

# Playing with Information: Information Work in Online Gaming Environments

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## ABSTRACT

Digital games are saturated with information. Massively Multiplayer Online games (MMOs) require players to collect, organize, manage, and interpret vast volumes and varieties of information in a distributed, networked environment. Yet, they often provide players insufficient tools to effectively accomplish these information tasks. In response, some members of the player community build modifications (mods) and addons to the game software. Mods and addons usefully and creatively address some problems of utilizing information in digital environments; by analyzing them, we can gain insights into possibilities for organizing information in digital environments.

## Categories and Subject Descriptors

H.1.2 [Models and Principles]: User/Machine Systems – *human information processing*.

## General Terms

Design, Documentation, Human Factors, Management, Theory.

## Keywords

MMOs, mods, addons, WOW, information organization.

## 1. INTRODUCTION

Online interactive media environments, such as MMOs, provide players immersive experiences. These information-intensive spaces demand a high level of information literacy to advance, and the volume and variety of information presented can be overwhelming [2, 3]. Starting with the extensive information required for choosing a player's character avatar, the information becomes increasingly intricate as the game progresses, filled with detailed statistics, rumors and gossip, opinions and social norms. To survive this wealth of information, players develop expertise by engaging with a large, active fan community, some of whom are spurred by the information challenges in MMOs to create mods and addons to the game software to improve their game

experience. We review some challenges players face when they collect, organize, manage, and interpret information in MMOs, and their efforts towards overcoming those challenges, by examining World of Warcraft (WOW), a popular MMO at 12 million active subscriptions globally.

## 2. CHALLENGES OF INFORMATION WORK IN WORLD OF WARCRAFT

### 2.1 Collecting and Organizing Information



Figure 1. Standard, un-modified WOW UI.

Collecting information in WOW presents challenges because of the vast number of possible sources. In-game sources provide information of immediate relevance to gameplay and advancement in the game. A major source of information is the User Interface (UI); in the example provided (see Fig. 1), we can see information about the player's character in the upper left corner, a map of the nearby area in the upper right, and information about the player's items and powers along the bottom. Monahan [1] investigated players' information seeking behavior in WOW, and found that information was often found serendipitously (e.g., through the comments about a blog post, rather than the post itself). This incidental information acquisition indicates that not only does WOW challenge players with a large volume of information, but that this information is broadly distributed among players, the game itself, and other resources, including official and unofficial sources, such as forums, wikis, and blogs.

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Figure 2. A keyring helps players organize their keys.<sup>1</sup>

In addition to the volume of information, the variety of types of information presents another challenge. To advance in the game, certain items are required at specific times (e.g., in the heat of battle). As the standard UI is cluttered (Fig. 1), the Bagnon mod allows players to group their keys into a single keyring (Fig. 2). This mod also provides information about how many of a particular key a player has, and about which keys have additional powers. The standard WOW UI, however, mixes keys in with other items, and does not group them together.



Figure 3. Metadata about the readiness of a poison.<sup>2</sup>

Metadata is also crucial. The TradeTabs mod (Fig. 3), for instance, makes visible metadata about the readiness of potions by informing players which herbs and containers and how many of each are needed. The standard WOW UI (Fig. 1) does not provide this information at a single glance, and so, by harnessing the power of metadata, players innovate to improve the play experience.

## 2.2 Managing and Interpreting Information



Figure 4. Managing information about outfits<sup>3</sup>

After successfully collecting and organizing their information, players manage it to ensure it continues to meet their needs. The Outfitter addon (see Fig. 4) provides a virtual wardrobe for players, so they can choose the outfit ‘best-suited’ to the situation (e.g., raiding, dancing, etc.). Again, metadata is exploited to provide further information about individual pieces and about the outfit as a whole (e.g., “Crit Chance: 17.02%”). Players use this metadata to create new combinations of outfits, as their understanding of the game increases in precision.

Because WOW challenges players by requiring a variety of types of information, interpreting information becomes another difficulty for players and an opportunity to develop expertise. Steinkuehler [5] described players as ‘reading’ an avatar based on its visual presentation to learn about the status or experience level of other players. The visual grammar of avatar presentation is based on player culture of the game, attitudes of players towards their avatars, and race/class/gender influences (both in-game and outside it). For example, some players might disregard a Level 5 avatar wearing Level 20 armor because they suspect that player has not earned that armor. Alternatively, other players might seek out that same avatar to determine whether that avatar is friends with someone at Level 20, a level they’re trying to reach. For players to accurately interpret this nuance, they must be familiar with a broad array of factors.

## 3. DISCUSSION

Information is increasingly available through a variety of digital tools and environments. Yet, the challenges of information work remain painfully salient. The examples presented here demonstrate that the player community of WOW offers many innovative alternatives for information work. A unified interface could provide a single “command console” in which users can collect information. The difficulties of information organization can be eased by making metadata visible and customizable, and using such metadata to make information and applications individualizable. By centralizing information collection and leveraging metadata, information management then becomes part of a fluid, holistic user experience, rather than a daunting task, by

<sup>1</sup> <http://www.wowinterface.com/downloads/info4459-Bagnon.html>

<sup>2</sup> <http://www.wowinterface.com/downloads/info6948-TradeTabs.html>

<sup>3</sup> <http://www.wowinterface.com/downloads/info5467-Outfitter.html>

presenting information in well-organized, well-labeled groupings. Using the above-described strategies for information collection, organization, and management, users can then focus their time, attention, and energy on interpreting and making meaning of information. While the above could be understood as system design recommendations, they actually serve only to illustrate many of the inadequacies of current systems and potential possibilities of future systems for working with information in digital environments. In our future studies, we hope to improve our understanding of how players use such information organization tools, why they may be motivated to create them (building from [4]), and whether the use or non-use of such tools may influence gameplay or their game experience.

#### 4. REFERENCES

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