Genres as a Tool for Understanding and Analyzing User Experience in Games

Zhan Ye
Blackwell Consulting Services
1908 Tracy #6, Bloomington, IL 61704, USA
zhanye@msn.com
309-824-8862

ABSTRACT
HCI has profoundly changed the way people work with computers, it also has the potential to help shape the way people entertain in the digital age. As a popular entertainment form, games are poised to become the next frontier for HCI research. However, the broader HCI community only has limited knowledge of games. The intent of this demo is to paint a broad picture of today's games. We employ genre theory, which has been widely used in film study, as a framework to introduce a variety of games, analyze different interface metaphors and user experiences of games, and present innovative interaction techniques and devices used in games.

Keywords
Genre, genre conventions, game, user experience, user interface, interface metaphor.

INTRODUCTION
In the past two decades, games have emerged and matured into an influential entertainment form. Games offer vast opportunities for HCI researchers and designers to study human-computer interaction (single player games), and human-human interaction (multiplayer and online games). Due to their popularity, games also provide an ideal test bed for various innovative interaction techniques, input/output devices, and interface metaphors.

However, the broader HCI community still lacks knowledge of games. Most people's understanding of games is limited to their experiences decades ago, without realizing games have become more complicated, diverse, and rich in both content and form.

To help HCI researchers and designers better understand games, we apply genre theory, which has been widely utilized in film study, to the explanation and analysis of games. We believe genre theory provides a systematic approach as well as appropriate perspective to help us better understand games.

GENRE DEFINTION
Genres have been used as a tool in the categorization and analysis of films for several decades. Film genres are mostly defined based on content (such as subjects or themes) and/or form (presentation and style) [1]. For example, the Western, the gangster film, the Kung Fu movie are genres defined by their themes, whereas melodrama and thrillers are defined mainly by form.

In recent years there has been a growing interest in applying genre theory to digital interactive media [2]. Through the study, many researchers have realized that genre definitions in traditional media tend to focus on content and themes but ignore the existence of audience and their participation [3]. Some suggest that functionality be introduced in addition to content and form to help define digital interactive genres [4]. Mark J.P. Wolf further suggests that game genres should be defined based on interactivity [5].

Gamers and those in the games industry have formed industry standard genres naturally during the past two decades. Examining them we notice that the majority are defined on interaction and user experience rather than not based on content or form. The name of genre usually conveys directly what kind of user experience it delivers. Because of this, genres provide an appropriate perspective for us to understand and analyze different interactions in various types of games.

GENRE CONVENTIONS
Genre conventions are a set of elements that distinguish one genre from another. Within a genre these elements are repeated over and over. Film genres have the following genre conventions: narrative structure, themes, setting, iconography (such as familiar patterns of images and dialogs), and film language (camerawork, lighting, editing).

Game genres also have their conventions. Many of them are inherited and transformed from those of films. For example, iconography becomes visual style (such as screen layout, display of in-game visual interface components, and player perspective) and editing becomes use of cut scenes in games. The genre of a game typically communicates itself to the gamer first through its unique visual style. It helps the

gamer quickly recognize the genre and load the appropriate expectations about the user experience.

After the gamer has successfully identified the genre by recognizing its visual conventions, he will try to use his prior knowledge of the genre to play the game. Here genre conventions involving interaction and user experience come into place to help him. Three observable genres conventions are interface metaphor, pace and control schemes. Games depend heavily on the gamer's familiarity with these genre conventions to achieve a successful playing experience.

Some believe that digital interactive genres can be defined using interface metaphor alone [6]. Each game genre utilizes a unique virtual world and interaction system. Conceptual models are needed to interpret how different virtual worlds behave and how user interface components affect them. Metaphors that reflect the physical world around us are used to help users make the connection between their experience and the tools available in the game world.

Pace is also an important factor in shaping user experience in games. Some genres require good eye/hand coordination and the reaction speed of the gamer is crucial to success in the game. Others are more casual and can be played in a laid back manner. The pace of a game can be crucial in determining the actions required by users, the tools available to users, the challenge level of the game and even the game's target audience,

Control schemes are also conventional. Different genres have different control schemes. RTS (Real-Time Strategy) games use mouse as a pointing device just like in any typical WIMP interface, whereas FPS games use mouse to control the camera with two degrees of freedom. These control schemes have been polished over time and proven effective to their genres.

GAME GENRES

Using the concept of genre and genre conventions described above, we demo a number of games of popular game genres – RTS, FPS, RPG (Role Playing Games), SIM (Simulation Games), ACT (Action Games), etc. The participants identify the games' unique visual styles, and analyze different interface metaphors and control schemes in games.

FUTURE DIRECTIONS

Novice interaction techniques and devices have been actively tested on games and achieved commercial success. HCI researchers may be surprised to find out that in many areas their visions have become realities. For example, SONY's EyeToy implements a full-body, vision-based perceptual interface for its PS2 console. EyeToy shares many similarities with a prototype demoed at CHI 2003 [7]. Unlike the prototypes built in the labs, these products or games can help gather real-world feedback and provide useful lessons to the broader HCI community in learning how to apply those interaction techniques and devices to mass consumer market.

Further discussion is brought regarding genres as a design tool. Genres help the designer find the target audience more easily (especially in user testing) and established genre conventions give the designer guidelines and standards to follow. However, genres can also limit the designer's creativity since conventions are hard to break and miscommunications may interfere with player's enjoyment of the game. The creative designer has to use conventions but also mix them with his own vision and ideas, and give adequate communication to the gamer.

Digital genres are hardly static. Rapid development in technologies always destabilizes the foundations they are built upon. Some game genres become obsolete, others emerge with the advent of new interaction techniques and devices. Hybrid genres (cross-genres) are enacted by combing elements of different genres together. They bring unique design challenges since they incorporate different interface metaphors and control schemes into a single game.

CONCLUSION

This demo is among the first to connect the HCI community with the gaming industry. As a vibrant and promising field, games have much to offer the HCI community. And genres provide a good starting point for understanding, analyzing, and designing various user experiences in games.

ACKNOWLEDGEMENTS

I would like to thank Kevin Keeker of Microsoft Game Studios for his guidance and support.

REFERENCES

1.Daniel C., An Introduction to Genre Theory, http://users.aber.ac.uk/dgc/publish.html

2.Stefan H., Mattias A., and Fredrik A., Genres and Design Considerations of iTV Cases, Proc. of NordiCHI 2000.

3. Thomas S., Hollywood Genres: Formulas, Filmmaking, and the Studio System, McGraw Hill, 1981.

4.Shepherd, M., Carolyn W., The functionality attribute of cybergenres, Proc. 32nd Hawaii International Conference on System Sciences, 1999.

5.Mark J.P.W., The Medium of the Video Game, University of Texas Press, 2002.

6.Elaine G. T., D. Grant C., Genre as Interface Metaphor: Exploiting Form and Function in Digital Environments, Proc. 32nd Hawaii International Conference on System Sciences, 1999.

7.Konrad T., Daivd D. Trevor D., Gesture+Play: Full-Body Interaction for Virtual Envirionments, CHI 2003 Extended Abstract, Ft. Lauderdale, FL, USA.