Human Computer Interaction in Game Design

To understand the role of human computer interaction in game design, we need to understand human computer interaction, game design, and then find the connection between them. Human computer interaction (HCI) is a multidisciplinary field that develops technologies to make human interaction with computers easier. It is said to be multidisciplinary because it not only requires designers to have software development knowledge, but to also understand human psychology, language, and sociology to predict the human responses to interactions with computers.

Game design is a cross of programming, art, and writing to create the content and rules of a game. According to Roger E. Pedersen (2003) and Bob Bates (2004), the main principles underlying game design are player empathy to anticipate the reaction of a player, feedback such that for each player action there is an outcome, grounding the player so that the player always knows their goals and position in the game, interface design to ensure functionality, ease of use and intuitiveness, and customizable controls such that the user has as much control of the interface.

According to Hung Nguyen (2012), "the visual quality of a game is very important. A poor interface can ruin the entire video game experience". How do HCI principles help game design reach its goals?

Understanding game players and their goals will play a huge role in making the decision on what elements to use. For example, different fonts and text colors are used for different types of games; in an action game, a user has more adrenaline and using red text complements this feeling whereas in an educational game, a user's purpose is to concentrate and using more muted colors would be better. Further, depending on the education levels of game players, designers may choose to use commonly known icons instead of text, for example using a trash can icon to represent deleted items instead of using a "trash can" label.

Making interfaces easy to learn and easy to use would make a game more enjoyable. To do this, a designer must use HCI principles to make the interface intuitive and understand how humans perceive size, depth, brightness, and color. Gestalt Laws define how a human groups different shapes while observing them which are essential for User Interface design. These laws include consistency, proximity, similarity, connections, and closure.

Iterative testing, a principle in HCI, would help in discovering bugs in games and fixing them. The lesser the number of bugs in a game, the less frustrations a player encounters and therefore the more their enjoyment.

In conclusion, human computer interaction principles have to be integrated into game design to make the experience enjoyable and rewarding for the players.

References:

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