Opinion

Reporting From the Snooping Trenches: Changes in Attitudes and Perceptions Towards Behavior Tracking in Digital Games

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Abstract

There is an undeniable growing trend among players towards unconditional acceptance of behavior tracking in digital games. This trend has muted one of the two interlocutors necessary for a transcendent Hegelian dialectic that finds a viable synthesis between a corporate thesis that attempts to gather more and more data aimed at maximizing profit, and an antithesis that seeks individual players' interests and resists privacy-infringing practices. Both as researchers and as professionals utilizing behavioral tracking, we believe it is essential to establish a dialectic relation with the users that we monitor and collaborate with. An ethical synthesis can be found only through a negotiation of interests and methods between polarized corporate and personal desires.

1. Introduction

Monitoring player behavior in computer games is nothing new. Since Nolan Bushnell installed Computer Space in the Dutch Goose—a popular burger joint for Stanford University students—and spent considerable time watching people play, the practice of observing players has become a cornerstone of game development both for small indie studios and large multi-million dollar productions. The first Game User Research¹ (GUR) group was formed at Atari in the 1970s and utilized methods from marketing research: field observations, surveys, questionnaires and focus groups were leveraged to see which games were going to be successful. In the 1980s the practice spread to Activision and Nintendo. At Activision, the marketing department was testing game concepts by administering surveys to individuals. At Nintendo employees would watch kids play in 7-Eleven stores, ask about which elements the kids enjoyed the most, recorded their preferences compared to other games and begun building a database of pleasurable game mechanics. Beside qualitative observations and surveys, the only automated remote data collection practice was the *quarter-drop*: a measure of how popular or not an arcade machine was. In the late 1990s Microsoft Games User Research introduced standardized practices for surveys, scheduling, sampling, hardware and validation; this allowed the creation of a database charting the distribution of emotional/perceptual scores of games. This practice, and the database, continues to be used to this day at Microsoft.

¹ This brief history of Game User Research is abridged from Michael Medlock's talk at Game User Research Summit 2014.

In the first years of the 2000s it was possible to see sporadic examples of game telemetry used to automatically record players' behavior. In 2007 GUR entered the public consciousness thanks to a feature in the magazine *Wired*, "How Microsoft Labs Invented a New Science of Play" (Thompson 2007). In that article it was revealed that 600 players had been testing *Halo 3* in the lab, generating 3,000 hours of gameplay video. Together with surveys and videos of the play sessions, code embedded in the game allowed the collection of all gameplay data as alphanumeric logs containing information about favorite weapons, most common causes of death, and complemented with time and location of each event. In 2008, Microsoft GUR group published a paper disclosing how their system was used to evaluate game telemetry data from 820,000 unique users that played the game *Halo 3* during the four weeks of beta, generating over twelve million hours of play (Kim et al. 2008). This was groundbreaking and changed practices of GUR at large forever.

2. Game Telemetry

Game telemetry entails the automatic collection of data over a distance, removing the necessity to have a human observer present during playtest sessions. Before game telemetry, the only source of remote automated data collection was the "quarter-drop." Later on, detailed sales charts and metacritic website (<http://www.metacritic.com/>) scores substituted the hard numbers of "coin drops," but they were still the most precious metrics of the industry; yet these metrics were not tied to players' identities or in-game behaviors, they were not detailed enough to provide insights into which elements of a certain game were most popular and they certainly did not help user researchers figure out at what point players stopped inserting coins or playing games.

Game telemetry allows the collection of much more granular information: player location at every given moment, dialogue options selected, number of chests and doors opened, whether a combat sequence was initiated by players or by Non Playing Characters, remote systems could record interactions between players, play time patterns or purchasing preferences.

Players' interactions in games have always been accounted for, as this is necessary to compute how the game should respond to player actions, but currently behavioral telemetry has become instrumental for analyzing the effectiveness of design, assisting user testing and improving monetization of games, just to mention a few of the most common uses. Collectively, the work being carried out on telemetry behavioral data from games has become known as *Game Analytics* (Seif El-Nasr et al. 2013).

Looking back at the history of GUR, it is evident how two legacies are intertwined: on one hand, data collection methods and analytical practices are borrowed from marketing and business intelligence, on the other, the focus on usability and player experience has its roots in Human Computer Interaction. This double legacy is further confirmed when we see analytic departments being embedded almost in equal numbers in design teams and in marketing departments. The widespread adoption of data-driven business intelligence practices at operational, tactical and strategic levels in the game industry, combined with the integration of quantitative measures in user-oriented game research, has caused a paradigm shift. For the first time, developers have the instruments to gain objective knowledge about players. Researchers rely heavily on behavioral data gathered from player activity in commercial games and considerable efforts have already been devoted at inferring more and more information about players from their in-game behavior. Personality, motivation, gender and identity are only few of the concepts from psychology that behavioral data from games can help investigate (Canossa et al. 2013; Yee et al. 2011a; Yee et al. 2011b; Martey et al. 2014).

Mirroring the legacy of GUR, this knowledge about players is being utilized with two main purposes: increase revenue and improve player experience. Together these two issues drive design decisions. For the most part the vectors for monetization and player experience are aligned, meaning that a better user

experience turns into higher sales and higher player retention, but it is not necessarily always true: during development each and every design decision needs to be argued for, demonstrating that the investment necessary to improve player experience will pay off in terms of more copies sold. This hard baseline means that more often than not design decisions are based on short-term insights provided by game analytics applied towards monetization rather than player experience.

3. Game Analytics and End User License Agreements

Before the rise of ubiquitous remote behavior tracking practices, players volunteered to participate in user studies and were routinely compensated. In just a few years, players have gone from initial skepticism or even outright rejection to an unquestioning acceptance of behavioral tracking and of data-driven design approaches, focusing instead on the perceived benefits these practices can have for the community of players.

Thanks to game telemetry and End User License Agreements (EULA) it is now possible for developers to collect behavioral data from millions of players. EULAs can differ extensively, but there always seem to be a clause regulating the collection of user data. Examining one of these agreements it is clear that developers do not seem to make an effort to convince players or to offer anything in return: “If you do not want your information used or shared in this manner, then you should not use the Software.”

By installing and using the Software, you consent to the information collection and usage terms set forth in this section and Licensor’s Privacy Policy, including (where applicable) (i) the transfer of any personal information and other information to Licensor, its affiliates, vendors, and business partners, and to certain other third parties, such as governmental authorities, in the U.S. and other countries located outside Europe or your home country, including countries that may have lower standards of privacy protection; (ii) the public display of your data, such as identification of your user-created content or displaying your scores, ranking, achievements, and other gameplay data on websites and other platforms; (iii) the sharing of your gameplay data with hardware manufacturers, platform hosts, and Licensor’s marketing partners; and (iv) other uses and disclosures of your personal information or other information as specified in the above-referenced Privacy Policy, as amended from time to time. If you do not want your information used or shared in this manner, then you should not use the Software.²

Personally, both as an academic researcher and as a consultant working with developers in the games industry, I find problematic the fact that developers seem to have lost interest in rewarding players in exchange for their data. It is not a matter of paying them; players would gladly relinquish the information if it entailed tangible benefits such as an improvement of the gaming experience. Players seem not to resent the practice of monitoring their behavior per se, but are concerned with the reasons behind the act of monitoring and tracking their behavior. As we have seen earlier, the reasons behind the decision of monitoring player behavior can be loosely categorized either as increasing revenue or improving player experience. Ideally both purposes should be aligned, but that is not always the case. While the decision of analyzing player behavior in order to improve player experience needs to be argued for, no argument is needed when an analysis is suggested that has direct implications for the revenue stream. It is evident that analyses with the direct purpose of maximizing monetization involve considerably less tangible benefits for the community of players than efforts aimed at improving player experience.

² Rockstar Games End User License Agreement, October 2013.

4. Kantian dialectic and the Search for Truth

In order to negotiate a solution for this tension between corporate and private interests, it may be helpful to consider Kantian dialectic, a threefold process apt at discovering truth: it consists of a thesis or a proposition, an antithesis, a counter-proposition that stands against the thesis, and a synthesis, a mediation of the tension between the two propositions. The corporate thesis attempts to gather more and more data aimed at maximizing profit and improving user experience (only insofar as it turns into profit), and an antithesis that seeks individual players' interests in terms of concrete benefits and resists privacy-infringing practices.

thesis: corporate interest + tracking data

antithesis: personal interest + privacy

Both as a researcher and as a professional utilizing behavioral tracking to enable corporate interests, I believe it is essential to establish a dialectic relation with the users that I monitor and collaborate with. An ethical synthesis can be found only through a negotiation of interests and methods between polarized corporate and personal desires.

synthesis: personal interest + tracking data

This synthesis suggest giving some weight to players' interests in terms of letting user experience be at least equal to monetization in terms of driving design decisions.

When the personal/private voice is part of the negotiation it insures the reciprocity of the exchange: private information is relinquished for some form of personal benefit: the opportunity to reflect on own play practices, bragging rights, feeling a part of a larger community or an increased player experience. If that voice is muffled, it opens the doors to possible complacency from the researchers or the professionals, allowing the focus to be self-referential and autotelic. The results can be analytical efforts geared towards either maximizing revenues or algorithms performance, without giving anything back to the players, generators in the first instance of the behavioral data.

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