Get Meowt of Here
A Game About Empathy

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Abstract

Based on the needs of the Chalmers Student Union, a digital 2-player cooperative puzzle game was created aimed to address the lack of integration of international students within Chalmers. The game, **Get Meowt of Here**, requires players to explore each others' minds (represented in-game as near-identical but separate levels) to proceed past obstacles and reach their shared goal. This game assumes that a greater understanding between students can make incoming students more accepting of Chalmers' student culture, leading to higher engagement. Early playtests suggest that although the current state of the game enforce cooperation, there was a low degree of perceived empathy between the players after playthroughs. Puzzles were generally seen as too easy, which resulted in a lack of inter-player communication. Future work includes integrating a narrative that can elicit a greater degree of empathy between the players, as well as increasing the difficulty of the puzzles to better encourage verbal banter between the players.

1 Introduction

Student exclusion within Chalmers has been an existing issue. The Chalmers Student Union specifically discuss the homogeneity within the Student Union itself, Chalmers traditions' language barriers, and accessibility issues as factors of exclusion. These issues are amplified for international students.

The game idea will be introduced using the concept of **mechanics** and *"aesthetics"* (Hunicke, Leblanc, and Zubek 2004), stylized using **bold text** and *"in quote italics"* respectively. The description will also include GAMEPLAY DESIGN PATTERNS, highlighted using SMALL CAPS, from the *Gameplay Design Pattern Wiki* (Björk 2020) as defined by Björk, Lundgren, and Holopainen (2003).

1.1 Stakeholders

The project is commissioned by the Chalmers Student Union to address student inclusion and diversity concerns. The main target group for this project are first year university students looking to make friends in a relaxed environment compared to the typical party or "sittning".

Secondary target groups include existing university students looking to make friends with new students, aiding the main target group with more opportunities to make friends.

1.2 Purpose

The purpose of this project is to address student inclusiveness concerns of the Chalmers Student Union. As such, the project aimed to highlight the importance of diversity by bringing relative strangers together across pre-existing social cliques or barriers. This would thus allow them to form long lasting bonds or simply act as an icebreaker.

To this end, Get Meowt of Here was created; a 2-player digital game aimed to elicit empathy between players. By first highlighting the limitations of local knowledge, the game is able to emphasize the virtue of cooperation between diverse individuals. For the context of the project, the team defined local knowledge as the knowledge gained through the unique perspective an individual has from within their communities and society at large. As such, *each student is unique as their local knowledge and experiences from multiple communities are combined into a unique perspective.*

1.3 Ethics

Several ethical issues arise from the project concerning diversity and inclusion. Existing student groups may feel obligated to include new students out of duty rather than genuine interest, which would only create shallow social connections. Furthermore, some new students may *want* to be uninvolved with social circles or the Student Union itself.

Oversimplification of diversity may also result in misunderstandings. Diversity in-game is portrayed through character abilities and as a literal wall between the two characters. Players may not interpret the metaphors as intended.

Finally, the game may be emphasizing a specific type of culture (individualism versus collectivism). Since cooperation is mandatory to complete levels, some may negatively interpret the message to be: "students cannot survive themselves".

These concerns were addressed by disassociating the in-game characters from possible human stereotypes and removing the idea of "death" from the game. As such, cats were chosen as avatars, and unable to fall off the map.

1.4 Accessibility

With a strong focus on cultural diversity and inclusion, it is key to consider accessibility. To ensure the game's inclusiveness and reach, accessibility through visual design and input methods were considered. Flashing lights and colorblind unfriendly spectra were avoided, and accessibility controls were made compatible.

2 Concept

After much deliberation, the core aesthetic of *fellowship* was chosen to encourage empathy in a diverse context with cultural barriers. It was thus decided that the most suitable way to represent this in a game was by offering a shared experience to players which would force them into different perspectives, literally and figuratively.

In order to evoke a sense of *fellowship*, the dynamics of cooperative problem solving emerged. To reduce the amount of DEXTERITY-BASED ACTIONS for accessibility, we settled on a 2-player PUZZLE SOLVER.

To this end, several core mechanics were developed:

- **Moving Platforms** can be triggered by either player with an asymmetrical effect;
- **Gravity Swapping** to force the players to change their frame of reference; and,
- **Simultaneous Victory** to highlight the need to move forward together.

The expected causal link is illustrated in Figure 1.

Figure 1. The Representation of the Core Loop through the MDA Lens

To obfuscate cultural differences and allow players to project themselves into the character, cats were used as they are considered inoffensive and neutral in most cultures. To emulate the analogue world, the players share a single space in the game (screen) and their abilities largely depend on personal experiences, represented by opposing (**gravity**). The result can be seen in the screen captured Fig 2; the dichotomy observed between the characters abilities in their respective world views can be compared to the single player games *Trine* (Frozenbyte, 2009) and *Giana Sisters: Twisted Dreams* (Black Forest Games, 2012).

3 Methods

3.1 Development Process

With time being a critical resource in this project, the game's core loop was prioritized, followed by levels and finally the

Figure 2. An in-game Screenshot of Get Meowt of Here

story / narrative. An iterative Kanban process was adopted, modifying the game with feedback obtained in supervision sessions.

3.2 Development-based split

Throughout each development phase techniques were used to progress. The methods were selected based on resource limitations and effectiveness. The following section sorts the methods according to which phase made the most use of them and in rough order of appearance in the design process. All methods were selected for their high affinity for a human-centered design approach.

3.2.1 Formative phase. Brainstorming was employed early on to generate new ideas (Hanington and Martin 2012, p.22). This took the form of internal discussion, note taking and independent conceptualisations that were then presented to the group in feedback and inspiration purposes.

Concept portraits were used to build common understanding of diversity and empathy within the team (Gkouskos 2016). This also shed light on some of the hobbies and interests of team members, igniting discussion.

Affinity diagramming was used to derive common, overarching themes to guide further design work (Friis Dam and Siang 2020). This solidified our definition of diversity, clarifying core aspects we wanted to integrate into the game.

With a common understanding established, each member then pitched concept ideas, which then went through a majority vote. A questionnaire was put together in order to garner external user insight and opinions (Sharp, Preece, and Rogers 2019), specifically the role of games as social bonding among friend and stranger relationships. Questionnaire participants were recruited via convenience sampling, aged 23-32, five of which were local international students. They received no compensation for their participation in the survey.

3.2.2 Iterative phase. Following quantitative analysis of questionnaire responses, development began on a software prototype using the Unity game engine and compatible assets, as it allowed for rapid construction and testing whilst

maintaining good quality(Sharp, Preece, and Rogers 2019, p.429).

Storyboarding was employed to visually clarify the in-game narrative that would serve as an underlying theme (Katiyar 2019) by which players ideally would experience or identify themes of empathy as a part of gameplay. A final prototype was refined through an iterative cycle of software prototyping, storyboarding and reaffirming the affinity map. Due to resource constraints, the narrative was simplified multiple times.

3.2.3 Summative phase. The first generation prototype was then subject to summative user testing by way of a live playtest to uncover opportunities and existing problems (Moran 2019). Testing was carried out with two pairs of players and was facilitated by a design team member.

Each participant was interviewed for their personal experience and opinions of the prototype (Hanington and Martin 2012). Interviews were semi-structured nature in order to collect more open-ended impressions.

3.3 Project Conditions

The digital nature of the project, due to Covid regulations, allowed for the team to develop it fully remotely. The team was thus culturally diverse, which generated creativity, but had drawbacks.

Two main drawbacks were the amount of technical issues and the difficulty of playtesting, as we had no time to implement online co-op. The loss of non-verbal communication lost during Zoom meetings impacted communication too. The team tried to mitigate this by consciously being more vocally responsive during meetings. Finally, team diversity conflicts during development which required time to iron out.

4 Results

Despite the limited time available for development, it was possible to organize a pilot playtest with two groups of two people prior to the exhibition. The participants had similar previous experience playing games.

Prior to the pilot playtest the participants were informed the game was an unfinished demo for a puzzle platformer; this was used to set the expectations and frame of reference for the feedback they would provide during and after the playtest. Each group then played through the game twice to allow players to swap positions, controls and perspective.

4.1 Pilot Playtest

The movement controls, though obvious to the player, were criticised for being left-handed for Player 1 and right-handed for Player 2 rather than ambidextrous. Furthermore, the inability to use the up-movement key caused some confusion.

The puzzle mechanics were easy for the testers to grasp and all would have wished for a higher degree of complexity. This was reflected not only in short amount time it took each

group to complete levels, but also the lack of communication between players.

The testers felt cooperation was a necessity rather than a strongly suggested playstyle as they had a common goal (completing the level) which could not be achieved alone. Therefore, they did not feel particularly empathetic towards the other player.

Several bugs to collision and puzzle solution triggers were found; however, none of them were game breaking or otherwise impeded the player experience according to the testers.

The second playthrough was consistently more difficult for the player who had started with normal, or downwards, gravity and now had to player with an inverted gravity. Conversely, the player who started upside down had a much easier time adjusting to normal gravity. This was particularly noticeable in the players' completion times of the jumping puzzles, given that both knew the solutions to the puzzles already.

4.2 Exhibition

During the exhibition pairs were observed communicating solutions to puzzles as they progressed through the levels. These discussions were particularly intense when the current puzzle section relied exclusively on one player; the down-time experienced by the other player was a catalyst for out-of-game cooperation, as they couldn't assist in-game.

Players expressed varying degrees of frustration depending on prior platforming experience. Difficult DEXTERITY-BASED ACTIONS, such as precision platforming in levels 1 and 4 were of particular notice. The more prior experience players had, the less help they required - but consequently the less communication there was. Pairs which had one experienced and non-experienced player were most interesting - while some verbally jabbed the non-experienced player while waiting, others were more understanding and silently waited. The personalities and familiarity between the players seemed to affect the type of interaction the most.

Players required a varying amount of hints from the development team in terms of puzzle solving. Although the difficulty progression was consistent for both players, the difficulty curve was steeper for the second player (up-side down) which was a design choice to emphasize the varying experiences people can have in a common world from opposing perspectives. As few pairs played the game twice, most players did not have the opportunity to swap places. This resulted players expressing sympathy towards the higher-difficulty player rather than empathy since they never experienced the perspective change first hand.

Although many players completed the game, a few left without completion. One simply did not feel the game was fun, and others cited other games to play as a reason. It was clear, however, that some of the puzzles for these players were frustrating to the point it stopped being fun - be it due to the dexterity-based actions or puzzle difficulty.

4.3 Discussion

Although more experienced players wanted higher puzzle complexity, it was difficult to balance. As nearly each level introduced a new mechanic, the puzzles needed to on-board players with less experience whilst simultaneously allowing more experienced ones to still feel a challenge.

The difficulty increase for the player adjusting to an upside down gravity is promising, as parallels can be drawn for empathy - those who played with downwards gravity first may laugh at the other struggling player, but when the positions are switched they may quickly understand the increased difficulty, drawing out empathy.

Although we originally wanted to interview players after completing the game, it felt artificial and awkward to do so, resulting in us relying on observation to derive conclusions. It was difficult to observe if players had increased empathy afterwards, but some quickly realised the metaphors after asking the team about the game's goal.

All-in-all the majority of players enjoyed the game and were open to play more levels in the future, which is a good sign in that the game is engaging enough to maintain player attention.

5 Conclusion

5.1 Project Impact

The overall goal of the project was to improve student inclusion within Chalmers by allowing diverse students to better understand each other. Unfortunately, answering if students had higher empathy proved difficult to measure as it was difficult to interview all of the players in the exhibition. Furthermore, a longer-term study would be required to ascertain if the project positively impacted student inclusion. Although the participants in the pilot study did not feel heightened empathy, the sample size was too small to establish any conclusive results.

With that said, those who played the game in both the pilot playtest and exhibition seemed to enjoy the game and left wanting more, showing that the game did not overstay its welcome. Many players who switched controls also expressed surprise in the increased difficulty, hinting at the potential success of the game. For the team, it was more important that the players had fun rather than feeling an immediate increase in empathy - a deeper understanding of someone diverse is a process, not a slider bar. All in all, the general reception of Get Meowt of Here shows promise of connecting different people across social barriers should the game be made complete.

5.2 Future Work

Given more time, adding an online multiplayer feature would be prioritized, since it would allow people from physically different parts of the world to easily participate in the game. Moreover, it would greatly benefit the overall message of

raising empathy and inclusion. This would be a fairly trivial extension; though more time is required.

More experimentation could be conducted to investigate different ways of encouraging cooperation and boosting empathy through more refined mechanics and puzzles could be implemented. Extending the narrative to compliment both the empathy message and puzzles would also be beneficial.

Increasing the amount of accessibility options, e.g. different types of color blindness and epilepsy, would help create a more diverse pool of players and by extension a wider array of possible experiences. Understanding player behavior is key to making a more enjoyable game. To this end, recording gameplay footage outside of play-testing allows the team to anticipate player tactics and create more engaging puzzles.

6 Acknowledgements

References

Björk, Staffan (2020). *Gameplay Design Pattern Wiki*. Last accessed November 24th 2020. URL: www.gameplaydesignpatterns.org.

Björk, Staffan, Sus Lundgren, and Jussi Holopainen (2003). *"Game Design Patterns"*. In: vol. 2. URL: http://www.digra.org/wp-content/uploads/digital-library/05163.15303.pdf.

Friis Dam, R. and T. Y. Siang (2020). *"Affinity Diagrams - Learn How to Cluster and Bundle Ideas and Facts"*. In: URL: https://www.interaction-design.org/literature/article/affinity-diagrams-learn-how-to-cluster-and-bundle-ideas-and-facts.

Gkouskos, D. (2016). *"User Experience Insight. Steering Experience Design Through Meaningful Incorporation"*. In: URL: https://publications.lib.chalmers.se/records/fulltext/231604/231604.pdf.

Hanington, B. and B. Martin (2012). *"Universal Methods of Design"*. In: Quarto Publishing Group USA, pp. 22, 32, 34, 98, 104. URL: https://ebookcentral.proquest.com/lib/chalmers/detail.action?docID=3399583.

Hunicke, Robin, Marc Leblanc, and Robert Zubek (2004). *"MDA: A formal approach to game design and game research"*. In: Press, pp. 1–5.

Katiyar, S. (2019). *"Storyboarding and User-interface design!"* In: URL: https://uxplanet.org/storyboarding-and-user-interface-design-1786723aa605.

Moran, K. (2019). *"Usability Testing 101"*. In: URL: https://www.nngroup.com/articles/usability-testing-101/.

Sharp, H., J. Preece, and Y. Rogers (2019). *"Interaction Design: Beyond Human-Computer Interaction, 5th Edition"*. In: John Wiley & Sons. ISBN: 9781119020752. URL: https://ebookcentral.proquest.com/lib/chalmers/detail.action?docID=5746446.

Games

Black Forest Games (Oct. 23, 2012). *Giana Sisters: Twisted Dreams*. Black Forest Games.

Frozenbyte (July 3, 2009). *Trine*. Nobilis.