Background and Mission

The OASIS group studies how software and information systems can best serve people and organizations to perform knowledge work and other activities. The group conducts theoretically sound constructive-empirical research on global information systems, software and businesses, based on a view that markets and market actors revolve around electronically supported value networks that produce, deliver and consume value. This view puts emphasis on business processes and relationships, and on the impact of information and communication technologies for these. Current key research interests include Web information systems design and evaluation, mobile and electronic commerce, knowledge management, software business, information security, and information society development. Researchers come from interrelated research areas to be able to study the network phenomena: information systems, digital media, business, marketing, and social sciences. Overall, the research group consists of researchers from the Department of Information Processing Science, the Department of Marketing, and the Department of History.

The main research tracks are:

(1) Hypertext functionality, the Web and the mobile. This research track investigates how to design and evaluate Web information systems and services. It covers mobile applications, in particular when they have been developed as mobile aware Web information systems, as well as the integration of the hypertext functionality into other software systems.

(2) User and consumer behavior. The focus of this research track is consumer perceptions and attitudes towards the Web and wireless offerings, and their behavior in these environments. It also tackles what companies will eventually produce and offer.

(3) Knowledge management. The research themes include organizational knowledge creation, and management, its interlinkage with transformational learning, as well as inter-organizational strategic networks.

(4) Network analysis. This research track tackles Finland and the mobile business, the impact of technology pioneers’ visions on the recent developments of the information society, and the historical-qualitative analysis and critical evaluation of source documents related to the information society development in the U.S., the European Union and Finland.

(5) Information security. The main research themes here focus on end-user awareness of security risk management, the integration of security aspects into traditional and agile development processes, and the ethical aspects of information systems security.

(6) Software business. The main themes in this research track include the emergence of product and service focused software companies, and in-house business development and entrepreneurship within the software field.

Scientific Progress

During 2004 the main scientific results were:

• We have continued longitudinal data gathering of Web information systems and services provided by large Finnish companies. We have also studied their usability and usefulness by capturing the Web and mobile user experiences through the flow model and through the widely applied technology acceptance models. One of the major ideas that we build upon is developing an integrative approach to designing and also developing so called mobile aware Web information systems.

• We have been able to deepen the understanding of Web and mobile consumer behavior in online environments. On the one hand, we have gained information on consumer needs and attitudes with respect to online services through surveys conducted in actual Web and mobile commerce environments. On the other hand, we have focused on analyzing the effects of different navigational features of the Web and mobile interfaces on consumer purchasing behavior. We have put special emphasis on mobile marketing, e.g. mobile banking and customer relationship management.
• We have developed a conceptual framework for the creation and management of organizational knowledge.
• We have launched a new research track on persuasive technology to investigate how to build credible information technologies and applications that help and motivate knowledge workers to do their job better. This is a joint research effort with Stanford University.

**Exploitation of Results**

The research results produced are directly utilized by companies which develop Web and mobile services. The results concerning Web functionalities, navigational behavior and user experience have been found to be very useful by companies involved in designing human-media interaction. The research on business networks helps business alliances to enhance their business models and to achieve longer-term success. This knowledge also plays an important role for regional development. The produced research results are also transferred into industry through teaching at doctoral, graduate and undergraduate studies. To achieve this, the group has exploited its research results by creating and delivering new courses in such areas as digital media, entrepreneurship, and marketing, and by generating new research projects. The group has also helped develop business models for local software companies.

**Future Goals**

The goal of the OASIS group is to strengthen its status as a world-class research team in the group’s key research areas. In doing so, we emphasize scientifically rigorous research with publications of very high quality, knowledge transfer to industry through doctoral and post-doctoral education, our international research network, and new research innovations, followed by their commercialization.

Since the research topics described above are closely interconnected, a multi-paradigmatic research approach is emphasized. True research collaboration has taken and will take place between the different group members through joint projects and publications. Research cooperation will also be continued with other Infotech Oulu research groups and national research institutes.

We seek to build ever deeper research collaboration with overseas world-class research sites, and we put special emphasis on international cooperation through visits abroad and visits by foreign researchers to the group. In addition to university courses and cooperation with other national graduate programs, this will play an important role in educating graduate students.

**Personnel**

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**External Funding**

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**Doctoral Theses**


**Selected Publications**


