

Game Design and Critical Analysis

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Introduction

This paper will be looking into different methods of how to gather and analyse information in order to make a better product. I will be talking about questionnaires, playtesting sessions and interviews as these are the most common methods of gathering information in the gaming industry. I will go through the research on each of these methods as well as the way that I applied them in the real world and what I learned from performing them.

Questionnaires

Questionnaires are the most commonly used method to gather and analyse information as they allow for the collection of vast amounts of data that can generally be easy to analyse and put into easy to understand graph formats.

Research from how to write a questionnaire

While conducting research on how to write a questionnaire these were the most common tips I could find. The most emphasized advice I came across was to use short close ended questions as this allows you to more easily convert the information into a graphs and stops participants from becoming daunted or bored.

I also found out that you should try to make the questions distinct from each other since this stops the participant from feeling like they are answering the same questions over and over again which can make them frustrated. This can lead to participants trying to rush through the questionnaire and possibly not reading the question properly causing them to not show their true opinions. It also means that any information you would gain from these questions would be redundant as you have already gained the results you required.

Do not ask leading questions was a very important tip as it means you will not pollute the participants opinion with your own meaning the data

will be more reliable. This can be hard as people often have their own opinion of a subject and want to be validated so the best way to overcome this is to make the question fairly vague while still being clear enough to obtain viable information.

Be selective with what questions you use so that you get information that you are actually able to use, this also helps reduce the number of questions in your questionnaire so participants are less daunted meaning more participants and better results.

It is also important to make response clear so that participants know how to respond to the questions. Despite seeming simple it is still very important since if a participant is confused as to what or where to answer and puts an answer they did not intend it will affect the results. The participant could also become frustrated by the questionnaire leading to a rushed and polluted questionnaire as an agitated mindset may impact their impression of the game.

In a questionnaire you should also avoid negative phrasing as it is similar to asking leading questions and can influence the participants opinion and skew results. However this is mostly often used to discredit something and make your own product look better to a potential buyer or investor.

Do not use jargon in questionnaires once again seems fairly simple however it is important as participants may not know it and will be unable to accurately.

It is important to think about how you will be able to analyze and present the results once you gain them so that they will be easy to understand. Keeping this in mind will also help with selecting relevant questions,

improving the overall quality of the questionnaire and minimizes the number of questions making it more appealing.

Thinking about what information you actually need will also help with writing a questionnaire. It may be better to actually write two questions at different times when the information is more useful or relevant.

I have written three questionnaires two of which are very similar as they were meant to gather quantitative data and had a similar goal of getting feedback on some test animations. The other questionnaire was written to try and get qualitative information for my dissertation about character representation in video games.

The way that you present the information you gain from the questionnaires will change depending on what questions you ask however, quantitative questions are almost always best presented in the form of a graph as they tend to be colourful and easy to understand. You can also combine some of the questions into a single graph eg if you ask a participant what kind of games they play and how long they tend to play games. Which can lead to some interesting correlation and can help define your target market.

It is harder to present qualitative data however you can use a word cloud to highlight the most commonly used words which can be useful when looking at a large number of qualitative responses to see people's general opinion.

What does the team want out of the animations?

The animations for the children should make them look nervous and vulnerable. Due to the majority of the costume designs being large and bulky the children should appear to have difficulty moving and possibly be off balance. The animation should look smooth so that they are more pleasant to look at and does not distract the player from the game.

Animation walk cycle

This questionnaire was written in order to get feedback on the potential walk cycles for the children in Trick or Eat. The animations shown were roughly done concepts to try and get a better understanding of how we wanted the characters to move.

As previously stated one of the goals for the walk cycles was to try and make the children look vulnerable while also keeping in mind the bulk of some of the costumes that would limit their movement possibly making them look a little more goofy which we wanted to avoid.

In the questionnaire I asked the participants these questions.

1. Do you have any experience with animation?

Yes/No

2. What is your favourite kind of animation?

[Open Question]

3. Does the character look vulnerable?

Yes/No

4. How balanced is the character?

Unbalanced 1-10 very balanced

5. How smooth does the animation appear?

Not smooth 1-10 very smooth

6. Which animation do you prefer?

Walk 1 or Walk 2

7. Does the character appear to have difficulty moving?

Yes/No

8. If so how much difficulty are they having?

Little difficulty 1-10 lots of difficulty

9. How do you think the animation can be improved?

[Open Question]

The questions I was most interested in getting the answers for were questions 1, 3, 6 and 9. Questions 1 and 2 were primarily context questions that helped me gauge how informed their opinions were. Question 1 helped me gauge if they had any experience with animation which informed me of their technical insight into the process of animation.

Question 2 helped me by letting me know what type of animation they are most familiar with which let me know what these test animations were being compared to.

As mentioned previously we wanted the children to look vulnerable so question 3 was asked in order to see if the characters actually came across as such. 75% of the 8 participants said that they the animations did in fact make the characters look vulnerable. However only 50% of participants that said they had experience with animation thought they looked vulnerable. Due to this I plan to look further into research on people's body language in order to make the characters seem more vulnerable.

Questions 4 and 5 were about the overall quality of the animation with 4 being about how realistic the character themselves appears to distribute their weight while moving. Question 5 was about any abnormalities the characters made while moving. The responses for question 4 were largely varied with one participant giving a three out of ten while another participant gave it a ten out of ten, however, the majority of 37.5% of participants rated the balance of the character at a seven out of ten which I consider acceptable for a test animation.

The results of question 5 are the ones I would disagree with the most as the lowest response I received was a six out of ten which feels high when I look at the animation especially at close up however that means

it may be possible in standard gameplay where the camera will be significantly further away. The positive feedback is appreciated and noted however further refinement of these animations will be required for the final product.

In response to question 6 about which walk cycle was preferred an overwhelming majority of 87.5% of the 8 participants said that they preferred walk 1 however in hindsight I should have had an open ended question asking why. I would agree with most of the participants choices as Walk 1 was much more straightforward and refined. Walk 2 was experimental one trying to limit the characters manoverbity as if they were wearing the costumes and was interested in seeing how people responded to it.

Question 7 at this point is not entirely relevant as it is about how much difficulty the characters are having moving so this question was more of a baseline to see how much they had to change. However 87.5% said that the thought the animations did show the characters having difficulty moving which means I may not have to do that much tweaking of them.

Expanding on the previous question this question asked participants to rate how much difficulty they thought the characters were having on a scale from one to ten. 50% of participants rated the characters difficulty of movement at a 6 which is not quite as high as I would like.

The final question of the questionnaire was to try and gain specific feedback on the animations. Most of the feedback mentioned smoothing the animation out a bit and an interesting comment saying walk 2 looked like it was floating which needs to be addressed.

Death Animation

This questionnaire much like the previous one aimed to get feedback on some animations this time for the death animations of the children in Trick or Eat. The only difference was question 6 which asked if they preferred death animation 1, 2 or 3.

Out of the 5 participants in this survey 80% said that they preferred death animation 1 and no one said they like the second death animation.

When asked how they thought the animation could be improved there were some comments saying that the animations were too fast as well as some saying that the legs looked strange at times.

Animation 2

This survey was an amalgamation of the previous two surveys. I did this so I could get responses relating to both animations with one survey that would make gathering information easier. I also rearranged some of the questions in the questionnaire to try and make it flow better. I also added an open worded question in order to gather more information on a previous question. This questionnaire was given to college students looking to join the games course so their feedback could potentially be very useful.

Once again this questionnaire starts off by asking the participants if that had any experience with animation, however, this time when asked if they had any experience in animation, two of the four participants said that they had some experience with animations. This is especially good since they are prospective game development students they may have a better understanding of how game animation differs from other forms of animation.

The second question was still a follow up question to get an understanding of what kind of animations my animations were getting compared to. The most interesting response I got to this question even across all three variations was that one participant stated that their favourite kind of animation was ragdoll animation. I found this interesting since ragdoll animations are almost always generated based off the physics engine of the game and not actually made by an animator.

The third question asked participants if they thought the character was vulnerable. Once again this question had a 50-50 split however what's also interesting is the fact it does not correlate with the responses from the first question.

In the fourth and fifth question I asked a linear scale question on a scale from 1-10 about the characters balance and the smoothness of the animations. The feedback I received was positive with the lowest response being a 6 on the characters balance.

The most disappointing result for me came from question 6 where I asked the participants if I thought the character was having difficulty moving. Unfortunately all of the four participants said that they did not think that the animations made it appear that the character was having difficulty moving.

The following question was optional and was just to extrapolate on the answers of the previous question by having participants rate the characters difficulty moving on a scale from 1-10.

Question 8 asked participants if they preferred walk animation 1 or 2. This question had another 50-50 split. Once again this response did not correlate with the answers from the first question.

Question 9 was trying to find out which of the 3 death animations the participants preferred. Like in the results from the previous questionnaire death animation 1 seems to be the overwhelming favourite and no one seems to like death animation 2.

This question is a new question which was an open ended question which was added to get more information as to why they preferred the animation of both the walk and the death however I don't think I made it clear enough as the responses seem to be just for the death animation. The reason they picked the animation seems to be because they think it is smoother and more expressive.

Looking at this question in hindsight I should have either made it more clear that I was looking at responses to both of the previous questions or made it into two separate questions. I also would have been more constructive to ask why they didn't like the other animations so I could improve them. That would however make the following question redundant since I would be asking the same question twice just worded slightly differently.

The final question asked the participants what they thought could be improved about the animations. The feedback I got from this question was varied and most of which was useful.

Qualitative questionnaire

This questionnaire was done as part of my dissertation to try and gather qualitative information for my dissertation on character representation in video games. It was aimed at females to get an understanding on how they feel they are representative in video games. It was given to females attending an open day as well as some female associates. The reason I designed this questionnaire to gather some quantitative data that could be easily compared and more importantly qualitative data that would give me more specific points that I could talk about.

The other reason other reason I wanted qualitative data is that I believed that the issue I was talking about could have justifications where some of the issues I was talking about could be deemed necessary or acceptable. I also thought that it was important for the argument that I should try to understand people's personal experiences and opinions.

The first question in this questionnaire asked the participants if they believed that they considered themselves a gamer. This question was asked to determine how much experience they had with games since this would allow me to see how the opinions from those who play games compared to those who do not.

The second question asked how many female characters could they name. I made this question as an open response question opposed to a

linear scale or multiple choice response, as this would allow me to also see which characters were most well known. The answers for this question ranged between 1 and 18 responses which showed a huge difference.

The third question of the questionnaire was one of the main parts of I was curious about. It asked the participants if they thought that female characters were oversexualised. I asked this question as I believe this to be the case and thought that this was the general opinion so I wanted to see how females feel about how they are represented in video games. Participants were then asked to expand upon their answers in an open ended question. The reason this was done was to gain an understanding on why they believed that females were or were not sexualised in video games. In addition to this, participants also pointed out genres of games that they believed to be particularly bad at sexualising females.

The next question on the survey was a yes or no multiple choice question to get an alternate viewpoint for the dissertation in order to get a more balanced argument. Participants were asked if they thought that male characters were oversexualised in video games.

The next question was again just asking participants to expand upon their answers to gain qualitative data.

The next question was again a yes or no multiple choice question to try and figure out if power fantasies were considered to be a form of sexualisation. This was important to the dissertation as it allowed for another viewpoint on the issue and let me know if people believed that the two issues were separate or the same which would dictate how I would go on to talk about them further on in the dissertation. The most interesting thing about this question was seeing how the response differed from the previous question, since more participants seemed to believe that power fantasies were a form of sexualisation than believed that sexualisation of male characters was an issue.

The final set of questions was intended to be a sizable portion of my argument which asked participants if they thought male power fantasies were as potentially as harmful as sexualised female characters. These questions was once again a yes or no multiple choice questions and an expansion of their answers.

Analysis of Work

Over the course of these questionnaire I have realised that I had underestimated how much work goes into writing a good questionnaire. The biggest downfall of my questionnaire was in its preparation as my final version was more akin to a pilot questionnaire as I had not done one and the number of participants was small. In the future I will make sure to pilot my questionnaire amongst the team before trying to get external input. I also plan to try an online survey in order to get larger feedback. I should have also numbered the questions in the questionnaire in order for me to be able to more easily analyse the questions after they have been completed as I found myself having to scroll back to the top frequently to figure out what questions I was on.

One of the things I learned while writing both the quantitative and qualitative survey was that it was you needed to have both types of questions in it. In particular for the qualitative questionnaire it was important to have the decisive yes or no questions that allowed me to show hard statistics in my dissertation. The yes or no questions should have also made people consider their answers more carefully since a yes or no is very definitive but the qualitative response afterwards allowed me to see their reasoning and/or thought process.

Playtesting

Playtest sessions are the most common method of gathering information on other people's opinion about your game. It is important to gain an outside opinion of your game especially from the target market of your game as they are the people most likely to buy your game.

There are several ways to conduct a playtesting session depending on what resources are available to you. Most large gaming companies have dedicated teams of in house game testers however it can also be an informal session between the developers or friends. Although not technically sessions sometimes game companies will hold temporary online sessions of their games to test the online functionality of their games or servers before the game goes live. It has also become more common to release an incomplete game in order to fund development and have continuous feedback as the game is being developed.

Observation is a vital part of playtesting as you can gather a huge amount of information on the player's engagement that they might not even be aware of. Another important reason to observe participants is in case they become stuck or frustrated with the game so that you can provide assistance. It is however important not to appear overbearing as this will put pressure on the participants.

Time is another factor of playtesting since there are usually limited resources so a time limit may be needed in order to have everyone participate in the test. On the other hand the game may be needed to be played for a minimum duration for the players to adequately learn the mechanics of the game or the test could simply be to see how long players remain engaged with the game.

Depending on what you want to test it may be important to inform the participants before hand so that they can keep it in mind during the playtest session. However if you just want to test general gameplay or how participants react to the game it may be best to leave them to experience the game with no information to get a true first impression.

Playtesting Sessions

These playtesting sessions we conducted were all informal and used small groups as we had limited facilities.

During these playtesting session I was helping run the sessions and not actually gathering any data so this is just my experience with how the sessions themselves went and not on how much useful information was able to be gained from them.

In the first play session we had three different versions of the game which each had a different camera in order to try and find which was the best for the gameplay. Unfortunately the different versions of the game were split across multiple stations which meant that participants had to wait for the other stations to clear before they could test the other versions of the game to continue the playtest session. There were other questionnaires provided by other members of the team for the participants to do when they did find themselves unable to access one of the computers with the camera they are supposed to be testing. This meant that participants had something to do while they waited so that they do not get bored and leave the play testing session.

Since this was the first play session we had a lot to learn from it, primarily that if you are going to have different versions to compare they need to be on the same computer in order to make the session more fluid.

In the next session we changed the way that we ran the session so the different builds of the game were running on the same computer. This session ran much more smoothly than the first session since there were fewer waiting times. This proved to be a much more efficient means of testing as it allowed for more participants and required less organisation.

Analysis of work

One of the biggest downsides of our testing was that we had little time to prepare as the builds of the games we were testing were completed minutes before we needed them. Due to this participants were sometimes forced to wait while we got everything up and running. We also didn't provide incentives for the playtesting session which may have meant fewer participants. However, now that the core mechanics are in their final stages it will mostly be a case of testing the levels which will hopefully go smoother in the future.

Interviews

Interviews are one of the best ways of gathering general information from a small group of people the reason for this is you get real time responses. You can also encourage interviewees to continue a line of thought that can be useful to your work. Depending on the context the people that you should be interviewing can change, for example since at this stage I am simply interested in general feedback I would be fine interviewing my classmates or people familiar with animations to gain the most valuable information. In the future I will be looking at feedback from my target audience so I would have to interview them to get any valuable information.

Interviews are normally conducted in one to one sessions as this makes it easier to observe and record the interviewee however interviews can also be conducted as a group depending on the formality. Conducting a group interview can be good as it allows the interviewees to help each other express themselves.

When conducting an interview you should record the audio so that you can listen back to what the interviewees actually say since peoples memory can be unreliable. When listening back on the recording you may also pick up on something you may not have during the actual interview. Recordings also allow you to get an exact quote if you need it for any reason.

Maintaining control of an interview can be a difficult task to balance as people's mind often wonder meaning they may not talk about something entirely irrelevant. These little unexpected offshoots from the planned questions can actually lead to useful information about the game. If you try to keep the interviewee on too strict a set of questions however they may actually become disinterested in the interview since they are not given the chance to say something they want to or feel the need to say. On the other hand it is very important to keep the questions and responses somewhat related to the actual subject so you get useable information.

Time is also an important factor when conducting an interview since you will most likely be conducting the interviews on individuals so the total time for all of the interviews may be quite large and you will most likely be listening to them several times to get useful information.

If you are planning to conduct multiple interviews on the same day it is probably best to leave some gap time so that if an interview runs longer than planned the next interviewee is not waiting too long.

Test interview

I only conducted and recorded one interview which I used as the basis for my qualitative questionnaire. The interview was not done under the best conditions since it was spontaneous so I did not have a list of prepared questions and I was not recording the audio. I did however make notes of the questions and responses as we went along, although they were paraphrased so they are not 100% accurate.

Conclusion

I have learnt a lot while testing out these various methods of testing and gathering information. Each methodology has its pros and cons however overall questionnaires seem to be the best method of gathering

information especially at the later stages of the design process since it allows you to gather and process the most amount of information when done correctly.

When it comes to my own performance when testing these various methods I feel like I was not proactive enough relying on open days or sessions created by other groups to try them out. With the questionnaires I should have done more iterations and merged the death and walk questionnaires earlier so I could compare the results more easily.

For the playtesting sessions I should have taken a more active role organising them as a member of the team.

Interviews were something I did very little with so my overall performance in that area needs to be improved.

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