
Models, Theories and Methods of Studying Online Behaviour

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Abstract

While there is a growing body of work that documents online behavior in its different forms, there has been little research that develops holistic models and theories of online behavior. This workshop will draw together internet researchers to develop new understandings of online behavior across a diversity of activities and applications. The emphasis is on new theories and models that can be used to understand and predict social behavior as underlying technologies change. This workshop will work as a valuable bridge across individual disciplines and empirical studies supporting the generalization of understandings and approaches.

Keywords

Internet research, theory of behavior, social interaction

ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

General Terms

Design, Human Factors

Introduction

Research in CHI has been at the forefront of attempts to understand how users behave online, how they make social connections, and how they manage information and media. A number of empirical studies have documented the diversity of behavior in areas such as document sharing [1], game playing [2], photo sharing [3], and tagging [4], among other online activities [5].

The study of online behavior is on the cusp of developing into a independent research area. Yet what is currently holding the field back is the lack of a holistic understanding of how we behave online.

Indeed, research is increasingly fragmented between different fields such as CHI, computer mediated communication, communication and sociology, with little connection between those disciplines. Over the decades since the inception of CHI, other disciplines not previously concerned with online interaction (like communication and sociology) have applied their own theories and methods to this new form of human interaction. Their involvement is positive in applying diverse perspectives to the issues of online user behavior, but threaten to drown out the contributions of the CHI research community.

Despite this diversity we still have few resources to understand how behavior will develop in future applications and forms of communication (such as, say Google Wave). Moreover, the increasing sophistication of online systems and their tracking presents a range of challenges to CHI's existing methods. Could much existing usability testing be replaced by so called online 'A-B' tests, where different interface options are tested with thousands of live users? Can studies of online activity be truly 'ethnographic'? What is the role of

large-scale analyses of user behavior from server logs, compared to more traditional methods like surveys and interviews? What is distinctive about the phenomena of online behavior? What are drivers that cause individuals to socialize online, to share their individual activities? Answering these questions will require drawing upon both quantitative and qualitative data, large data sets as well as focused in-depth observation.

A holistic view of online behavior and interaction, one that could address the limitations and strengths of both broad quantitative behavioral data, but also detailed qualitative work would move the study of online behavior beyond specific questions of how particular social networking or user generated content websites work, to the level of investigating the fundamental behaviors and activities which underlie online activity. An essential aspect of this perspective is that design implications, long a focus of CHI research, will be supported by collecting together work that spans diverse sites and activities to build broader understandings of online behavior.

Accordingly, building on earlier workshops which have focused on social online interaction [6], this workshop will bring together researchers around this topic of holistically understanding internet behavior. The focus will be on how to develop models, theories, and methods which can be used to understand, interpret and predict online behavior. The approaches that we will draw upon will span the behavioral, economic and social sciences, drawing on writers such as Castells [7], Pirolli [8], Kollock [9] and Wellman [10]. This workshop will work to enhance the theoretical and empirical diversity of approaches in CHI but also to draw

together an emergent community of researchers at this crucial point.

Workshop themes

Our overall goal of the workshop is to connect research that spans different examples of online behaviour. Accordingly the workshop will be split between a morning session that will focus on short presentations and discussions of attendees existing work. We will ask each attendee to present their work towards a set of questions designed to explore the generalizability and comparability of findings from each different research project. The second part of the workshop will be arranged around the areas of theories, models and methods of online behavior:

Theories

What new theories can we develop to understand users motivations and behavior in online forums? Are there specific CHI theories that go beyond those in other disciplines? Doing this will draw on understanding of human behavior in studies of online settings, but also developing new insights that draw upon existing empirical work. We will discuss work that moves beyond simply applying existing theories or approaches which are appropriate when looking at offline ability. Moreover, the theories addressed here should have the power to move beyond simply explaining or understanding of behavior in a single site or setting, to broadly engaging with the diversity of online media that are combined in internet use.

Models

A second goal is to develop descriptions of activity which can be used to predict the use of systems and behavior with new technologies or interactive media.

Models are more specific than theories - with both explanatory power, yet the ability to describe future use. It is important that models move beyond the assumptions of users as rational actors, assumptions that underlie many existing models of online interaction, and embrace recent work on developing richer understandings of behavior.

Methods

Lastly, we will focus on developing and understanding multiple methods that let us embrace the complexity of online activity. We will attempt as much as possible to span beyond disputes over quantitative vs qualitative, or broad vs narrow data collection, with a focus on developing new methods that provide valuable insights. We are particularly interested to hear in the workshop of different practical experiences of working with different methods, their strengths and weaknesses. For example, so called 'A/B' tests where two options are presented on popular websites and statistics are used to gather usage data are only applicable to a very limited number of usability problems. Moreover, this is an evaluative rather than a generative design method and not applicable to settings where the goal is to create ideas that fit with users actions but move beyond developers existing conceptions for particular activities

Contributions to the HCI community

The key contribution to the HCI community will be to enhance currently discussions beyond individual studies to more fundamental understandings of what the phenomena of online behavior is. We will encourage authors to engage not only with their own work, but also to support co-authorship and other mechanisms to

produce work which spans across different sites. In concrete terms we also plan for discussion around:

- The need for new publication forums in this area. How can work that spans diverse online interactions be brought together.
- The need to encourage more sharing of data. Re-analysis of large data sets is often impossible without close attention to how the data was collected. How can collaboration between researchers be designed to support data sharing?
- How can we encourage and support analysis that goes beyond one off studies of one off systems?
- How can we share systems and analytic techniques so these are not created anew in each setting and for each researcher?

Workshop outcomes

We hope very much that this workshop will kickstart discussion that will bring together internet research in CHI. A specific goal of the workshop will be to produce an edited volume, drawing both on work presented at the workshop, as well as inviting additional contributions.

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