

# Expect the Unexpected: Designerly Themes for Game Jams

**William Goddard**  
Exertion Games Lab  
RMIT University  
Melbourne, Australia  
william@exertiongameslab.org

**Florian ‘Floyd’ Mueller**  
Exertion Games Lab  
RMIT University  
Melbourne, Australia  
floyd@exertiongameslab.org

## ABSTRACT

Game jams are collaborative game making events that have shown potential as a method to facilitate innovation, creative works, and research outcomes. In a short period of time, these events have previously acted as a catalyst for on-going collaboration in academia and industry where the designed contexts have inspired new ideas leading to novel game design insights. Currently most of the research into game jams has focused on hobbyist participation in popular game jams, leaving little understood about their potential in commercial and academic contexts, such as a research method or part of a research and development program. In this paper, I interview 4 professional game designers from both industry and academia with a breadth of experience in game jams whom offer an exemplar game design for discussion. Probing in matters related to their design and professional practice, and their experiences in game jams, this paper explores game jams from the perspective of professional motivations. Through the course of these interviews, several themes are identified, such as distinct attitudes to game jam participation and design practices at work. Additionally insights into the strengths and future potentials of game jams as a designed method are identified. With these findings, this paper contributes to a better understanding of professional engagement with game jams, and their potential for these audiences.

## Author Keywords

Game jams; innovation techniques; design methods; research through design; design theory; game making

## ACM Classification Keywords

H.5.m. Information Interfaces and Presentation (e.g. HCI): Miscellaneous

## INTRODUCTION

The growth of game jams has seen their integration into to academic and industry contexts where they are being used for innovation and research. Game jams have their roots in innovation and that remains a core principle to the most popular event, the Global Game Jam. Despite this sentiment, this popular game jam has been primarily studied for its cultural

impact and learning outcomes, along with a focus on studying hobbyist and student game jamming. In order to understand game jams as an event to playfully facilitate game making directed toward innovation and research, there is a need to study past events, participants, and their work that has demonstrated this. Consequently, in this paper, I interview four game makers who have robust experience in game jams from both academic and industry perspectives that have used these events to jam toward their innovative designs.

In this paper, I primarily probe with the motivation to understand the potential use of game jams as a method for innovation and as an event to be used within research and development programs (both in industry and research). I have selected four professional (specifically academic and commercial) game makers, game developers, and designers who have participated in game jams and as a result of these events lead to interesting, innovative, fun, and otherwise noteworthy designs. Exploring salient topics to game jams as identified from existing literature, personal practice, and research through design theory, I interviewed these game design academics and industry professionals whom offered insights into the processes, attitudes, and insights in participating in game jams while also providing insight into existing practices using game jams as a method to uncover game design theory and generative design contributions.

In the scope of this paper I investigate primarily the jam participation contextualised with designed artefacts (i.e. the games) and their making context, as seen as the interplay between dynamics such as process, environment, attitudes, motivations in the game jam, from the perspective of a gameplay designer. While I identify some of the potential design theory from game jams, the focus in this research has been about understanding how we can improve game design methodology and practices (for all audiences), generate interesting and novel games (for the commercial perspective) and innovate in user experience/gameplay, interaction/game mechanic, and interface design in the context of games (for HCI research).

## RELATED WORK

While game jams have been around for over a decade, their explication in academic format has only emerged in the last few years. Additionally, game design itself, left largely as a commercial endeavour, is only emerging as a substantial subject matter for academic discourse (as distinct from both game studies and interaction design). Discussion continues of whether games are art or design (or otherwise), further complicating the understanding of game jams contribution. Furthermore, the discussion regarding design theory, particularly

Paste the appropriate copyright statement here. ACM now supports three different copyright statements:

- ACM copyright: ACM holds the copyright on the work. This is the historical approach.
- License: The author(s) retain copyright, but ACM receives an exclusive publication license.
- Open Access: The author(s) wish to pay for the work to be open access. The additional fee must be paid to ACM.

This text field is large enough to hold the appropriate release statement assuming it is single spaced.

Every submission will be assigned their own unique DOI string to be included here.

in following the research through design (RtD) approach, is ongoing regarding its methods, validity, and contribution to research communities.

### Research on Game Jams

Within the last few years the academic literature on game jams has grown substantially. This is largely attributable to the emergence of the Global Game Jam, and its respective research community. Early work focused on the game making through the lens of prototyping [15]. Similar research extended this exploring ideation techniques integrated into the game jam themes [13]. With the substantial participation of students in jams along with support from universities has led to work toward understanding the learning outcomes from game jams [6], such as technical and soft-skills associated with game development as well as its potential engagement with educational institutions. Similarly, work understanding the motivations associated with participation and learning, and the experiential side of the learning process has also been studied [16] and extended [1] including considerations for the context of game jams, such as communities. Further work included leveraging the ubiquity of game jams to support specialising for special contexts (sub-culture, location, social settings) [19]. More recent work explores game jams from a humanities perspective, understanding the link between maker culture [22, 11] and prosumerism [18], and exploring game making as a craft [22]. Emerging work continues by exploring the visualisation of the data made by jammers, creating an experience narrative [21]. Also investigated is designing for the game jam experience as play [10].

The existing work offers understanding for game jams, especially from qualitative considerations such as motivations and experienced participation, but almost exclusively focus on the Global Game Jam. With the emergence of many distinct game jams each with special contexts and motivations, such as recently the Alt Ctrl Jam and Game Jam 4 Health, a step back to understand alternative game jams is warranted, such to understand the interplay between changed contexts, themes, social groups, etc., with the experiences and outcomes. Furthermore, the focus on the Global Game Jam has also anchored a substantial amount of the research toward understanding the hobbyist and student perspectives of game jam participation prevalent to these jam events. Specifically, there is a gap in understanding professional participation in and facilitation of game jams (i.e. commercial game jams and academic game jams). This consideration is salient in the intent toward understanding game jams as a research and innovation method.

### Research through Design and Game Design

Investigating game jams as a design practice, for the academic perspective they can be situated within the discourse on research through design (RtD). This practice is popular among human-computer interaction (HCI) researchers, including researchers investigating interaction design in playful ways or in a games context. An overview of the RtD approach within this context has been detailed [23]. Subsequently, a refined understanding of the type of contribution we can expect from this approach, such as generative contributions [9] and

the forms it can take [24], such as theory for design and design on design. In consideration of the constructive and practice centred nature of game design, design research through practice offers more elaborate understanding [12]. Specifically for game design, some methods and their design context are discussed [5]. Furthermore, for understanding the dissection of design contributions of game jams the foundational game design work *Rules of Play* establishes three schemas: rules, play, and culture [17] which can be correlated with the natures of RtD contribution.

### JAMS

The game jammers I've interviewed have participated in various game jams each with their own contexts and desired outcomes. Among these game jams includes the Global Game Jam, which is the largest and perhaps best studied game jam. The Global Game Jam serves as a useful reference point for understanding the other game jams as its popularity has perhaps established it as the "standard model" for game jams, extending from the Nordic Game Jam formula. Furthermore, the open participation with emphasis on indie, student, and hobbyist participation in this game jam also serves as a point of contrast between the more commercially or investedly concerned participation in academia and industry.

### Halfbrick Fridays

Halfbrick Fridays [14] is industry game jam-like event facilitated repeatedly in a commercial game development studio focusing on mobile games. This event is hosted during business hours, typically reserving a few Fridays in a row to dedicate toward the tangential game making. Drawing parallels with Google's 20% time model<sup>1</sup>, this provides opportunities to work with new colleagues, explore new ideas, and provide a fun interlude between regular game development. In this event the game developers first pitch their ideas to the company and consolidate teams to develop these ideas. Anyone in the company can pitch an idea and anyone can contribute to its development. While there are no concrete expectations that every idea has commercial viability, with only about 5% to 10% games evolving from the Halfbrick Fridays event to core development [3], the aim is in innovating new IP and concepts and has led to successes such as the company's mobile hit Fruit Ninja [20].

### Game Jam: [4 Research]

Game Jam: [4 Research] (GJ4R), seen in Figure 1, is an academic game jam facilitated within the CHI conference [4, 2]. Using a workshop space during the conference, this jam is unique in joining researchers with disparate research domains together, agnostic to normal game making disciplines common indie and hobbyist concerns. This game jam had outcomes in research, such as publications, in mind. This game jam did not use a theme such as evident in other game jams, for example the Global Game Jam, however, themes such as embodied interaction, and tangible interaction design emerged, among other themes, emerged as areas to explore relevant to the conference's interests.

<sup>1</sup><http://www.forbes.com/sites/johnkotter/2013/08/21/googles-best-new-innovation-rules-around-20-time/>



Figure 1. A photo highlighting the playful nature during the game making process emphasised during the Game Jam: [4 Research] at CHI2014.

### 48 Hour Game Making Competition

The 48 Hour Game Making Competition, inspired by the Nordic Game Jam and follows a similar model to the similarly rooted Global Game Jam. Notably, however, this game jam divides the participants into leagues associated with their professional engagement. Participants who are employed by a commercial studio can opt to participate in the “Pro League”, while startups in the “Newly Pro” league, and with students or those opting a less delineated experience participating in the “Indie League”. Furthermore, these divisions represent a physical separation in the event where the “Pro League” jams in a different room with the other commercial game developers. An example of a game created by a “Pro League” team during this jam is seen in Figure 2. This game jam provides an opportunity to better understand the differences between dedicated professional game jamming and indie participation.

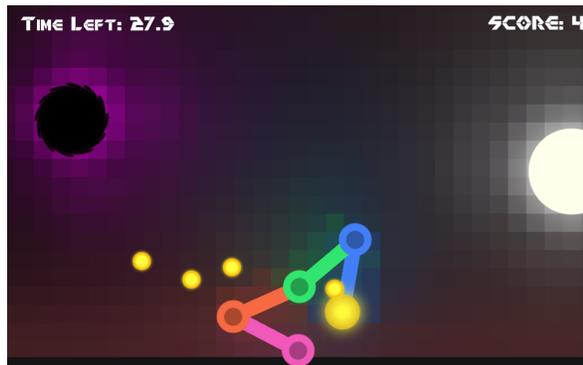


Figure 2. Joint Effort - an example of a Pro League winner game design from the 48 Hour Game Making Competition. This four player game explores shared embodiment where each player controls a joint as part of a single arm. When attempting to collect points and avoid the black hole, dynamics such as groupthink emerge.

### MEASURING DESIGN OUTCOMES

The nature of design contributions vary, and it can be difficult to measure these. The types of contributions desired too vary between the academic and commercial interests. Ideally for the academic audience we are looking for more objective or abstracted knowledge broadly applicable for future designers.

In addressing this game jams have a lot to offer in understanding the processes involved in game jams, such as production, development, ideation, and specifically strategies for innovation. This is described as theory for design [24], and game design methodology theory has a lot to gain from this inquiry into game jams. Alternatively, theory on design, concisely described as towards a unified understanding of the human activity of design [24]. Specifically with the non-functional aspects of game design, we particularly look upon generative contribution to theory [9]. Conversely to academic outcomes, commercial interests are not necessarily truly novel or distinct innovations, and this might include instantial contributions such as developing new intellectual property. In Rules of Play, Salen and Zimmerman explore games through rules, play, and culture. For the HCI community, the interest might lie in theory for design in regards to play, particularly as investigated as a user experience. Additionally methodological contributions would also be suitable. For other academic communities there may be a substantial interest in culture - both the generative games [22], but also in the bigger contexts such as communities and social context[22, 18]. Contribution to rules might have less of a definitive home in academic communities, but may provide a substantial generative differentiator to commercial game development and success.

### INTERVIEWS

The overall goal of the interviews was to understand (1) how professional game makers (i.e. those in commercial or academic game development) engage in game jams, and (2) if game jams can contribute to research and innovation as a “research method” or prototyping strategy within their professional contexts. The interviews were conducted with a semi-structured qualitative approach, attempting to extract designers insights. The questions and probes were selected from existing literature on game jams in conjunction with the author’s experience in game making processes.

In this paper, four people were interviewed for their engagement in game jams whom included a professional interest in game jams as seen as being either a commercial game developer or a research involved in game jams. These game makers were also particularly sampled because of their exemplar game designs eventuated from previous game jams, providing an excellent source to understand game design innovation in relation to game jams. These game jammers have been in a mix of various jams including at their commercial institutions, academic conferences, and the more documented indie or hobbyist game jams.

### Game Jam Theme

Game jam themes were a tricky subject to explore with the interviewees. While arguably an underpinning design consideration that could shape game designs, it was not certain what makes a good one. Furthermore, game jams such as research game jams it becomes even more unclear what the themes should be to direct research outcomes. When considering themes for academic game jams, P4 mentions that the domain context (such as health or HCI) might be sufficient, otherwise a research question might be suitable. Conversely,

P1 praised the lack of theme as supporting the designer’s freedom citing the context and social elements as sufficient constraints.

In regards to game jams in commercial practice, interviewee P3 mentions the business specific themes used in their Halfbrick Friday game jam-like event. For example, innovating intellectual property (IP) was identified. While these types of themes varied, requirements like IP required the game makers to design for new content in either new or existing game designs. From a rules and play perspective, themes such as this leave game designers significant freedom to explore.

The popularisation of game jams an application of the event to non-games specific domains was brought up (such as SETI-Jam, Game Jam 4 Health and the research game jam). It was mentioned how these game jams don’t use themes in a conventional sense to direct game design, but however use their domain as a context to inspire novel game designs. These game jams are removed from more traditional contexts of game design (for example HCI from the research perspective). What can we expect from these game jams? Culture was one exemplified contribution, but their recent emergence and lack of direct participation made it unclear what defines and comes out of these game jams.

### Having Fun to Make Fun

The most prevailing theme in the attitudes of the game makers was the importance of “fun”. Without prompt, it was declared with importance the virtue of fun in game jams. This was mentioned not only to be part of the experience, but in the context at large. For example, motivation for participation for some was primarily for fun, with that being the only necessary outcome for a successful game jam for them. This theme was also used to describe the context and community of the game jam, such as the need for sharing each other’s games at the end of the jam and have fun through this. It has been identified the experiential values of game jams [10], (...) This resonated with themes about fun being shared in a game jam, through collaboratively making games and sharing those games with others.



Figure 3. *Guarrd the Rum* is the 2014 Pro League winner from the 48 Hour Game Making Challenge. This evidences work from P3, a commercial game developer. This game was designed with an emphasis on fun and involves players knocking opponents off the rocking boat.

One interviewee even mentioned their experience during a TIG Jam as being particularly fun. During this jam the game maker worked on the title *Turnover* seen in Figure 4, but took

a lusrory attitude toward the game jam played games throughout the night. They mentioned that while it was hard to say if playing these games helped the game making process, it was something simple that took the pressure off. Specifically, it was something that “changed our approach or perspective or mood of attending and making games at that jam” P2. Playing games during a game jam might provide a context appropriate activity removed from the game making process itself, which another game designer highlighted as a missing element in game jams. Describing a tunnel vision approach where the game makers focus on getting things done without thinking about how it fits it, or if it needs to be re-evaluated.

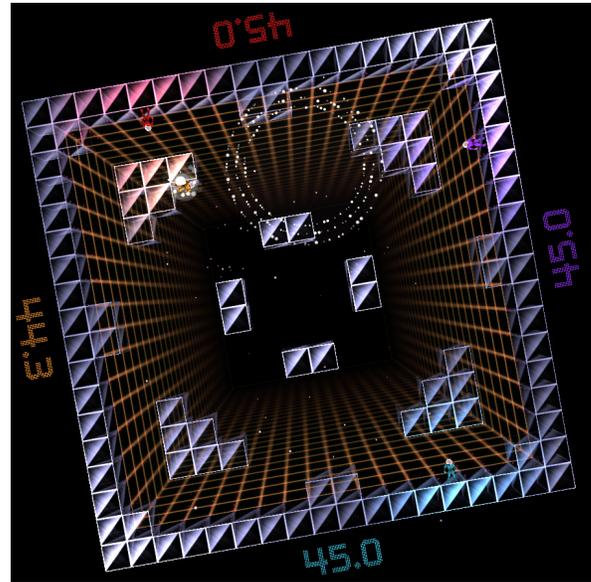


Figure 4. *Turnover* is the result of ongoing development after TIG Jam. This innovative game embodies the suggestion to game designers to re-explore the rules in game design. In this mixed perspective game, the display is ideally placed on a table or floor, perpendicularly to convention. Each player’s perspective corresponds to each side of the display and each character has an accordingly unique gravity vector leading to interesting multiplayer dynamics.

### Sharing the Good Times

Related to both the themes of fun and the social aspects in the game jams, the importance of shared experiences was highlighted. This was achieved in various ways in the different game jams such as curated presenting, spontaneous discussions or play testing within the team, but also others’ games. For example, P1 specifically mentions the regular presenting the the CHI game jam workshop as beneficial and continues “it was other people as well, it wasn’t just yourselves trying out the game”. This was a common sentiment shared with the others jammers where the experience of designing with other players involved, including sharing games with each other was both an experientially rewording experience while also contributing as a user-centered design practice. One of the jammers lamented an experience from a different game jam which did not provide an atmosphere conducive for this kind of inter-team collaboration or sharing. Conversely, P4 who

also participated the CHI game jam disagreed with the regimented milestones including presentations as not conducive to their practice.

### Only at a Game Jam

Three of the game jammers investigated highlighted a point about game jams leading to games that would not otherwise have been created. The sentiment ranged from this being a convenient opportunity for game making, which by nature would lead to new games, to identifying that their game would not have been possible or foreseeable in a non-jam or studio environment. One participant, P2, mentioned that the idea that ultimately led to the game seen in Figure 4 was discovered before the event, but the game jam was “just the right time and the right place to be”. Another interviewee mentioned that their experience in the academic game jam was fundamental to their respective innovation. For this game maker, it was a collaborative attitude with the joining of different perspectives from distinct domains at the CHI2013 conference that catalysed their design seen in Figure 5.

### Designed Serendipity

One game designer cites their work as an excellent case of serendipitous design outcomes. In their game *i-identity* [7, 8] seen in Figure 5, the designer emphasises the emergent dynamics they identify through the game making process, describing the initial design as “so simple, but there was so much that emerged from the game ... we only learned about that through play testing the game” P1. Integral to this game design process is the play testing, which was both autonomously conducted and curated at this academic game jam. Through designerly observation during play testing, the emergent complexity was identified and reinforced in iterative design. This highlighted the need for game designers to not focus on the “fingers on the keyboard” making, but realise the robust requirements of game design. In relation to play testing, this interviewee highlighted experiences from the different game jams they had participated in, where another game jam was not conducive to this integral game design practice. In their experience in the Global Game Jam, the game makers were extensively focused on building code and assets that they missed out on reflective practice and play testing.



Figure 5. *i-identity* is a novel interaction focused game design from the CHI game jam. After exploring the designed interaction, interesting dynamics and user experiences emerged from the game, leading to subsequent development and research.

### Safe Places to Fail

With experimentation, comes an inherent risk. A heavy emphasis on experimenting, especially with the most risky of risky designs was the most strongly spoken theme about game jams. “They’re one of the safest places for game creation failures to occur” P2 highlights mentioning the low cost of participation in a game jam. In continuation, the desire to see game jam encourage a fun safe environment, for example through “biggest failure awards”, was highlighted. Furthermore the popularity of game jammers “playing it safe” was lamented with a growing trend to just build games without experimenting, exploring, or really thinking about what is it your achieving with the medium. Another academic perspective, P1, highlighted the biggest affordance in supporting design was experimentation. In this designers experience, you need to be prepared to scrap whatever you are working on and start over. Nothing is sacred in this designer’s risk-agreeable perspective.

### Game Jams For Outcomes

When asked about using game jams for design outcomes opinions were mixed. These game jammers exemplified the potential in the events for innovation, new ideas, and creative output, but stressed the limitations of these events. For example, one interviewee suggested that game jams present “the ability to explore risky ideas that would potentially be too risky to explore in a studio environment” P2, continuing regarding how this may lead to novel designs being explored such as new dynamics and mechanics in game design. However, it was stressed repeatedly by these participants that it is more of an opportunity for these kinds of risky explorations, but the jams may not necessarily lead to any such outcomes.

The desired nature of the contribution of the games created during the game jams varied between the jammers. However, these differing motivations were all joined in creating something new. Two were interested primarily in simply creating *fun* games, while the other two were more interested specifically in innovating. The two game designers interested in more directed innovation are academically involved in game design research and shared motivations for “progressing as a medium”. This included a desire to experiment with new interfaces and hardware and see how game designers can explore new experiences and interactions. An example of such a designerly perspective innovation is a side game P2 created during a game jam. Motivated to create a game which every game jammer could be credited for, they collected sound samples from everyone saying “congratulations” and used a Makey Makey to detect when they would receive a high-five and increase the displayed number on the laptop being carried around while playing a congratulations sample.

### Game Jams In Industry

In evaluating game jams for industry practice, some game jammers alluded to some of the documented success of game jams in industry, such as Double Fine’s *Amnesia Fortnight*. However, it wasn’t clear if or how these practices should be implemented with future commercial interests. This raised the topic of delineating between game jamming practice and commercial prototyping or game development. For example,

it was highlighted that many game developers and studios practice prototyping strategies involving high risk experimentation and small games for innovation. Questions arise: were these developers engaging in game jamming, and would they perhaps reject the sentiments of such a label.

When asked about whether game jams still offer value to game developers with extensive experience, it was agreed that at least for the social and experiential aspects, jams would still have something to offer. From the productivity perspective, the game jams provide opportunities to working with other developers which might not normally be possible due to team divisions or other reasons. It was suggested that this could be extended further with inter-studio game jams to foster even more diverse collaboration. Revisiting the experiences of joining different perspectives and outlooks behind the inspiration of game ideas, the collaboration with new peers is cited as a catalyst for learning and creativity. On the other side, the frequently cited burn-out with commercial game development could be balanced with the fun side of game jamming, allowing the developers to take a break from exhausting projects and investigate something simple and more personal.

### Critique on Game Jams

Overall the interviewees showed a positive attitude toward game jams, but when exploring some of the topics some constructive criticism was expressed. One participant mentioned their experience with the game jam facilitator “pushing their agenda” P1, highlighting how this “constrains the design” mentioning how a focused requirement limited the ability to think about other design considerations of the experience of playing. This resonated with another subject who adamantly voiced for a “hands-off” approach (P3) in the game jam, leaving the participants to do their own things, and practice their own processes.

Another concern raised was of the ubiquity of the “game jam game”. While acknowledging the limitations of the game jam and how the common contexts and rules, such as the time limit, lend to certain games, the game makers aren’t really testing the limits nor taking advantage of what the game jam really has to offer. The motivations of this jammer differ from perhaps the GGJ participants who might be interested in creating a portfolio piece.

### FUTURE WORK

The concept of a “game jam game” arose during the investigation into game jams. While for people involved in game jams there is a tacit understanding of this concept, and I could conjecture what this is and why, a study to investigate this would offer interesting insights into game jams and game design. Specifically, the study of samples of game jam games with a qualitative-designerly lens to understand relationships between design contexts (theme, time, location, etc.) and outcomes as well as the common underlying elements. This could contribute to our understand of what we should, or even could, expect from a game jam by exploring the design affordance exposed in the rules of a game jam event.

### CONCLUSION

In this paper I explored game jams: design artefacts, processes, and attitudes. I selected four game jam participants with professional commitment to game making (either commercially or academically) whom also evidenced exemplary game designs from their previous participation in game jams. These game jammers were interviewed with topics identified in existing literature on game jams along with personal experience in game making and game jams in these two contexts. In exploring these topics, and correlating the interviewees’ experiences and dialog with their designed work I was able to identify several salient themes to game making with a motivation toward innovation and research. These themes contribute a distinct perspective on the participation in game jams, and an understanding of professionally held game jams and their games. These findings provide insights into game design practice, particularly in engaging in future game jams.

### ACKNOWLEDGEMENTS

I would like to thank my colleagues at the Exertion Games Lab. I would also like to extend a warm thanks to the game jam participants and organisers for their ongoing support for game jam events.

### REFERENCES

1. Arya, A., Chastine, J., Preston, J., and Fowler, A. An international study on learning and process choices in the global game jam. *International Journal of Game-Based Learning (IJGBL)* 3, 4 (2013), 27–46.
2. Chatham, A., Schouten, B. A., Toprak, C., Mueller, F., Deen, M., Bernhaupt, R., Khot, R., and Pijnappel, S. Game jam. In *CHI '13 Extended Abstracts on Human Factors in Computing Systems*, CHI EA '13, ACM (New York, NY, USA, 2013), 3175–3178.
3. Creative Industries Innovation Centre. Commercialising IP: Halfbrick. <http://www.creativeinnovation.net.au/features/business-management/commercialising-ip-halfbrick/> [Accessed: 16 August 2014], 2010.
4. Deen, M., Cercos, R., Chatman, A., Naseem, A., Bernhaupt, R., Fowler, A., Schouten, B., and Mueller, F. Game jam: [4 research]. In *CHI '14 Extended Abstracts on Human Factors in Computing Systems*, CHI EA '14, ACM (New York, NY, USA, 2014), 25–28.
5. Eladhari, M. P., and Ollila, E. M. Design for research results experimental prototyping and play testing. *Simulation & Gaming* 43, 3 (2012), 391–412.
6. Fowler, A., Khosmood, F., Arya, A., and Lai, G. The global game jam for teaching and learning. In *Proceedings of the 4th Annual Conference on Computing and Information Technology Research and Education New Zealand* (Hamilton, New Zealand, 2013), 28–34.
7. Garner, J., Wood, G., Pijnappel, S., Murer, M., and Mueller, F. I-dentity: Innominate movement representation as engaging game element. In *Proceedings of the 32nd Annual ACM Conference on*

- Human Factors in Computing Systems*, CHI '14, ACM (New York, NY, USA, 2014), 2181–2190.
8. Garner, J., Wood, G., Pijnappel, S., Murer, M., and Mueller, F. F. Combining moving bodies with digital elements: Design space between players and screens. In *Proceedings of The 9th Australasian Conference on Interactive Entertainment: Matters of Life and Death*, IE '13, ACM (New York, NY, USA, 2013), 17:1–17:10.
  9. Gaver, W. What should we expect from research through design? In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, CHI '12, ACM (New York, NY, USA, 2012), 937–946.
  10. Goddard, W., Byrne, R., and Mueller, F. Playful game jams: Guidelines for designed outcomes. In *Proceedings of The 10th Australasian Conference on Interactive Entertainment*, IE '14, ACM (New York, NY, USA, 2014).
  11. Guevara-Villalobos, O. Cultures of independent game production: Examining the relationship between community and labour. In *Proceedings of DiGRA 2011 Conference: Think Design Play* (2011).
  12. Koskinen, I., Zimmerman, J., Binder, T., Redstrom, J., and Wensveen, S. *Design Research Through Practice: From the Lab, Field, and Showroom*, 1 edition ed. Morgan Kaufmann, Waltham, MA, Oct. 2011.
  13. Kultima, A., and Alha, K. Using the VNA ideation game at global game jam. In *Proceedings of DiGRA 2011 Conference: Think Design Play*, Citeseer (2011), 14–12.
  14. Lardinois, F. How halfbrick studios develops games like fruit ninja, age of zombies and jetpack joyride. <http://techcrunch.com/2013/03/03/how-halfbrick-studios-develops-games-like-fruit-ninja-age-of-zombies-and-jetpack-joyride/>, 2013.
  15. Musil, J., Schweda, A., Winkler, D., and Biff, S. Synthesized essence: What game jams teach about prototyping of new software products. In *Proceedings of the 32nd ACM/IEEE International Conference on Software Engineering - Volume 2*, ICSE '10, ACM (New York, NY, USA, 2010), 183–186.
  16. Preston, J. A., Chastine, J., O'Donnell, C., Tseng, T., and MacIntyre, B. Game jams: Community, motivations, and learning among jammers. *International Journal of Game-Based Learning (IJGBL)* 2, 3 (2012), 51–70.
  17. Salen, K., and Zimmerman, E. *Rules of play: game design fundamentals*. MIT Press, Cambridge, Mass., 2003.
  18. Sampugnaro, R., Mica, S., Fallica, S., Bonaiuto, A., and Mingrino, M. Participation at the global game jam: a bridge between consumer and producer worlds in digital entertainment. *GAME* 3 (2014), 35–45.
  19. Shin, K., Kaneko, K., Matsui, Y., Mikami, K., Nagaku, M., Nakabayashi, T., Ono, K., and Yamane, S. R. Localizing global game jam: Designing game development for collaborative learning in the social context. In *Advances in Computer Entertainment*. Springer, 2012, 117–132.
  20. Towse, R., and Handka, C. *Handbook on the Digital Creative Economy*. Edward Elgar Publishing, Dec. 2013.
  21. Turner, J., Thomas, L., and Owen, C. Living the indie life: Mapping creative teams in a 48 hour game jam and playing with data. In *Proceedings of The 9th Australasian Conference on Interactive Entertainment: Matters of Life and Death*, IE '13, ACM (New York, NY, USA, 2013), 15:1–15:10.
  22. Westcott, E. Independent game development as craft. *Loading... The Journal of the Canadian Game Studies Association* 7, 11 (2012), 78–91.
  23. Zimmerman, J., Forlizzi, J., and Evenson, S. Research through design as a method for interaction design research in HCI. In *Proceedings of the SIGCHI conference on Human factors in computing systems*, ACM (2007), 493–502.
  24. Zimmerman, J., Stolterman, E., and Forlizzi, J. An analysis and critique of research through design: Towards a formalization of a research approach. In *Proceedings of the 8th ACM Conference on Designing Interactive Systems*, DIS '10, ACM (New York, NY, USA, 2010), 310–319.