The Enrollment of a New Technology and the Subsequent Redistribution of Roles and Responsibilities in an Online Game

Abstract: Using actor-network theory and distributed cognition, this paper describes how a new third-party modification ("addon") was adopted and enrolled into the coordinated action involved in team battles of a player group in the massively multiplayer online game *World of Warcraft*. The addon was instrumental in helping the group become efficient and successful with many in-game battles. Interestingly, after playing a *temporary* role, its use was no longer necessary for a specific in-game encounter, since its original intended role never needed to be filled in that specific fight. This analysis helps us see that people and their material resources collectively share responsibilities and that the distribution changes over time as new challenges are met and as new actors enter the network.

Keywords: Ethnography, collaboration, video games

Objectives, Theory, and Methods

This paper uses an actor-network theory (Latour, 1987, 2005) and distributed cognition (Hutchins, 1995) lens to document how a new technology was enrolled into the work of an existing player group within *World of Warcraft* (WoW), necessitating a change in how roles and responsibilities were distributed among all the actors in the network. This work is important to education because it helps us understand how

distributed networks of coordinated work changes over time as new technologies are introduced, something which other formal and informal settings must take into account when engaged in collaborative practice. Drawing on a tradition of massively multiplayer online game (MMOG) ethnography (Taylor, 2006; Steinkuehlher, 2007), I studied and played with the group for ten months, collecting chat and video data of our gaming sessions, and used discourse and interaction analyses to understand the data.

The new technology or actor was a third-party modification or "addon" to the game and was first introduced to the WoW gaming community about four months into my study. It was adopted, first slowly then readily, by the group under study, as its services became increasingly clear. It was instrumental in helping the group become efficient and successful with many in-game, coordinated battles against formidable monsters, known as "raid" battles. This process occurred in multiple nested networks, from the local "arrangement" (Stevens, Satwicz, & McCarthy, 2008) or "assemblage" (Deleuze & Guattari, 1987; Taylor, 2009) of individual players to the larger arrangement of the group. It also occurred across multiple timescales (Lemke, 2000), from micro actions and reactions to in-game events to macro changes in overall strategy between individual gaming sessions over several weeks. This paper is a story, in other words, of how a historically-based network of online gamers was disrupted by unexpected events and of the redistribution and renegotiation of group responsibilities done by the network's dynamic, adaptable actors to overcome those events.

Description of Game and the Actor Network

Each character in WoW fits into an archetypal role based off of precedent in the fantasy role-playing game and massively multiplayer online game (MMOG) genres. In representation, characters are Warriors, Priests, Rogues, etc., but for the purposes of the underlying game mechanics, these various hero classes can be roughly categorized into a function-based tripartite consisting of "tank," "healer," and "DPS." Each of these categories has specific duties and responsibilities to carry in a raid battle. Tanks, with their plentiful health points and massive armor, must keep the monsters occupied and focused on them while healers continually spend mana or magic points, casting spells to make sure the tanks stay alive. DPS (shorthand for damage per second, a way of valuing damage dealers) can then go about actually killing the monsters.

Each role in the tripartite is necessary to be filled for a raid to be successful. A monster, however, generally attacks whomever it deems is the most threatening to their survival. If a DPS hits particularly hard or a healer heals too effectively, the monster may take notice and decide to hit back. Whoever has the monster's attention is said to have "aggro," and the monster switches targets when players "steal aggro" from others. Tanks can try to prevent this by activating various abilities meant to maintain aggro, while the DPS and healers try to keep their performance at an even, consistent, predictable level without "bursts" that would make the monster take notice. In other words, many of the encounters in WoW are a balancing game where the three roles work to maximize their efficiency while keeping the tanks the focus of the monsters' attention.

The way in which a monster decides who to attack is completely reactionary to the actions of the raid members. The underlying "brain" of the game creates a table that includes a row for each raid member, and in each row is a number that starts off at zero

and increases a certain amount every time that particular raider activates an ability. The amount depends on the ability. This number is called the "threat level."

When the raid group I was part of first started, we each had to internalize our threat level and play it by ear, so to speak. There was no common resource or explicit knowledge of specific numbers associated with specific abilities. In fact, many of us did not really know that threat was based on a constant cumulative number. We surmised that threat was loosely based off of damage dealt, but we did not know that it was a cumulative of all damage over the course of a fight, no matter how long that fight lasted.

About four months into our raid's life, we started using a new addon called "KLH Threat Meter" or "KTM" (Kenco, 2006). KTM did the work of keeping track of which abilities a particular player used while fighting a monster and how much threat those abilities generated. It then displayed that information to that player. What's more, any instance of KTM could talk to other instances of KTM installed on other people's machines and thereby aggregate all of the threat data for all players who had the addon installed, displaying relational charts of everyone's threat level to each player. This allowed the offloading of human cognition to a nonhuman resource, effectively eliminating much of the guess work that went into *World of Warcraft* fights.

Before the addon, my raid group had progressed to Ragnaros, the last boss in Molten Core. Our raid practice included chat that was multi-threaded and interleaved, hierarchical and specialized, roughly divided by class role (Author, 2009). One thing this allowed us to do was to be highly coordinated in our tactical take-down of a raid boss. By the time KTM was introduced, we had become quite proficient in dividing up our attentional resources and communicating along specialized channels. After KTM became

the standard, the necessity of using those chat channels lessened. Suddenly, any player of any class could keep track of the threat generated of all the other players. Not only did the addon help us with our cognition, it's use also forever changed who communicated with whom about what, most notably allowing raid leaders to caution specific raiders about their threat generation. This effectively substituted knowledge-based trust in others with a technological advancement where trust or faith in other players' ability to manage their threat didn't matter. Yet, at the same time, KTM let us be much more efficient in our monster killing.

Results: Using KTM as a Temporary Actor

Managing threat, relying on the tripartite class roles, is pretty much the paradigm for how fights worked in all fantasy MMOGs. Blizzard designed encounters that tested out different ways to alter threat mechanics. One example is the Ragnaros fight, in which Ragnaros would regularly Knockback all melee characters including the tanks and then throw fireballs at random ranged players.

In a crucial session of raiding representing some of our earliest attempts at killing Ragnaros, the Rogues in the raid group (there were five regulars, myself included) knew what was supposed to happen in the Ragnaros fight. Yet, for some reason, we kept dying. Ragnaros would, once in a while, focus his attention on and kill a Rogue.

Naturally, we thought that this meant we had an aggro problem, leading one Rogue, Roger, to tell the others how to play:

> this is a steady high dps fight, no bursting, bursting will get you aggro, in my experiance (sic), anything over 1000 gets rags to say hi to ya

Roger believed that threat was not an additive measure and that gaining aggro was simply a matter of moment-to-moment damage output. If damage output was ever too high in a particular instant in time, aggro would be gained. This goes against the tests done by Kenco that resulted in his relatively accurate threat meter—accurate because it treated threat as a persistent, cumulative number representing the sum of all threat generated with all abilities used during a particular fight.

Since I had the threat meter addon installed, I had an idea that it wasn't our threat generation that was the problem. Yet, my personal understanding of how threat and aggro were calculated likewise was still forming, so I could not recognize Roger's misconception. Also, all I knew was that *some* of our threat levels were nowhere near the tanks' levels, but since not all of the Rogues had installed the addon at that point, I could not say for sure if it was true for all Rogues.

After our second attempt at killing Ragnaros for the evening, another Rogue, Rand, said, "I got aggro on that one. Not sure how, was using the same technique as last time." To this, I replied:

> so, I have threatmeter on... noticed I wasnt very high up and did a cold blood evis [high damage abilities] just fine.
>
> I strongly suggest you get the mod... so you can judge how good you are on aggro

This response was further indication that I could not say for sure that Rand did not have a threat level problem, but I did confirm that aggro was not gained simply by doing burst

damage. Note that, at this point, I had already enrolled KTM into my personal arrangement, placing my whole trust into this nonhuman actor for certain responsibilities. I knew that my previous practice of keeping the *feeling* of threat in my head was inexact, and I assumed that this blackbox of a tool could do it better than me. KTM, in turn, gave me permission to push the limits of damage, and it also let me enroll it as evidence for why threat wasn't the Rogues' problem.

Eventually, on our fourth attempt, it became clear that the Rogues were pulling aggro even though they were nowhere near the threat level as the tanks. This was demonstrated when Roger died after the first Knockback. When Roger used the general raid channel (instead of just commenting to the private Rogue channel) to say, "i hit him once. that made no sense," the raid leader, Maxwell, replied with:

> Roger, they [the tanks] may have been out of position for just a second
> which is enough for anyone else to get aggro who is in melee range.

Elevating his talk to the larger chat channel elicited new information from Maxwell that further helped the Rogues diagnose aggro problems. Maxwell was correct. The reason why Rogues were being killed was because we were running into position and getting within Ragnaros's melee range before any tanks had gotten in range.

This new information from Maxwell added to the information that I presented to the other Rogues in the previous fight from the threat meter addon, such that, by the time we fought Ragnaros again the following month, we had put it all together and delayed our approach to Ragnaros after a Knockback so that a tank got within melee range first.

By using KLH Threat Meter to see that our threat level wasn't high enough to theoretically pull aggro, the Rogues had to think of other possible reasons why we were being targeted for attack by Ragnaros. Thus, KTM played a role as a temporary actor within this raid encounter. KTM was used to diagnose problems, not to actually alert us of threat level dangers throughout the fight. Once we figured out that threat wasn't the problem, we essentially no longer needed KTM for the Ragnaros fight.

Significance

This analysis helps us see that, within a learning space or network, people and their material resources collectively share responsibilities (Hutchins, 1995), and that the distribution of these roles and responsibilities change over time as new challenges are met and as new actors enter the network. After a failure or a disruption, a network stabilizes when all the actors within it are in agreement on how the responsibilities are distributed (Sismondo, 2003). Furthermore, the roles certain actors play in the network may not always be the ones they were originally intended to play.

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