This paper is a phenomenological critique of the Comcast OnDemand video rental system. The Comcast OnDemand video delivery system is first introduced, followed by a brief historical overview of the philosophy known as phenomenology, introducing important cultural thinkers and the major phenomenological theories they are responsible for. User-centered design as it relates to philosophical approaches like phenomenology is then introduce, exposing the benefits of doing design with a user centered focus. Finally, OnDemand is critiqued using the previously introduced ideas of phenomenology. This essay concludes with a summarization of the application of the phenomenological ideas and other critical theories beyond Comcast OnDemand.

Author Keywords
Critique, user-centered design, philosophy, phenomenology, Comcast OnDemand.

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H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

INTRODUCTION
Comcast OnDemand is a video delivery system that provides movies and television shows through the digital cable box to digital cable subscribers. It is controlled by the customer, who interacts with the system through the remote control and an on-screen graphical user interface (GUI). Comcast OnDemand is direct competition to other video rental services such as Netflix.com and Blockbuster Video. The cable customer can purchase a movie to be watched, and is available for the customer to start, stop, pause, and re-watch unlimitedly for 24 hours beginning at the time of purchase.

Successful at providing the service of video rental, Comcast has still not been able to provide anything more than a mediocre interaction design. With a user centered approach and an exploration of a phenomenological approach to the culture of “video on demand,” Comcast could quickly improve the quality of their OnDemand system.

Phenomenology is defined as “branch of philosophy concerned with elements of human experience ... not looking for a truth independent of our own experience” [3]. This philosophy includes the thinkers Heidegger and Husserl.

Using the philosophy of phenomenology, we can approach design in a user-centered way that is appropriate for the experience of a user in the context in which the design resides. It is a cultural studies approach, similar to semiotic approaches to design and differing from analytic and rational approaches to understanding.

Using cultural theories such as phenomenology leads to the design of user centered artifacts. These designs appropriately fit into culture in ways meaningful to the users of the products. Some user-centered approaches to understanding a select group of people include Ethnography and from that other ethnomethodological approaches. These research techniques are best suited for truly understanding the culture of a group of people.

Using phenomenology as a cultural approach to understanding the experience Comcast OnDemand replicates and replaces, we can see that examining the entire experience of consuming movies is an important task. We can look at the feeling of going to a movie theater, the evolution that occurred when Blockbuster became the largest video rental chain (and how they did it), and what can be adapted and extended upon with the OnDemand technology to create a better experience for a person looking to “rent a movie” for an evening.

This paper has done its best to explore the current design of Comcast OnDemand and analyze where it falls short of providing a better experience to the customer. This analysis could be adapted by other designers who are looking to replace a real world interaction with a digital distribution channel. It is important not just to explore the abilities technology affords, but to explore how technologies should be designed and implemented to take advantage of the benefits the real world interactions already provide.
COMCAST ONDEMAND INTRODUCTION

As mentioned in the introduction, Comcast OnDemand is a service provided by Comcast Cable that adds functionality to a digital cable subscriber’s digital cable box. This service offers content such as movies, television shows, sports highlights, music videos, children’s programming, and instructional classes instantly to viewers at home [9]. This video delivery system provides content to a user’s home directly over the standard coaxial wire through the cable box. This service provides customers the ability to “rent” popular movies for limited watching. Rental service is currently provided by Blockbuster, Netflix, and others, however Comcast OnDemand is changing the experience by removing the trip to the movie store or the wait for a movie to arrive, providing instead instant access to content (from here on referred to as movies).

OnDemand can be compared to a common VCR or DVD player in many ways, because it is controlled by a remote control that allows the person watching the movie, or to pause, stop, play, rewind and fast-forward like other more traditional media. Unlike a VCR and DVD player, however, there is no physical media the device reads. Also the user is required to navigate through an OnDemand graphical user interface (GUI) to select the content to be rented, using the cable box remote control. It is this interaction that is new to the process of renting movies, and what makes OnDemand different then the service provided by Blockbuster.

Using OnDemand to “rent movies” involves a series of sequential frustrations, beginning with the remote control used to move between selection options inside the GUI. First, to enter the OnDemand system you have three options. The first option is to select the OnDemand button on the remote control. (Figure 1) The second option is to go to channel 99 on the cable box. The third is, similarly, to go to channel 01 on the cable box. Confusion results because of the multiple ways to access a single functionality. Additionally, there is the reference to OnDemand in the previews as “Channel 1,” yet when you press the “OnDemand” button on the remote, it automatically enters “99” on the screen. But Comcast’s online help section directs you to access OnDemand either by pressing the OnDemand button or by selecting channel 1 [9].

Once you have entered the OnDemand GUI, (Figure 2) you are presented with a list of choices, with all available options presented hierarchically. For instance, to rent a “new release” movie in high definition quality, a customer must first navigate to the “HD OnDemand” option, then “Movies,” then through a variety of options including: 2 Day Rentals, All Movies, All New Movies, By Genre, Indies & Foreign, Just In, Movie Collections, Same Day as DVD, Same Say as Theaters, and Trailers. Unfortunately, the options presented do not seem to have any easily recognizable logical grouping.

For each movie offered, when the movie is selected, the user can read a small synopsis of the movie (figure 3), see
the run time of the movie, see the cost of the movie, see the rating and year the movie was released, and see how long the movie will be available. The selection options available for each movie are: return to the list of movies, place or cancel an order, set or remove a child lock, or watch a free preview.

Once a movie has been selected, it can be ordered just by selecting the “Buy” icon associated with the selection option to place or cancel an order. The billing for the movie is added to the user’s monthly cable bill. Each new release can be rented for $3.99 and older releases are available for $2.99.

Unlike renting a movie through Blockbuster or Netflix or another video delivery system, Comcast OnDemand does not require the user to “return” the video. Because there is no physical media involved, the movie will be available only for the allotted time, and then the movie can no longer be accessed by the user.

PHENOMENOLOGY INTRODUCTION
When designing interactions, it is important to be aware of how these products will fit into a specific context among people and the culture they are a part of. It is this culture that dictates how people will interact with each design. Therefore, exploring alternate philosophical approaches to culture can help us to become better designers. Designers think about the affect of a culture has on each design, and the reciprocating affect each design has on a particular culture. This essay will use one critical approach, phenomenology, to critique Comcast OnDemand and how it fits into the culture of “video on demand.”

Defining Culture
Before we can begin exploring what is meant by phenomenology, it is important to first define culture. “There are currently three uses of ‘culture.’ To refer to the intellectual, spiritual, and aesthetic development of an individual, group, or society. To capture a range of intellectual and artistic activities and their products (film, art, theatre). To designate the entire way of life, activities, beliefs, and customs of a people, group, or society.” [7]

Moving forward, this essay will use the third definition provided; culture designates the entire way of life including activities, beliefs, and customs of a people, group, or society.

Defining Phenomenology
Phenomenology as an approach to studying culture “stresses the role of the individual consciousness in understanding. Here understanding is either something that individuals do or something that happens to individuals; either way it is the product of specific, intentional, historically and spatially located individual awareness.” It is “principally concerned with the elements of human experience. In contrast to philosophical positions that look for a "truth" independent of our own experience, phenomenology holds that the phenomena of experience are central to questions of ontology (the study of the nature of being and categories of existence) and epistemology (the study of knowledge).” [3]

Phenomenology is set in contrast to structural approaches of understanding culture. Descartes was one of the earliest to propose a deductive or rationalist investigation of the natural world. His work, Discourse on Method, separates the knower or mind from the known or nature. It is on the basis of ideas existing innately in the mind that knowledge of the external and objective world may be constructed. [2]

Starting with Edmund Husserl, phenomenology differed from Cartesian approaches and began to focus on first person accounts of the structure of consciousness. Husserl, who was first a mathematician, was frustrated by the idea that science and mathematics were increasingly practiced on an abstract plane that was disconnected from human experience and human understanding independently of questions of truth and applicability. For Husserl, phenomenology was a method for exploring the nature of human experience and perception.” [3]

Heidegger, a student of Husserl, expanded upon the ideas of phenomenology while critiquing Husserl for not taking phenomenology far enough. “Heidegger transformed the question of meaning from an epistemological question to an ontological question, the form of his answer is really ‘pre-ontological.’ By pre-ontological, I mean that it is outside of and prior to our focused attention. The way in which the world occurs as an unconscious but accessible background to our activity is essential to our mode of being.” [3]

In response to critics such as Heidegger, in his last publication Husserl introduced the the idea of the Lebenswelt or “life-world.” A person’s lifeworld is the “mundane world of lived experience already existing as a product of the unreflecting cognitions of ordinary actors.” [3] The idea of the life world is that every person makes judgements on the experiences they encounter based upon how it compares to past experiences they have had.

Schutz argued that our Lebenswelt is made up of the taken-for-granted. We draw on stocks of common-sense knowledge to get through life. Schutz suggested that typification was central to this activity. Typification is the way that we group things we experience into classes. [3] This idea allows people to make assumptions about experiences, how they relate to experiences from the past, to help us understand how they fit might into the world. When we run into something that goes against our expectations, we will modify the assumptions accordingly. Such activity obviates the need to treat each object we encounter as puzzling. [3]

Intersubjectivity is another phenomenological theory based upon the shared pieces of a Lebenswelt among a culture. What this means is that through culture many people will experience things the same way. When a whole culture
commonly accepts an understanding of something, it is part of a culture’s intersubjectivity. Intersubjectivity depends absolutely on our shared understandings of the world and of our actions in it. [3] When we attempt as critics to approach phenomenology, it is important to attempt to know that, “Understanding is not the move from a single closed horizon of the present into the single closed horizon of the past, it is the fusion of horizons into a wider ‘superior vision’.” [2]

User Centered Design

“User-centered design” is fundamentally phenomenological because it is grounded in, that is its source of data originates in the understandings, interpretations, and everyday practices of users rather than in the external world as such. [1] It should be obvious, working in a user centered approach, that the goal is a full understanding of the “User.” As we presented, critical approaches are about exposing and exploring alternative assumptions about the key relationships in our field...it is worth exploring the ways “the user” and “the design artifact” are (or could be) constructed and the implications of these constructions for interaction design. [1]

One of the approaches to conducting a user-centered design is the idea of ethnography. Ethnography is a form of anthropology that focuses on the observation and documentation of cultures. Garfinkel’s ethnographic work revolves around a sense of innovative concepts which capture the features of common-sense, everyday reasoning. [7] Ethnomethodology emerged from ethnography to study how people make sense of their everyday lives, without the length required to truly run an ethnographic study. In other words, the focus in understanding action is on how people create and use meanings rather than on how cultural perceptions, norms, and values ... provide such explanations” [7]

When looking at how ethnography is practiced, a few key points stick out that are important when considering user-centered design. Three of these ideas are the documentary method, the idea of indexicality, and Ad-Hocing. The documentary method refers to the ways that members build up coherent frames from small clues. Indexicality is the way that things only make sense within a specific context. And Ad Hoc-ing is a device that people use to apply knowledge from one context to another. [7]

Both ethnography and ethnomethodology are attempts to study culture, trying to limit the influence the researcher has on the culture they are studying. This is an interesting idea when creating a user-centered design. There is, however, no way to completely remove the ethnographer or ethnomethodologist from the culture they are studying. The language and culture from which the researcher comes will inadvertently have an affect on the culture being researched.

In much the same sense that all ethnography will influence a culture, when designing an interaction the designer will actively impact the people and culture where the design is used. “Every piece of software reflects an uncountable number of philosophical commitments and perspectives without which it could never be created. Software depends inevitably on our ideas about representation and reality.” [3] It is important for the designer to use critical judgment when making design decisions. Judgment can best be understood when it’s considered within the context of knowledge, knowing, and the knower. To put it simply, judgment is knowing based on knowledge that is inseparable from the knower. [10] Expert judgment differs from opinion inasmuch as it engages in disciplines of judgment, such as aesthetics and critical theory, that offer the intellectual tools to develop rational arguments about cultural phenomena that are difficult or impossible to measure or evaluate scientifically. [1]

As designers continue to create technological interactions, they must realize “interaction with technology is now as much about what people feel as it is about what people do.” [5] Ethnography and ethnomethodology are two ways designers begin to attempt to truly understand the feelings of people who will use the design. The more advanced technology as become, the more there has been a shift to designers very explicit attention on ‘user experience.’ [5]

Also important when designing for users is doing design that takes a balanced approach to the user, the interface, the tools used to mediate the interaction, and the artifact itself. The “transparent” harmonization of user and interface constitutes what would, in criticism, be called a theory of hermeneutics. In this tacit theory, an interface solves a well defined problem in a coherent, cognitively supportive, and explicit way. [1] Context-based design builds on human-centered design by positioning the interactions between users and mediating tools within the motives, community, rules, history, and culture of those users. In addition, context-based design calls for designers and evaluators to reflect on the elements of their own context and on the way that this space interacts with the space of technology use. [4] As a designer, while creating the artifact, as in any social cultural context, the relationship between the activity and the tool is a reciprocal one. Activities shape the requirements of particular tools, and the application of the tool begins to reshape dimensions of activity. [4]

All of design is about balance and judgments. There is no perfect when it comes to doing design work. Instead, it is the role of the designer to create a new design that is situated among the rest of the world appropriately, among other designs, the context it is part of, and the users who will be interacting with it. Systems do not exist in a vacuum but rather are situated in a broader context of networks of interacting systems. Design questions and practices revolve around the interactions and interdependence of these nested
environments. These interactions and their interrelatedness constitute the complexities of design. [4]

**APPLYING PHENOMENOLOGY TO IMPROVING THE DESIGN OF ONDEMAND**

As we begin to apply the ideas of phenomenology and user centered design to the Comcast OnDemand system, it is first important to understand the user of the system whose lifeworld and experiences we can analyze phenomenologically. In this particular interaction, the OnDemand system should be designed for the “consumer audience.” [6] Comcast OnDemand is built for people who want to use it to pursue their everyday lives. The product is not designed for someone whose interest in the system is due to the advanced technology capable of delivering the content. This critique is interested in approaching Comcast OnDemand through the lifeworld of a couple who plan to spend a quiet evening together at home, relaxing, and watching a rented movie. “We must remember, when thinking about interactive technologies as consumer products and people who buy and use them as consumers, is that consumers are not passive; they actively complete the experience for themselves.” [5]

For us to truly take a phenomenological approach to critiquing OnDemand, we must not view the design from another perspective, such as a happy couple. Instead it is our role to merge our lifeworld and understanding of the world alongside the lifeworld of the user. As described before, understanding is not the move from a single closed horizon of the present into the single closed horizon of the past, it is the fusion of horizons into a wider ‘superior vision’. [2]

Comcast OnDemand is just one current service offering “video rental” capabilities. Going backwards through video rental system technologies, and beyond to the movie theater, we can see many similarities, and explore the experience of watching movies. When choosing to go to a movie at a theater, a couple can either look up what is playing as well as show times at home, or they can drive to the theater to look at what is available. Once at the theater the couple will pass lots of colorful, attention grabbing posters of currently playing and upcoming movies. Also, before entering the specific theater where the movie is playing, the couple will walk through the lobby, smelling popcorn and candy, and seeing all the bright colors of the concessions on display on-top of, behind and inside the counters. Once inside the theater the couple will see previews, full of action packed sequences, funny jokes, and melodramatic scenarios.

Technological advancements in VCR’s in the 1980’s allowed people to not just watch those movies either new in theaters or broadcast on television. With VHS tapes, consumers now had the ability to buy and rent movies to watch at home. This technology led to the “video rental” business that in America was dominated by the Blockbuster company. Blockbuster video, like OnDemand, allowed customers to choose a movie to watch for a limited rental period.

This capability is not what made Blockbuster the Fortune 500 company it became. As exemplified in the marketing slogan “Make it a Blockbuster night.” there was more to Blockbuster then just being another movie rental business. “With 8,000 tapes covering 6,500 titles, it had an inventory many times larger than that of its nearest competitor. In addition, tapes were displayed on shelves throughout the store, as in a bookstore (Figure 4), so that customers could pick them up and carry them to the front desk for check out. A magnetic strip on each video and sensors at the door discouraged theft. Computers were used to keep track of inventory, and a laser scanning system, which used barcodes on the tapes and on members' cards, simplified and reduced the time involved in conducting transactions.” [10]

Blockbuster was committed to offering more titles than its competitors, but most importantly, the store left the movies out on the shelves for the public to pick up and interact with. These movies were dispersed around the Blockbuster, with new releases along the outer wall, and the rows of shelves in the middle of the store divided by genre of film. For a couple who decided to “make it a Blockbuster night” they could go to the local Blockbuster (which after aggressive expansion had over 1000 stores by 1989) and walk the aisles looking at the movie selection in much the same way the same couple could walk around inside a movie theater looking at all the movie posters on the walls. Also, familiarly to the couple, inside each Blockbuster TV’s were hung from the ceilings broadcasting previews for new releases and upcoming releases. These TV’s offered previews for the couple either picking out a movie

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*Figure 4. The layout of Blockbuster Stores*
to watch or looking at future choices, just as the previews before a movie do at the theater. Lastly, waiting in line to complete the rental transaction, the happy couple at Blockbuster was surrounded by candy and popcorn, much like the theater lobby. In a theater, passing through the lobby is the last step before entering the movie while in Blockbuster, waiting to check out is the last step in the Blockbuster movie rental interaction.

Through an advance of technology, Comcast OnDemand has taken another step forward in movie rental systems. With Comcast OnDemand, movies can now be rented without leaving the comfort of the living room couch. The same happy couple who in the past had to conform to a theater schedule, or who had to drive to a Blockbuster for the benefit of the diverse selection, can stay home to choose and enjoy a film. Comcast OnDemand, however, does a mediocre job of creating the “movie” experience so familiar to the couple.

First, the interaction is now mediated through a remote control and GUI for the first time. “As in any mediated sociocultural context, the relationship between the activity and the tool is a reciprocal one. Activities shape the requirements of particular tools, and the application of the tool begins to reshape dimensions of activity.” [4] The tool used for Comcast OnDemand is the Comcast remote control (Figure 1). When navigating the GUI, a user presses the arrow keys to move between options and selects using the “OK/Select” button. To move back one level, the user has to hit the “Last” button. If the user accidentally hits the “Guide”, “Menu”, “My DVR,” or a number of other buttons, they will quickly take the user out of the OnDemand menu and potentially into another GUI such as the “My DVR” function. This in a Blockbuster store would be as if the couple was only able to walk through the store in one direction and without signs. If they went the wrong way down an aisle, they would immediately be outside the Blockbuster store and have to re-enter and walk all the way through again.

While talking about the remote control, it is a good time to introduce Heidegger’s concept of present-to-hand and ready-to-hand. When an object is ready-to-hand, it is an extension of the user. When the couple is happily browsing the movie options, using the remote to scroll through the movie listing, the remote is a tool being used as an extension of the user. Unaware of the specifics of the tool, the couple is focused instead on the task at hand (in this case finding a movie.) When the tool itself is the focus of attention, it is known as ready-to-hand. On the other hand, present-to-hand refers to the idea that the tool as an artifact is in the user’s consciousness. You are no longer using the tool for the task at hand; you are focused instead on the tool itself. The Comcast remote quickly becomes present-to-hand when an accidental key press removes the couple from the menu system. While trying to figure out which button pressed caused the abrupt exit from the OnDemand GUI, the remote is now present-to-hand.

Inside the OnDemand GUI, a couple loses much of what made the Blockbuster experience successful. Blockbuster’s success, again, is largely dependent on the movies public display on store shelves. As a couple spends time examining the choices of movies in a Blockbuster, they are free to pick up multiple movies, walking from section to section adding options to the list of “maybes”. As more movies are considered, the couple can compare options against one another, and based on any qualifications they want, narrow the selection. Inside Comcast OnDemand, however, this opportunity to separate potential “maybe” choices from the total movie selection is unavailable. This gives the couple the experience of each movie being tethered to its spot on a particular shelf as if they had to go back and forth across the store to compare options.

This experience is exponentially worsened for the happy couple as they try to understand the groupings and labeling of the hierarchy presented in OnDemand. As mentioned earlier, Blockbuster is divided into shelves containing movies grouped by genre and those with new releases along the outer walls of the store. For OnDemand, however, once inside the “HD OnDemand” -> “Movies” categories, the couple is provided the options “2 Day Rentals”, “All Movies”, “All New Movies”, “By Genre”, “Indies & Foreigns”, “Just In”, “Movie Collections”, “Same Day as DVD”, and “Same Day as Theaters” and “Trailers”. This grouping of categories is of no use to a couple who is unaware which movies Comcast is providing inside categories such as “Same Day as DVD” or “Movie Collections”. At this point the experience is now of a happy couple who must wander through a maze of aisles trying to remember what they saw and where, without being able to carry potential movie options with them as they explore what is available.

![Figure 5. Cover flow style interaction.](image)

To better model the experience of the Blockbuster store, OnDemand, should instead, explore the “intersubjectivity” of how people collectively categorize movies, providing groups based on common organization such as “New
Release” or “Genre.” OnDemand could also provide “cover-flow” style (Figure 5) interactions presenting the movie boxes to be seen in the same way they are seen on shelves. Adding a “maybe” list of sorts would also give the couple a chance to narrow the selection slowly in the same way they can carry around multiple options inside the store.

Another design flaw that occurs while using the OnDemand system is exposed while the user is watching the previews and video information provided by Comcast. If the user is watching the previews, listening to what OnDemand has to offer, for three minutes without pressing any buttons on the remote, a “screen saver” will appear due to inactivity, hiding the GUI behind a black screen. Showing just the Comcast logo and the time, this black screen completely blocks the picture, but the audio continues to run for the video being shown behind the black screen. To the couple using Comcast OnDemand, this would be the same as if they were stopped from watching previews at Blockbuster because they were loitering.

CONCLUSION
This paper has attempted to first explore Comcast OnDemand, as a video delivery system, introduce the cultural theory of phenomenology, then tie the philosophy to the idea of user-centered design, and follow with a critique of OnDemand using this new understanding of culture.

Comcast is not the only company that should be concerned with keeping culture and critical approaches to culture in mind when doing design work. Any design that is attempting to replace or improve on a current interaction in the real world would find value through the exploration not only of the phenomenological aspects of the world their design will fit into, but also of philosophical approaches to culture to examine the meaning of their designs. Each new design that becomes real will find its place in the world among the people who interact with it, influencing and being influenced by the culture surrounding that particular group of people. By approaching the design of an interaction critically, one can “expose and explore alternative assumptions about the key relationships in our field...it is worth exploring the ways “the user” and “the design artifact” are (or could be) constructed and the implications of these constructions for interaction design.” [1]

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