



QOE



Quality of Experience

Currently, broadband and wireless communication infrastructures enable access to a myriad of information and multimedia services from almost anywhere at anytime. At the same time users are faced with a multitude of coding, security and distribution methods.



SUPPORT AND RESEARCH

The Quality of Experience concept is trying to match the user quality expectations with the technology driven and network related quality of service. Indeed, although the “intelligence”, heterogeneity, performance and flexibility offered by the infrastructure, wireless communication technology, the terminals, the methods for security and content representation techniques seem to be ever increasing, the cost and energy budgets for nomadic use are most often still very limited. To be able to meet these expectations, the different elements of the multimedia chain can no longer be optimized individually, but have to be considered end-to-end.

The project objective

This project aims to study and develop techniques that are able to match user quality expectations in heterogeneous environments and a secure usage context where resources (i.e. bandwidth, battery power) are limited and the environment is dynamic in nature (e.g., fluctuating wireless link reliability). The ultimate goal is developing secure, user centric methods that improve the state of the art in QoE for heterogeneous environments. Advanced common usage scenarios and demonstrations are used.

Technical challenges

- How to achieve interoperable transparent access to (distributed) advanced multimedia content by shielding users from network and terminal installation, management and implementation issues?
- What is the impact of incorporating end-to-end security as an essential trusted component on the multimedia access and distribution chain? Security should indeed be pervasive, it is not an “add-on” component.
- Relation between the user and community contexts and the technology: different user settings, analysis and development of novel business models and legal and regulatory frameworks.

3 main research topics

- Network and End-to-end QoE co-optimization: study and develop methods that enable the cost efficient delivery of interactive multimedia services to wireless terminals by jointly addressing quality/resource trade-offs in the fields of infrastructure.
- Terminal and Pervasive Security: for each feature the optimal location needs to be investigated. This project aims to ensure that the architecture and the platform can deliver a trusted service.
- User centric aspects: quality of experience within different user settings. These settings are based on a research framework combining several domains of everyday life (social contacts, media use and use of new ICT-devices, organization of leisure time and labour) on three levels (home, work and mobile context). In this framework the actual settings, user scenarios and future trends will be investigated. From a regulatory perspective, Quality of Experience will largely depend on how new regulatory frameworks, formulated at the different levels within the EU, will treat new networks and services. This project not only examines existing regulation in order to identify possible legal barriers for an improved Quality of Experience, but also further knowledge on possible future legal frameworks supporting services in an economically and technologically converged ICT environment.

RESEARCH SUBJECT

This project is part of the
IBBT research subject
Mobility&Logistics

Sustainable
Mobility

Looking for a modern mobility system that allows everyone
to travel how and anywhere they want.

IBBT RESEARCH GROUPS

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