interpersonal relations: As personal interaction is increasingly mediated by technological means such as mobile telephony, e-mail, instant messaging and social networking platforms, technology is interlacing into the micro-fabric of personal links at the core of society. Thus, the hypothesis of a *micro-social Digital Divide* holds that individuals are marginalized within technologically connected social networks due to a deficit in access to and in use of these key technologies.

METHODOLOGY

The study presented tests and explores this hypothesis in the context of mobile telephone appropriation among teenagers. It was realized in 16 school classes in Germany (~400 students aged 13 to 16). Methodologically, the study goes beyond a classical statistic analysis of survey data in three points:

- *Social Network Analysis* provides the depth of focus necessary to analyze interpersonal links, permitting to distinguish group structures and to evaluate the degree and quality of individual actors' integration.
- A *longitudinal design* traces the mutual shaping between social structure and mobile telephone use over time (1st wave 2006; 2nd wave 2007).
- A *qualitative analysis* of responses to some supplementary open questions allows to reconstruct the individual perspective of both users and non-users on the mobile telephone's social impacts.

RESULTS

Results from Social Network Analysis indicate a first and a second level micro-social divide:

- While the size of users' and non-users' friendship networks is equal, both groups stay amongst themselves: Non-users make up more than 30% of non-users' best friends, but less than 10 % of users' nominees.
- A second level Digital Divide emerges between those using the mobile telephone only for text messaging and those communicating through more sophisticated - and more expensive - channels (exchange of ringtones, pictures, videos etc.) Thus, even a complete diffusion of the mobile telephone will not solve the problem, because ever new cutting-edge functionalities embedded in the technology will separate users from non-users.

However, other indicators put these findings into perspective:

- The longitudinal data show that getting a new mobile telephone between the first and the second wave does not lead to an increase in social integration; nor does loosing one provoke isolation.
  - A scale of subjectively perceived social integration indicates that overall, mobile have-nots are not less satisfied with their situation.
  - In their responses to open questions, they mostly describe their non-use as a deliberate choice or a parental decision they agree with.

DISCUSSION

These findings lead to a concluding discussion of the micro-social Digital Divide's present impact and future evolution. While today the phenomenon can best be observed among adolescents, it will arguably attain global importance as technologically mediated personal networks further penetrate society.

Emerging integration challenges of 'users' versus 'technology': a multidisciplinary research flow drawing on 'user-centered design'

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THE LITERATURE DEALING with the impact of technology on society and vice versa consists of a wide range of theoretical frameworks. In this respect, the 'technological determinism' perspective can be regarded as a very influential theory on technology adoption. Challenged by numerous other traditions, such as the 'Social Shaping of Technology' approach, the notion of technological determinism refers to the impact of technology - and more concretely new technologies - on society. In this 'technology-push' view, technology is considered as the prime mover of transformations: observed changes in society are 'caused by' or 'the effect of' technological developments. As a result, the adoption and use of technologies follow a predictable path, largely beyond other influences (social, cultural, economical, etc.).

Although this deterministic perspective remains the dominant view in some fields, it has been widely criticized by other theoretical approaches, which put a clear emphasis on the negotiation process between societal and technological forces. These forces have the potential to influence the emergence, adoption and use of new technologies (Haddon, 2005: 4). As a result, the importance of the societal and rather contextual factors has already been explored and acknowledged by many authors. Media scholars thus increasingly tend to take a 'social constructivist' approach. This view focuses on the *"dynamic relationship between technology, social actors and contextual factors"* (Domingo, 2006: 96) and it is also supported in the perspective of 'interactionism', which Boczkowski (2004: 255) aptly describes as *"social shaping and diffusionism being so intimately tied that they should be seen as the two sides of the same innovation coin."*

Moreover, scholars that aim to grasp the emergence, adoption and use of new ICTs in different contexts increasingly constitute a 'new' field of study, uniting insights and knowledge from various disciplines (social sciences, usability, design, information technology etc.). In this respect, more and more authors and practitioners believe that the user has a crucial role to play in technology innovation and development processes. By means of a continuous interaction with end-users throughout the New Product Development process, a thorough insight in end users' expectations, needs and experiences should be gained, as it is an important determinant for the success or failure of new technologies. Despite this evolution towards a more pull-based and user-driven mentality, it still remains difficult to create a meaningful synergy between user and technology in the field of ICT development.

Our paper will focus on the above mentioned integration challenge, by drawing on the relevant literature and our own experiences from multidisciplinary research projects. By following an iterative research process, a synergy between technological and social research can be created, allowing the developed technology to be adjusted to its larger social context. In order to gain a profound understanding of the contextual factors, a user-centered design approach is pushed forward. Technological optimization can thus be accomplished in such a way that the user's wants and needs are taken into account, instead of merely forcing the user to change to what has been developed.

As a means to complement the literature, this paper will focus on our own experiences from two interdisciplinary research projects2: CoCoMedia (Collaborative Community Media) and RoMAS (Research on Mobile Applications and Services). We will particularly discuss the pursued flow and the ensuing research challenges.

2 CoCoMedia and RoMAS are both IBBT-projects. IBBT is the

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Interdisciplinary Institute for BroadBand Technology, founded by the Flemish government in 2004. http://www.ibbt.be

Maturing Interactivity in Web 2.0: Socio-Political Implications and Policy Challenges

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THE ROLE OF *agency* is both rising and moving to centre stage thanks to the empowering structural framework of the Internet and the enabling facilities of the web. The maturing of the learning curve in web-use allows for distinctive shifts in the nature of Web activity, interactivity and participation. A lot more users take fuller advantage of the intrinsically enabling qualities and the options of the Internet. Meanwhile, new leaps in innovative ingenuity contribute to communal sharing of new 'intellectual technology' assets and on-line transacting methods which release new energies and synergies. These processes further enhance collective, multilateral and frontierless forms of interactivity, which compound further the benefits, but also augment the risks of the global network society.

The combination of these elements forges transformations both in the scenery and in the plays set and produced in the virtual domain. Large scale socio-economic and political shifts loom large. In this paper I aim to propose an analytical framework for the changes observed on Web 2.0 and an explanatory grid for some of the reasons for the remarkable change in web-use between the current and previous decades. I discuss, firstly, some of the most distinctive manifestations of what is comprised in web 2.0 and subsequently, elaborate on their economic and socio-political implications. Moreover, I overview the currently developing policy approaches and measures (f. ex. in the European Union), notably, in regard of *digital media literacy* and policy attempts towards creating the premises for a *safer Internet*. The overall goal of the paper is, on the one hand, to chart and profile the swell of web 2.0 activity and interactivity and to show up the rising role of agency, while, on the other hand, to map corresponding policy trends and to evaluate them and examine their relevance and implementability.

Technology Designs, Markets and Issues of Consumer Usage Enforcement inside – Constructing users as enemies

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THE POPULAR CONCEPTION of technological development is linear: the subsequent version of an existing technology always gives users new options, new features and new ways of using the artifact. In that sense, launching a new version of a technology is usually perceived as progress. But is it?

Years after first introduced, companies are implementing sub-mechanisms into their products that prohibit the interpretation and usage of technologies in ways that do not stand with the "correct use" or the "acceptable practice".

For example, in January 2004 "Adobe" admitted that it had integrated a new code into its graphical editing software, "Photoshop". The code prevents the scanning of money bills and editing them. A user who tries to do so receives an error message warning him that he is executing an "unauthorized processing of banknote images". Another example is Intelligent Speed Adaptation (or ISA). Countries around Europe are currently conducting tests of this new mechanism which is to be installed into vehicles. The mechanism does not allow the driver to exceed a specified speed limit. Finally, DRM (Digital Right Management) technologies are being implemented in music CDs in order to withhold the possibility of converting musical tracks into digital files. These are only a few examples.

The introduction of such a *reducing mechanism* is a *de-featuring act:* a feature of an existing technology is being neutralized, deprived or blocked by a mechanism that reduces or delimits the range of legitimate use.

The reducing mechanism is a counter-measure that is being deployed in order to ostracize a specific group of users -and hence *users that are deemed enemies*. This special, hardly acknowledged social group is constantly redefining the artifact customizing it while ascribing it with new symbolic meanings. Perceived as saboteurs, encouraging rebellion against the programs of action inscribed into the artifact, the enemy users are the target of exclusion from the larger legitimate user group.

Using SCOT (Social Construction of Technology) methodology, several *defeature events* will be presented as well as the motivation and rationale that leads to such aggressive technological design. It will be demonstrated that the gap between the desirable use and actual use opens a unique opportunity to uncover the social work that takes place behind the scenes, the strategies implemented by different social groups (e.g. the state, the technology manufactures, regulation agencies, experts etc.) and the ways in which designers of technology reacts to new and subversive usages of technology.

In that sense, the reducing mechanism facilitates a new theoretical concept: *law/enforcement*. It acts as a lawmaker that decides what is legitimate and what is not and correspondingly functions as an enforcement agency – which placed inside the technology – in order to prevent users from breaking the law, rather than punishing them post factum.

Making the online complementary to the offline: social requirements to foster the 'sense of community'

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THE INTERNET IS increasingly evolving from a distributed network to a more (interrelated) social network. Regardless of the fact how true this observation is, fact is that an increasing amount of people get engaged in social network sites. With the advent of a wide range of web 2.0 applications like a.o. Blogger, Facebook , the internet is becoming a place where the threshold for people and communities to become part of the so-called social web has been lowered substantially.

Yet, when designing applications, there are everyday life characteristics of communities that need more attention. The latter refers to the social requirements. Everyone is aware of the importance of user requirements that focus on the individual level, but when designing applications for communities, also the (pre-existing) social relations between the community members are essential. This influences the way people interact with technologies and applications and it is important for the "sense of belonging". A community is more then a collection of individuals.

Our research in two projects in Flanders (Belgium) has helped to define the concept of communities as well as of social requirements, in order to find out the role they play in relation to communities and how they are embedded in the application to be developed. First we are looking at the difference between networks and communities. What are the defining characteristics of these two concepts? How do people communicate and interact in communities? It is important to outline those specific practices within communities, to be able develop the right tools. Based on a liter-