Playing Without Numbers

An exploration of the relationship between
the players degree of confrontation with numerical values
and his empathy with the game-world
of computer-role-playing games

(Abstract)

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Background

Traditionally, computer-role-playing games rely on displaying numerical values to the player, to provide him with information about various attributes of the games entities, like talents and health of characters or damage dealt by weapons. This is done so the player can anticipate the results of possible actions taken by him by precise mathematical and logical consideration. He can decide on a weapon by comparing the damage of available weapons as well as their speed, weight or other relevant properties. His fighting tactics depend on the skills the main character possesses, and the direction, in which the skills are trained over the course of the game depend on the players favorite tactics. So, in order to come to decisions about his own actions the player needs to be familiar with the game's mechanics and mathematical rules to a certain extend.

On the other hand, role-playing games have always had a strong narrative component. More then other genres, they emphasize an intricate story and coherent game-world. One might preconceive that the player's need to deal with complex game mechanics produces a distraction, impeding his empathy with the game-world, by constantly reminding him of its artificiality.

Thesis

To counter this effect, it seems advisable to eliminate numerical values from the game experience, without compromising the players ability to consider his action's possible outcomes in an informed way, which means that he still requires some kind of feedback, informing him about relevant variables concerning characters and game-world. Determining the validity of this assumption was this works aim, so the thesis reads as follows:

> The player of a computer-role-playing game feels more empathic to the game-world, if the display of numerical values is replaced by other forms of feedback.

Methods

In accordance with established research methods, the effect of the omission of numerical interface-information on the player can only be explored by forming an experimental group and a control group, exposing them to gameplay-experiences that differ solely in the aspect to be researched and finally evaluating and comparing their experience.

The prototype

Consequently, in order to verify the thesis, two game-prototypes had to be developed, one using a traditional interface, including the display of numerical values and the other without that interface but alternate ways of conveying relevant information. In all other aspects these versions had to be identical. Due to the tremendous effort of creating such a prototype from scratch, a modification of the game **Gothic II** by **Piranha Bytes** was utilized. This modification is titled **Piratenleben** (**A pirate's life** or **The life of pirates**) and the story covers the adventures of Rhen (the player's character) attempting to join a group of pirates in order to escape poverty and hopelessness.

With the assistance of the game's online-community, this modification was once again modified to hide all numerical values from the player and to implement other forms of feedback. For example:

–   To represent the strength of a character, his body is scaled in width an depth accordingly, making him appear skinny or brawny.

–   A characters injury is conveyed by a matching amount of blood, dripping off his body, as well as a trail of blood, appearing wherever he goes. For the player-character, additionally the sound of a beating heart is played at according volume and speed.

–   Item properties are communicated by descriptive texts which let players guess them with adequate accuracy.

This version of **Piratenleben** was named the **sinenumeris-version**, while the original **Piratenleben** is referred to as **standard-version**. For the further research, people who played the **sinenumeris-version** formed the experimental group, while people who played the **standard-version** formed the control group.

The questionnaire

After playing, participants were encouraged to complete an online-questionnaire which has been designed to analyze their gameplay-experience. It was composed of four pages:

Page 1 contained questions designed to learn more about the participant: his age, the extend of his previous experience with computer-role-playing games, how long ago he completed each version of **Piratenleben** and about which version he intends to provide information.

Page 2a was shown only to participants who did not complete any of the two versions. They are asked how long they have played each version and of what reasons they have aborted playing.

Page 2b attempted to retrieve information about the participants general experience with the game. It included a matrix-question consisting of different statements about the gameplay-experience with which the participant can agree or disagree in six increments as well as a ranking-question which requires to bring several motivational elements in order, according to the significance the participant places on them.

Page 3b was a quiz of knowledge, asking about insignificant details of the game-world. It was assumed, that a player who is more empathic for the game world unconsciously perceives more of those details and will achieve a higher score. The validity of this assumption was confirmed by Christian Schmidt, an expert on computer-role-playing games of the editorial staff of germanys most successful computer-games-journal.

As the number of participants reached a sufficient amount, the online-questionnaire was closed and evaluated.

Results

Basically, the results of both groups were very similar, differences not as distinct as anticipated. However, two questions produced meaningful data:

– Story and game-world were perceived in a more positive way, which was inferred from the fact that the experimental group abandoned the game more rarely due to dissatisfaction with those aspects.

– The Feedback of the **sinenumeris-version** had much less potential for distraction of the player, with the exception of a missing character sheet. This was shown by the matrix-question on page 2b.

Also members of the online-community commented about their game-experience:

– They found the amounts of blood, added as a means to provide feedback, to be exaggerated.

– Especially the main character's health was not depicted in a way that conveyed sufficiently accurate information.

– Players of the **sinenumeris-version** felt more empathic to the game-world.

During evaluation and interpretation of the data however, a significant discrepancy in the perception of the game experience emerged, depending on the extend of a participants previous experience with computer-role-playing games. By accounting for this variable, additional information could be extracted from the raw data:

– Experienced players were strongly motivated by the **sinenumeris-version**'s novelty,

– on the other hand, they were less motivated by the story

– and showed less empathy for the game-world.

– They also found the **sinenumeris-version** to be more difficult.

Suggestions

With the aid of the conclusions stated above, it is possible to devise suggestions addressed to game-designers, defining what obstacles to consider, if they decide on removing numbers from their games, and what benefits to hope for.

The data suggests the necessity for a period of acclimatization to the new feel of the game for players who have considerable experience with computer-role-playing games and are therefore accustomed to traditional game mechanics. During this period, these players can be expected to be highly motivated by the games novelty. Inexperienced players however are not required to go through this period, since they are able to adapt much faster and easier to the absence of numerical data.

Additionally, the alternate feedback given to the player must be selected and arranged very carefully, especially the substitute for the character sheet and the display of the main character's health. Also the mistake to exaggerate this feedback must be avoided, since this would be more annoying then helpful.

If these suggestions are adhered to, game designers can reckon with a player's increased empathy and awareness for the game-world, as well as their more positive opinion of it.