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In Search of Social Television	1
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This chapter provides an introduction to and overview of social television, in an attempt to find the real meaning of the term. It explores the history and current state of social television, looks at a number of examples of Social TV systems and their features, compares different definitions of the term, and outlines dimensions of design that have been used to organize the topic. The author argues that historically the notion of social television is intimately bound up with television itself, and that the two remain difficult to separate even today. The convergence of content and communication to create social media is turning Social TV into a reality and in the process turning television into what it was originally intended to be.

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Conventional broadcasting has the impressive power to create shared experiences over huge audiences or even entire populations. The sharing of such experiences deepens our sense of connectedness with others, which in turn arguably leads to positive effects in society as a whole. Interactive television and related technologies have the potential to further collapse distance and broaden these positive effects

of broadcasting—enabling new modes of communication, providing an enhanced sense of community, offering opportunities to meet new people, and allowing us to build relationships in new ways. This chapter surveys a number of research projects undertaken in the Human Connectedness group at Media Lab Europe and at Distance Lab that address these themes, as a way to suggest new trends at the intersection of television, networking, and computing.

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Interactive TV Together: An Open Service Infrastructure for Enhancing

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One of the challenges in the world of interactive digital TV is to improve the user experience facilitated by these services. In this chapter, the authors discuss their approach towards reaching this goal, which is to integrate community and interactivity services (“Web 2.0”-style) of third-party providers from outside the world of IPTV into an IPTV service offering (e.g., services on the public Internet, and services offered by telco operators and end-users). The foundation of our work is an open service infrastructure that facilitates this form of integration. The authors discuss the set of service enablers that make up the infrastructure and present a working prototype implementation that serves as a proof of concept of their approach. They also outline four possible scenarios for the future of IPTV, which are based on a trend analysis and form the basis for developing business models made possible by our infrastructure.

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Social TV from a Computer-Supported Cooperative Work Perspective 50

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Social TV provides co-located and geographically distributed TV spectators with facilities for jointly watching television and for social interaction. In this chapter the authors discuss Social TV from a computer-supported cooperative work perspective by introducing Social TV, presenting computer-supported cooperative work and its requirements for technological support of social interaction, and by identifying key issues of Social TV concepts and applications—thereby particularly focussing on group awareness, communication, and seamless integration. In particular, this chapter aims to provide users and developers of Social TV systems with concepts and base technology from computer-supported cooperative work and ubiquitous computing as a basis of advanced Social TV.

Chapter V

Television Content Enrichment and Sharing: The Ambulant Annotator 67

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This chapter reports on the Ambulant Annotator, a middleware extension for Personal Digital Recorders (PDR), in the form of a lightweight authoring tool, which allows the viewer to personalize television content and share it with others. Traditionally, social interactive television research has focused on the provision of synchronous communication mechanisms between distributed peers in the form of direct communication channels (text or audio chats) or distributed control (joint television watching experience). This chapter considers a broader approach that enhances the connectedness between users by providing video sharing capabilities. The Ambulant Annotator empowers viewer-side enrichment of multimedia content in the form of video fragmentation, fragments annotation and enrichment. Once the user has created his personalized enriched version of the video content, the Ambulant Annotator provides mechanisms to share it with his social network by using asynchronous communication technologies. The video manipulation mechanisms presented in this chapter does not modify the original video material, but are encoded as separate overlays in such a way that Digital Rights Management (DRM) restrictions on content reuse are respected.

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Sociability Heuristics for Evaluating Social Interactive Television Systems 78

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In this chapter, the author introduces 12 heuristics for evaluating the sociability of social interactive television systems. He first introduce the social uses of television, documented by many scholars in media studies, as well as the relatively new concept of sociability in new technologies. He then explain how the heuristics are based on a thorough analysis of several user studies the author performed with several social interactive television systems, as well as of literature that reports lab studies and field

studies with such systems. Finally, each heuristic is presented and explained in more detail, along with some more specific guidelines. Geerts hopes these heuristics will enable designers and evaluators of social interactive television systems to make sure they support the social uses of television and create sociable systems.

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This chapter seeks to evaluate the attitudes and practices of media participation amongst young Portuguese aged between 12-18 years, with a particular focus on content creation and sharing through media and information and communication technologies (ICT). Audience participation in television and internet will be addressed, having as basis the results and findings of three empirical studies integrated in the PhD research project of the author, namely: an ethnographical study about the usage of media and ICT usage by 10 families conducted at their own domestic contexts, a quantitative survey about the usage of media and ICT by young people aged 12-18 with a total of 962 respondents and, finally, an evaluation study of a participatory media format which was tested and evaluated by 77 teenagers from three different schools. The main objective is to better understand the attitudes and behaviors of young people in Portugal towards the practices of creation and sharing digital content through media and ICT, providing empirical data about the range and frequency of experiences of content creation by this specific population, as well as their interest and adherence to participatory media formats.

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Applications for interactive TV (iTV) addressing social aspects will only be successful, if the intended user and user community is taken into account during the development process. Existing methods for evaluating usability and user experience aspects of social interactive TV applications are not really enough to address and focus on the broad range of factors related to social user experience. This chapter presents various forms of user-centered methods enhancing usability and user experience aspects of interactive TV applications in general. Giving an overview on currently used user-centered methods to enhance and evaluate usability and user experience, some selected methods are presented for early and late development stages, reflecting the peculiarities stemming from the non-traditional environment the applications are used in—the home. The chapter will show how the methods can be adopted to focus more precisely on social aspects, especially social user experience. It enables the reader to get an overview on currently used user-centered methods in interactive TV and to learn about benefits and shortcomings of these methods as well as how to choose appropriate methods for their own purposes.

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Television and the Internet have proven to be a popular combination for both broadcasters and viewers. Because of this popularity they are increasingly facing the consequences of central bottlenecks, which could be overcome by taking a different approach: Peer-to-Peer (P2P) technology. However, P2P systems can only be successful with as much cooperation among as many users as possible. This chapter explains how this cooperation is hard to enforce, and how inducing it might be more successful. Relevant psychological theories are listed that can be used to induce this user cooperation, along with possible applications of cooperation inducing mechanisms for Peer-to-Peer Television (P2P-TV) systems. The authors aim to provide practical criteria along which these mechanisms can be evaluated on their contribution to social activity in P2P-TV systems.

Section III

Making it Work: Social Television Systems

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This chapter presents results from an ongoing social television project, in the context of other research in the field. The authors give a detailed description of the STV prototype used in their research, and summarize their studies, which provide the findings explained in the rest of the chapter. Three major research focuses are identified, namely evaluation and validation of Social TV systems, communication modality comparison, and detailed observation of user behaviors. Based on the findings in these areas, the authors list three major open questions and challenges for the field: multi-user support, new equipment requirements, and the creation of distinct and unique social television experiences. Finally, the chapter suggests that the emphasis within social television may be moving from research to design, implementation and deployment.

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ConnectTV: Share the Experience	187
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The combination of content and communication has proven to be a powerful and successful concept. Many online services not only allow for consumption of content, but also give their users the possibility to exchange views about the content among each other. YouTube for instance, not only allows its visitors to watch movie clips, but also to discuss them, to review them, and to send recommendations about them. Electronic Program Guides on the web more and more offer social functionality in addition to listing television programs; thus integrating content and communication. Users can discuss their favorite TV shows in forums that are organized around TV programs. ConnecTV is a social interactive TV service that combines communication with watching television. It makes watching TV a social activity, and aims to give its users the feeling of ‘watching together’. ConnecTV was developed in the B@Home research project (B@Home). Among the project’s goals was an investigation of the type of services that will become feasible when ‘fiber to the home’ is widely introduced, giving households broadband internet connections with significantly more capacity than today. Although the functional design of ConnecTV was carried out in close cooperation with experts from the media industry, the real test for end-user acceptance would be a field trial with the service. In addition, a trial would reveal the effects on the users’ viewing behavior, and would give insight in how to make a positive business case around ConnecTV. In 2007 ConnecTV was implemented and a field trial was held in about 50 households in the town of Enschede, in The Netherlands. In literature, many systems have been proposed that combine social networks with consuming content in general, or with watching TV specifically. Examples are AmigoTV (Coppens, Trappeniers, & Godon, 2006), 2BeOn (Abreu, Almeida, & Branco, 2001), SocialTV (Harboe, Massey, & Metcalf, 2006), ChaT.V. (Fink, Covell, & Baluja, 2006) and CollaboraTV (Harrison & Amento, 2007). Although some of ConnecTV’s functionality can be found in these services as well, other functions (like following a buddy, or switching to the most popular channel) are new. The main contribution of the research described in this chapter though lays in the field trial of ConnecTV. With some of the above-mentioned social TV services field trials have been performed (e.g. (Harboe, Massey, & Metcalf, 2006)), but they were limited in size (typically two or three groups), and did not use extensive logging of user activities. To our knowledge, a field trial of a social TV service at the scale of the ConnecTV field trial with such extensive logging, surveys and experience sampling has not been performed before. This chapter starts with explaining the functionality of ConnecTV and its implementation. The main focus of this chapter is the field trial: the set-up, the research questions, the research methodology and the results of the field trial are discussed extensively. The chapter concludes with a description of the most viable approaches for a positive business case, and gives an outline for future work.

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With the advent of digital video recorders and video-on-demand services, the way in which we consume media is undergoing a fundamental change. People today are less likely to watch shows at the same time, let alone the same place. As a result, television viewing which was once a social activity has been reduced to a passive, isolated experience. CollaboraTV was designed to address this new mode of television viewing by directly supporting asynchronous communication. We demonstrated its ability to support this communal viewing experience through a lab study and a month-long field study. Our studies show that users understand and appreciate the utility of asynchronous interaction, are enthusiastic about CollaboraTV's engaging social communication primitives and value implicit show recommendations from friends. Our results both provide a compelling demonstration of a social television system and raise new challenges for social television communication modalities.

Chapter XIII

From 2BeOn Results to New Media Challenges for Social (i)TV 222

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This chapter focuses on traditional and emergent challenges for the Social (i)TV area focusing on explaining the development and evaluation of one of the first Social iTV prototypes and looking at the challenges new media is introducing to this research field. The authors begin by explaining the conceptualization, development and evaluation process of the 2BeOn system and continue with the most important results from it's evaluation with a particular focus on the results that can be important when developing any Social iTV platform. In the last part of the chapter recent developments in the broadcast of TV and Audiovisual content, namely considering the Internet as a medium, are addressed. In this scope authors propose a categorization of emergent online distribution platforms along with a set of social activities users perform on those platforms. Taking in consideration some of the challenges surrounding the presented scenario the chapter ends with the conceptualization of UMCA, a system that could increase social interaction activities performed during the consumption of online AV/TV content.

Section IV

Thinking Out-of-the-Box: Social TV on Large Screens, Mobile Devices and the Web

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Examining the Roles of Mobility in Social TV 244

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Mobile TVs have been available for many years, without ever becoming very popular. Moreover, the first wave of research has been mostly concerned with technology and standards, which are necessary to ensure interoperability and market acceptance. Although, there has been a significant body of computer supported co-operative work (CSCW) and mobile human-computer interaction (HCI) research findings, there is limited investigation in the context of leisure activities, such as TV. In this chapter, the author proposes three concepts that drive the main paths for research and practice in mobile and social TV: (1) Mobile TV as a content format, (2) Mobile TV as user behavior and (3) Mobile TV as interaction

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In this chapter the authors present a field study of BBC Big Screens Public Space Broadcasting initiative. Under this initiative, large screens have been installed in several urban locations across the United Kingdom and used to screen a range of television content and interactive applications. The chapter discusses a number of different findings and themes. These include different types of screen use such as viewing of standard television content, event-based use of the screens and interactive use of the screen. The chapter then goes on to discuss the content in relationship to its placement in a particular local context. Following this, the chapter looks at how architectural features shape the way the screens are used and impact on audience behaviour. Finally the authors explore issues of health and safety that impact on content choice and pragmatics of scheduling.

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This chapter details a real world case study of a synchronized video-sharing tool, Zync. Zync was integrated into a popular instant messenger program that enables a virtual co-present “watch together” and “on-the-couch” viewing experience. Users can watch videos together in sync with each others, while they chat via text messages. Using logged data from 2,814 users, three types of people who share videos via IM are identified, as well as the different kinds of videos commonly shared and how users shared these videos with their IM friends. The authors follow up on these trends with user studies and interviews, which further explains how and why people are motivated to share videos. Based on their findings, the authors identify and define future design areas for synchronized sharing of video; to help keep people connected through media.

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<i>Justin D. Weisz, Carnegie Mellon University, USA</i>	

Online video is one of the Internet’s most popular services. In addition to entertainment, it can provide a social experience. This chapter describes several design decisions related to incorporating a live chat feature alongside online video, and how these decisions could influence the entertainment and social dimensions of the viewing experience. Two laboratory studies explore issues of distraction, entertainment and sociability when integrating live chat with online video. Surprisingly, these studies show that despite being distracting, chat with video can be enjoyable and sociable. Researchers and practitioners

need to explore the generality of this finding both for different genres of content and interaction media and for small and large viewing audiences. The chapter concludes by looking at new models for online video and chat and the implications of those models on sociability.

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