Enhancing Media Personalization by Extracting Similarity Knowledge from Metadata

The world of media today can be characterized by us being exposed to vast amounts of content, both produced professionally and user generated. Ever since the digital technologies in the form of computers and video cameras have diminished the production costs and the Internet has significantly lowered the costs of distribution, we became more and more overwhelmed with the choice of media. In such conditions the focus falls on the available mechanisms to filter and recommend media to users, thus resulting in the growing need for personalization. Media personalization is a complex process with many interrelated parts – recommendation engines, content metadata, contextual information and user profiles. In the center of any type of recommendation lies the notion of similarity. The most popular way to approach similarity is to look for the feature overlaps. This results often in recommending only “more of the same” type of content which does not necessarily lead to the meaningful personalization. Another way to approach similarity is to find a similar underlying meaning in the content. Aspects of meaning in media can be represented using Gardenfors Conceptual Spaces theory, which can be seen as a cognitive foundation for modeling concepts. Conceptual Spaces is applied in this thesis to analyze media in terms of its dimensions and knowledge domains, which in return defines properties and concepts. One of the most important domains in terms of describing media is the emotional one, especially when we talk about the contents of music. Therefore the main focus in the thesis is how to extract such emotional information from media, and how to use it to enhance media personalization. This dissertation proposes a novel method to extract emotional information from text (unstructured metadata) using Latent Semantic Analysis (one of the unsupervised machine learning techniques). It presents three separate cases to illustrate the similarity knowledge extraction from the metadata, where the emotional components in each case represents different abstraction levels – genres, synopsis and lyrics. The emotional value is extracted by first creating a conceptual space for emotions based on a semantic differential which divides the underlying plane along two psychological dimensions – arousal and valence. Then the space is divided into regions serving as emotional markers – a selection of affective terms. After that LSA is used to calculate the cosine similarity between the text (synopsis or lyrics) and each of the chosen affective terms. As a result we can plot emotional correlation in the content as patterns, which we can then use to find emotional similarity among media items. By being able to compare media items on the basis of their emotional patterns, we add a new level to how we can evaluate the similarity between two media items. Which in return might improve media recommendation since it provides a novel approach to recommendation that goes beyond traditional genre boundaries, and thereby improves media personalization.

General information
State: Published
Organisations: Cognitive Systems, Department of Informatics and Mathematical Modeling, CICT
Authors: Butkus, A. (Intern), Olesen, H. (Intern)
Publication date: Mar 2009

Publication information
Place of publication: Kgs. Lyngby, Denmark
Publisher: Technical University of Denmark (DTU)
Original language: English
Series: IMM-PHD-2008-198
Main Research Area: Technical/natural sciences
Electronic versions:
Mobile location services for the next generation wireless network

Mobile location services exploit mobile location technologies for determining where a mobile user is geographically located. This information can then be used for providing location-specific content to the mobile user. The mobile location services can be used, for example, for finding points of interest, getting weather information, and tracking the whereabouts of a child. Mobile location services gained a great deal of interest in 2000, and they were envisioned by the business players in the mobile service market as one of the few service categories where the mobile users would be willing to pay for the usage. Since 2000, we have seen countless mobile location services commercially deployed in different parts of the world, and the services have been adopted more enthusiastically by the mobile users in Asia, especially in Japan and South Korea, compared to other parts of the world. However, the overall usage of the mobile location services is still not very high compared to other entertainment and messaging services. The mobile location services are currently not the important part of the mobile data services, and the services have obviously not yet met the hyped expectation of the mass-market adoption that was expressed in 2000. This thesis examines and analyzes the existing mobile location technologies and services to identify the factors that inhibit the take-off of the existing mobile location services. These factors provide indications and ideas of, e.g., what to emphasize, what to avoid, and what to improve when developing a mobile location technology and a mobile location service in the future. Based on the qualitative studies of the existing location methods and services made in this thesis, the lack of location methods that can provide accurate location information in closed environments and dense urban areas and the lack of adaptability and offerings tailored to different users’ requirements in different contexts of use are the main inhibitors to the take-off of the existing mobile location services. Based on these findings, a new conceptual location method has been proposed in this thesis to resolve the lack of indoor location capability, and a conceptual service architecture for adaptive mobile location services has been developed to facilitate the provision of compelling mobile location services for the future network. The developed service architecture allows the mobile location service to be adapted to best fit with the user requirements/preferences in the current contexts of use, which is one of the missing parts that limit the adoption of the mobile location services available today.

General information
State: Published
Organisations: Department of Informatics and Mathematical Modeling, CICT
Authors: Schou, S. (Intern), Olesen, H. (Intern), Sørensen, L. T. (Intern)
Publication date: Jul 2008

Publication information
Original language: English
Series: IMM-PHD-2008-202
Main Research Area: Technical/natural sciences
Electronic versions:
phd202_saowane.pdf
Source: orbit
Source-ID: 220529
Publication: Research › Ph.D. thesis – Annual report year: 2008


General information
State: Published
Organisations: CICT, Department of Informatics and Mathematical Modeling
Publication date: 2008

Host publication information
Title of host publication: Technologies for the wireless future : Book of Visions
Volume: 3
Publisher: Wiley
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 210052
User-Centricity in MAGNET and MAGNET Beyond

General information
State: Published
Organisations: CICT, Department of Informatics and Mathematical Modeling
Authors: Sørensen, L. T. (Intern), Olesen, H. (Intern), Larsen, J. E. (Intern), Schultz, N. (Intern)
Number of pages: 13
Publication date: 2007

Publication information
Place of publication: Kgs. Lyngby
Publisher: Center for Information and Communication Technologies, DTU Informatics
ISBN (Print): 978-87-90288-38-9
Original language: English
Series: CICT Working Paper
Number: 116
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 211287
Publication: Research - peer-review › Report – Annual report year: 2007

Draft User Functionalities and Interfaces of PN Services (Low-fi Prototyping): My Personal Adaptive Global NET and Beyond

General information
State: Published
Organisations: Center for Information and Communication Technologies, Department of Photonics Engineering, Cognitive Systems
Authors: Schultz, N. (Intern), Tan, S. (Intern), Sørensen, J. (Ekstern), Karamolegkos, P. (Ekstern), Larsen, J. E. (Intern), Larsen, L. (Ekstern), Nikolakopoulos, G. (Ekstern), Olesen, C. (Ekstern), Patrikakis, C. (Ekstern), Pedersen, C. (Ekstern), Pedersen, J. (Ekstern), Proschnowsky, M. (Intern), Protonotarios, V. (Ekstern), Roswall, R. (Ekstern), Saugstrup, D. (Intern), Sørensen, L. (Intern), Bessler, S. (Ekstern), Hammershøj, A. D. (Intern), Heinze, E. K. S. (Intern), Kaldanis, V. (Ekstern), Kyriazanos, M. (Ekstern), Oksa, J. (Ekstern), Olesen, H. (Intern), Xu, C. (Intern)
Number of pages: 231
Publication date: 2006

Publication information
Place of publication: Aalborg
Publisher: Aalborg University, Magnet
Original language: English
Series: Internal Report, IST project MAGNET Beyond (My Personal Adaptive Global NET and Beyond)
Number: IR 1.4.1
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 192066
Publication: Research - peer-review › Report – Annual report year: 2006

Scenario construction and personalization of PN services based on user profiles and context information

General information
State: Published
Organisations: Department of Photonics Engineering, Center for Information and Communication Technologies
Authors: Olesen, H. (Intern), Sørensen, L. (Intern), Bessler, S. (Ekstern), Kyriazanos, D. (Ekstern), Patrikakis, C. (Ekstern), Schultz, N. (Intern), Skouby, K. E. (Intern)
Publication date: 2006

Host publication information
Title of host publication: Joint MAGNET Beyond, e-SENSE, DAIDALOS and CRUISE IST workshop
Main Research Area: Technical/natural sciences
Conference: Joint MAGNET Beyond, e-SENSE, DAIDALOS and CRUISE IST workshop, Mykonos, Greece, 05/11/1829
Source: orbit
The conceptual structure of user profiles

General information
State: Published
Organisations: Center for Information and Communication Technologies, Department of Photonics Engineering
Number of pages: 107
Publication date: 2006

Value creation and new business opportunities by means of personalization in future converged servicec

General information
State: Published
Organisations: Center for Information and Communication Technologies, Department of Photonics Engineering
Authors: Butkus, A. (Intern), Olesen, H. (Intern)
Publication date: 2006

Access control to user profiles for Personal Network (PN) services

General information
State: Published
Organisations: Department of Photonics Engineering
Authors: Jiang, B. (Intern), Butkus, A. (Intern), Olesen, H. (Intern)
Pages: 1478-1482
Publication date: 2005
Detection of mobile user location on next generation wireless networks

This paper proposes a novel conceptual mechanism for detecting the location of a mobile user on next generation wireless networks. This mechanism can provide location information of a mobile user at different levels of accuracy, by applying the movement detection mechanism of Mobile IPv6 at both macro- and micromobility level. In this scheme, an intradomain mobility management protocol (IDMP) is applied to manage the location of the mobile terminal. The mobile terminal needs two care-of addresses, a global care-of address (GCoA) and a local care-of address (LCoA). The current location of a Mobile IPv6 device can be determined by mapping the geographical location information with the two care-of-addresses and the physical address of the access point where the user is connected. Such a mechanism makes location services for mobile entities available on a global IP network. The end-users can look up the current location of other mobile users on a unified IP network by using a "search by identifier" feature. Furthermore, the entire population of mobile terminals in a specific area is available for search requests.

General information
State: Published
Organisations: Department of Photonics Engineering
Authors: Schou, S. (Intern), Olesen, H. (Intern)
Pages: 273-279
Publication date: 2005
Main Research Area: Technical/natural sciences

Publication Information
Journal: Journal of Internet Technology
Volume: 6
Issue number: 3
ISSN (Print): 1607-9264
Ratings:
BFI (2018): BFI-level 1
BFI (2017): BFI-level 1
Web of Science (2017): Indexed Yes
BFI (2016): BFI-level 1
Scopus rating (2016): SJR 0.423 SNIP 0.845 CiteScore 1.61
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.217 SNIP 0.572 CiteScore 0.6
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.203 SNIP 0.501 CiteScore 0.51
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.189 SNIP 0.566 CiteScore 0.51
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 0.228 SNIP 0.574 CiteScore 0.55
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 0.194 SNIP 0.466 CiteScore 0.51
ISI indexed (2011): ISI indexed no
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 0.17 SNIP 0.308
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 0.134 SNIP 0.282
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 0.154 SNIP 0.163
Scopus rating (2007): SJR 0.124 SNIP 0.144
Scopus rating (2006): SJR 0.124 SNIP 0.087
Scopus rating (2005): SJR 0.151 SNIP 0.075
Original language: English
Links:
http://jit.ndhu.edu.tw/jitcontent2.php?getserial=244
Source: orbit
Source-ID: 154957
Final user requirements for the PN service architecture

General information
State: Published
Organisations: Center for Information and Communication Technologies, Department of Photonics Engineering, Aalborg University
Authors: Olesen, H. (ed.) (Intern), Jiang, B. (Intern), Schultz, N. (Intern), Sørensen, L. (Intern), Saugstrup, D. (Intern), Skouby, K. E. (Intern), Pedersen, C. (Ekstern), Larsen, L. (Ekstern), Björksten, M. (Ekstern), Kaldanis, V. (Ekstern), Prasad, R. (Ekstern), Olséni, C. (Ekstern), Roswall, R. (Ekstern), Vila, J. (Ekstern)
Publication date: 2005

Publication information
Original language: English
Series: MAGNET project, D1.1.1c
Number: IST-507102
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 185192
Publication: Research - peer-review › Report – Annual report year: 2005

From User Requirements to System Requirements: The MAGNET Approach

General information
State: Published
Organisations: Department of Photonics Engineering
Authors: Saugstrup, D. (Intern), Sørensen, L. (Intern), Schultz, N. (Intern), Skouby, K. E. (Intern), Olesen, H. (Intern)
Pages: 1953-1957
Publication date: 2005

Host publication information
Title of host publication: Proceedings of the 8th International Symposium on Wireless Personal Multimedia Communications WPMC '05
Volume: CD-ROM
Main Research Area: Technical/natural sciences
Links:
http://www.iws2005.org
Source: orbit
Source-ID: 182253
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

WLAN versus UMTS: a cene européia, RTI - Redes, Telecom e Instalações, Ano VI N 65

General information
State: Published
Organisations: Center for Information and Communication Technologies, Department of Photonics Engineering
Authors: Tan, S. (Intern), Olesen, H. (Intern), Saugstrup, D. (Intern)
Pages: 52-64
Publication date: 2005
Main Research Area: Technical/natural sciences

Publication information
Journal: Telecom e Instalações, Ano VI N 65
Volume: 6
Issue number: 65
ISSN (Print): 1808-3544
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
Agent-based Personal Network (PN) service architecture

In this paper we propose a new concept for a centralized agent system as the solution for the PN service architecture, which aims to efficiently control and manage the PN resources and enable the PN based services to run seamlessly over different networks and devices. The working principle, control procedure and enabling techniques behind the agent based solution are the main focuses of this paper.

General information
State: Published
Organisations: Department of Photonics Engineering
Authors: Jiang, B. (Intern), Olesen, H. (Intern)
Pages: 275-279
Publication date: 2004

Host publication information
Title of host publication: Proceedings of the 7th Wireless and Personal Multimedia Conference: WPMC'04
Volume: 2, CD-ROM
Main Research Area: Technical/natural sciences
Conference: 7th Wireless and Personal Multimedia Conference, Abano Terme, Italy, 01/01/2004
Source: orbit
Source-ID: 23991
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Draft user requirements for PN to drive the definition of a valid architecture

General information
State: Published
Organisations: Department of Photonics Engineering
Authors: Olesen, H. (ed.) (Intern), Schultz, N. (Intern), Skouby, K. E. (Intern), Schou, S. (Intern), Jiang, B. (Intern)
Number of pages: 64
Publication date: 2004

Publication information
Original language: English
Series: IST project MAGNET (My personal Adaptive Global Net)
Number: WP1 D1.1.1.1a
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 23993
Publication: Research - peer-review › Report – Annual report year: 2004

Mobile communications: Europe, Japan and South Korea in a comparative perspective

General information
State: Published
Organisations: Department of Photonics Engineering
Authors: Henten, A. (Intern), Olesen, H. (Intern), Saugstrup, D. (Intern), Tan, S. (Intern)
Pages: 197-207
Publication date: 2004
Main Research Area: Technical/natural sciences

Publication information
Journal: Info (Bingley)
Volume: 6
Issue number: 3
ISSN (Print): 1463-6697
Ratings:
BFI (2018): BFI-level 1
PN services and user requirements

General information
State: Published
Organisations: Department of Photonics Engineering
Authors: Olesen, H. (Intern)
Publication date: 2004
Event: Paper presented at MAGNET Training Week, Center for Tele-Information, Copenhagen, Denmark.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 23989
Publication: Research - peer-review › Journal article – Annual report year: 2004

User-centric factors of context aware services

General information
State: Published
Organisations: Department of Photonics Engineering
Authors: Olesen, H. (Intern), Jiang, B. (Intern), Schou, S. T. (Intern), Butkus, A. (Intern)
Publication date: 2004

Host publication information
Title of host publication: My personal Adaptive Global Net: Visions and beyond
Volume: CD-ROM
Place of publication: Shanghai
Publisher: MAGNET
Main Research Area: Technical/natural sciences

Bibliographical note
CD-ROM
Source: orbit
Source-ID: 90497
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

User requirements for PN to drive definition of a valid architecture

General information
State: Published
Organisations: Department of Photonics Engineering
Number of pages: 144
Publication date: 2004

Publication information
Original language: English
Series: MAGNET project, IST-507102
Number: D1.1.1b
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 154912
Publication: Research - peer-review › Report – Annual report year: 2004

WLAN vs. UMTS - The European Scene: paper presented at World Wireless Congress, May 2004, San Francisco
This paper mainly looks at the different deployment schemes and rollout plans of UMTS and WLAN in Europe and the type of business models that operators and service providers are adopting. It also analyzes several competing or complementary technologies that could potentially alter the path for further development/deployment of UMTS and WLAN services. More specifically, the paper discusses the technologies of "Voice over IP" (VoIP) and "Mobile over WLAN" through mobile devices, and the quasi-3G technology of EDGE, which could provide some of the same services as UMTS, but at a substantially lower cost.

General information
State: Published
Organisations: Department of Photonics Engineering, Center for Information and Communication Technologies
Authors: Tan, S. (Intern), Saugstrup, D. (Intern), Olesen, H. (Intern)
Number of pages: 6
Publication date: 2004

Publication information
Place of publication: Kongens Lyngby, Denmark
Publisher: Technical University of Denmark, Center for Tele-Information
Original language: English
Series: CTI Working Papers
Number: 88
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 59008
Publication: Research - peer-review › Report – Annual report year: 2004
**Bluetooth enables in-door mobile location services**

Several technologies can be applied to enable mobile location services, but most of them suffer from limited accuracy and availability. GPS can solve the problem of determining the location of users in most outdoor situations, but an end-user position inside a building cannot be pinpointed. Other mobile location techniques can also provide the user's position, but the accuracy is rather low. In order to improve the accuracy and make location-based services really attractive, existing approaches must be supplemented by new technologies. Wireless short-range technologies like Bluetooth could be candidates for solving these problems. This paper shows that Bluetooth can act as a key enabler of mobile location services in an in-door environment. The advantage of Bluetooth technology is, that it can provide rather precise location data inside a building or hotspot area, while the Bluetooth terminal is connected to the network. Hence, the users are able to obtain more detailed guidance and information on their sites of interest such as department stores, airports and other public areas.

**General information**

State: Published
Organisations: Department of Photonics Engineering
Authors: Thongthammachart, S. (Intern), Olesen, H. (Intern)
Pages: Session 8H, paper 3
Publication date: 2003

**Host publication information**

Title of host publication: Proceedings of the 57th IEEE Semiannual Vehicular Technology Conference : VTC'2003
Volume: 3
Publisher: IEEE
Main Research Area: Technical/natural sciences
Conference: 57th IEEE Semiannual Vehicular Technology Conference, Jeju, Korea, 01/01/2003
Electronic versions:
Thongthammachart.pdf

**Bibliographical note**

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Source: orbit
Source-ID: 23955
Publication: Research › Article in proceedings – Annual report year: 2003

**Indoor Mobile Location Services with IP-based micromobility mechanism**

**General information**

State: Published
Organisations: Department of Photonics Engineering
Authors: Thongthammachart, S. (Intern), Olesen, H. (Intern), Matsumoto, M. (Ekstern)
Publication date: 2003

**Host publication information**

Title of host publication: Proceedings of the 6th Wireless and Personal Multimedia Conference : WPMC'03
Volume: vol. 2, pp. V2-9 - V2-12
Main Research Area: Technical/natural sciences
Conference: 6th Wireless and Personal Multimedia Conference, Yokosuka, Japan, 01/01/2003
Source: orbit
Source-ID: 23956
Publication: Research › Article in proceedings – Annual report year: 2003

**Mobile location services over the next generation IP core network**

Mobile communication networks are evolving towards smaller cells, higher throughput, better security and provision of better services. Wireless short-range technologies, such as the WLAN 802.11 standards family and Bluetooth, are expected to play a major role in future networks. The mobile core network is changing from circuit-switched to packet-switched technology and evolving to an IP core network based on IPv6. The IP core network will allow all IP devices to be connected seamlessly. Due to the movement detection mechanism of Mobile IPv6, mobile terminals will periodically update their current point of attachment to the network and hence provide the current location of the mobile user automatically. The convergence of wireless short-range networks, mobile networks and Internet technology will provide the mobile user's location without any add-in equipment for location measurement. The concept of mobile location services over the next generation IP networks is described. We also discuss the effectiveness of the short-range wireless network regarding a mobile user's position inside buildings and hotspot areas.
New mobile systems and services in Europe, Japan and South Korea

General information
State: Published
Organisations: Department of Photonics Engineering
Authors: Henten, A. (Intern), Olesen, H. (Intern), Saugstrup, D. (Intern), Tan, S. (Intern)
Publication date: 2003

Host publication information
Title of host publication: The Stockholm Mobility Roundtable 2003
Volume: S.3.3.
Main Research Area: Technical/natural sciences
Conference: The Stockholm Mobility Roundtable 2003, Stockholm, 01/01/2003
Source: orbit
Source-ID: 23951
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

New mobile systems and services in Europe, Japan and South Korea

General information
State: Published
Organisations: Department of Photonics Engineering
Authors: Henten, A. (Intern), Olesen, H. (Intern), Saugstrup, D. (Intern), Tan, S. (Intern)
Publication date: 2003

Publication information
Place of publication: Kongens Lyngby, Denmark
Publisher: Technical University of Denmark, Center for Tele-Information
Original language: English

Series: CTI Working Papers
Number: 1395-8518
Main Research Area: Technical/natural sciences
Links:
http://www.cti.dtu.dk/publications/workingpaper.view.php?id=17400
Source: orbit
Source-ID: 90490
WLAN vs. UMTS: The European Scene

General information
State: Published
Organisations: Department of Photonics Engineering
Authors: Tan, S. (Intern), Saugstrup, D. (Intern), Olesen, H. (Intern)
Pages: 591-596
Publication date: 2003

Host publication information
Title of host publication: Proceedings of World Wireless Congress : WWC'04
Volume: CD-ROM
Main Research Area: Technical/natural sciences
Conference: WWC'04, San Francisco, 01/01/2004
Source: orbit
Source-ID: 23990
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Multimedia trends in Japan: Mobile Internet, digital TV and new information services

General information
State: Published
Organisations: Department of Informatics and Mathematical Modeling, CICT
Authors: Olesen, H. (Intern)
Number of pages: 22
Publication date: 2001

Publication information
Place of publication: Kongens Lyngby
Publisher: CTI, COM, DTU
Original language: English
Series: CTI Report
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 210256
Publication: Research - peer-review › Report – Annual report year: 2001

Interactive TV Market: Interactive services and telecommerce

General information
State: Published
Organisations: Department of Telecommunication
Authors: Dormann, C. (Intern), Beute, B. (Intern), Olesen, H. (Intern), Rose, M. (Intern)
Publication date: 1999

Publication information
Original language: English
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 175632
Publication: Research - peer-review › Report – Annual report year: 1999

White paper on Interactive TV

General information
State: Published
Organisations: Department of Telecommunication, Technical University of Denmark, Aalborg University
Authors: Rose, M. (Intern), Dormann, C. (Intern), Olesen, H. (Intern), Beute, B. (Ekstern), Jensen, J. F. (Ekstern)
Number of pages: 97
Publication date: 1999
A theoretical and experimental analysis of modulated laser fields and power spectra

A general theoretical description of modulated laser fields and power spectra for a current modulated single-mode laser is derived, taking into account both the intensity and frequency modulation (IM and FM) of the emitted light. The theory relies on an explicit knowledge of the modulus as well as the phase of the current-to-frequency modulation transfer function for the laser. Numerical examples are presented for sinusoidal, sawtooth, and square wave modulation considering broadband and narrowband FM cases with various amounts of IM. The IM causes a significant distortion of the pure FM spectrum, strongly dependent on the modulus and the phase of the current-to-frequency modulation transfer function. In general, it causes the FM spectrum to become asymmetrical with a change of the relative sideband level. The theoretical results have been confirmed experimentally by Fabry-Perot interferometer measurements on a temperature stabilized CSP injection laser. In the interpretation of the measurement results, the detailed characteristics of the interferometer, and the detection system are taken into account. The measurements include narrow-band and broad-band sinusoidal modulation as well as broad-band saw-tooth and square wave modulation.
Content Management in a Converging Media World

Department of Informatics and Mathematical Modeling
Period: 01/02/2005 → 25/03/2009
Number of participants: 6
Phd Student:
Butkus, Andrius (Intern)
Supervisor:
Tadayoni, Reza (Intern)
Main Supervisor:
Olesen, Henning (Intern)
Examiner:
Havn, Erling C. (Intern)
Arde, Anders (Intern)
David, Klaus (Ekstern)

My personal Adaptive Global NET

The MAGNET (My personal Adaptive Global NET) project has a vision related to Personal Networks and the support these will offer users in both professional and private environments, without being obtrusive and while safeguarding privacy and security. Personal Network will operate on top of any number of networks that exist for subscriber services or are composed in an ad-hoc manner. These networks are dynamic and diverse in composition, configuration and connectivity depending on time, place, preference and context, as well as available resources. As the name implies MAGNET has a very strong emphasis on user-centricity, personalization, adaptation, interoperability and interconnection of heterogeneous networks. This user-centric approach is called for, due to the widely accepted fact, that future applications and services need to be developed with the users in the driver's seat and in equal pace with the corresponding core- and radio networks. The goal of the MAGNET project is to enable commercially viable Personal Networks that are affordable, user-friendly and beneficial to all kinds of users in all aspects of their everyday life.

Furthermore the MAGNET project adopts a system approach that is expected to be one of the most important telecom-related growth markets of the future: Personal Area Networks. However, MAGNET does not treat Personal Area Networks in isolation: the concept is extended into that of a Personal Network by interconnecting Personal Area Networks via wirelessly accessed wide area networks (WANs). In addition to this, the MAGNET project builds upon significant advances in peer-to-peer networking, inter-working between different networking technologies, wireless technologies for Personal Networks and security aspects. Overall the MAGNET project is based on a techno and socio-economic perspective regarding future user requirements and business opportunities.
Henten, Anders (Intern)
Olesen, Henning (Intern)
Falch, Morten (Intern)
Tadayoni, Reza (Intern)
Serensen, Lene Tolstrup (Intern)
Schultz, Nette (Intern)
Christensen, Dan Saugstrup (Intern)
Jiang, Bo (Intern)

Financing sources
Source: Forsk. EU - Rammeprogram
Name of research programme: Forsk. EU - Rammeprogram
Amount: 2,739,203.00 Danish Kroner

Multimedia Services in Residential Broadband Networks
Department of Informatics and Mathematical Modeling
Period: 01/10/2003 → 03/09/2007
Number of participants: 6
Phd Student:
Sigurdsson, Halldor Matthias (Intern)
Supervisor:
Tadayoni, Reza (Intern)
Main Supervisor:
Olesen, Henning (Intern)
Examiner:
Henten, Anders (Intern)
Arnbak, Jens Christian (Ekstern)
Olsen, Borgar T. (Ekstern)

Financing sources
Source: Internal funding (public)
Name of research programme: Eksternt finansieret virksomhed
Project: PhD

Heterogeneous Networks and Services
Department of Photonics Engineering
Period: 01/02/2003 → 26/06/2006
Number of participants: 6
Phd Student:
Tan, Su-En (Intern)
Supervisor:
Olesen, Henning (Intern)
Main Supervisor:
Henten, Anders (Intern)
Examiner:
Tadayoni, Reza (Intern)
Dalum, Bent (Ekstern)
Körner, Ulf (Ekstern)

Financing sources
Source: Internal funding (public)
Name of research programme: Eksternt finansieret virksomhed
Project: PhD

Multimedia Services in Residential Broadband Network - Content Management and Presentation
Department of Photonics Engineering
Period: 01/02/2003 → 30/06/2003
Number of participants: 3
Phd Student:
Sun, Nina (Intern)
Supervisor:
Tadayoni, Reza (Intern)
Main Supervisor:
Olesen, Henning (Intern)

Financing sources
Source: Internal funding (public)
Name of research programme: Eksternt finansieret virksomhed
Project: PhD

Mobile Location Services for next Generation Wireless Networks
Department of Informatics and Mathematical Modeling
Period: 01/05/2002 → 02/07/2008
Number of participants: 5
Phd Student:
Schou, Saowanee (Intern)
Supervisor:
Serensen, Lene Tolstrup (Intern)
Main Supervisor:
Olesen, Henning (Intern)
Examiner:
Schultz, Nette (Intern)
Constantiou, Ioanna D. (Ekstern)

Financing sources
Source: Internal funding (public)
Name of research programme: DTU-lønnet stipendie
Project: PhD

Multimedia in the Home
Multimedia in the Home, a research consortium sponsored by Danish National Centre for IT Research, is investigating issues related to networked information appliances in the home. The emphasis is on user interface design, but the project also extends into the technical issues of information structure and programming in a distributed environment as well as the social issues of the interplay between user interface design and home organization and culture. The Multimedia in the Home web site (see below) provides information and results from the research projects carried out by the consortium. It also serves as a general resource for news and information related to media and homes in the future.

Department of Telecommunication
Period: 01/11/1999 → 31/12/2002
Number of participants: 4
Project participant:
Olesen, Henning (Intern)
Dormann, Claire (Intern)
Beute, Berco (Intern)

Project Manager, organisational:
Rose, Michael (Intern)

Starting small: Distributed multimedia on networked information appliances within the home
Department of Photonics Engineering
Period: 01/07/1999 → 13/03/2003
Number of participants: 5
Phd Student:
Beute, Berco (Intern)
Main Supervisor:
Multimedia in the Home
CIT funded project with Bang & Olufsen, Visionik and Univ. of Aalborg as partners. The project is investigating the role of networked information appliances and converged media in the future home environment.

Department of Telecommunication
Bang & Olufsen A/S
Visionik A/S
Aalborg University
Period: 01/08/1998 → 31/12/1999
Number of participants: 4
Project participant:
Beute, Berco (Intern)
Dormann, Claire (Intern)
Olesen, Henning (Intern)
Project Manager, organisational:
Rose, Michael (Intern)

Financing sources
Source: Unknown
Name of research programme: Ukendt
Amount: 2,700,000.00 Danish Kroner
Project