

## Background and Challenges

The co-ordination project “Multimedialer Arbeitsplatz der Zukunft” (multimedia workplace of the future – *MAP*) aims at the research into and the development of an multimedia, multi-modal and mobile working environment that actively assists professionals in his work independently from his whereabouts:

Intelligent software like mobile agents is envisioned to relieve the user of *MAP* from time-consuming routine work. He shall have full access offices facilities also in the field. New user-interfaces shall simplify the communication between machine and man e.g. through analysing facial expression and speech in- and output. The “multimedia workplace of the future” (*MAP*) shall adapt itself to the individual requirements of its (momentary) user and thus mutate from a simple tool to an personal assistant.

These new concepts can yield great profit by improving the working situation of the users of *MAP*. However, they also bring about legal problems and dangers for the user and third persons, as the enterprise itself, clients, or others. E.g. the *MAP* could be abused to monitor behaviour and human work performance or to generate user profiles. Without effective protection systems malicious host servers could spy out roaming agents, provide wrong or misleading information, or start unauthorised transactions.

The protection and promotion of the rights of users and other people concerned therefore must be taken into consideration at an early stage of planning and designing the *MAP*. A Law compatible technology design is an essential prerequisite for the acceptance of *MAP*.

## Objectives of the Research Project

Under these premises *provet* is doing research on the field of legal acceptability of the *MAP* within the framework of the co-ordination project. *Provet* actively accompanies the development of the *MAP* and analyses the legal aspects involved: The objectives of the research project are to define legal demands on the design of *MAP* from which a set of criteria for a responsible-minded and reliable technology design in general can be generated. Concrete proposals for technical or legal implementation shall balance colliding interests and avoid conflicts.

From today's point of view questions of acceptability concentrate on the following six subject areas:

- **Informational privacy**
  - Data protection by systems
  - Data protection by individuals
- **Self-determination of communication**
  - Balancing of the different interests to communicate
- **Legally binding effects**
  - Conclusion and proof of agreements via autonomous agents
- **Responsibility**
  - control of actions of (roaming) agents and conditions of responsibility
- **Confidentiality**
  - Protection of trade secrets and confidential information
- **Development of an comprehensive security infrastructure**
  - Essential prerequisites for the use of cryptography and digital signatures in the environment of *MAP*

## Subject of the Research Project

These subject areas will be on closer examination with regard to the two fields of application the *MAP* co-ordination project focuses on:

- The virtual secretary as an general generic office application
- A specific implementation of *MAP* as mobile assistant for planning and management in the construction industries.

Among others the following operations will be analysed:

- Organising schedules and travels by agents.
- Communication-management through agents
- The conclusion of contracts by agents
- The management and updating of construction plans in the stages of project planning, construction and facility management.

Already in the first year concrete application scenarios will be conceived in co-operation with the technological and practice-orientated project partners to specify the basic functions and requirements of *MAP*. These scenarios will serve as a basis for the development of concrete proposals for the technical and legal implementation which will be tested and further improved during the following two years in field tests and simulation studies.

**Promotion:** The *MAP* research project is supported by the German Federal Ministry of Economics and Technology.

**Duration:** April 1<sup>st</sup> 2000 to April 1<sup>st</sup> 2003.

## Publications

A. Roßnagel, Das Recht auf (tele-) kommunikative Selbstbestimmung, Kritische Justiz 1990, 261

A. Roßnagel, Einführung zum Recht der Multimediadienste, in: ders. (Hrsg.): Recht der Multimediadienste, Kommentar zum IuKDG und zum MDStV, München 1999.

A. Roßnagel, Der europäische Standard: Die elektronische Signatur der europäischen Richtlinie, in: Geis, I. (Hrsg.), Die digitale Signatur – eine Sicherheitstechnik für die Informationsgesellschaft, Eschborn 2000, 115 ff.

A. Roßnagel, Recht der Multimediadienste 1998/99, Neue Zeitschrift für Verwaltungsrecht (NVwZ), 2000, 266 ff.

A. Roßnagel, Digitale Signaturen im europäischen elektronischen Rechtsverkehr, Kommunikation und Recht (K&R), 3. Jg. (2000), 313 ff.

A. Roßnagel, Auf dem Weg zu neuen Signaturregelungen, MultiMedia & Recht (MMR) 8/2000.

A. Roßnagel/R. Haux/W. Herzog (Hrsg.), Mobile und sichere Kommunikation im Gesundheitswesen, Braunschweig 1999.

A. Roßnagel/P. Scholz: Datenschutz durch Anonymität und Pseudonymität, MultiMedia & Recht (MMR) 10/2000.

A. Roßnagel/U. Schroeder: Multimedia in immissionsschutzrechtlichen Genehmigungsverfahren, Köln 1999.

G. Spindler, Kommentierung von § 5 TDG, und Ukrow, Kommentierung von § 5 MDStV, in: A. Roßnagel (Hrsg.): Recht der Multimediadienste, Kommentar zum IuKDG und zum MD-StV, München 1999.

## Project partners

The following enterprises and institutions are partners in the MAP- co-ordination project:

Alcatel SEL AG; ATIP; CAPCom GmbH; c-cop forschungszentrum für kommunikation und planung gmbh; Forum Soziale Technikgestaltung; Fraunhofer Gesellschaft – Institut für Graphische Datenverarbeitung; ISF e.V.; mb SoftTech GmbH; MedCom GmbH; Nemetschek AG; Siemens AG; SMI Cognitive Software GmbH; TU Darmstadt - Fachgebiet Graphisch-Interaktive Systeme; TU Dresden - Institut für Pädagogische Psychologie und Entwicklungspsychologie; Universität GH Kassel Fachbereich 10: Projektgruppe für verfassungsverträgliche Technikgestaltung; Wenk Products Med. Datentechnik GmbH; Zentrum für Graphische Datenverarbeitung e.V.; Zentrum für Neuroinformatik GmbH

<http://www.map21.de>

The research project „Rechtliche Akzeptabilität“ is realised under the direction of Prof. Dr. A. Roßnagel by the Project Group Constitution Compatible Technology Design (*provet*):

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Project Group Constitution  
Compatible Technology Design (provet)  
University of Kassel

**Legal Aspects of  
Designing the  
“Multimedia  
Workplace of the  
Future”**