Ethical Issues in Conducting Controlled Experiments in Online Environments: Our Experience with WoW

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INTRODUCTION

The large amounts of social interaction and work that currently takes place in online spaces such as Facebook, World of Warcraft, Second Life and others render these spaces an important venue for research. Understanding how people communicate, coordinate, and collaborate in these spaces is important both in advancing and extending our theoretical understanding of human behavior, as well as our ability to support the development of design principles that will enhance the capacity of these and other spaces to support social and work activity.

One challenge in conducting ethical research in these spaces is that there are a variety of opinions on the extent to which researchers are subject to the provisions of End User License Agreements (EULAs) for online spaces and the Digital Millenium Copyright Act. As we describe in more detail below, EULAs may prohibit online data gathering activity or other research activities, and the DMCA makes it difficult or illegal to recreate online environments to run controlled laboratory studies.

On the one hand, some professional societies, such as the ACM, have clear codes of ethics that prohibit violation of software licenses. This code has been the basis for heated discussion at conference program committee meetings and, ultimately, the rejection of papers perceived to be written based on data gathered in violation of EULAs.

On the other hand, there is reason to believe that there is some room for interpretation and latitude. We describe a case below, for example, in which we sought to run laboratory experiments using the World of Warcraft massively multiplayer online game (MMOG) by running our own game server, which would, strictly speaking, violate the EULA and DMCA. Prior to doing so, we sought advice from our University's General Counsel as well as our colleagues in the CHI and CSCW community. Ultimately, the lawyers were supportive of the project, feeling that the benefits of the research would be strong and that there was a potential "fair use" case to be made. Our colleagues, however, were less supportive, feeling that it would be difficult for the work to be presented or published. We decided not to proceed with the project.

Our experience highlights an ethical dilemma that is common in online research, and one that merits further discussion. While some are quick to dismiss research as unethical or unacceptable if there is reason to believe EULAs or the DMCA have been violated, our experience suggests that this dismissal may be premature. We present here a case study of our experience, and pose questions for discussion about the relationship of EULA and DMCA compliance, and conducting ethical research online.

CASE BACKGROUND

MMOGs are spaces with much potential for research. They are popular, with the most popular MMOG, World of Warcraft, having over eleven million subscribers world-wide [6]. WoW, in which many users join groups or hordes, provides particularly unique opportunities to better understand coordination in the completion of complex collaborative tasks. Indeed, WoW has been the topic of recent qualitative work in CSCW, such as Nardi [11] and Ducheneaut's [7]work on the players and the cultures of the online spaces themselves.

We believe there is also substantial value in controlled studies that focus less on culture and more on developing a detailed behavioral understanding of the communication and coordination taking place in these environments. For example, many situations in the game World of Warcraft involve coordination tasks by multiple people in a high-paced environment, and there are people who excel at this. Understanding how groups are able to accomplish these tasks can allow us to extend and update theories of coordination that have played a significant role in CSCW research [8, 9, 12]

We wanted to conduct a study of these processes by specifically examining the effects of mode of communication (i.e., text chat vs. voice) and the presence or absence of awareness information about the location, condition and performance of other team members on coordination in World of Warcraft.

However, it is difficult to isolate patterns of behavior in MMOGs such as World of Warcraft through laboratory experiments. This is because researchers must either use a commercial game server, in which there is no control over

what might happen or who else might be in the environment during the experiment, or must recreate or replicate the online game space.

This is because, unlike in Second Life, in which individuals can purchase space within the game environment and, as a result, modify their space and restrict access to that space, there is no way for an outside user to control the environment in World of Warcraft. Consequently, researchers would not be able to make the necessary alterations to the environment, and the presence of other players in the game space could interfere significantly with performance of the experimental task. Therefore, the most viable way to pursue this line of research is through the use of emulated servers. An emulated server has all of the characteristics of the game space, but can be hosted by individual users, and not the game manufacturer. One wishing to run laboratory experiments with the game could simply host an emulated server in the lab.

Since the emulated server would be under the control of the researcher, it would be possible to make the modifications necessary to create different conditions. Additionally, using an emulated server would allow for the blocking of any unintended game characters from accessing the space used for the experimental task.

Strictly speaking, the use of emulated servers to conduct laboratory experiments can be considered a violation of the End User License Agreement (EULA) of World of Warcraft, which states:

> You agree that you will not, under any circumstances... facilitate, create or maintain any unauthorized connection to the Game or the Service, including without limitation (a) any connection to any unauthorized server that emulates, or attempts to emulate, the Service; and (b) any connection using programs or tools not expressly approved by Blizzard [5].

Emulated servers are prohibited by such agreements because they are often used by players trying to circumvent either purchasing the game or paying subscription fees, and not by researchers seeking to study these games. However, this does mean that many emulated servers are readily available for downloading.

This left us, and others interested in conducting research in these online spaces, with a dilemma: should they abide by a strict reading of the EULAs of these spaces? On the one hand, this approach avoids possible conflict and controversy. On the other hand, however, it means giving up potentially valuable and interesting research. This leads to the key question we wish to pose in the workshop: can ethical online research involve potentially controversial readings of EULAs and the DMCA?

WHY WE SHOULD ABIDE BY EULAS

There are many reasons why researchers seeking to avoid possible controversy would be concerned about strict adherence to EULAs and/or the DMCA.

First, in certain cases, such as using an emulated server, disregarding an EULA is a violation of the Digital Millennium Copyright Act. According to 17 USCS § 1201,

> no person shall manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product, service, device, component, or part thereof, that… is primarily designed or produced for the purpose of circumventing a technological measure that effectively controls access to a work protected under this title [2].

This code further states that to "circumvent a technological measure" means to descramble a scrambled work, to decrypt an encrypted work, or otherwise to avoid, bypass, remove, deactivate, or impair a technological measure, without the authority of the copyright owner." A strict reading of this text clearly suggests that the use of an emulated server is a potential violation.

In addition to the legal rationale, many funding agencies stipulate that they will not support research that could be perceived to violate a EULA. In a recent call for proposals on virtual worlds and online games, for example, the Intelligence Advanced Research Projects Activity specified that:

> All data gathered by researchers must be obtained in accordance with U.S. laws and in compliance with the End User License Agreement, Terms of Service, and Privacy Policy of the VW being studied [10].

This can be a strong deterrent to researchers, as securing funding is a key element to undertaking a project.

Finally, it can be difficult to publish work that is perceived to be based on data gathered in potential violation of a EULA or the DMCA. As noted earlier, this has been the subject of heated discussion at recent CSCW program committee meetings, and has resulted in the rejection of papers. This is because the ACM Code of Ethics states that:

> Violation of copyrights, patents, trade secrets and the terms of license agreements is prohibited by law in most circumstances. Even when software is not so protected, such violations are contrary to professional behavior. Copies of software should be made only with proper authorization. Unauthorized duplication of materials must not be condoned [3].

While a strict interpretation of these provisions does avoid potential legal controversy, it also puts reviewers and editors in the position of interpreting legal texts, ignores potential "fair use" interpretations of the DMCA, and

results in inconsistent standards across conferences and publication venues.

RATIONALES FOR RESEARCH IN CONTROLLED SPACES

Despite pragmatic reasons why researchers may choose to avoid research that could be perceived to be in violation of EULAs, there is still potential value in detailed studies of online environments, and some evidence that there is room for "fair use" interpretation where research is concerned.

Indeed, the Copyright Act of 1976 includes a fair use exception to copyright infringement. According to 17 U.S.C. § 107:

> the fair use of a copyrighted work, including such use by reproduction…for purposes such as…scholarship or research is not considered an infringement of copyright" [1].

Judges are instructed to use four factors in characterizing fair use:

1. the purpose and character of your use
2. the nature of the copyrighted work
3. the amount and substantiality of the portion taken, and
4. the effect of the use upon the potential market [4].

In situations where these four factors of fair use have been considered and satisfied, research is in a legal gray area. Therefore, there are times when researchers might reasonably consider such research if no other alternatives are available.

As noted above, we encountered this situation while exploring options for conducting research using World of Warcraft. While using an emulated server would be an ideal setting for such an experiment, we were concerned about the legal issues. Therefore, we contacted the Office of University Counsel at Cornell to discuss the implications of using an emulated server for research purposes.

After discussing the situation and explaining all of the issues involved, the lawyer we spoke with saw the value in conducting this research, and agreed that there was not a good alternative strategy. She said the University would support us in running an emulated server on campus, provided that we took certain precautions such as ensuring that only our laboratory could have access to the server, purchasing legal copies of the game, and stopping the study in the unlikely event that we received a cease and desist order from Blizzard, the manufacturer of World of Warcraft.

These steps were intended to satisfy condition four above, by essentially eliminating the effect of our use upon the market – Blizzard would lose no sales due to our use of an emulated server, and no users apart from our experiment participants would have access to the server. The first condition of fair use was believed to be satisfied by our explicit research and educational purpose. We had less control over the second and third conditions, as the nature of the work was essentially a virtual world, and the nature of software meant that we could either use it or not; it was not possible to use more or less of it.

Despite the university's support, however, we elected not to pursue using an emulated server for this research. This choice was based less on the legal implications of this action and more on the negative reactions we received from others when discussing the possible use of an emulated server. Our colleagues both at Cornell and at other universities were concerned that it might be difficult to get the work published or that it would be perceived negatively by others.

We found this juxtaposition of viewpoints curious. If lawyers saw value in the research and a plausible legal argument on fair use grounds, why were our researcher colleagues being so conservative? As the implications of the DMCA on fair use are still unclear, is it possible that researchers are being too cautious and conflict-averse in advising against pursuing work of this nature, or even allowing it to be published?

These thoughts led us to the specific questions we wish to ask at the workshop.

QUESTIONS FOR WORKSHOP PARTICIPANTS

There are several specific questions that we would like to pose at the workshop. Specifically, we aim to ask:

1. Do others perceive value in conducting research in controlled online spaces, even when the research may be perceived to be in violation of EULAs or the DMCA? Can this research be ethical?
2. If there is potential value in this type of research, how should researchers assess the relative risks and merits of their own work, and what standards should reviewers, editors and program committees use in assessing whether or not these studies can be published and/or presented?
3. Should the community consult outsiders, such as lawyers, to establish ethical standards that reflect research goals and needs, as well as up-to-date interpretations of legal standards, and reduce the current ambiguity?

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