Ethical Aspects of Video Game Experiments

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ABSTRACT

Evidence suggests participants in games may evaluate invasive technologies differently. Accordingly, special care ought to be taken with the use of video games as research instruments. We propose a range of methods which help protect participants of video game experiments.

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ACM Classification Keywords

K.4.1 Public Policy Issues: [Ethics]; K.8.0Personal Computing[Games]

THIS IS JUST A GAME RIGHT?

Imagine a system which records facial expressions, electrocardiogram, and skin conductance. Now imagine you are strapped into such a system for the sake of a multiplayer poker-like game to better see who is bluffing. Now imagine the exact same system is used for a job interview. Previously we saw that a system which communicated facial expressions and physiological information was viewed in a different light when used in a poker-like game and job-interview tasks [19]. The same system collecting the same sorts of information can be viewed distinctly differently when a game is taking place.

Most gamers can identify a moment when they've done something in a game which they would never do in real life. Indeed, part of the draw of games as entertainment is that actions within them don't impact the real world in the same manner. Some enjoy games as a way of being to act out fantasies that their ordinary life make impossible.

Accordingly, gamers view activities within the context of a game in different light. This may alter evaluations about what players are being asked to do. For instance in "A Virtual Reprise of the Stanley Milgram Obedience Experiments" participants were asked to shock a virtual avatar [22].

Likewise, participants in an experiment often feel a need to obey or comply with requests. This can be due to financial motivation or a simple social desire to please. When the two contexts are combined, we find a unique situation in which uninhibited players may be coerced into activities.

This paper seeks to get at what good and bad ways we can go about using video games to gather experimental data. This builds on earlier work concerning the ethics of games and the ethics of experiments.

STUDYING GAMES

While the idea of instrumenting video games to collect data has gained more attention it has some clear precedents. Game theoretic research seeks to use simple games as models for human behavior. For instance there have been many computer-based experiments concerning cooperation both non-interactive [5] and interactive [10].

Still other researchers have used games to investigate human physiology itself. In "Baseball teams beaten by jet lag" the authors show from game statistics that baseball teams often win when their opponents travel eastward [18].

More germane perhaps are biofeedback [15] and affective games [12]. Such applications implicitly uses games as a context to capture or analyze psychophysiological signals like skin conductance, heart rate, respiration rate, pupil dilatation, and eye blink rate.

ETHICAL ASPECTS OF GAMES

Within the world of ethics, video games have been a topic of intense discussion. These gamer-ethicists want to know if playing video games is harmful and why.

One philosophical model for such games is Nozick's experience machine [17].

> Suppose there were an experience machine that would give you any experience you desired. Superduper neurophsychologists could stimulate your brain so that you would think and feel you were writing a great novel, or making a friend, or reading an interesting book. All the time you would be floating in a tank with electrodes attached to your brain. Should you plug into this machine for life, preprogramming your life's experiences?

One might think of a video game as a limited variety of experience machine. There is much debate concerning Nozick's

argument along with Baudrillard's notion of authentic experience [6]. Bostrom persuasively argues that most probably we are taking part in a simulation [8].

One framing of these questions of video-game ethics is "when you do harm in a virtual world do you harm yourself in the real word?"

One method to answer to this question involves psychological experiments concerning human behavior during and after game play [14]. Anderson and Dill found a positive relationship between "video game play" and "aggressive behavior and delinquency" [4][3].

A still different answer is drawn from virtue ethics [21]. Briefly, one argues that when we do harm while playing games we do not harm the physical world but we may affect our own qualities or virtues. As such, we ought to examine video game play and how it alters our qualities as human beings.

ETHICAL ASPECTS OF EXPERIMENTS

If a participant knows the topic of an experiment this knowledge can interfere with the outcome. Consequently, psychologists often resort to deception [16] as to the actual purpose of an experiment. In common practice this quickly remedied by a debrief following data collection. How such a practice can be duplicated in games which are re-playable is an important question.

For example, should each player in an online experiment be told about the condition to which they have been assigned during the game? Discussions about the game-experiment may skew results for new players who have heard what they ought to expect. However, not informing them continues the deception outside of typical experimental practice.

In the United States, experiments are typically reviewed by an institutional review board. Such boards are a consequence of various infamous experiments which were sources of outrage.

In the Tuskegee Syphilis Study [23] participants were not informed of their condition and allowed to deteriorate to collect experimental data. In 1940s and 1950s some radiation experiments took play which are now widely regarded as unethical [9]:

> With the complicity of the school's highest administrator, physicians tricked the parents of retarded children at the school into giving permission for their children to participate in a "science club." In fact the "science club" was a cover for an experiment in which the children were fed radioisotopes mixed with oatmeal at special "science club breakfasts"

In the 1950s and 1960s a "fruit machine" device was developed in Canada for the purpose of identifying homosexuals. "The fruit machine was employed in Canada in the 1950s and 1960s during a campaign to eliminate all homosexu-als from the civil service, the RCMP, and the military." It worked by measuring pupil dilation, perspiration and pulse for arousal [20].

These sorts of experiments have given rise to human subjects experiments guidelines such as the Belmont Report [11]. This report was influential in arguing for informed consent for experimental participants.

GAMES GONE WRONG

Simultaneous consideration of the ethical problems surrounding video games along with those surround experiments suggests many possible difficulties. The oft-cited Stanford Prison Experiment [24] is perhaps one exemplar. Viewed in the light of video games one might think of it as a peculiar variety of Live Action Role-Playing game which ended ignominiously.

Many of us feel that it is alright to experiment in gaming worlds but sometimes the distinction between fantasy worlds and real life is blurry. There are liminal cases which appear neither virtual games nor real world phenomena. Internet scavenger hunts, Russian Roulette, professional Chess competitions and gambling all alter our real-world status despite being games.

An account exists of players of a massively multiplayer online game (Eve Online) considering actions in the real world to alter the outcome of the game:

> ...he wanted us to use the forensic resources of our intelligence agency to trace down The Enslaver's home address. At a coordinated time, armed with this information, a RA member would apparently cut the power to The Enslaver's house in the real world, and in EVE a RA capital fleet would assault the abruptly pilotless Titan. Yikes.

Here a devotee of the game is describing a player's attempt to locate another player's house so that he can disrupt the power and take advantage of his virtual character.

In extreme cases one worries about obsessive gamers collapsing and dying after binge video game playing. Recently it was reported that a man died after 50 hours of game play without break [1]. Video game addiction is sometimes dismissed as a fake illness. Indeed many rightly decry the moral hysteria that surrounds video game culture [13]. However, when designing experiments it may be helpful to bear in mind the worst case. Game designers might ask if the task they are asking players to perform could be harmful upon obsessive repetition.

WHAT AND HOW WILL PLAYERS KNOW?

So given that there are ethical issues with some experiments and ethical questions of about games, how can researchers use them as instruments to gather data without further complicating matters?

One attitude that could be taken is caveat emptor (let the

buyer beware). Indeed as privacy advocates we suggest that consumers ought to be more suspicious about exactly what sort of information is gathered by their amusements. We should encourage people to think about what sort of information games could be collecting and if they are comfortable with this.

There has been some recent controversy about the use of rootkits to secure certain games. Such rootkits give game companies access to computers and researchers unchecked observations. However consumers are justifiably upset about such techniques going as far as to boycott games using Se-cuROM [1].

A slightly more enlightened approach would be some sort of privacy policy or ethical contract between the game designer and player. Farmville, a popular multiplayer game offered through Facebook has just such a policy. Below are some interesting excerpts:

> We may offer you the opportunity to submit other information about yourself (such as gender, age, occupation, hobbies, interests, zip code, etc.), or we may be able to collect that information from social networking systems...We may use information about you that we collect from other sources, including but not limited to newspapers and Internet sources such as blogs, instant messaging services, Zynga games and other users of Zynga, to supplement your profile...We do not sell or rent your Personally Identifiable Information to any third party. We may, however, use certain information about you that is not personally identifiable...We use public information collected to determine the kinds of content that you would like to view and to assist any advertisers in targeting their advertising."

As an aside, it would be worth asking: how much should players trust Farmville? Some recent press has been critical of Zynga's underlying business interests [2]. The New York Times noted that one of Zynga's backing investors is "Alisher Usmanov, a Russian industrialist billionaire who spent six years in an Uzbek jail for fraud and embezzlement in the 1980s, owns 35 percent of D.S.T. Mr. Usmanov has said he was jailed for political reasons" [7].

Contracts offer a start, but research game designers may be rightly wary of whether players will wade through the legalese. Using easy-to-interpret icons in the style of Creative Commons contracts might be one remedy. Indeed certain license policies like the GNU Public License may instill confidence and trust by players. Such techniques may apply well not just to games but also to instrumented software in general.

But there are still other commonsensical precautions. One of the best is to pilot instrumented games first as a more traditional experiment. Observe firsthand if the game-task exposes participants to harmful behavior that would fall outside the range of normal experience.

Researchers should avoid using instrumented games as a way

to "get around" an ethical review board. Some review boards may balk at the idea of using unorthodox research methods and ask for annoying restrictions (from the perspective of researchers). However, ethicists and researchers should engage one another instead of seeking to circumvent bureaucratic hassles.

Another obvious approach would be allow to player to ideally opt-in or less ideally opt-out. Such controls may be worth providing on a per-game-basis effectively allowing players to decide "that was a game I feel safe with sharing."

In the best case, players could decide at any moment to withdraw their data. They ought to be able to remove any personally identifiable information from the research corpus at their discretion. An easy mechanism to do this is to provide players with a profile which can be deleted or can flag certain information as private. In the presence of backup systems, making deleterious revisions can be even trickier. But the experimenter ought to feel some responsibility to protect the data of players.

Such solutions do not handle some of the special cases which might arise. One niggling case is that of the "game within the game" such as appears within the Grand Theft Auto series. Previously we noted that many experimental designs involve elements of deception which may be difficult to ethically export to the video game world. In the daylight, we want players to views our experimental games without the frames of suspicion or wariness.

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