How can frequent, effective playtesting during agile game development help create a more enjoyable product for the end user?

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This paper looks at how frequent, effective playtesting during agile game development can help create a more enjoyable product for the end user, it does this by looking at different research documents centred around agile testing processes. There is a focus on how enjoyment can only be measured correctly with interaction between the target audience and the game. Going on to summarise that early playtesting using agile is possible for all sizes of projects and saves time by highlighting potential changes early in the development cycle. Because these changes are driven by the target audience the finished product is more enjoyable for the user.

1 Introduction

Playtesting is a process of all game development, however there are multiple ways to go about it. This paper will be advocating for frequent, iterative

playtesting throughout the development cycle using target audience playtesters and the agile philosophy [1]. With an outcome of increased enjoyment for the end user and time saved in product changes and bug fixing in late stage development. The difference between target audience and professional playtesting will be looked at and how to have these combined saves additional time. Along with showing the viability for this process to be used in any size project, altogether showing the best way to move forward with playtesting in the game development industry. It has been said about game design 'begin by thinking about the experiences you want your players to have, understand what makes a game, and understand what pleasures people find in them.' [2, p.33] the only way to measure if your game is pleasurable for your target audience is through playtesting.

2 Playtesting for enjoyment

There are various methods for playtesting, such as automated software mentioned here [3], this type helps look to see if mechanics are viable and look for bugs. However due it it's lack of human interaction this doesn't help us see the human enjoyment of the game, though its an interesting thought that with improvements to artificial intelligence this may one day be possible.
The method this paper is interested in is human testing, getting people to play the game or parts of it while monitoring/recording their experience and requesting feedback. With this type you are able to get different data on how enjoyable the tester found specific parts of the game. Data can be collected by feedback from the tester themselves but also from monitoring facial expressions, audible noises from the tester and gameplay interactions. With this data collected you can accurately see the users enjoyment at given time during the playtest, basic software to detect this is available as well as

being researched and improved upon shown in [4].

A games user research [5] paper shows a way to create a basic set up to collect the data previously mentioned, although more sophisticated ways can be implemented with a higher budget. By using the agile method of game development, you constantly have new working sections of your game, these can be tested individually during production to discover if there are improvements to be made before moving on.

Having the developers present during playtests drives them to fix issues quicker. If something is really enjoyable to the player, to consider if that could be implemented in different aspects of the game, where it may not have yet been considered [5]. Given the iterative process of agile development, knowing what version of your product is the most enjoyable can guide the project. This path, that may not be seen as best to developers, could provide more fun for the end user. It is good to have the testers involved early in the process, having access to the planning, stand-ups and review meetings where possible [6]. This gives an insight into the direction of the game or part of it, allowing for more accurate feedback.

3 Hitting the target market

To accurately measure the users enjoyment it is important to make sure you are using playtesters matching your target audience, otherwise findings can not be confidently applied to the game [5]. An advised way to proceed with finding correct testers is to create user persona's that can be used when looking to hire testers, allowing for an 'easier time finding representative participants for their user tests' [5, p.3163]. It is possible to combine professional testers and target market testers by using the persona method previously mentioned. The combined testers are best used for early stage testing as

they will have a deeper understanding of unfinished products [7].

When towards the end of development you can look at beta testing the product. This generally uses testers who are just in the target market and not considered professional testers to get an idea of how the end user will respond. This leads into large group testing of the target market, where it is not always possible to have developers attend the playtests. As the test group grows it may become tricky to sort the feedback data depending on how it is set up. It is stated that 'While the results from beta tests are crucial for identifying important bugs in games, they are less satisfactory in helping to identify and fix gameplay issues or issues relating to fun' [8, p.4]. Therefore rigorous testing before this stage is required to enhance enjoyment created by the product.

4 All project sizes

Its commonly argued that agile doesn't work well for larger projects, though it is mentioned this is 'partially because of the lack of experience with large teams using agile processes' [9, p.18]. Another paper [10] shows how agile testing was used on a large software project saving a sizeable amount of time on fixing defects, defect longevity, and defect-management overhead. Although this wasn't for a game related project, and enjoyment wasn't considered, it does show that agile testing can be used for larger projects and have it work successfully.

On the opposite side it is widely accepted that agile works well in smaller projects. It can be a worry for these small teams to have the funding to be playtesting early in the project time line. However this paper [5] shows that cheap set ups can be made to accommodate the type of user testing needed to monitor enjoyment at a low cost. It also states how even using colleagues

can be a good option at the very beginning. There has been research done into agile success factors [11] showing 10 main factors, none of which are to do with project size. With these points made it is clear that the agile testing methods can be used successfully in both large and small projects, from beginning to end with improvements for the end product.

5 Conclusion

This paper clearly shows that all sizes of game development projects have the ability to implement user playtesting from an early stage in their development cycle while using agile. By doing this correctly they will not only be saving money and time but more importantly end up with an enjoyable product for their users. This way of working also could be implemented in non-game specific software development but more research would be needed to confirm the benefits. It will likely always be tricky to measure enjoyment accurately, but this paper does show that it is worthwhile to do what is possible, as this still has a good impact on the product.

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