



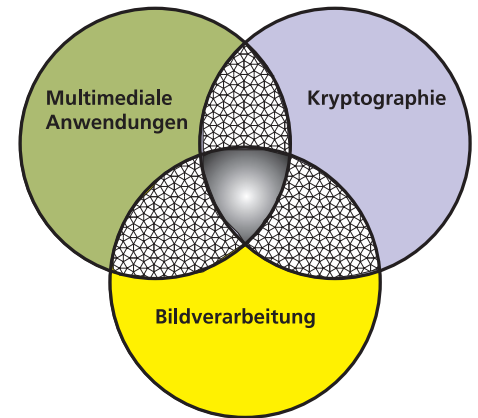
# Fraunhofer Institut Graphische Datenverarbeitung

## Security Technology

**Department**  
Security Technology

**Head of Department**  
Alexander Nouak

The Fraunhofer-IGD's department for Security Technology is working on the realization of information assurance and security services (confidentiality, integrity, reliability, availability, etc.) and their integration into information and communication systems. Special interests are the development of security mechanisms and protocols adapted to the particular requirements of multimedia communications and co-operation including access control, copyright protection and management for multimedia data.



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### Biometrics

There are three possibilities for user authentication: knowledge, ownership or biometric features. The knowledge based identification uses a common secret like a password or a PIN, the authentication via ownership takes place upon presentation of a specific item, e.g. a key or a card. The biometric recognition stands out from this, because it builds a tighter tie to the person. A biometric feature like a fingerprint or the picture of the iris cannot be forgotten, displaced or passed on.

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### Digital Watermarks

The increasing availability and the distribution of multimedia data over the World Wide Web generates the demand for security of copyrights on multimedia data. This in particular before the background that by the digital representation of personal mental creations in the

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sense of the copyright law (UrhG) original and copy of a multimedia work (picture, video, audio etc..) are not distinguishable. Copies can be provided at small expenditure, processed and manipulated further. When technical measure offers the procedure of the digital water-marks remedy, which make a not detectable and durable marking possible of digital data, with whose assistance an abuse of in copyright matters protected data can be uncovered. The department for safety technology developed video and 3D-Daten, which become fair the requirements like the preservation of the quality of the marked data and the robustness of the embedded digital water-marks in this connection algorithms for different data types such as audio.

### Mobile Security

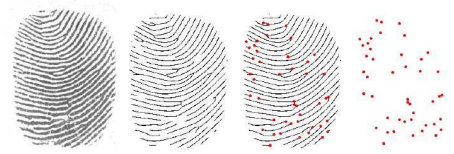
Mobility and ubiquitous computing are key technologies of the decade. But protection of mobile systems is not comparable with protection of stationary architectures. The mobility aspect implies a lot of new threats and attacks that have to be covered in a security concepts and protocols. We focus on security solution for portable devices, mobile software agents, platforms for access to multimedia data and services, as well as secure applications for distributed systems. Security of peer-to-peer systems and distributed data storages completes our portfolio.

### Information Assurance

Information Assurance guarantees that an entity obtains required information in such a way that a well-defined set of constraints is met. Constraints may include timeliness, confidentiality, integrity, and availability as well as additional attributes such as authenticity and non-repudiability. The systems used for providing the required information must be capable of providing adequate mechanisms for reliability, survivability, and recoverability.

### Other Projects

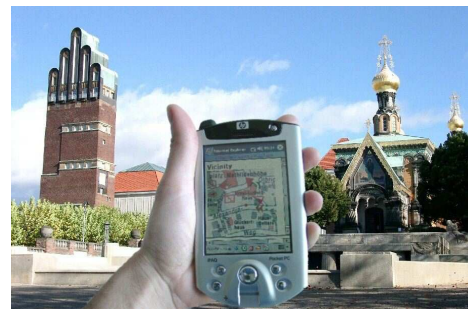
Apart from our main topics there are several other objects we cope with and offer various services to check and improve IT Security in enterprises.



Biometrics



Digital Watermarks



Mobile Security