Jamming as a design approach. Power of jamming for creative iteration

A. Tece Bayrak

Abstract: Game jams are constrained game creation events that have been rapidly growing over the last decade. With the space and restriction acknowledging the iterative design process, the sweet urgency and playfully creative nature of game jams enable a concert across several disciplines with the participation of various people in the creation of impressive designs and artefacts. Considering the productivity of these events, the approach of jamming can be a powerful design model for both research through design and design for social innovation. As a collaborative environment with the potential of purposefully creating curiosity, learning and awareness, the design approach of game jams can be the future of design within several multidisciplinary contexts. In response to questioning design for next, this work looks at jamming as a unified design approach that is collaborative and speculative in nature, with similarities to participatory design and speculative design.

Keywords: Game jams, jamming, game design, participatory design, research through design, speculative design, design for social innovation

1. Introduction

Game jams are collaborative game creation events bringing various people from different walks of life together for the purpose of making games within constrained time frames. Showing similarities to musical jamming sessions which are improvised collaborative performances, game jams enable improvisational game making in the same collaborative manner. The performative nature of jamming promotes inclusivity, collaboration, fast thinking, flexibility and innovation. Rather than aiming to define a methodology for game jam model, this paper aims laying out the strengths of the approach for an open discussion on future prospects.

Although there are several remote jamming events, game jams—Global Game Jam (GGJ) (Global Game Jam, n.d.) being the largest in the world—mostly encourage cohabitation in order to increase close collaboration among diverse people with different skill sets. Participants, mostly referred as ‘jammers’, may not know one another prior to the event and may not have any prior experience in makings of a game. Inclusivity and openness to diversity of skills and knowledge foster community building while collaboration from start to finish empowers jammers with shared ownership. The
length of the jamming session varies from half-a-day to a week or longer. Therefore, jammers feel the urgency of the “time-boxed” status (Musil et al., 2010), embrace this limitation and practice fast thinking since there is not much time to rethink and overthink everything. Such limitation also requires flexibility with the ideas and execution as there may not be—and mostly there is not enough time for a fully fleshed technical/artistic solution/implementation for the artefact. Hence, game jams (especially GGJ) have been platforms to study game design research for several game studies’ researchers (Kultima, 2015) due to their interesting nature that is facilitating a full cycle of development in a very short period of time.

Locke et al. (2015) considers game jams as a performative form of artwork pointing to the potential emergence of unique processes and innovations from the situational performances of multidisciplinary participation. Such participation empowers the audience to become the contributor/author similar to a “temporal participative artwork” that encloses the process of making as the value of the artefact itself (Locke et al., 2015). The structure of a game jam forms around a theme which sets the tone for the purpose and meaning of the games to be developed. The theme is developed by the jam organizers and is very important for the variety of artefacts. Locke et al. adds:

“[...] in designing a jam, facilitators should consider the structures they apply in terms of themes and constraints to foster creativity; the role of development spaces and the behaviours they enable; and how time and scheduling can be manipulated to encourage dialogue and social activity to further develop communities of practice.” (Locke et al., 2015, pg. 6)

Although there is limited publication on the preparation process of themes, crafted outcomes require crafted themes that are open-ended and playful (Goddard et al., 2014), whereas a theme that is too narrow may result in poor outcomes that are very similar and less creative (Kultima, 2015). In GGJ, jammers immediately start ideation—through which they also start forming teams—after the theme is revealed. The ideas could be closely or loosely tied to the theme, mostly diverging or converging to the theme several times during the jamming process. Hence, with this restriction acknowledging quick iterations of rapid prototyping, the time limitation of the close deadline pushes the participants to design, apply and test in haste (Preston, 2014: Moser et al., 2016). Iterating from Musil et al.’s definition of a game jam as a composition of design and development strategies that is adaptive and lightweight in construction of a product (2010), jamming can be a promising playful model that naturally and intuitively applies iterative design methodology.

When intended outcomes and purposes of the game jams are considered, it is possible to come across a variety including academic and social focus (Goddard et al., 2014). Games [4Diversity] (Games4Diversity, n.d.), games for research (Deen et al., 2014), and Games [4Health] (Games for Health Game Jam, 2014) are some significant examples in which a more “serious” topic is on the table for the jamming event. As seen in these examples, game jamming has a potential that can be leveraged for social exploration.

Games hold a persuasive potential that is inherent to their long-lasting existence. This potential includes habitual and natural learning within communities (Bogost, 2007), suggesting that games (digital or non-digital) are suitable to promote systems thinking. Within this context, jamming provides a collaborative environment that enables incubation of diverse ideas within a playfully-social and socially-playful environment. Elaborating on this potential, this paper explores the similarities of game jamming to participatory design and speculative design approaches. In order to give context, the discussion starts with games, play, game design and game design in jamming space. Further on, the exploration moves onto how game jam approach could be a suitable model for design for social innovation and research through design.
2. Games, game design and game jams

Several researchers have provided different definitions for what a game is. The definition that provides a useful ground for our further discussion here is from Salen and Zimmermann’s *Rules of Play* (2004), in which a game is defined as a system that engages players in a virtual conflict defined by a rule set and that results in a somehow quantifiable outcome. In this system, the elements (for example game elements such as the ball, the goal, the players, the playing field in a soccer game) interact with one another in specific ways and serve for the greater goal of the system as a whole. Play happens somewhere here while a player is experiencing the conflict and oscillating between the conflict and the rules towards reaching the outcome.

2.1 Game Goals and Design Goals

The goals of a game may sometimes differ from the design goals of the same game. The goal of a game is a part of the play experience and may present itself as the motivation of the play activity. Simply put, the goal of a game may be winning or completing a chapter, while the objectives are what a player needs to do in order to reach this goal. However, the overarching goal of the design may be very different and may not be explicitly visible in the actions of play even though it is built in the overall experience. For example, the explicit goal of soccer is winning the game, while the objective of each round seems to be putting the ball in the goal. On the other hand, the objective may become doing a defence if the score is already high enough to win. Nonetheless, one can argue that the overarching design goal of soccer is team building and collaboration; that this goal is enforced by the rules of the game and the strategy of the play. This is where games show the potential to punch higher than their height with their use in a wider zone from skill building to persuasion and inducing social change (Fullerton, 2004: Salen and Zimmermann, 2004: Bogost, 2007: McGonigal, 2011).

2.2 Games and Game Design

Game design can simply be thought as the process of creating aesthetic experiences that are purposefully conveying emotions through actions, reactions, objectives and scenarios mostly thought as pleasurable experiences. In the process of designing a game, the chosen concept is translated into play via the addition of several steps, each satisfying the elements of the foreseen experience. In a very simplistic explanation, a game has some actions that the player can/cannot do, and an objective. Sometimes, it may include a story unfolding, a puzzle to solve, a quest to fulfill, resources to manage, a strategy to build or just keeping one’s status as in hide-and-seek. Thus, there is always an action that the player can perform, that they can afford since these elements are intuitively realized by each and every player regardless of their awareness of the detailed interplay among the elements of the fully fleshed experience.

The theory of game design, in the sense of specific frameworks and methodologies, is relatively less structured compared to other design fields. Fullerton’s *Game Design Workshop: A Play Centric Approach to Game Design* (2004) presents the elements of a game, the process of forming a play experience, balancing the play experience, and several other techniques in consideration while creating a game, rather than a specific orderly approach, a defined methodology or a pattern to apply. This is a constructive approach that is focused on the building blocks of a game, yet it requires initial understanding of the blocks and their interplay in the process of making. Therefore, the design process in a game jam may differ from this. This difference, among the others, is discussed in the following section.
2.3 Game Jams and Game Design

As the first point of difference between the design approach for jamming and traditional game design, jamming is inclusive whereas a traditional game design approach is more focused for the designer team—that comprises one or more designers, to come up with the whole design of the game. Traditional game design puts the vision for the game before the whole game development process. Even though prototyping techniques are applied to realize the vision before stepping into a fully fleshed development process, the design of the end product—more or less—is completed and documented in a design document prior to the actual development. This approach mostly mimics the waterfall development method of engineering; however, it does not apply well to the nature of game design similar to how it does not work well for user centered design (Zimmermann, 2003). On the other hand, game jams embrace the iterative design process intuitively. Moreover, they welcome a more ad-hoc slice and dice design approach that has evolved from iterative design and prototyping. Rather than starting small and growing with iterations like a snowball, design in game jams seems to show tendencies to scale down and reach to the core through iterations (Zook and Riedl, 2013). Considering that constructive design expects prior knowledge and experience with the elements in discussion and their potential interplay, the prior knowledge and experience across the variety of jammers may not be enough for such constructive design. Therefore, an intuitive process of deconstruction seems to be more prevalent in jamming since it is easier to realize the working pieces while deconstructing the vision to the smallest achievable version. Potentially, this is what makes jamming more approachable regardless of the level of prior experience as game jams provide space for learning while doing (Shin et al., 2012: Goddard et al., 2014).

Musil et al. (2010) call game jams “Innovation Factory” and explain it as a mix of design and development strategies in a micro level. This leads to the second point of difference; the agility of jamming. The short time frame of the jamming process prevents its jammers from overthinking their design whilst forcing them to embrace the need to cut down and be flexible so that the goals become reachable. It also liberates the jammers from their attachment to the artefact and makes it easier to accept failure in creation of a working prototype. Overall, the resource (mental, time, money etc.) investment for jamming does not put too much pressure on jammers for success; probably enabling them to take risks and innovate. Therefore, they become more open to experimentation, throw away if necessary and move on. On another note for the potential of innovation; perhaps, the variety, novelty and the creativity of the games that have emerged through game jams are due to the multifaceted welcoming nature of game jams enabling diverse opinions, histories and skills to gel together, compared to a pre-formed team that has potentially become too similar to one another after a while. Contrary to the nature of game industry being though and hard to survive, game jams do not have success expectations in the form of market satisfaction. Since there are no financial reservations attached to the artefact, the jammers (no matter whether they are veterans in game development or not) are free from such concerns regarding reception.

The third point of difference is the theme. Theme plays an important role in the innovative success of game jams since it sits in the center of the design of a game jam whilst unifying jammers for a joint purpose. Introduction of a theme gives a fresh start to all participants by empowering them and enabling inclusivity. A well crafted theme that is abstract enough is important for game jams with experimental outcomes (Kultima, 2015: Goddard et al., 2014). With the ambiguity of the theme, jammers are given a starting point rather than an idea they have to work with. This gives them the liberty to create their own collaborative ideation process as well as utilizing various ideations techniques (Kultima, 2011). As an inclusive design space, jamming presents itself as a unified design approach that is collaborative, flexible, agile, lightweight, and multidisciplinary. The suggestion is that...
it is collaborative and multidisciplinary as in participatory design, and speculative as in speculative design.

3. Jamming and other design approaches

3.1 Jamming as Participatory Design

Jamming process is very similar to participatory design (PD) approach in the way that collaboration is highlighted. Similar to invitation of participants from several dimension that the product is connected to, participation in game jams is multidisciplinary as well. More than just a participatory design space, jamming also provides a co-design space in which all participants contribute to the design and the making of the artefact with equal ownership through discussions, negotiations and actual development. Perhaps, jamming overcomes the core problem in PD; the willingness of the participants to partake in the design process and the agency that the participants have (Andersen et al., 2015). Andersen et al. (2015) further question the nature of participation in PD within the context of representation of opinions and actions that materializes the agency of participants. Jamming, on the other hand, empowers the jammers with the ownership; hence, jammers make it happen all together more than partaking.

Preston (2012) argues that the event of making a game in a game jam becomes a game itself. Elaborating on the cognitive arousals (stimulation, fiction and narrative, challenge, exploration, negativism, cognitive synergy and facing a danger), he explains that all these cognitive arousal areas can be satisfied via participation in a game jam; perhaps because player motivation is established through the playful form of game making. Additionally, compared to the consumers of other media, game players have a higher interest to create with/for the media they consume as well as influencing it. Several examples of player created content, maps, custom levels are present no less than the amount of forums, blogs, play-through(s) and wikis. Hence, game players may show a higher interest and tendency for creativity compared to the consumers of other media.

Quite similar to the topic or the theme of a PD workshop, the theme of a game jam sits in the center of the event. Rather than aiming to hone the artefact towards a direction, the theme provides the participants with enough space for ideas to flourish without causing a blank canvas paralysis. Although this area requires further research both for game jams and for the similarity between jamming and PD, the functionality of a theme in a game jam is discussed with more detail in previous sections.

3.2 Jamming as Speculative Design

Futures thinking considers any potential form of future a probability and gains strength in contemplating on the existence and transformation of these. In the process of speculating through design, Dunne and Raby (2013) suggest that design speculation or futures thinking needs to position itself beyond the existing design methods and observe, explore, borrow and synthesize new methods, tools, experiments, “what-if scenarios”, and so on. Therefore, we argue that games with their explorative worlds have much to offer within and beyond the techniques and context of speculative design due to their inherent interactivity and playfulness. Through this playfulness, players can explore several versions of futures, even including wicked problems that society faces. Their agency and emergence present them as a suitable playground for visible influences and outcomes in the speculation of potential futures.
Games as simulations are already capable of providing such explorations with existing systems as in strategy and city building games. Following on this, the process of building a game as a simulation may also evoke incidental learning through the exploration of the elements and their interplay. In *Speculative design: crafting speculation*, Auger (2013) mentions several case studies in which techniques borrowed from film and literature are applied in development of plausible futures. These techniques and stories are used as probes to initiate the conversation and drive it through speculation. In addition to the mentioned literature and media, games can also act as probes for such exploration for design futures since they are already make-believe. Coulton et al. (2016) considers games as examples of speculative designs that “allow player(s) to consider alternate presents and plausible futures”. They argue that it is possible to seek solutions to wicked problems by “using games as speculative designs through which players might explore scenarios that represent plausible alternative presents and speculative futures.” One step further than their argument of using games for speculative design which mostly refers to the play activity as the way of exploring alternative presents and plausible futures, the structure and approach of game jams can provide an effective space for using games and game development for speculative designs since jamming is participatory and inherently fictional. Additionally, the ideation process driven by the theme enables exploration of potential solutions similar to plausible futures.

### 3.3 Jamming for Research Through Design

Game design itself demonstrates the traits of research through design. As discussed before, the process of realizing the core of the game through iteration can be considered as an approach for research through design in which the findings through the refinement process is as much important as the final artefact if not more. This was also suggested by Zimmerman in *Play as Research* (2003) with practical examples of iterative game design. Elaborating on his suggestion with the restrictions of jamming that promotes quick iterations, “creation of games is particularly well suited to provide a model of research through design” (Zimmerman, 2003). With the new questions to be asked and answered via the artefact of each cycle, creation of a game decomposes a lot of information while composing a new experience. A lot of learning occurs at each stage of the artefact and even some more with the playtests conducted at each cycle. Since participatory design can be used with research through design, jamming can be a good candidate as a collaborative model for research through design as well.

### 3.4 Jamming for Design for Social Innovation

The existing examples of games for social movement (Games4Change, n.d.) already demonstrates the potential of games and how they can meaningfully contribute to social innovation including but not limited to learning, diversity, health etc. With the suggestion of games as playfully persuasive spaces for both learning and speculative futures (Bogost, 2007: Coulton et al., 2016), the potential artefact of speculative design and design fiction seems to be very similar to the fictitious nature of persuasive games (Bogost, 2007), critical games (Flanagan and Nissenbaum, 2007) and—to be more overarching—games for change (Games4Change, n.d.). However, none of these acknowledged that the process of crafting these artefacts could also be a suitable tool for evoking social change as much as the artefacts themselves. Manzini argues that “design has all the potentialities to play a major role in triggering and supporting social change” (2015) while it is becoming a widespread activity even though we may not be fully understanding the possibilities yet. Since there is a lot of learning through the process of making, and that such realizations could be as valuable as the experience of play if not more, jamming may be a valuable addition to the collaborative perspective of design for social innovation.
Shin et al.’s study (2012) on designing a game jam with a purpose presents a localized game jam on disaster recovery in Fukushima. The main idea was using the game jam for the purpose of solving “real social problems”. Their approach was embedding the social context in the theme with additional sub-themes to provide further challenge. The theme was “‘Tsunagari,’” meaning “relation” or “connection”, emphasizing the relations and connections after the earthquake as well as post-disaster collaboration. The sub-themes included modifiers for the context as well as more technical challenges for less novice game developers. The initial notes from the reflection states that the event provided “[a] new approach on the situated learning and wide range of public awareness”, yet further analysis is not provided (Shin et al., 2012).

In an attempt of defining a design methodology for social activist themes, Flanagan and Nissenbaum (2007) explain the Values at Play (VAP) approach that is composed of three stages: discovery, translation and verification. Their discussion focuses on the power of games both from the incidental learning angle and via the values of play. There are three stages in VAP approach. First is the discovery stage, which includes the activity of identifying relevant values for the project without any consideration for the potential product—just the values; second is the translation stage, which is concerned with how these values are translated to the systems and the features of the game; last is the verification stage, which examines whether the inception of the values is successfully achieved. Although this orderly approach seems to require prior knowledge for the system and the design methodology, it could be effective if somehow modified to be inclusive for novice jammers with no game design experience. Via curating the ideation after the theme is revealed, game jams can similarly facilitate design for social innovation probably in a less structured way. Nevertheless, this points to the need for further research to understand and explain how game jams can be used as a model for design for social innovation, how ideation can be curated without disempowering the jammers, and how complex problems can be presented as a game design problem (in this case the jam theme) to invoke playful processes leading to effective solutions for social innovation.

4. Conclusion

This paper suggests jamming as a model for research through design and design for social innovation in response to the explorations of design for next. The discussion includes the specific nature of jamming, its similarities with some relatively established design approaches, and its differences with traditional game design itself. The collaborative and multidisciplinary nature of jamming makes it similar to participatory design, and the emergent potential to explore alternative futures resembles speculative design approach. The theme of a game jam empowers the participants in several ways, fostering ownership and inclusivity while also introducing limitations for curated explorations.

Although there are still unanswered questions regarding the methods of theme creation and the transfer of the event structure to other design domains, game jams show potential in exploration of real-life problems and raising awareness in an explorative context. As an inclusive design space, jamming presents itself as a unified design approach that is collaborative, speculative, flexible, agile, lightweight and multidisciplinary. Future work should explore specific stages of this model especially in relation to speculative design and focused events in order to foster effective scenarios in contribution to design for social innovation.
References

Preston, J. A., Chastine, J., O'Donnell, C., Tseng, T., & MacIntyre, B. (2012). Game jams: Community, motivations, and learning among jammers. *International Journal of Game-Based Learning (IJGBL)*, 2(3), 51-70.

Kultima, A., & Alha, K. (2011). Using the VNA ideation game at Global Game Jam. In *Proceedings of the DiGRA Conference: Think Design Play*.

Kultima, A. (2015, June). An Autopsy of the Global Game Jam 2012 Theme Committee Discussion: Deciding on Ouroboros. In *Proceedings of the 10th International Conference on the Foundations of Digital Games (FDG 2015)*.

Auger, J. (2013). Speculative design: crafting the speculation. *Digital Creativity*, 24(1), 11-35.

Sotamaa, O. (2005). Creative user-centred design practices: Lessons from game cultures. In Haddon, L., Mante, E., Sapiro, B., Kommonen, K.-H., Fortunati, L., Kant, A. (Eds.), Everyday innovators: Researching the role of users in shaping ICTs (pp. 104-116). London, UK: Springer.

Coulton, P., Burnett, D., Gradinar, A. (2016). Games as Speculative Design: Allowing Players to Consider Alternate Presents and Plausible Futures. *Proceedings of DRS 2016, Design Research Society 50th Anniversary Conference*. Brighton, UK, 27–30 June 2016.

McGonigal, J. (2011). Reality is broken: Why games make us better and how they can change the world. Penguin.

Locke, R., Parker, L., Galloway, D., & Sloan, R. (2015, June). The Game Jam Movement: Disruption, Performance and Artwork. In Workshop Proceedings of the 10th International Conference on the Foundations of Digital Games (Pacific Grove, California, Asilomar Conference Grounds).

Musil, J., Schweda, A., Winkler, D., & Biffl, S. (2010, May). Synthesized essence: what game jams teach about prototyping of new software products. In *2010 ACM/IEEE 32nd International Conference on Software Engineering* (Vol. 2, pp. 183-186). IEEE.

Zimmerman, E. (2003). Play as research: The iterative design process. *Design research: Methods and perspectives*, 2003, 176-184.

Deen, M., Cercos, R., Chatman, A., Naseem, A., Bernhaupt, R., Fowler, A., ... & Mueller, F. (2014, April). Game jam:[4 research]. In *CHI’14 Extended Abstracts on Human Factors in Computing Systems* (pp. 25-28). ACM.

Goddard, W., Byrne, R., & Mueller, F. F. (2014, December). Playful game jams: guidelines for designed outcomes. In *Proceedings of the 2014 Conference on Interactive Entertainment* (pp. 1-10). ACM.

Shin, K., Kaneko, K., Matsui, Y., Mikami, K., Nagaku, M., Nakabayashi, T., ... & Yamane, S. R. (2012). Localizing Global Game Jam: Designing game development for collaborative learning in the social context. In *Advances in Computer Entertainment* (pp. 117-132). Springer Berlin Heidelberg.

Fullerton, T., Swain, C., & Hoffman, S. (2004). *Game design workshop: Designing, prototyping, & playtesting games*. CRC Press.

Bogost, I. (2007). Persuasive games: The expressive power of videogames. Mit Press.

Andersen, L. B., Danholt, P., Halskov, K., Hansen, N. B., & Lauritsen, P. (2015). Participation as a matter of concern in participatory design. *CoDesign, 11*(3-4), 250-261.

Flanagan, M., & Nissenbaum, H. (2007, April). A game design methodology to incorporate social activist themes. In *Proceedings of the SIGCHI conference on Human factors in computing systems* (pp. 181-190). ACM.

Zook, A., & Riedl, M. O. (2013). Game conceptualization and development processes in the global game jam. In *Workshop Proceedings of the 8th International Conference on the Foundations of Digital Games*.

Salen, K., & Zimmerman, E. (2004). *Rules of play: Game design fundamentals*. MIT Press.
Dunne, A., & Raby, F. (2013). *Speculative everything: design, fiction, and social dreaming*. MIT Press.

Manzini, E., & Coad, R. (2015). Design for Social Innovation. In *Design, When Everybody Designs: An Introduction to Design for Social Innovation* (pp. 55-74). MIT Press.

*Global Game Jam*. (n.d.). Retrieved October 10, 2016, from http://www.globalgamejam.org

*Games4Change*. (n.d.). Retrieved October 10, 2016, from http://www.gamesforchange.org

*Games4Diversity*. (n.d.). Retrieved November 13, 2016, from http://www.gamesjam.nl/4diversity/

*Games for Health Game Jam*. (2014). Retrieved October 10, 2016, http://www.spsu.edu/newsroom/news/CDC_2nd_Annual_Health_Game_Jam.htm

**About the Authors:**

**A. Tece Bayrak** is an aspiring games scholar, teaching game development at Media Design School and studying towards her PhD in computer science. She sees gameplay programming as art, also believes in the power of games for change.

**Acknowledgements:** I would like to take this opportunity to thank my colleagues at Media Design School for our invaluable discussions that drive and provoke further thinking.