
Design for User Autonomy in the System-Driven Personalization of Social Media

Da-jung Kim

Department of Industrial Design
KAIST (Korea Advanced Institute of Science and Technology)
291 Daehak-ro, Yuseong-gu
Daejeon, Republic of Korea
dajungkim@kaist.ac.kr

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Abstract

Personalization has recently become an influential part of social media, as it significantly affects the ways people interact with each other through the systems. As more and more social media providers automatically personalize their services based on user data, of which process is often black-boxed, it hinders user's autonomy in their use of systems. In this context, this dissertation investigates the ways to design for user autonomy in a system-driven personalization of social media. Through three-phase studies, this dissertation aims to provide a solid set of design principles that researchers of future "smart" social systems can leverage in their practices.

Author Keywords

User autonomy; personalization; social media

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous;

Background and Motivation

Personalization [3] has been recognized as an important approach in the various fields including online business, information management, and health

and education systems. More recently, personalization has become an influential element even in the design of social media. For example, friend suggestions, news feeds, and sometimes friend groups on social media are automatically personalized by the systems based on the data that is implicitly or explicitly gathered from their users, such as profile information or usage data. As people continuously leave such digital traces across digital systems, it increases an opportunity to tailor the services provided by social media in a way that are more befitting to individual users' social practices.

However, this system-driven personalization has also been known for undermining user autonomy in various ways. As the process of personalization is often opaque to users, it can weaken the sense of control over the systems. In addition, the feelings of being tracked, observed, and judged by a system produce negative experiences of the systems [8]. Indeed, recent studies on social media revealed that people were upset about the behaviors of the News Feed curation algorithms on Facebook, as it sometimes filtered out the feeds from close friends and families [2]. The negative connotation of proactive social media systems was addressed in [7] as well. Despite these downsides, a critical reflection on the applications of system-driven personalization has rarely been addressed in the social media environment.

Besides the lack of research, addressing the issue of user autonomy in the social contexts is especially important for a number of reasons. It is because that technologies continuously advance in inferring the types and strengths of social relationship from user data [6, 9], and the inferred information becomes a basis for a system to make some level of decisions on how and with whom its users would interact through

the system. In addition, as the decision-making for such social practices has rarely been substituted by technology on behalf of its users, how people react to the emerging smart technology that acts on human intelligence, values, and social norms will bring the discussions on new research questions and design opportunities.

Research Goals and Research Questions

From the aforementioned motivation, this dissertation aims to investigate how the interactions between users and systems can be better designed to enhance users' autonomy in the system-driven personalization of social media. The major questions to be addressed in this research are as follows:

- RQ1: What can be the desirable roles of system-driven personalization in social media?
- RQ2: What are the factors that enhance or hinder user's autonomy in the system-driven personalization in social media?
- RQ3: What can be the strategies of designing autonomy-supportive personalization in social media and how would it affect user's experience?

To address each research question, this dissertation is comprised of three phases. Phase 1 and Phase 2 are currently in progress, and Phase 3 is proposed.

Work-In-Progress

Phase 1: Understanding the Desirable Roles of System-Driven Personalization in Social Systems

The initial phase of this research aims to understand the desirable roles of smart social systems in people's social practices (RQ1). It started with the in-depth interview study [5] intended to understand the roles of social media in everyday life, especially in the context

of KakaoTalk, the most popular mobile instant messenger (MIM) in Korea. The results identified multiple MIM roles that support the interactions with diverse social relationships. At the same time, several challenges for MIM users were highlighted in performing their social practices differently depending on the types of relationship (e.g., performing faceted identity and keeping and sharing virtual possessions).

These challenges imply a huge opportunity in personalizing the current one-fits-all design of social media in a way that can be better tailored to specific types of social relationship. Aligned with this result, previous studies have also addressed the following social practices that can be enhanced through the aid of system-driven personalization: i) finding the right person with whom to connect, ii) sharing the contents with the proper audiences, iii) consuming the contents created from large social networks, and iv) revisiting past memories and histories with other people. Building on this initial list, I will continue to explore the potential roles of system-driven personalization. Also, the desirable level of involvement that people expect to systems in such social practices will be further investigated through Phase 2 and Phase 3.

Phase 2: Investigating User Experience with System-Driven Personalization in the Social Media Environment

The second phase of this research, which I am currently working on, investigates the in-situ experience of system-driven personalization in social media, aiming to answer the second research question. To do so, a semi-structured interview has been designed based on the personalization features of Facebook, one of the representative example platforms that supports the social practices listed in Phase 1. In particular,

Facebook recommends potential friends (e.g. "People You May Know"), classifies a user's social networks (e.g. "Smart List"), and prioritizes and filters News Feeds from those friends. Also, Facebook curates the contents shared in the past in various ways to help users meaningfully revisit their past and the memories with their friends (e.g., "On This Day" posts and "Year in Review" movie). In addition to these system-driven features, Facebook allows users to control the process or the results of personalization. By investigating user experience with these features, the factors that enhance or undermine user autonomy will be analyzed. Also, the results of this interview study may discover a set of design principles of "autonomy-supportive" personalization in social media environments.

Phase 3: Designing and Evaluating Autonomy-Supportive Personalization in the Social Media Environment

In the last phase, I aim to answer the third research question. To do so, a series of research artifacts will be designed based on the design principles proposed in Phase 2. The forms of research artifacts will not be limited to the systems that can work within current technology. Rather, various design methods (e.g., technology probe [4] and design fiction [1]) will be deployed to prototype the diverse aspects of user experience with future smart social media systems. By investigating the experience of each research artifact, the roles of design principles proposed in Phase 2 will be examined and further improved.

Expected Contributions

As the results of this research, I anticipate to provide a solid set of design principles that researchers and designers can leverage in their practices. The knowledge created through the course of this research

would enable designers to more thoughtfully and carefully use the intelligence of a system when designing a broader category of “smart” social systems. As a result, this research will also contribute to empower users in their uses of social media, as well as their social interactions with other people.

Attending to the CSCW Doctoral Colloquium

Participating in the CSCW Doctoral Colloquium will offer an invaluable opportunity for me. Since I would come up with a set of design principles at the time of the colloquium, it will be a great time to present my research and to get feedback from the panelists and other colloquium participants. I am especially anticipating to discuss this topic with people from diverse backgrounds. Exchanging thoughts with people from other fields will enrich my perspective and make this research much stronger. I am excited to contribute to other attendees’ research as well. I hope to create a synergy with them with my knowledge in human-centered and design-oriented HCI research.

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