 Exam

Exam Date

- 3. Aug. 2016, 12.00h-14.00h (planned)
- Usually "Wednesday in the third week after the end of the term"
- Check infos at:
 - KOM ... Teaching ... Current Courses ... Exams
 - <http://www.kom.tu-darmstadt.de/teaching/current-courses/communication-networks-i/general-information/>
 - KN1 Moodle

Remark

- No "Schein" required
 - No admission control for exam anymore, therefore:
 - Self-rating gains importance
 - Written exam after each term
 - (Assuming to be more than 25 participants)
 - No aids and appliances allowed (apart from dictionary and non-programmable calculator)
- need for registration via Tucan

Erasmus and Guest Students

- If you need an early exam date (because you leave before the regular exam date), **let us know ASAP** (at the latest end of april)!
- We will schedule an early exam accordingly

4.2 Services – Office Hours

Ralf Steinmetz

S3|20 120

- Directly after each lecture
- By previous arrangement:
 - Steinmetz.Office@KOM.tu-darmstadt.de)
- Or for further questions via email
 - Ralf.Steinmetz@KOM.tu-darmstadt.de

Alaa Alhamoud

S3|20 213

The An Binh Nguyen

S3|20 208

Wael Alkhatib

S3|20 127

- Or arrangement and further questions via email
 - kn1@KOM.tu-darmstadt.de



4.3 Overview of Facilities

| | | English | German |
|------------|----------------------|---------|--------|
| Lecture | Handouts / Slides | X | |
| | Presentation | X | |
| | Recordings | X | |
| KN1 Moodle | Knowledge Collection | X | |
| Exercises | Handouts | X | |
| | Classroom, On Campus | X | |
| | | | |
| | | | |
| Discussion | KN1 Moodle | X | |
| Books | | X | X |
| | | | |
| Exams | | X | |

Actual & Further Information in the Web

Course homepage

- <http://www.kom.tu-darmstadt.de>

Menu item TEACHING (information of all courses)

- <http://www.kom.tu-darmstadt.de/teaching/>

Menu item KN1

- <http://www.kom.tu-darmstadt.de/teaching/current-courses/communication-networks-i/general-information/>

Moodle

- <https://moodle.tu-darmstadt.de/> (Login with TU-ID)

KN1 Moodle

- <https://moodle.tu-darmstadt.de/course/view.php?id=6390>

Access to PCs and Network Facilities

e.g. in the student/multimedia/internet labs at KOM (S3|20)

- Rooms 108, 206
- headphones may be rented (free of charge) at http
- → contact before any KN1 team member for the respective access

Wireless LAN

- available at e.g. basement of S3|06
- access as described by the computing center HRZ



4.4 Notes – Slides

Slides

- Copy of slides, as guideline, to annotate (no lecture notes)
 - at the beginning of semester ONLINE as PDF at KN1 Moodle
- Updated during the semester
 - 1-2 days after respective lectures and
 - at the end of semester updated version

Comment to the slides

- All suggestions for improvement welcome!
 - (hopefully only little) errors, better diagrams
 - suggestions for content [by you](#)

4.5 References - Literature



More than 70 % from

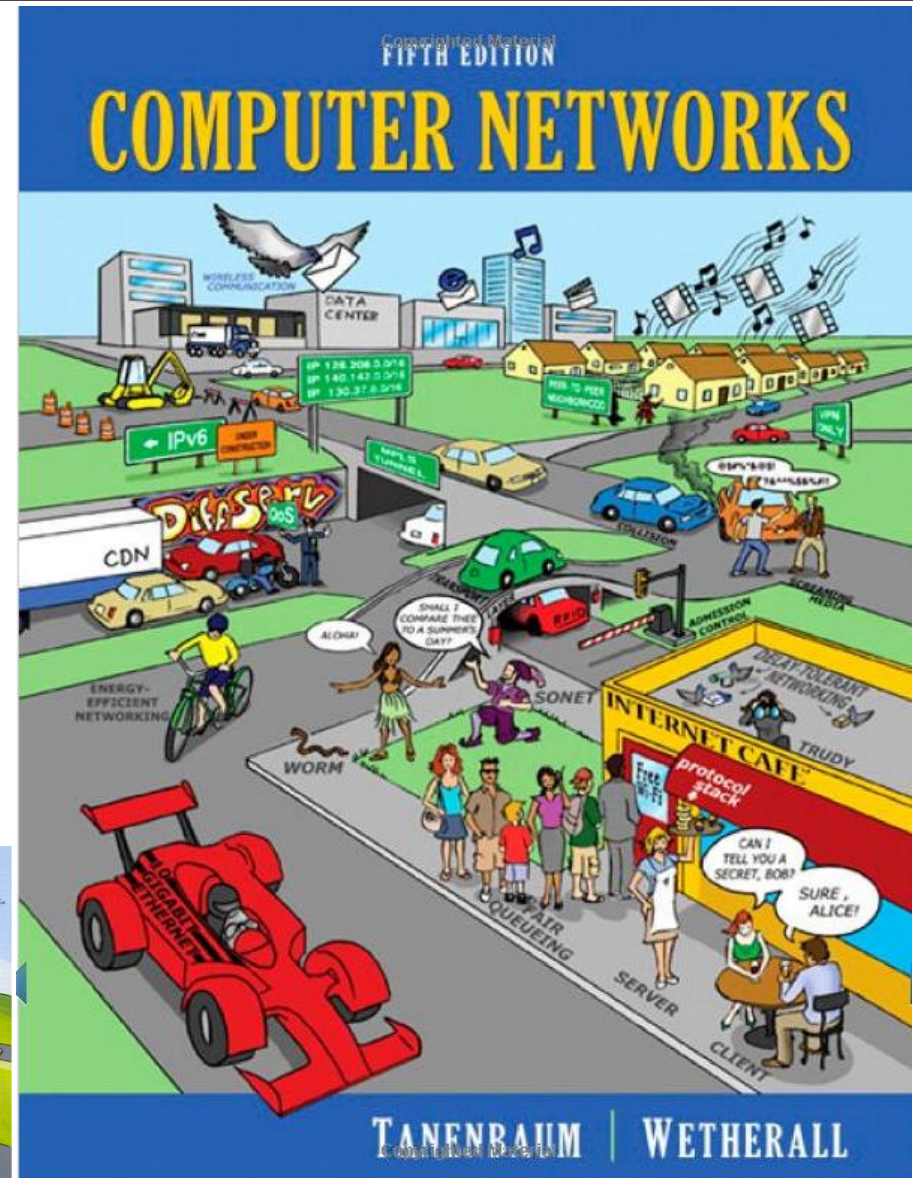
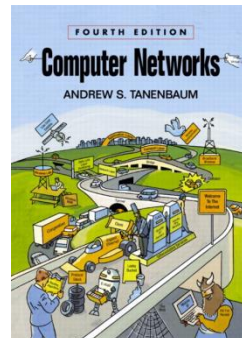
- book by Tanenbaum
- slides are based on the following book
- Andrew S. Tanenbaum: Computer Networks, actual Edition, Prentice Hall
 - german translation more or less OK

Additional publications as mentioned at the respective lecture-recording and

- <http://authors.phptr.com/tanenbaumcn4/>
- Andrew S. Tanenbaum: Computer Networks 5.th edition, Prentice Hall, 2011
- Larry L. Peterson, Bruce S. Davie: Computer Networks: A System Approach, 2nd Edition, Morgan Kaufmann Publishers, 1999
- Larry L. Peterson, Bruce S. Davie: Computernetze, Ein modernes Lehrbuch, 2. Auflage, Dpunkt Verlag, 2000
- James F. Kurose, Keith W. Ross: Computer Networking: A Top-Down Approach Featuring the Internet, 2nd Edition, Addison Wesley-Longman, 2002

Books of 4th edition available at

- secretary's office, S3|20 Room 122
- 10 € deposit
- enough books available



4.6 Schedule

Lecture Time

- Mondays 11:40-13:20 in S306|051
 - lecture
- Thursday 11:40-13:20 in S306|051
 - lecture & exercise (usually)

Exercises

- Thursday second half of the lecture
- Not every Thursday!
- planned dates, see KN1 Moodle
- <https://moodle.tu-darmstadt.de/course/view.php?id=6390>

Exam

- Planned date: **03. August, 2016**
- Please check information in the www / KN1 Moodle

4.7 Enhancements & Dedicated Issues

Further Enhancements

- Goal
 - To adapt to new environment
 - To allow for further enhancements, details
- Please contact
 - Ralf Steinmetz
 - Any member of our KN1-team
 - Alaa Alhamoud
 - The An Binh Nguyen
 - Wael Alkhatib

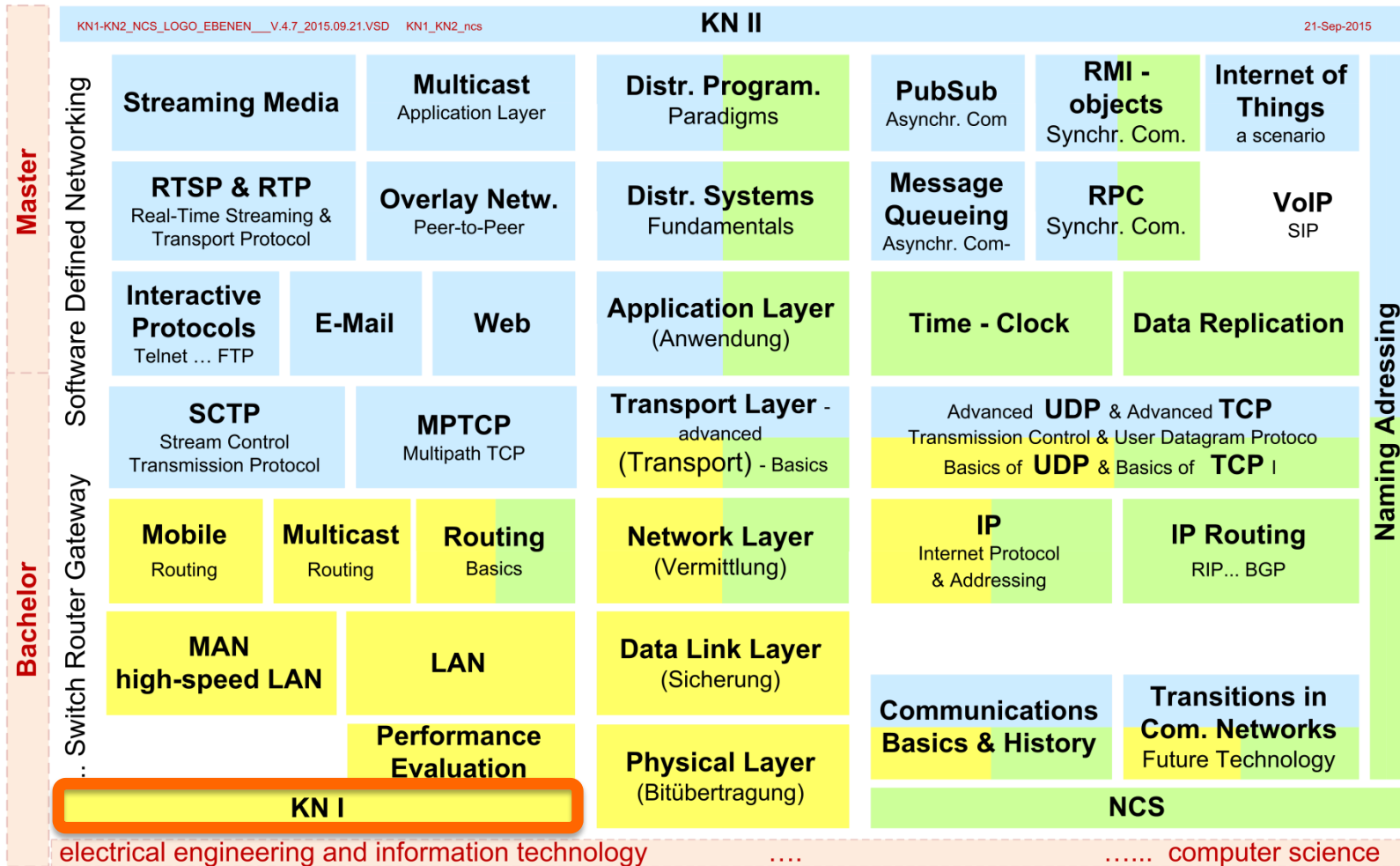
Errors? Corrections ? Enhancements?

→ please let us know!

Communication Networks I today...



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Participation of the lecture means also to take part in evaluation

Objectives

- To check if we met the goals
- Change from the passive to [active learning model](#)
- Continuous learning

It means

- Some surveys (online and personal) during the term
- We need your active participation

When?

- During the lecture
 - By us - comments are important to us/me –
 - Feedback [each week via KN1 Moodle](#)
- At the end of the term
 - by "Fachschaft"/students of computer science (FB20) and of ETiT (FB18)



Feedback for students AND teachers

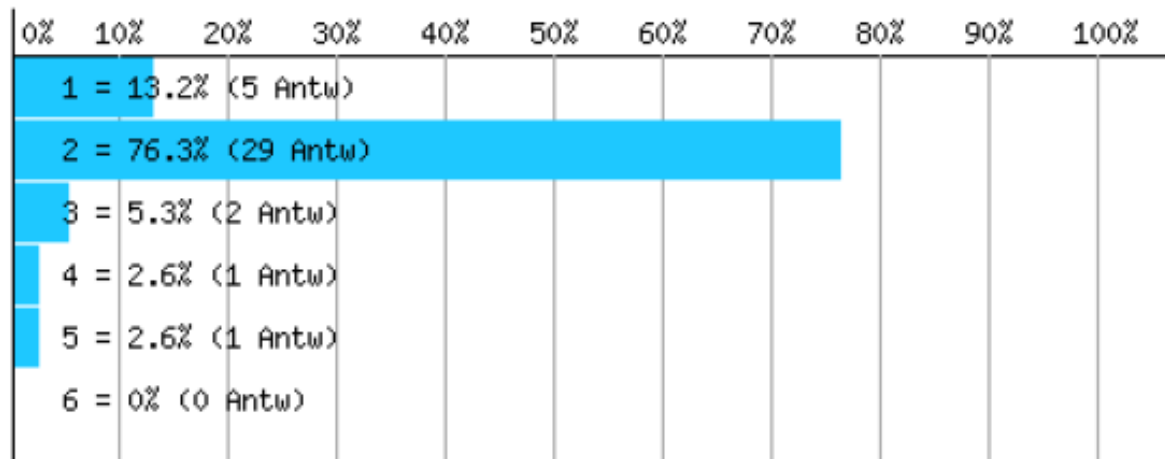
Questionnaires of the 'Fachschaft Informatik' and 'Fachschaft ETiT'

- Please participate!

Results are generally made publicly available, e.g.

Welche Gesamtnote würdest du der Vorlesung (ohne Übung) geben?
(1=sehr gut, 6=ungenügend)
Which mark would you give the lectures (without exercises)?
(1=very good, 6=insufficient)

Ihre Veranstaltung



Feedback (just some)



Examples ...

Was fandest du an dieser Vorlesung besonders gut?
What did you especially like in this lecture series?

Die aktuelle und moderne Wissenschaft vom Professor als auch seiner Mitarbeiter oder Dozentin/der.

*Bonussystem is well organized. Exercise presentations are useful.
Lecture recordings are very good!*

The content is up to date and interesting

Recordings

The lecture is available on the web

THE RECORDING SYSTEM

the recordings on the Internet

Audio lectures on the Web

But, also ...

Welche Verbesserungsvorschläge zur Vorlesung hast du?
What suggestions for improvement do you have for the lectures?

Aufhören, auf dem Notebook zu schreiben/malen, lieber die Tafel benutzen. Gescheitete Folien machen und besser strukturieren. Am besten eine durchgängige Struktur für die Vorlesung, nicht bei jedem Thema eine Inhaltsnumerierung neu anfangen. Wenn schon Fragen aus dem Publikum beantworten, dann diese wenigstens für alle wiederholen. Studentenpräsentationen (in den Übungen) sollten vorher fachlich und didaktisch überprüft werden.

Übungen zu haben, die so von der Stufe her, wie der Klausur.

Write a script (text no slides)

- exercise by assistants*
- formulated scripts and not just points on the slides*

6 Further Multimedia Communications Teaching Offers



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| | | | | |
|--|---------------------------------|--|--|---------------------------------|
| Physical Layer Security in Wireless Systems /mh | Network Security /mh | Mobile Networking /mh | Secure Mobile Systems /mh | Resilient Networks /mf |
| Human-Comp. Interaction /mm | Speech Com. Systems /dsw | TK3: Ubiquitous Computing /mm | TK2: Web Engineering /mm | TK1: Distributed Syst. /mm |
| Mobile Sensing /ss | Wireless Sensor Networks /ss | Ubiq. Comp. in Business Processes /lh_zn | Methodologies and Tools of Scientific Research /ar | |
| Algorithms for Mobile Networks /pm_xp | QoS in Telecom. /gh | P2P Systems and Applications / P2P Methods /dh | | Software Defined Networking /dh |
| Simulation and Modeling Techniques and Tools for Mobile Communication Systems /pr_am | | | Simulation and Evaluation of Computer Networks /mf | |
| Mobile Communications /ak | Mob. Participatory Sensing.. /k | Content Networking /ir | KN IV: Performance Evaluation /kp | Serious Games /sg |
| KN1-KN2_NCS_LOGO_EBENEN__V.4.2_2014.04.13.VSD | | KN1_KN2_(ncs) | | 13-Apr-2014 |

KN II

Lab Exercises

- Multimedia Communications Lab I (WS+SS)
- Multimedia Communications Lab II (WS+SS)

Projects

- Multimedia Communications Project I (WS+SS)
- Multimedia Communications Project II (WS+SS)

Seminars

- Multimedia Communications I (SS+WS)
- Multimedia Communications II (SS+WS)
- Digital Storytelling (WS+SS)

and

- Topics in Serious Games
- As well
 - .. See additional slides

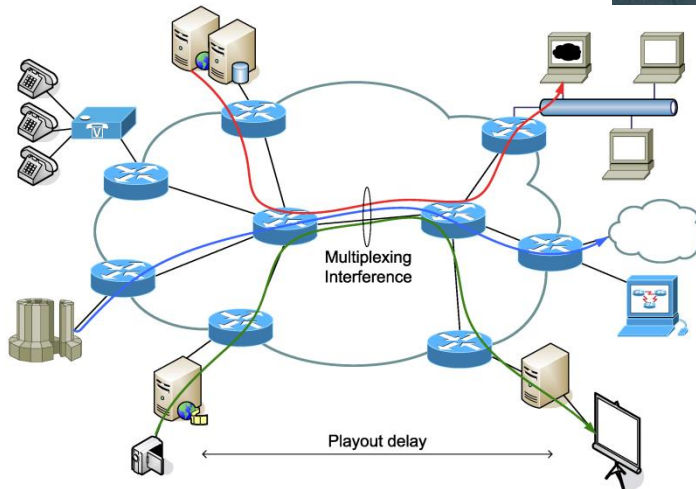
Lecturer

- Dr.-Ing. Amr Rizk



Organization

- Lecture : TBA
- Exercise s are within the lecture.
- Graded exam (oral), 3.0 CPs

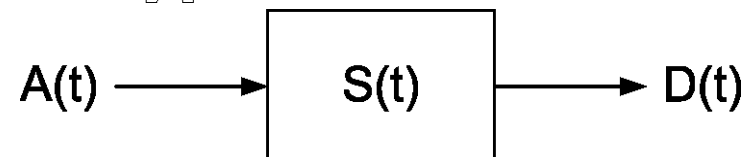
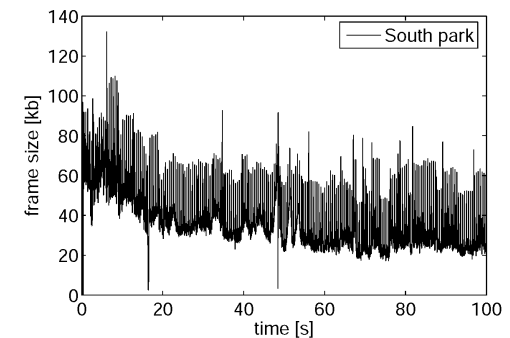
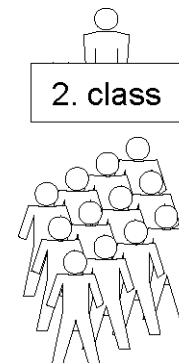
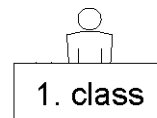


Lehrziele:

- Modellierung und Leistungsbewertung von Computernetzwerken und Kommunikationssystemen
- Verständnis der Leistungsfähigkeit von Systemen
- Basis zur Planung, Optimierung und Weiterentwicklung von Kommunikationsnetzen

Inhalte:

- Einführung in die Leistungsbewertung
- Verkehrsregulatoren, deterministische Verkehrsmodelle,
- Scheduling, Generalized Processor Sharing, Netzwerkkalkül, min-plus Systemtheorie, deterministische Leistungsschranken
- Poisson-Prozesse, Warteschlangentheorie
- Modellierung von Paketdatenverkehr,
- Effektive Bandbreiten, Momenterzeugende Funktionen, Multiplexer
- Statistisches Netzwerkkalkül, effektive Leistungsschranken



Serious Games (V2+Ü2)



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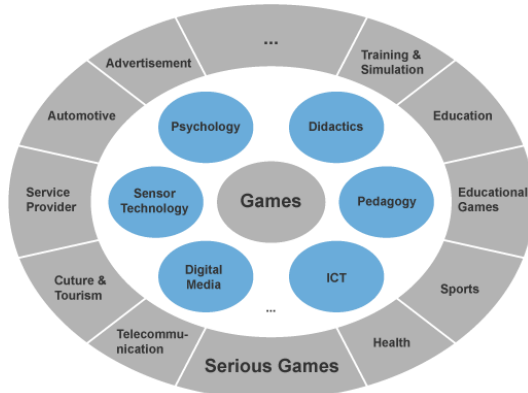
Introduction on 12.04.16
09:50h S1/01 Room A03

Lecturer

- Dr. Stefan Göbel

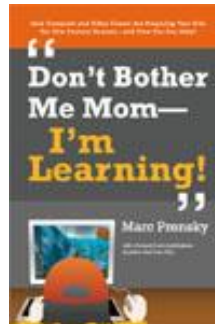
Organization

- Lecture: Tuesdays, 9:50 – 11:30
- Exercise: Tuesdays, 11:40 – 13:20 (theory and practice)
- Graded exam (written), 6.0 CPs



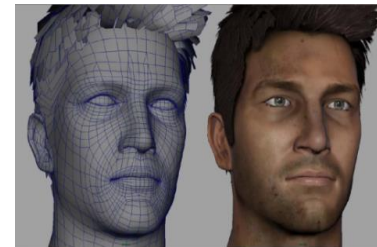
Learning Objectives

- Understanding the idea of Serious Games and its scientific and technological foundations
- Basic knowledge about Game Design, Game Development, Game Technology
- Insights into current applications and trends like educational games or game for health
- Ability to develop your own (serious) game



Contents

- Introduction to Serious Games
- Game Development, Game Design
- Game Technology, Tools and Engines
- Personalization, Adaptation, Storytelling
- Authoring and Content Generation
- Multiplayer Games
- Games and Web 2.0
- Interfaces, Games for Health
- Mobile Gaming
- Effects, Affects, User Experience and Sensor Technology
- Best Practice: Invited Talk by Game Developers



Lab task / Praktikum



- Focus on software design and implementation (SE-skills)
- Good entry point for future HiWi-jobs or theses at KOM

Project task / Projektseminar



- Focus on justified design decisions based on an in-depth study of related work
- Good preparation for a bachelor or master thesis at KOM