

Consumer Driven Computer Game Design

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ABSTRACT

The Critical Incident Techniques (CIT) is widely used to study customer satisfaction and dissatisfaction in the service industry and provides respondents with an open format to describe in their own words incidents that create lasting impressions. The purpose of this research is to develop a methodology for computer game design with the goal of creating games that increase the consumer's satisfaction. Too often, game designers create games that satisfy their own perceptions of a good game without considering the needs of the consumers that will play the games. Customer driven computer game design applies the critical incident technique as a means to define the elements of good and bad game. A methodology is described whereby game designers establish the goal and intentions of the game by listening to the voice of the consumer. The concept was tested by distributing CIT surveys to active game players who each wrote two stories about their game playing behavior and experiences. The first story described the respondent's best experience playing games and the second story described their worst experience. The stories were archived and content analyzed using Gremler's best-practice methods for identifying categories and critical incidents. A summary sheet describing the frequency of good and bad incidents was derived by three coders. The respondents' original game playing stories were further abstracted into key good and bad descriptions and appended to the summary CIT frequency data sheet to create a consumer game report. The report was then used by creative designers as a reference point for designing new games.

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Keywords

Critical Incident Technique (CIT), game design, consumer, qualitative survey

Four criteria were used for defining a critical game incident -- involves a game playing experience, is satisfying or dissatisfying from the player's view; is a distinct event, and provides sufficient detail so that the researcher can imagine what happened. Any consumer statement that did not conform to the criteria were excluded from analysis. The open-ended survey consisted of two parts, one page for describing the best game experience and another page for describing the worst game experience. Each respondent was asked to write about their experience:

Please describe your best experience playing a computer game. Describe the game in detail and explain exactly what you liked about the game. Describe the experience of playing the game so that I will know exactly how you felt, what you enjoyed most, and what the game gave you that other games did not. Tell me where you played the game, tell me about how you paid to play the game, and tell me about the skills required to play this great game. When you describe your good game playing experience, make me feel like I am there with you playing the game.

The second page was created by simply negating statements. For example, "best experience" was changed to "worst experience." In order to ensure uniform and reliable content analysis, the two content analysts participated in a short training class. The class defined the purpose of the study and provided a means for judging and categorizing critical incidents. A third analyst recoded the incidents to calculate inter-judge reliability. The inter-judge agreement between the first two analysts and third analyst was 88% for the best game experience incidents and 86% for worst game experience incidents. The two values of I_R are acceptable since these values are larger than the mean index used in past CIT studies (Gremler, 2004).

RESULTS

Among the 61 respondents, about 70 percent were male and 30 percent female. Roughly 70 percent of the respondents were students and all respondents were less than 30 years old (ages range from 13 to 29) with the average age of 22. Table 1 and Table 2 display the multi-level classification system for each scenario. The themes can be separated into distinct outlooks under "game" and "player." The operational definition of each category and the frequency and percentage of each category, theme, and topic are summarized below.

The Best Game Experience

Of the best game experience incidents, almost 60% of the incidents were classified under the game outlook and included the categories good art design, good background music, and on-line

functions of the game. The game outlook consists of seven themes and ten categories whereas 40% of the incidents are grouped under the player outlook. Further, the items under the game outlook tend to be mentioned in the narrative first. For example, “image” (good art design) and “game story” were more apt to be described before “emotional reactions” and “relationships with others.”

The Worst Game Experience

For the worst game incidents, almost 80% were classified under the game outlook. For example, difficult to control, terrible game story, and bad art design are critical categories. The worst game incidents under the player outlook include emotional reaction, relationship with others, and language obstacle.

CONCLUSION

Creative artists were asked to review the consumer reports on the elements of good and bad game design. After reviewing the data, the artists were asked to design a new game that they felt would most likely satisfy the customer’s view of a good game. The creative artists were then assigned the task of creating a new game but were evaluated on their ability to satisfy the customer driven game criteria. Upon completion of the concept design process, each artist submitted a one page story describing the game and supplemented the story with concept drawings that represented the game and the game protagonist. The game concepts were field tested using focus groups of consumers that matched the target demographics of the new game. Future research will report the success of the methodology for customer driven computer game design and provide details of the game concepts selected by teenagers and young adults in Taiwan.

Table 1. Best Game Experience Critical Incidences (CI)

Categories Items	Frequency of CI ^a	Percentage of CI	Narrative Order of Mention ^b		
			First	Second	Third
Outlook A: Related to Game	115	59.3%	35(30%)	31(27%)	25(22%)
Theme A1: Image	47	24.2%	17(36%)	11(23%)	8(17%)
Category A1-□: Good art design	29 (49.2%)	14.9%	14(48%)	7(24%)	4(14%)
Category A1-□: Good roles display	15 (25.4%)	7.7%	3(20%)	4(27%)	2(13%)
Category A1-□: Stage setting	3 (5.1%)	1.5%			2(67%)

Theme A2: Game story or scenario	29 (49.2%)	14.9%	12(41%)	11(38%)	5(17%)
Theme A3: Game playing mode	12	6.2%	1(8%)	2(17%)	6(50%)
Category A3-□: Diversity	7 (11.9%)	3.6%	1(14%)		4(57%)
Category A3-□: Novelty	5 (8.5%)	2.6%		2(40%)	2(40%)
Theme A4: Sound and voice quality	9 (15.3%)	4.6%	1(11%)	2(22%)	1(11%)
Theme A5: Controllability	9 (15.3%)	4.6%	2(22%)	4(44%)	2(22%)
Theme A6: Online function	7 (11.9%)	3.6%	2(29%)	1(14%)	2(29%)
Theme A7: Firm service	2 (3.4%)	1.0%			1(50%)
Outlook B: Related to Player	79	40.7%	24(30%)	25(32%)	16(20%)
Theme B1: Emotional reactions	27	13.9%	8(30%)	8(30%)	7(26%)
Category B1-□: Accomplishment	11 (18.6%)	5.7%	3(27%)	4(36%)	4(36%)
Category B1-□: Tension and excitement	7 (11.9%)	3.6%	2(29%)	2(29%)	2(29%)
Category B1-□: Enjoying surrealism	5 (8.5%)	2.6%	1(20%)	2(40%)	
Category B1-□: Expressing feelings	4 (6.8%)	2.1%	2(50%)		1(25%)
Theme B2: Relationships with others	18	9.3%	4(22%)	8(44%)	3(17%)
Category B2-□: Playing game with friends	12 (20.3%)	6.2%	2(17%)	5(42%)	2(17%)
Category B2-□: Contact with others	6 (10.2%)	3.1%	2(33%)	3(50%)	1(17%)
Theme B3: Learning knowledge	11	5.7%		4(36%)	4(36%)
Category B3-□: Training abilities	7 (11.9%)	3.6%		4(57%)	2(29%)
Category B3-□: Acquiring new knowledge	4 (6.8%)	2.1%			2(50%)
Theme B4: Cost	8 (13.6%)	4.1%	4(50%)	2(25%)	
Theme B5: Having sense of reality	6 (10.2%)	3.1%	4(67%)	2(33%)	
Theme B6: Challenge	5 (8.5%)	2.6%	3(60%)	1(20%)	1(20%)
Theme B7: Collection	4 (6.8%)	2.1%	1(25%)		1(25%)
Total	194	100.0%	59(30%)	56(29%)	41(21%)

^a The bracket percentages are calculated by dividing into the total number of respondents.

^b Only the first three orders where respondents presented their incidents in the narrative are shown. The percentages represent the ratio to number of incidents.

Table 2. Worst Game Experience Critical Incidents

Categories Items	Frequency of CI ^a	Percentage of CI	Narrative Order of Mention ^b		
			First	Second	Third
Outlook A: Related to Game	88	79.3%	41(47%)	24(27%)	14(16%)
Theme A1: Image	23	20.7%	8(35%)	6(26%)	6(26%)
Category A1-□: Bad art design	12 (21.4%)	10.8%	6(50%)	2(17%)	2(17%)
Category A1-□: Improper role display	11 (19.6%)	9.9%	2(18%)	4(36%)	4(36%)
Theme A2: Controllability	21	18.9%	13(62%)	6(29%)	2(10%)
Category A2-□: Difficult to control	15 (26.8%)	13.5%	11(73%)	4(27%)	
Category A2-□: Game Interface	6 (10.7%)	5.4%	2(33%)	2(33%)	2(33%)
Theme A3: Unbalanced difficulty	15	13.5%	7(47%)	5(33%)	
Category A3-□: Too tricky	11 (19.6%)	9.9%	7(64%)	2(18%)	
Category A3-□: Too simple	4 (7.1%)	3.6%		3(75%)	
Theme A4: Game story or scenario	12 (21.4%)	10.8%	8(67%)	1(8%)	3(25%)
Theme A5: Firm service	5 (8.9%)	4.5%	2(40%)	1(20%)	2(40%)
Theme A6: Instruction	4 (7.1%)	3.6%		3(75%)	
Theme A7: Sound and voice quality	3 (5.4%)	2.7%	1(33%)	1(33%)	1(33%)
Theme A8: Program design	3 (5.4%)	2.7%		1(33%)	

Theme A9: System requirements	2 (3.6%)	1.8%	2(100%)		
Outlook B: Related to Player	23	20.7%	12(52%)	6(26%)	3(13%)
Theme B1: Emotional reactions	12	10.8%	8(67%)	3(25%)	1(8%)
Category B1-□: Boring	10 (17.9%)	9.0%	6(60%)	3(30%)	1(10%)
Category B1-□: No accomplishment	2 (3.6%)	1.8%	2(100%)		
Theme B2: Relationships with others	8 (14.3%)	7.2%	3(38%)	2(25%)	2(25%)
Theme B3: Language barrier	3 (5.4%)	2.7%	1(33%)	1(33%)	
Total	111	100.0%	53(48%)	30(27%)	17(15%)

REFERENCES

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