From Game Designer to Games User Researcher – Lessons Learned

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Abstract

User testing diaries help us understand the different angles from which user researchers approach a game. In this diary style of self-reflection on lessons learned from user testing for two projects, *Clan Combat* and *Book Brawl*, we report on the transition of one of the authors from level designer for Clan Combat and game designer for Book Brawl to the role of user researcher for both projects. Both were three-dimensional multiplayer games developed under the Ubisoft Academia Game Lab competition. Clan Combat was developed by a team of eight students from December 2013 to April 2014 whereas Book Brawl was developed by 26 recent graduates in eight weeks from June to July 2014.

Author Keywords

Game design, games user research, player experience, head's up display (HUD), metrics, damage per second (DPS), scout.

Introduction

Developer diaries provide deep insights for fans and researchers alike to gain a more thorough understanding of the intricacies of game development. They can also be useful tools for documenting the personal change of individuals with different roles in the development process. User testing diaries are not very

Figure 1: Clan Combat splash screen with concept art of all 3 character types

Figure 2: Clan Combat first user test

common in current user research, but can provide promising insights into the different ideologies under which a game can be developed. Following this reporting style, we report on the user testing of Clan Combat and Book Brawl, two games developed by student teams under the auspices of the Ubisoft Academia team.

User Testing Methodology

Clan Combat's three user tests were conducted with six volunteer students playing two 15-minute rounds of the game, where only the gameplay was recorded. There were several members of the development team observing the playtest and taking notes. After each round of gameplay a 10-minute survey, developed in house, was administered regarding the player experience asking about game objective, level design, signs, and feedback. See Figure 2 for an example set-up of Clan Combat's user test.

Book Brawl's first two user tests were conducted with nine unique volunteer students playing three 10-minute rounds of the game where gameplay metrics were recorded. A 10-minute survey was administered after each round, which was structured to audit the player experience asking about level design, characters, signs, and feedback. All five game designers from the team performed quick user interviews after each round during the survey period to probe for deeper answers related to the user test goal. Before any tester played the game, we allowed each 5 minutes to spend in a sandbox mode to play around with the controls and get a feel for the game. A quick 5 minute survey was administered to gauge each player's first impression of the game.

Clan Combat User Test

THE GAME

Clan Combat is a multiplayer game where rival alien clans clash in a fierce struggle for food on an uninhabited planet. Their survival depends on an alliance forged twixt the primal hunters and the intelligent gatherers. When designing Clan Combat, the goal was to make the support role more fun by using objective-driven gameplay through defined roles and synergy between players. Clan Combat has three characters, which fall under two classes, hunters and gatherers – where the gatherers collect food in order to win the match and the hunters protect them from enemies. See Figure 1 for concept art of all three characters.

The development team was aware of the necessity to engage in user testing in order to facilitate gameplay balancing. The team planned for three user tests to take place during Fridays in the month of March 2014. The original plan was to complete the analysis, reporting, and bug fixing process in under a week before the next user test. However, the team found that a one week turnaround was too short to address all the issues and fix them before the next user test. This affected the game build used for the second user test.

FIRST USER TEST

The goal for the first user test was to view how the players interacted with the game while simultaneously taking note of any observed issues. Since the development team knew that there would be several issues and bugs, they wanted to observe how users played their game and to see if the game worked as designed. The big takeaways from the first user test were the importance of having developers at the test, the need

to polish the three Cs (camera, controls, and character), and the discovery of a major game design flaw.

The most important conclusion drawn from the first user test was **the importance of having as many developers as possible present and involved during the user test**. Programmers started creating mental lists of the bugs and issues with the game, already prioritizing what would need to be modified after the test. Immediately after the user test, the programmers were already on track with fixing issues, instead of waiting for a post-playtest report. This made the reporting easier and faster, since those issues already noted by the programmers did not have to be included. Additionally, the test was a big motivator for the development team, since they were able to witness real players acting rowdily and having fun with a game still in alpha. After the test, the team's spirits were lifted and many had a huge intrinsic burst of energy to continue working on the game.

Another major lesson learned was the importance of having the **"three C's": camera, controls and character** – polished and defined as early as possible. Almost every tester complained that the animations didn't "feel right" or that turning and control of each character felt odd. This stressed the importance of prototyping our three C's earlier instead of relying on the user feedback to improve it. Ideally the team should have run a focus group with different versions of the game. Each version would have a different control layout and camera system. The focus group would focus on an open discussion with the testers regarding what they liked and disliked in each version.

The last takeaway from the user test was the uncovering of a **major design flaw** that had been exploited during the second round of testing. In the first round, players were exploring the controls and running around the match freely while attacking other players. Soon, they realized that killing players didn't get them closer to winning. Consequently, in the second round, players stopped attacking. All testers switched to Gatherers, and the game became a race to collect the most resources. Some gameplay features that were designed to stop this from happening had not been implemented. The team decided to modify the winning conditions regarding the location and frequency of resources spawned. Features for implementation were re-prioritized to ensure that this exploit would not happen in the next user test.

Overall, this test was an excellent first experience at user testing a game. Based on the results, the team scrapped unneeded features hat did not relate to the intended player experience. The team also defined the player experience by **making support roles a key part of any winning strategy**. The team redesigned some player abilities to allow for more diverse support methods, e.g., the Stalker was given a Detect ability that could destroy traps and was extended to display enemy positions on the HUD for 2 seconds. By enhancing one ability, the Stalker went from a stealth and DPS (damage-per second) archetype to a scout that could be used to highlight enemy positions.

SECOND USER TEST
The team began to see the issue with a one-week turnaround for the fixes from the first user test. Too many changes were made to Clan Combat within a short period of time, and the team didn't have time to internally play through the game to fix obvious issues. Within the week, the last character was added, level design was improved

with a lot of foliage added, and our back-end networking system was changed.

The team decided to continue with the playtest and salvage whatever data they could gain from the test. The team was able to get some good advice on the recent changes in the level design that helped to improve the next iteration. The user test changed to a more open discussion about the level design, where testers were asked about how they felt about certain zones within the level. Overall the major takeaway was the need for **more internal testing for obvious bug fixes** and to ensure that character movement is fluid and responsive whilst effectively representing the spirit of the character designs.

THIRD USER TEST

This was the largest user test, where we had 12 testers separated into two sessions with 6 players in each test. The survey questionnaires improved, since the development team was more precisely focused on what questions they needed to ask based on the issues found in the previous weeks. At this stage in development, all the features were implemented and this round of testing was to help take the game from beta to gold standard. The main focus for the final user test was to test for game balance, HUD and feedback.

Each session went smoothly where we received data without any major game breaking bugs. The majority of feedback received from the final playtest was related to the level design. Since the level changed heavily in between playtests, the team never had the chance to finalize a polished design. The team shrank the map and removed areas to increase walking speed and ease map nagivation, but the game would have still

Figure 3: Book Brawl concept art of the three main characters and the librarian NPC. (From left to right) The Alchemist, Druid, Trickster and Librarian

benefitted from another round of testing focused on improving the level design.

After three rounds of testing Clan Combat, the game improved immensely, and the data gained helped make the game more playable. Feedback was provided to improve resource gathering, special abilities, attacks, and anything related to the core game loop. The user test data helped provide the information needed to polish Clan Combat for the Ubisoft Academia contest. As a result, two members, Naeem Moosajee and David Yue, were selected to participate in the summer internship program at Ubisoft. Additionally, Clan Combat won the award for Best Programming, and was nominated for several others.

Book Brawl

The goal of the Ubisoft Academia is to simulate a AAA development environment for student interns. All twenty-six students selected for the internship had similar experience developing games and were all either recent graduates or close to graduation. Since everyone had similar levels of experience, collaboration and development progressed fluidly in an environment of efficient communication.

During the first week of the internship, the team was trained by several Ubisoft coaches in game/level design, programming, online multiplayer implementation, user testing, art, agile production, and more. The team members were instructed in the use of various tools and techniques (including rational game design, game design pillars, persona, one-liner, defining player experience, etc.) to help focus the game design and to create a refined product instead of merely a haphazard set of features.
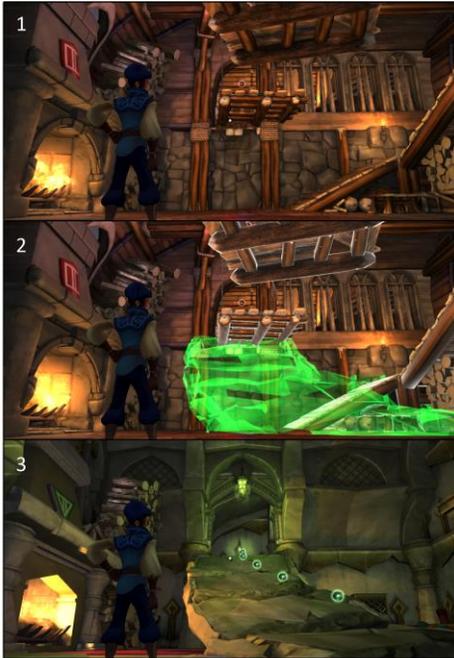
Figure 4: Book Brawl's preview mechanic when shifting from the Red dimension to the GREEN dimension. In pane 1, the player is in the RED dimension. In pane 2, the player is half pressing the right trigger to shift to the GREEN dimension. New geometry appears in the same colour of the dimension the player is going to and geometry that is disappearing is highlighted WHITE. In pane 3, the player has successfully shifted to the GREEN dimension by fully pressing the right trigger.

Book Brawl is a game where, across multiple dimensions, three factions of cocky spellcasters engage in a game of cat and mouse for the possession of the ultimate book of knowledge. The core mechanic of Book Brawl is the ability to shift dimensions using the gamepad triggers, as the game takes place in a library in three different overlapping spatial dimensions (levels) at the same time. The overall layout for each dimension changes slightly, but the overall architecture and colour scheme in each is different. Each dimension represents a home world for each of the three characters and is designed to reflect their vastly different personalities. See **Figure 3** for concept art depicting each character. Book Brawl is similar to a *Capture the Flag*-style game, but with a book as the 'flag' or object of desire. The goal of the game is to capture the book, since the player gains points for every second the book is held. Players can shoot and tackle others to get the book, whereas the holder may throw it to his teammate in order for the team to retain possession.

In the two-month development of Book Brawl, the team ran two major user tests, each with defined goals. Before the first user test took place, the team knew they would have to have the three C's polished to the extent that the testers would not be complaining about obvious camera, character, or control-related issues. Additionally, the programmers had begun to implement gameplay metrics, which would be recorded during gameplay to give the designers more data to analyze for improvement. The team was able to get information on the time in each dimension, time the book was held, and some statistics on player behavior (e.g., shots fired, landed, tackles hit).

The goal for the first user test was to test the effectiveness of the camera, controls, and character while also looking for the most enjoyable mechanics in order to know what needed more focus and polish. Additionally, the team wished to test a dimensional preview feature that was mapped to half-pressing the left and right triggers on the gamepad. A half-press on the trigger displays geometry that would appear if the player shifted to that dimension and also highlights geometry that would disappear in a different colour. See **Figure 4** for a visual representation of the preview feature. The team was warned by the coaches that this feature may not be intuitive to use and would require testing to prove its feasibility.

The user test had five designers present during the survey period. Each asked interview questions regarding the preview feature and the three C's. The interviews and surveys provided great qualitative data that was easy to analyze, since after the user test, the designers met and discussed their findings and solutions to the problems, only requiring a report for the survey data.

A major lesson learned was the **effectiveness of the quantitative data gained from the gameplay metrics**. Having numerical data from the user test made it very easy to convince other designers and team leads about design changes based upon analyzed statistics and graphs developed from the gameplay metrics. The qualitative data from the survey took longer to analyze and was not nearly as effective at convincing design changes, since the reasons to support the design changes were less objectively conclusive than the data from the metrics.

The goal of the second user test was to evaluate the game balance, HUD, signs, and feedback, and to decide if Book Brawl should be a six-player game or a nine-player game. This final round of testing would also help Book Brawl reach gold standard and exit the beta stage.

The survey data helped validate a lot of variables regarding jump height, jump distance, movement speed, and the preview ability. Players also displayed positive first impressions of the game, as a lot of the issues from the first test with respect to feedback regarding the user interface were fixed.

All metrics implemented were working effectively, and the data gained from analyzing them allowed the team to officially change Book Brawl to a six-player game. The nine-player mode was very chaotic and there were generally two players that were essentially isolated from the bulk of the gameplay. By contrast, the six-player mode was less chaotic since there were only two players in each team, where each player could generally ascertain his role quickly and with ease. For example, if one player had the book, the other would defend him; if neither had the book both would play offensively and vie for its possession. Additionally, the book-throwing mechanic was more used in the six-player mode because testers found it was less risky than in the nine-player mode.

Conclusion

With Clan Combat, the team saw the importance of having a defined, well designed experience prior to the user tests. During the first user test, an undefined and under-communicated player experience resulted in unpolished camera, controls, and characters, since not everyone on the team had the same player experience

in mind. Once the team cohesively agreed upon an intended experience of making support a core role to winning the game, the game became immensely more enjoyable. A defined experience made it easier to redesign mechanics with more relevance to the player experience. Having a defined experience also helped with providing focused feedback for resource gathering, burying, healing, team communication, and pinging.

Book Brawl benefited from having Ubisoft coaches that pushed the team to have a well-defined player experience and persona from the start of development. Using the lessons learned from user testing Clan Combat, Book Brawl had more organized user tests with defined goals and purposes. The first user test was focused on validating the core design and the feasibility of the level-previewing feature. Through the use of user interviews and surveys, the team was able to gather good qualitative data that proved the feasibility of the level-preview feature.

Book Brawl, with a development team of twenty-six, was also a much larger project then Clan Combat, which had a team of only eight individuals. Convincing developers in Clan Combat about gameplay changes based on the user test was easy due to the small size of the team. It was very effective to have developers present during the user test, in order to highlight obvious issues which lowered the detail needed for the post-user test report. However, it was not feasible to have the entire Book Brawl development team present at the user test. This made it harder to convince other developers about game changes, due to the fact that qualitative data needs to be interpreted and analyzed subjectively, which introduces the issues of human error and bias. In contrast, the quantitative data was

backed up using in-game metrics and data, which is faster to analyze and much more effective at convincing other designers.

Overall, the journey of user testing Clan Combat and Book Brawl allowed for greater insight into designing, testing, and reporting the player experience.