

USERS' EXPERIENCE IN ROLE-PLAYING GAME: MEASURING THE PLAYER'S GAMEPLAY EXPERIENCE

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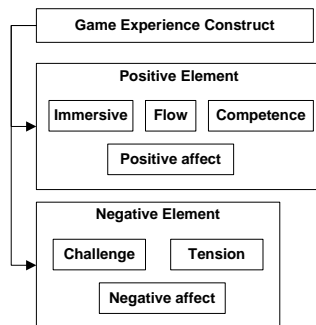
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Article history

Received
15 May 2015
Received in revised form
1 July 2015
Accepted
11 August 2015

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Graphical abstract



Abstract

This study is related to the users' gaming experience which is gained through a set of users' activities to play computer games. The activities are designed based on the features of games that are desired by the users. As a result, the RPG computer games have been designed and user gaming experience via questionnaire has been tested. There are seven constructs measuring the immersive, flow, competence, tension, challenge, positive affect and negative affect. The results showed the constructs that lead to positive values is indicated by the mean value for the user's gaming experience is very good, and vice versa for the mean construct geared negative value.

Keywords: Game Interface Design, User experiences, RPG

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1.0 INTRODUCTION

Computer games, for example an application system, should provide an idea on the purpose of research in artificial intelligence because they use relatively complex simulation and multi-agent dynamic world [1-4]. Furthermore, computer games offer a basic set of cognitive models in an interactive form [4].

In the down time change, [5] looking computer games also insist on a new challenge in the study of various scientific disciplines - either existing or yet to exist. Perhaps in 1944, Neumann and Morgenstern are the first researcher who tried to discuss the game scientifically on the basis of mathematical economics as a science. After more than half a century, Aarseth (2001) along with fellow researchers have sought to understand the basics of computer games in the theory of literature [5, 6].

In general, as is known, computers interact directly with the mental processing in terms of perception, emotional, sensual and human concepts [7]. This statement is further strengthened by a study by Muller

[8] who argue that computer games are also believed to remove the effects of the relationship of enjoyment to social work. The computer game is also said to be very outperform especially in relation to social contexts that involve the relationship between humans and the computer itself. This is also consistent with what is stated by Al Mahmud [9] who say the game is an experience that can be widely considered as a means of social interaction and enjoyment score, and playing games can also help to improve the quality of life, especially for the elderly who have enough free time.

This is further reinforced by the study of Sykes and Brown [10] at Caledonia University, Glasgow who said there are several benefits of telephones which can be obtained from computer games and can be used to provide the gaming experience to the users:

- the ability to generate dynamic game content with reference to the affective state of the player,
- ability to communicate with an affective state of a game player with a third party. - This is an example of an online game played by more

than one player, where the other players are not physically present. However, it still involves the emotions of other players that make the game fun. Affective Gaming technology can address this issue by having the on-screen persona reflecting the player's emotional state while playing,

- use new game mechanics based on the affective state of the player.

A study conducted by Phillips [11] argues that it is not only because the lack of experimentation with a description of the appropriate meaning to describe the purpose of gaming experience is not found but it really is hard to describe the purpose of the relationship between the game and play of user experience. This problem is not just for computer games, but also in other fields of study which concerned with user experience.

Brown and Cairns [12] and Al Mahmud [9] noted that one of the dimensions of the immersive user experience can be defined as the involvement of players in the game. A player is expressed as follows in qualitative interviews: "The game could connect me more deeply with yourself and I think I would be into the game".

2.0 USER EXPERIENCE

Most studies in the field of gaming experience, where it can be seen as a subjective relationship between the players with the game itself, carried out in a controlled environment [13].

Nacke and Lindley [14] stated gaming experience has been seen as something subjective that is closer to feeling comfortable earned while playing the game.

One of the major challenges faced by the research community of the game is the lack of a coherent and appropriate methods and tools which enable measurement of entertainment experience can be performed in an accurate, reliable and valid [15]. This is because emotions are not representative of the fun players in which players also prefer a deep sense of involvement that they get when they play the game [16].

In 1990, Csikszentmihaly presented all eight components of the flow, which is a clear goal; high level of concentration; loss of sense of self-awareness (a sense of peace); by distorted sense of time; feedback directly and immediately; balance between ability level and challenge; intrinsically satisfying sense of personal control [5, 17-19].

To measure the level of user's gaming experience, IJsselsteijn [20] have developed and validate against a questionnaire called the Game Experience Questionnaire (GEQ). This questionnaire was used to identify differences between the seven different dimensions in the user experience, the sensory and imaginative of immersive, tension, competence, flow, challenges, positive affect and negative affect [15, 21, 22].

3.0 METHOD

Basically, this study is a large study that uses a model of User Centered Game Design (UCGD). However, in this paper only a small part of the method are taken by using a produced computer game design and GEQ questionnaire and then analyzed using SPSS to find the mean and standard deviation of the obtained data.

3.1 Design

Computer games originally designed to take into account the views of users through the features of the game design obtained through research. The pilot study was conducted with regard to multimedia development model that uses 3 main constructs which are interface, interaction and information.

Based on the findings from the three constructs cases, a computer game design is produced. A computer game called "The Legend of Garuda" was made possible by integrating the genre of Role-Playing Games (RPG) in it for ease of use and animate the available characters.

Participants will make a hero character in this game as self representation to save his village which is disturbed by the giant bird.

3.2 Participants

Data was collected from a sample of 94 people aged between 15 and 35 years. As part of the experimental setup, demographic data were collected with special respect to the suggestions made by Appelman [23] and Nacke [14]. 28% were male, while 93% of participants were right-handed. All the participants owned a personal computer (PC) and 78% rated this as their favorite gaming platform. Other preferred platforms were Xbox 360, Playstation 3, PS2 and mobile phone. 73% consider themselves as casual gamers, 9% were hardcore gamers, and the rest are not sure which on in there.

All participants play games at least twice a week, while 29% play every day. 46% played between two and four hours per day.

3.3 Procedure

The study began with the players given a designed computer game titled "Legend of Garuda". Figure 1 shows how users play the produced game design. The display shows a video footage of facial expression which synchronize users with the display of computer game interface design. In this study in fact, the emotional impact of users are also considered. In Figure 1, the design of interface computer games studied are shown.

Once the participants involved in the study to play this game, they will be given a questionnaire adapted from the game experience questionnaire developed by IJsselsteijn *et al.* [22].



Figure 1 The design of computer games used in the study

4.0 RESULT

Data from the questionnaires were analyzed using SPSS. The mean value and standard deviation were obtained. The result is shown in Table 1.

From the table, the data can be broken down into two groups: the positive and negative elements. Construct immersive, flow, competence and positive affect contextually categorized as positive elements and constructs tension, challenge and negative affect is a negative element.

All constructs positive element shows the mean values of more than 3.00 to show agreement. While two of the three constructs of negative element showed a mean values ranging from 3.00 and below which showed the sign of disagreement.

Table 1 The mean and standard deviation for games experience

Construct	Min	SD
Immersive	3.28	0.16
Flow	3.16	0.46
Competence	3.29	0.21
Tension	2.45	0.14
Challenge	3.28	0.41
Positive Affect	3.40	0.21
Negative Affect	2.33	0.17

*N = 94 respondents

Positive Affect constructs recorded the highest mean among constructs a positive element of 3.40. Among the questions asked under this construct; I felt content, I felt good and I enjoyed it.

The lowest mean value for the negative element is negative affect construct of 2.33, which the questions asked under this construct; I found it tiresome, I felt bored and I was bored by the story

5.0 DISCUSSION AND CONCLUSION

This paper has described and analyzed the results of an experiment to measure gameplay experience. This is one of the main purposes of this study, apart

from seeing the emotional impact that is formed from the played games. Using the GEQ, we can see that the constructs which affect the gameplay experience based on game interface design have been produced.

The game experience questionnaire showed that it can accurately measure the components, but only on the negative affect and tension showed significant discrimination in this experiment. This could be caused by the design of the game. Eventhough flow, immersive, competence and psotive affect may intuitively understood by most players, aspects of positive elements seems to be the best evaluated with GEQ because it showed a substantial increase in the flow (which has gradually increased throughout the combat challenge). This of course leads to the final battle, culminating in a very challenging and thus may have been seen as a more holistic challenge, even at the beginning of the battle to have the same density as in the level of immersion. Overall, the results GEQ seems to confirm that the proposed design for the flow. However, there seems to be sufficient evidence in the data to distinguish between the subjective experience of immersion and level of boredom. [24]

Studies conducted to determine the level of user games experience will be supported by a subsequent study of the determination of user's emotional effects towards game interface design.

Acknowledgement

Acknowledge is given to the Universiti Teknikal Malaysia Melaka (UTeM), Durian Tunggal, Melaka, Malaysia to support my research. For this paper, the gratitude to the CRIM which has approved financing for this paper from a research grant PJP / 2013 / FTMK (19C) S01246

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