Designing for Remixing

Supporting an Online Community of Amateur Creators

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1. ABSTRACT

In this dissertation I propose a framework to study and design an online community of amateur creators. I focus on the analysis of remixing as a lens to understand the social, cultural and technical infrastructure of a social media environment. I am motivated by three broad questions: 1) what is the ***functional*** role of remixing in cultural production and social learning? 2) what are the ***structural*** properties of an online remixing community? 3) what are amateur creators' ***attitudes*** towards remixing? As part of this dissertation, I conceived, developed and studied the Scratch Online Community: a website where young people share and remix their own video games and animations, as well as those of their peers. In three years, the community has grown to more than 700,000 registered members and 1.6 million user-contributed projects.

2. BACKGROUND

I build on existing work that situates remixing in the context of new forms of cultural and economic production (Benkler, 2006; Jenkins, 2006; Manovich, 2005; Sinnreich, 2009), and describes some challenges remixing poses to existing legal and ethical assumptions (Lessig, 2006; Posner, 2007). Inspired by Situated Learning theories (e.g. Lave and Wegner, 1991), I investigate remixing as a legitimate form of participation in a social learning environment. Furthermore, I build on the work that advocates remixing as a new media literacy skill (Jenkins et al., 2006; Ito et al., 2006; Perkel 2006; Livingston, 2001). I look at the implications of remixing for the design of social computing systems by connecting to existing human-computer interaction research on systems for sharing and remixing videos (Diakopolous and Luther, 2006), images (Seneviratne et al., 2009), music (Cheliotis and Yew, 2009) and hypertext (Kittur and Krout, 2008; Thom-Santelli et al., 2009).

3. THE SCRATCH ONLINE COMMUNITY

The empirical setting for this work is the Scratch Online Community, a website I conceived and developed over the past four years for this and other lines of research. The website allows anyone, especially young people between ages 8 and16, to share their animated stories, interactive art, and video games. Participants use the Scratch programming environment to create or remix projects by putting together images, music and sounds with programming command blocks (Resnick, Maloney, Monroy-Hernández et al., 2009). Projects range from interactive greeting cards, physics simulations, animations of popular songs to home-made video games, just to name a few.

3.1 Motivations

I elaborate on the motivations for creating this social space driven by a desire to provide creators with access to a repository of inspirational creations and to a network of peers that can be both audience and co-creators.

3.2 Socio-technical infrastructure

I provide an in-depth description of the technical and social infrastructure behind the Scratch website and its evolution over the course of three years.

4. RESEARCH FRAMEWORK

I propose a framework to examine remixing in the context of an online community of amateur creators. I focus on the *functional, structural* and *attitudinal* characteristics of an online community's socio-technical infrastructure and its participants' activities. Inspired by Grounded Theory (Charmaz, 2008), this framework derives from and is examined through design interventions, three-years of participant observation data, case studies, interviews with community members, quantitative and network analysis of a large corpus of data that includes more than 700,000 registered accounts and a repository of more than 9 million comments and 1.6 million interactive media objects, 30% of which are remixes.

4.1 Structure of a Remixing System

I study the ways in which the socio-technical architecture of a system influences remixing practices by examining these structural dimensions: 1) *granularity* of the remixable units, 2) *modularity* of the remixable components, 3) *decomposability* of finished products, 4) *attributability* mechanisms and 5) *openness* to remix across systems. I analyze these dimensions in the large corpus of data from the Scratch Online Community and by experimenting, for example, with the system's attribution-giving mechanism.

4.2 Functional Role of Remixing

I analyze the role remixing plays in participating in an online community of creators. I look at how different forms of remixing are represented in the Scratch Online Community, how their use evolves over time and how they do or do not support sociability and creative practices. I analyze people's remixing behavior including their: 1) *adding* to existing work, 2) *reusing* components, 3) *collaborating* with others in groups, 4) *persuading crowds* to join remixing chains, 5) *inspiring* other's with ideas for new creations or 6) *self-appropriating* their own work to create something new.

4.3 Attitudes Towards Remixing

I investigate remixers' and originators' attitudes towards remixing. In particular, I analyze how participants use or perceive remixing as a cooperative or even "antisocial" practice and how the system design may influence these attitudes. From the originator's perspective, I look at how and under what circumstances he or she reacts with either 1) indifference, 2) acceptance, 3) encouragement, 4) conditional acceptance or on an 5) oppositional attitude. Similarly, I look at how remixers may go about remixing 1) obliviously, without regard to the norms, 2) cautiously, or even 3) antagonistically, as a form of trolling. I explore these perspectives through case studies and by analyzing people's reactions to design interventions intended to support pro-remixing attitudes and how failures to do so help inform future design iterations. Analyzing these responses and attitudes can serve as a metric to understand the health of the community and to motivate further design interventions.

5. CONTRIBUTIONS

I hope this work provides a rich and nuanced description of the relationship between amateur digital creators and the computational social system where they work. I expect this work to contribute to the literature on system design, intellectual property, and social media studies and to provide insights for future system designers.