The Red Thread of Intangible Information: The Information Experience of Video Game Players

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Abstract:
Sonnenwald’s Information Horizon Framework provides an opportunity to study the information seeking behaviours of video game players, but the interview technique used in the framework implicitly privileges external sources of information by drawing on information seeking models defined by scholars such as Bates and her Berry Picking model and is unable to fully provide interview subjects with the tools required to articulate information seeking behaviours which happen internally. In response, this paper suggests potential avenues of research that consider information seeking activities which are internal to the information seeker, including examining their emotional memory and their embodied physical memory. Sonnenwald’s Framework also ties into Fisher’s theory of the Information Ground and the spread of information in spontaneous and unstructured social gatherings, since many video game players share information in informal communities. Building on Fisher’s theory, this paper suggests a second potential avenue of research be conducted on nature of spontaneous information-sharing communities in virtual, online spaces and the possibilities that boundaryless and bodyless social gatherings bring to the type of information that is being shared.

Keywords:
information seeking behaviours, information grounds, video game players, information horizon interview technique
When looking at the information behaviour of a particular population, it is typical to think about the external sources of information that they might use during their search. Theorists such as Bates and her Berry Picking model (1989), Dervin and her Sense-Making model (1983), and Hektor and his Information Cycle model (2001), have proposed more nuanced information seeking models that imagine the search for information as a continuum. Bates (1989) describes the berry picking model through the metaphor of the “red thread of information,” where information seekers begin with a question and then journey through various information sources in order to find the answer to that question. These cognitive models posit that there isn’t simply a single source that an information seeker might consult, and all of them are actually quite prescient in terms of predicting how the internet would render a single authoritative source an outdated and obsolete concept.

As useful as these models have been in categorizing information seeking behaviour, what each of these models take for granted is that this behaviour is necessarily an external activity – that is, it assumes that sources of information have to come from books, videos, the internet, or other external sources. But there is a similar wealth of information found in the cognitive processes of each and every single individual’s mind. This internal library of information provides access to its users on demand and provides a wealth of contextual information that is simply not captured by the conventional models described above. Even Kuhlthau’s (n.d.) model, which accounts for how the affective and cognitive dimensions of an information seeker can influence their seeking behaviour, focuses on how these internal processes can affect the material outcome of the external search process.

The notion of internal information sources can be seen through an examination of video game players and their information seeking behaviours, and the first part of this paper will explore how these models of information behaviour could be expanded to include the personal, internal information sources that players use in their search for information. In the study of video game players, Sonnenwald’s Information Horizon Interview technique (2005) was used to model the behaviour of video game players and quantify the information resources that they used. One component of the Information Horizon Interview technique requires the interview subject to draw an what is known as an Information Horizon Map – a visual representation of the sources that the interview subject consults when searching for information. Figure 1 shows that the mapping process is able to account for the external sources that video game players use to look for information, but it fails to provide an opportunity for subjects to relate their internal cognitive and affective sources of information. In other words, a video game player might look for information on a website, or from a video platform, or from peers, but often they will also draw on past experiences and feelings to help inform their decision-making processes. Like the other models of information behaviour, Sonnenwald’s technique could be expanded to encourage interview subjects to separately consider internal sources of information as well as external ones.
Even a problem as simple as picking a new video game to play becomes a complex interplay between external sources of information and internal cognitive and affective processes. From the Information Horizon Map above, one can see that a player might watch a video on YouTube or speak to other players on a social network platform to help inform any purchasing decision. But based on interview transcripts, this player also talked about using their own expertise in order to inform their decision-making process as well, and this is simply not illustrated on the map that they produced. Many experienced video game players know whether or not they will enjoy a game based on their past history playing games, essentially becoming domain experts on particular genres of video games. Such players are able to judge whether or not a video game will interest them on first glance, based on simple factors such as the publisher of the game, the developer of the game, the platforms that the game can be played on, the genre of the game, the art style of the game, and even where the game was made. This expertise, which is composed of memories, feelings, and other cognitive processes are sources of information that, to borrow from Bates (1989), players “berry pick” their way through in order to make an informed decision about whether or not to buy a game.

A similar process occurs when video game players seek information regarding challenges in the video game itself that they are unable to solve on the first try. Some might look for help from external sources to help overcome a challenge, but many experienced prefer to look inward and reflect on their actions instead. This seemingly meditative state of self-reflection allows them to approach a seemingly undefeatable challenge and discover a solution on their own. Indeed, to many video game players, this cognitive process is what makes playing video games enjoyable, but it is also a type of learning and information seeking that the standard models of information behaviours are unable to properly model.
In addition to the cognitive information seeking behaviours that are missed by the dominant models, there is a physical aspect to the information seeking experience that could be modeled as well. For video game players, the act of playing a game is as much a physical experience as it is a cognitive one, introducing a physical dimension to the information seeking experience. Video game players are able to access external sources of information to help improve their physical abilities such as reading website posts, watching videos, or being taught by a more experienced player, but ultimately, they must rely on their bodies to be able to perform properly when they are playing a video game. There is an embodied aspect to the information used during any type of physical activity, and it follows that there must be an embodied aspect to the information seeking experience as well.

On a surface level, this can be seen by looking at how video game players interact with the controllers that are used to control the games that they are playing. At the professional level, each physical act is instinctual, and the sequence of events that begins with the player asking themselves what they should do given a particular situation being displayed on their screen to their hands manipulating the buttons on their game controller is so quick that it is almost imperceptible. A more relatable example is the fact that players are able to navigate three dimensional spaces in a game as well as anyone can in the real world, belying an understanding of not only the virtual space that exists in a game, but also the potentially different laws of physics that exist in the game as well.

This embodied knowledge can also have an impact on the user experience of a game, in part because so much of a game's success is based on how well the game functions. Just as an expert pianist can be able to tell the difference between on an electronic keyboard and a Steinway grand piano, a veteran player can immediately tell if a game feels right by whether or not the gameplay experience lines up with their own embodied experiences and sense memory. For example, experienced players can feel differences in response time between the physical motion of pressing a button and the corresponding action occurring in the video game itself, or they can feel the differences between the underlying mathematics that defines the laws of physics in a particular game engine. At high skill levels, players can also feel minute differences in controller dead zones, or when the joystick of a controller is at the neutral position, the travel time of a button from when it is pressed to when the button is engaged, and other similarly nuanced by tremendously important aspects of controlling a video game. Being able to understand how video game players develop and access these embodied experiences requires extensive user experience design and testing. The developers at Naughty Dog discovered this problem first hand when players complained that *Uncharted 3: Drake's Deception* did not play as well as the previous games in the series because the embodied experience of playing *Uncharted 3* did not meet the expectations of their embodied experiences developed from playing *Uncharted 2*. The developers were confused because they knew that none of the code governing player control had changed between the two games, but they also couldn’t ignore the tremendous amount of player feedback from their most dedicated fans who insisted that the game did
not feel right in their hands. Unable to solve the problem internally, the developers ultimately invited some of these fans into their office to help explain exactly how the game felt different to interact with by watching these players physical play the game in front of them and recording their experiences (Honorof 2011). Although the developers were ultimately able to implement a patch that fixed the game by using this player feedback, certainly this type of user research is at best inefficient and at worst unsustainable. If a model was developed to capture and explain this type of embodied information seeking experience, it would revolutionize user design research. Trying to develop such a model represents another opportunity to extend the current models that privilege external sources of information that are in use today.

The red thread of information extends inward as much as it extends outward, and any future models of information seeking behaviour should account for the way some information seekers use themselves, both their minds and their bodies, to search for an answer to a question or problem that they might have. But this is just one perspective of looking at information seeking behaviours, and the second part of this essay will consider social nature of information dissemination and the opportunities that video games can provide to extend current research in this area. While these models have assumed a user-centered approach to understanding how information is accessed, scholars such as Unruh and her Social Worlds theory (1980) and Fisher and her Information Grounds theory (2005) developed models of information sharing behaviours which treat the exchange of information as social experiences in which information is shared between (or sometimes kept from) members of a specific community. Fisher (2005) in particular developed the notion of the “information ground” to describe how information is shared between people in a “spontaneous and serendipitous” manner in social gatherings that were not explicitly designed for the transfer of information (185). For example, patients waiting to see a doctor might share information about upcoming social events or updates about mutual acquaintances, even though their initial purpose for visiting the doctor was not to share information with each other.

These types of temporary social gatherings, in which information grounds are also born, occur countless times a day in the context of multiplayer video games such as Fortnite (and many other games) and it would be worth extending Fisher’s theory of spontaneous information sharing behaviour to these virtual spaces. In other words, Fisher’s theory could be expanded upon by studying how people who are not meeting for a predetermined purpose might share information in social contexts that are not defined by physical space. Adams (2009) begins to explore this notion by studying how video game players speak to each other on message boards in order to share information about video games. Ratliff (2015) continues this line of research by considering the spontaneous groups that are formed within Massively Multiplayer Online Roleplaying Games (MMORPGs) and the information grounds that are created when these groups of players work together within the virtual setting of an MMORPG in order to overcome challenges found in the game. However, the study of virtual information sharing behaviour could be extended much further by looking beyond the sharing of video game information and fully
applying Fisher’s information ground model to the temporary social spaces that are facilitated by online multiplayer gameplay and examining all of the non-video game related information that players share with each other in these temporary social gatherings.

Players treat these temporary social grounds as more than just opportunities to meet with other players in order to complete a predefined video game objective. Similar to how temporary communities might form at a doctor’s office or in line at a grocery store, these online communities come together for a short period of time and share information completely unrelated to the actual purpose of the circumstances that brought the members of these communities together. Similarly, information is shared in these virtual social grounds that have nothing to do with the video game itself and could be as simple as talking about one’s personal life or thoughts on a new film, or it could be as complicated as a political discussion or a discussion on a controversial news event. What makes these spaces interesting is the fact that there are so many of them forming all the time and that the members of these temporary communities can quite literally be from anywhere on the planet with access to the Internet. A player from Canada might connect with a player from Pakistan and talk about politics in America for a brief period of time as they play a video game together, and then never talk to each other again after the match is over. Fisher’s model naturally extends to these virtual social information grounds and exploring how the Internet both facilitates and complicates her model by disrupting her notion of a social gathering as a meeting of people in the real world is another opportunity for fruitful research.

Both the information seeking behaviour models developed by Bates, Dervin, Hektor, and Sonnenwald and the social information grounds models developed by Unruh and Fisher are excellent at describing how information is shared, consumed, and processed in traditional outward facing, analogue contexts. But there are ample opportunities to expand these models in new directions by applying these models in contexts that challenge the assumptions made by the models’ creators. When considering video game players, the cognitive and embodied information seeking behaviours offers a chance for researchers to consider how information is retrieved internally and to explore how information is organized and accessed within a person’s mind and body. The online and digital nature of video game spaces also allows researchers to reconsider the notion of a public and social space, one that is free from the constraints of geography and temporality. In either case, any new model developed through one of these avenues of research can apply to groups far greater than video game players. In the case of information seeking behaviours, artists, athletes, gourmet chefs, construction workers, and any population that requires information tied to a creative and physical endeavor could be studied in a similar manner to video game players. Also, the Internet’s reach is far greater than just video game players, and there are countless other communities creating virtual information grounds on the Internet that are ripe for study as well. Both lines of inquiry offer the opportunity for information professionals to provide new insight into information seeking behaviour, and this paper has hopefully made a case for further exploration into these spaces.
References


