WPI Playtesting Website Testing and Improvements

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Abstract

Worcester Polytechnic Institute's IMGD department requires MQP teams to conduct playtesting in order to graduate, yet past data shows that MQP teams do not complete effective playtesting. To improve the newly created playtesting website and MQP practices as a whole, we attended several WPI events to observe and interview teams regarding their playtesting practices. The specific events we conducted research at include Protofest, Alphafest, an IMGD Playtesting colloquium, and interviews with the website developers. From these meetings, we report in this paper how current MQP teams are conducting their playtesting, their opinions on the playtesting process, and how the IMGD playtesting website and process can be improved for future use.

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Introduction

At Worcester Polytechnic Institute (WPI), students must complete a capstone project known as the Major Qualifying Project (MQP) to graduate. This project can vary quite a bit depending on the student's major, but for many Interactive Media & Game Development (IMGD) students, the goal is to create an original video game. Part of this game development process is conducting playtesting at events such as Protofest and Alphafest, which take place during the middle of A and B terms respectively. The issue with this is that data from past MQP teams indicates that while the teams go through with playtesting to satisfy their project requirements, they do not care about creating the best methods or procuring meaningful results. The result of this data was a WPI playtesting website that MQP teams can use to upload their game and feedback forms to reach a wider group of people to playtesters more easily and effectively. As the website was only just introduced over the Summer of last year, this year's Interactive Qualifying Project (IQP) has been tasked with observing the results of creating the playtesting website in addition to observing the overall attitude of this year's MQP teams towards playtesting.

To assess the methods and attitudes of MQP teams, our IQP team attended both Protofest in A term and Alphafest in B term. The main goal here was to check whether or not MQP teams deeply cared about getting good feedback through these events, if they followed industry standards while doing so, and how useful they found the new playtesting website. The methods our team used for each event differs a bit, as only one member was active during A term when Protofest was held while two additional members joined starting in B term when Alphafest was held. This difference in manpower resulted in a higher difficulty and few opportunities when

collecting data from Protofest. Overall though, the questions asked and the behaviors we looked for were consistent between the two events.

Following our attendance at the two playtesting events, our IQP team interviewed the developers of the playtesting website to gain a grasp of how it works behind the scenes. Doing so allows us to take feedback from current MQP teams and suggest or make changes that will improve the user experience for MQP teams. The end goal of our project is to answer the question: What is the current state of playtesting within IMGD MQPs, and how should the process be altered to improve the experience for next year?

Background

The flaws with the current IMGD playtesting system resulted in the creation of the WPI playtesting IQP at the beginning of the 22-23 school year. The students partaking in that project analyzed playtesting through interviews where they'd asked about the interviewees' thoughts about IMGD playtesting. The ideas given by the interviews were as follows: creating a registry of projects, establishing more playtesting events, and reworking introductory IMGD classes to include more playtesting. However, the publication of the report was not the end, as in the summer following the publication, some of the students who authored the report decided to create a registry of projects through a WPI Grant. The registry will be the focus of this report, in terms of analyzing its structure, as well as detailing the process of attempting to get IMGD students to use it in their playtesting.

Protofest

One of the first steps taken was to visit Protofest, a playtesting event, to see the current landscape of playtesting. There were seven groups in total, with great variety in genre, style, and approach. All projects were at similar levels of completeness. A few had simple prototypes showing off their games on paper, documents describing the game's story, a book showcasing the game's art and style, or test builds that highlight the game's most important mechanic.

About half of the groups were not prepared with any formal approach to feedback, with only 3 projects having a feedback form for testers. The remaining groups only asked testers to give them verbal feedback directly after or during testing. How much of an influence verbal feedback had on the development of the game after Protofest was unknown at the time, but was assessed during Alphafest.

Of the three feedback forms that were prepared, we noted that one had more time put into it and exemplified the most important practices for effective feedback. The questions were quite specific, asking about how the play-tester would like to adjust certain values, such as movement speed and timers for in-game activities. However, such specific questions are difficult to answer for someone who just started testing the game. It may prove more effective to ask a general version of the question, followed by a clause expressing interest in exact values from professionals and experienced players. This adds more accessibility and casts a wider net for gathering playtesting data that will help MQP teams improve game balance in future development.

Alphafest

Similarly to A term, we attended Alphafest in the fourth week of B term to collect data on the playtesting being conducted by MQP teams. This event saw a sharp increase in the quality of games and playtesting methods. Overall preparedness for the event went up considerably compared to the protofest and all games now had testable content to present. Our team was particularly delighted to see a rise in playtesting efforts and excitement from teams presenting their games and receiving feedback. All teams now had effective feedback forms and seemed more confident and prepared when presented with questions. All teams were asked for verbal consent before testing and were informed that they may withdraw at any moment for any reason, only information from consenting teams is included in this report.

With the group now having three people to go around, we changed our method of collecting data to that of AB testing where we aim to change only one variable while observing any changes in results. The variable that we chose to change for Alphafest research was our approach towards the MQP teams. First, one of us would walk up to the MQP team and playtest their game while trying to ask questions casually, and then a second member would walk up to the same team and openly declare that we were collecting research on their playtesting habits. This method of collecting data was applied to ascertain how much the MQP teams truly cared about their playtesting requirements, as previous years indicate that MQP teams generally don't care deeply about conducting playtesting and taking feedback from it to improve their projects. The basis of this approach is that the MQP teams are more likely to be honest with a peer compared to a WPI-affiliated IQP researcher.

With our methods squared away, we needed to decide on what questions we needed to ask the MQP teams. Both the casual and professional members would try to get answers to these questions, though it was admittedly more difficult to ask certain questions while maintaining a casual atmosphere. There were four questions that we decided to make sure we asked every MQP team: First, How much did they care about conducting playtesting at events like Protofest and Alphafest? Second, did they attend Protofest during A term? Third, did they find the playtesting data they gathered from Protofest valuable? And finally, are they interested in using our website to reach new playtesters and gather more data for their game development? A final question we quietly observed was how closely they followed the IRB Investigator's Assurance guidelines. These guidelines include informing playtesting participants that participation is voluntary, they can back out at any time, and they can refuse to answer any questions. Furthermore, the guidelines demand that you inform participants of their anonymity and confidentiality, and if either is not guaranteed during research, then they must give permission to disclose their information.

To start, only seven out of nine MQP teams that we anticipated encountering participated in our research. Of the two teams that did not consent, one had an indifferent attitude even when approached from a professional angle and outright declined to participate when asked, and the other could not be located during Alphafest. The other seven teams all agreed to full participation in our research.

When asked about their investment in gathering playtesting data, most teams responded that they did care about gathering feedback from playtesting. One team added that they were especially interested in feedback so that they could create a fun and balanced game, and another emphasized their interest in gaining different viewpoints and experiences from various

playtesters to improve their game. The overall change in attitude between the casual and professional approach was noticeable, but not significant. The teams acted a bit more enthusiastic and formal when approached professionally, but there were no teams whose attitude changed from indifference to caring.

All teams who participated in our research attended Protofest, though only two teams said that feedback collected from Protofest meaningfully helped their development for Alphafest. Among the five other teams, two said that Protofest took place too early in the term, leading to them not having much of a game to gather feedback on. The third team answered that they didn't have a sufficient amount of playtesters to gain much feedback on their game. The fourth team felt that playtesters were too polite when answering questions, resulting in unconstructive feedback. Finally, the fifth team reported that their codebase changed between the two events, so feedback from Protofest did not help them for Alphafest. This question was a bit more difficult to ask for the casual approaching member, but we did not notice much of a difference between the two approaches across all seven teams.

When asked about willingness to use our playtesting website, five out of the seven participating teams expressed interest in using our website to reach more playtesters and gather more data. One of the other two teams declined because their game involves both a computer and a phone to operate, making it difficult to conduct from the website. Similarly, the other abstaining team declined to use our website because their game requires three active computers and two people to test. This question had the most noticeable difference between a casual and professional approach, though similarly to the first question it was more a difference in enthusiasm than an actual answer.

During observation of compliance with IRB Investigator's Assurance guidelines, most teams did not completely follow the listed guidelines. The compliance included the notification of participation being voluntary and anonymous, however, the teams did not regularly specify that you could back out or refuse certain questions at any time. Additionally, they often did not give notice of confidentiality or ask for permission to disclose personal information. The one exception to this followed all guidelines properly when approached both casually and professionally.

Meeting with Website Developers

After Alphafest, the IQP team decided that the website needed changes to be made for the website to be a viable tool for the average MQP team to invest in learning and using. MQP teams were willing to test the website if the IQP needed it, but were not keen on using it in its current state. However, before we can edit the website, we need to understand what all of the features already present in the website were meant to accomplish. Additionally, we needed to begin testing the website in its current iteration and learn what are the biggest issues it is currently facing with its intended users. The team decided to first meet with the developers of the IMGD Playtesting website and discuss their intentions with the website.

They were first asked to describe the purpose of the "projects" page and what we should know about it before attempting to change it. They said the page was intended to be used by students not currently in an MQP team, either helping them possibly find MQP teams still recruiting, or giving students one place where they can find all MQPs looking for ISPs. Currently, the projects tab doesn't accomplish these goals because the developers didn't have the time to finish the website over the summer. They left the page in the website as a proof of concept, with navigation and project deletion being the only functionality implemented. The finished page should let the user view all MQPs currently in progress, inform them if an MQP is not full or looking for ISPs, and give them a way to contact the MQP team or adviser. Ideally, it should be updated by the advisor as necessary to reflect the MQPs current needs.

Next, they were asked about what criteria they had for deciding if what they were showing MQP students on the website was the best practice. This was initially brought up because the IQP team noticed that the majority of MQP teams at Alphafest opted for Google Forms to gather playtesting feedback, whereas the website recommends using Microsoft Forms

for that purpose. They clarified that they discussed topics in playtesting practices with several industry professionals, their criteria for best practices was what the professional game development industry considered as such. What is shown on the website reflects playtesting practices common in the game development industry, but the developers did not have a chance to test them on WPI students, thus some of the playtesting practices represented on the website seem foreign to students and they feel discouraged from trying the website for their playtesting needs.

To finish the meeting, they were asked about what are the biggest features absent from the website. The first feature they thought needed to be added was the ability to add and remove data from the website itself, rather than accessing the database directly. As it stands, the only way to add data such as projects to the website is through issuing commands to the database directly. Which makes the process of adding or tweaking data more tedious, also some advisors might struggle to make urgent changes to their projects. Since they wanted their website to be used by MQP teams conducting playtests and students doing the playtesting, they thought the ability to have students sign up for playtesting on the website would be another important feature. This would make the website a resource for all playtesting needs, regardless of whether you're running the tests or doing the testing. They recommended adding an appointments page to satisfy this. Students will be sent reminders of their appointments to their school emails so they don't miss testing sessions and MQP teams don't have to send out emails reminding participants.

Testing Issues

Now that the team learned more about the website from the developers themselves, the website only required proper playtesting to begin being edited and improved. The developers gave us their thoughts on what features need to be worked on or added, but we needed confirmation from potential users before working on the website. This is where the IQP team ran into unexpected issues that significantly halted progress on the website. It turned out that although MQP teams were initially open to playtesting the website when asked in Alphafest, come January, they had lost all interest in testing the website and ignored contact from the team. This issue is not exclusive to MQPs showing interest, it also applies to other kinds of student projects.

This revealed that while students show clear interest in effective playtesting and tools, that interest does not extend to this website. Potential testers and collaborators show interest in helping improve the website, but once an IQP team member contacts them, they don't respond. There have been 2 student projects that have emailed our advisor to help on the project, but whenever the team reaches out to them they don't respond to the team's emails. We see a few reasons why this may be the case. By C-term, these teams are expected to have a game that is nearly complete and only needs small tweaks, taking into account that these teams may have fallen behind on playtesting in the previous terms, there is a possibility that these teams are not willing to take a risk in learning to use this website or implementing this tool into their playtesting session expecting the tool will sub-par results. Especially for those teams that have fallen behind, these last few playtesting sessions are essential to rectifying any glaring issues without being forced to crunch, thus they prefer to use methods that they are comfortable with and trust. Another possibility is that these Masters Projects and MQPs become discouraged from

using the website after learning that it is incomplete and needs testing. They may have been expecting something that would help them playtest immediately, and the website doesn't satisfy that.

This presents an obstacle for the team, as it forces the team to begin making changes to the website blindly, without knowing what potential users care about. It is possible that MQPs do not want to possibly waste time utilizing a tool that isn't complete as their workloads grow. The team has reached out to several MQPs on multiple occasions and has not received a response, thus bringing the overall interest in the existence of the playtesting website into question. This means we will need to change our approach to finding possible users to playtest the website.

IMGD Colloquium

With MQP teams not responding to our emails regarding playtesting opportunities and our limited abilities to edit the playtesting website, we decided to set our final date of research as April 10, 2024. This date was chosen because the IMGD department was hosting a colloquium for last minute playtesting. We once again contacted MQP teams via email to let them know that we would not accept requests to help them playtest beyond April 10, and we once again received no response from any MQP team.

As with Protofest and Alphafest, our objectives at the colloquium were to personally test out the MQP team's games, observe their playtesting habits, and ask a few questions regarding their process. Due to the colloquium only lasting for one hour in addition to the MQP groups having met our entire team in B term, we decided to not use our approach of AB testing from Alphafest. The questions we decided to ask during the interviews are as follows:

- How often have you conducted playtesting throughout the academic year?
- Who has playtested your game outside of your immediate circle (close friends, significant others, roommates, etc.)?
- Aside from graduating, is there something you are passionate about getting out of this MQP?
- Do you consider playtesting important? What is your reasoning for your answer?

In addition to these questions, we also planned to continue looking out for compliance with IRB Investigator's Assurance guidelines. This was because of our observation of most MQPs compliance with these guidelines during Alphafest. The hope was that they would have improved their practices if they were one of those groups during Alphafest, or stayed consistent if they were one of the few who were compliant.

Six teams attended the IMGD colloquium on April 10, however of those six we only managed to interact with four due to the aforementioned time limit. Of these four teams, three were MQPs and the fourth was an individual project. Starting with our first question, three out of the four teams reported that they had only done barebones playtesting throughout the year. This meant they only playtested their games at big events such as Protofest and Alphafest, which when combined with the colloquium totalled three times for the entire year. One team did hold their own sessions outside of these big events, however even then they only playtested a couple of extra times within D term. As for our second question, because the four teams had almost exclusively playtested during events, the people participating in their research mainly consisted of other IMGD students.

For the third question, all four of the teams gave similar answers. The sentiment which they shared was the hope of showcasing the skills which they had obtained throughout their time at WPI. Some teams also included other goals, such as learning how to effectively work on and manage a development team, setting a good precedent for future MQP teams, or creating something worth publishing.

The final question was of most interest to us, as we had already asked the same question during Alphafest and wanted to see if their perspective had changed since then. The answer to this question, however, remained very similar to the ones given during B term: All the teams believed that playtesting is an important component to game development because it provides outside perspective on things that they as developers may find clear and intuitive. Three out of the four teams also included that they found playtesting important to find bugs in their code.

As for our observations on the IRB Investigator's Assurance guidelines, we noticed a concerning trend during the colloquium. Despite all of our observed groups during Alphafest at

least somewhat following the IRB's guidelines, all but one group needed better compliance with the guidelines during the colloquium. That one group that did follow the IRB's guidelines only partially followed them similarly to in Alphafest.

Conclusion

What we learned from Alphafest is that the MQP teams for the most part showed interest in conducting playtesting and gathering meaningful feedback to adjust their games. This conclusion was reached through their answers to the first and third questions asked, and strengthened by the fact that said answers did not waver much between a casual and professional approach. However, we also learned that the data gathered from Protofest was not of much assistance when preparing for Alphafest due to it taking place too early into the development cycle for most of the MQP teams. Furthermore, most teams need to more closely follow IRB guidelines, though we feel it is safe to assume that this is not due to lack of interest, as there was no change in behavior even during a professional approach. We also noted that none of the MQP teams were aware of our IQP team, our research, or the playtesting website before Alphafest.

With these results in mind, we suggest moving Protofest and Alphafest back to the end of A and B term respectively, and making this IQP project known to MQP teams at the start of the year. By moving Protofest and Alphafest back, we give the MQP teams enough time to hopefully have significant progress on their project before Protofest to collect good feedback, and enough time between the two events to implement any changes necessary. The disclosure of our IQP project in the future and letting them know that we will be observing their behavior may make the MQP teams more vigilant about all necessary procedures so that they are more compliant with IRB standards.

In regards to the website, we suggest that the future members of this IQP have a background in web development, as well as experience using programming languages such as HTML, CSS, JavaScript, and PHP. This is because modifying the features of the website will require use of these skills. Additionally, future students working on this IQP will need to

communicate regularly with IT Services, as only changes to the front end of the website can be accomplished without their help. Our biggest suggestion for improving the website is to add some form of permissions, whether it be as complex as only letting certain people edit the project page that they belong to, or as simple as having a button that erases all current projects when given a password.

Finally, we learned from the colloquium in April that the current MQP system still needs work. Despite the teams in attendance unanimously agreeing that playtesting is a crucial part of game development for tuning and bug fixing, they also unanimously kept their playtesting to a minimum throughout the year. It is because of this that we believe there needs to be a change to the current playtesting credit system. Two possibilities are requiring more playtesting credits to pass, or offering some sort of bonus incentive for extra playtesting. As for IRB guidelines, in addition to completing basic training MQP teams may need to run their forms past their advisors before being able to conduct any playtesting.

Appendix A: Questions for Alphafest Participants

- Is this your first time playtesting at WPI?
- What are your thoughts on playtesting?
- Do you believe that playtesting is important for game development?
- Did you find playtesting at Protofest helpful?
- What was the quality of feedback from Protofest?
- Would you be interested in using the IMGD playtesting website to conduct future playtesting?

Appendix B: Questions for website developers

- We noticed that the projects page lets anybody delete any project, there also seems to be no way to add projects. What did you intend this page to be used for and are there any missing features?
- We talked with a few MQP teams at Alphafest about their playtesting practices, and they seem a little different from what's recommended on the website. For example, most MQP teams preferred Google Forms over Microsoft Forms. Why did you decide on these practices specifically?
- Apart from the projects page, are there any features you think need significant improvements?
- Are there any features that you didn't get to work on at all that you believe should be on the website?

References

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