

# Playful Game Jams: Guidelines for Designed Outcomes

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## ABSTRACT

Game jams are social events involving the integration of various game making disciplines (e.g. programming, art, design) to make games under constraints, such as a short fixed time. Game jams are emerging in areas such as research, education, and industry as events to facilitate game making for designed outcomes; i.e. outcomes elicited from appropriately designed game jams. Game jams continue to grow and be appropriated to new contexts, however, little is known about how to design game jams to facilitate designed outcomes. We identify participation in game jams as a constructive form of play defined as ludic craft. Consequently, we investigate the properties (e.g. rules) of game jams under the lens of play on the playful vs. gameful continuum. Reflecting on our experiences as facilitators and participants of jams in indie, industry, and academic contexts, we have derived a set of guidelines for game jams to facilitate ludic craft in its playful and gameful forms. We present this set of guidelines for jam facilitators to cultivate experiences that support designed outcomes in contexts such as research, education, and industry.

## Categories and Subject Descriptors

H.5.2 [Information Interfaces and Presentation]: User Interfaces—*Prototyping*; D.2.2 [Design Tools and Techniques]

## Keywords

Prototyping, creative collaboration, game jam, research through design, game design; play, ludic design, ludic craft

## 1. INTRODUCTION

Starting with Indie Game Jam 0 over a decade ago [19], game jams have facilitated game making under constraints, such as a time limit and theme. The games made during a

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game jam have provided outcomes for game designers, such as exploring technology limits [1], experimenting with interfaces [34], and exploring themes [23]. Through the process of game making in a game jam, other outcomes are generated such as social collaboration and learning [12]. Through their productive outcomes and positive experience, game jams have become established in game making culture where they are now regarded as a rite of passage [37].

Game jams continue to proliferate, through the creation of new events and the addition of locations and participation to established game jams. This growth has included the appropriation to new contexts, such as game jams for research [6]. Outcomes in learning suggests possibility for appropriation of game jams for education [12]. Industry has also identified the game jam for internal rapid prototyping. With the growth of these ‘applied’ game jams, there is a need to understand their function as a directed and constructive event with a focus on participant experience.

There is a wealth of literature on the study of game jams (e.g. [2, 23, 28, 30]), including insight and advice from the participant perspective [21], and emerging literature for the facilitation perspective [18, 27, 30]. There is also growing literature on the cultural impacts of these events [17, 32, 38]. However, current research has focused on predominantly on popular and open game jams such as Global Gam Jam with significant indie and student participation. We contribute to the study of game jams in this paper by integrating academic and industry perspectives to game jams as part of the phenomena at large. Furthermore, we reflect on these different perspectives to create generalised guidelines for game jams. These guidelines provide advice for game jam facilitators running their event for designed experiences and outcomes.

Game jam characteristics, such as voluntary participation and intrinsic motivation, has fostered play in game jams. This playful participation has led to the creation of thousands of games, both innovative and conventional. We believe that this is a strength of game jams and successful game jam facilitation lies within finding the appropriate balance between the playfulness and gamefulness of the game jam experience and outcomes. Therefore, in this paper we examine game jams as game designers, drawing upon existing literature combined with the authors’ experiences of both hosting and participating in several indie and academic game jams over the past five years. In this perspective, we investigate game jams as games to be played and jamming as gameplay.

## 2. SELECTED GAME JAMS

Game jams have become a popular phenomena for game making. We have selected a combination of game jams discussed in literature and those which we have participated in to best represent the field. We divided these jams into three categories, indie, industry, and academic. The categories identified shared intended outcomes for the purpose of comparison. These game jam categories inform our understanding of game jam characteristics.

Property	Indie	Industry	Academic
Team Sizes	$\leq 5$	Varies ( $\approx 5$ )	3-4
Team Formed	Varies	At event	At event
Audience	Any	Professional	Academic
Timebox	48 hours	Varies	16 hours
Occurrence	Continuous	Work hours	Work hours
Process	Open	Internal	Milestones
Place	Varies	Co-located	Co-located
Awards	Games	Games	Pace
Constraint	Theme	Pitch	Contextual
Submission	Digital	Presentation	

**Table 1: Approximate comparison of differing rules and properties in game jams. The comparisons inform the relationships between rules and experiences/outcomes. Matching rules have been omitted.**

Game jams employ rules that structure the terms of the event. These rules define the game jam, but can also shape different experiences and outcomes. We have identified some of these properties in Table 1 in order to understand the different categories of game jams and the characteristics these rules elicit. These properties identify four areas of investigation: people, process, place, and outcome (including product).

### 2.1 Indie Game Jams

Indie game jams are notionally described as open game jam events. These events attract aspirant game makers, independent game developers, students, hobbyists, and industry professionals [12]. These game jams often align with industry game design practice in the use of similar tools and processes, however, they are not facilitated for commercial outcomes. With an emphasis on personal outcomes and motivations, creativity and playfulness are often paramount and participants are encouraged to experiment. These events are either hosted as standalone events, such as the 48 hr challenge [37], or in the case of Global Game Jam [20] they coordinate hundreds of locations around the world concurrently. These events are often hosted annually, commonly on university campus (e.g. [37]).

We primarily look upon Ludum Dare (LD48) [26], 48 hr challenge (fab48hr)<sup>1</sup> [37], and Global Game Jam (GGJ) [20] because we participated in them, but also consider other game jams fitting this category, such as Toronto Game Jam<sup>2</sup>, Nordic Game Jam<sup>3</sup>, and TIGJam<sup>4</sup>.

<sup>1</sup>Video documentation of fab48hr jam and some of its games is available on YouTube <http://goo.gl/CsjKNN>

<sup>2</sup><http://www.tojam.ca/>

<sup>3</sup><http://nordicgamejam.org/>

<sup>4</sup><http://www.tigjam.com/>

### 2.2 Industry Game Jams

Industry game jams are situated within industry practice and provide a break from long development cycles that can span years and require specialised developmental participation. These events provide an opportunity for personally motivated game making where industry game makers can work on their game ideas or participate outside of their disciplinary expertise [24]. With less expectation of immediate commercial success, these events are used for experimentation, innovation, and rapid prototyping [10, 36]. For example, Valve Corporation, a prominent game development and distribution company, shut down the studio’s standard production in order to facilitate “Directed Designed Experiments” [10]. Gabe Newell turned the company into “one big creative playground” as an attempt to foster creativity within the company [10]. Additionally, in what would prove to be a company saving move [11], Tim Schafer stopped production at his company, Double Fine, in order to allow his team to take a creative break from the development of a large scale project. The result of their “Amnesia Fortnite” produced several prototypes which were later released as full games. Additionally, we have participated in “Halfbrick Fridays” [24]. About five to seven times a year Halfbrick designates Fridays for this event, which start with brainstorming new ideas [24]. “Halfbrick Fridays” (HBF) have been used to facilitate innovation, leading to successes such as Fruit Ninja [36].

### 2.3 Academic Game Jams

Academic game jams draw together academic researchers often with the intention that it will lead to research outcomes. Participation is often attracted based upon research interest in a domain (such as health or human-computer interaction). These jams may be less open to participation by requiring academic involvement, abstract submission, and higher costs of participation. For example, a typical game jam is free (e.g. [26, 37]) or a nominal fee (e.g. various GGJ locations), compared to a higher workshop registration cost, such as at CHI2014 [6]. Examples of academic game jams include Game Jam: [4 Health] [8] and Game Jam: [4 Research] [6]. These jams replace abstract and arbitrary design themes with context based research (such as health or digital game interaction [4]). As these jams tend to run at either academic institutions or as part of larger academic conferences, participant diversity in these jams can also be limited to students and academic professionals from similar disciplines. We also draw upon our collective experiences facilitating academic design workshops.

## 3. LUDIC CRAFT IN GAME JAMS

The motivations for making games in a jam are often intrinsic. Participation in indie and academic jams is voluntary, and similar events in industry are typically either voluntary or relax extrinsic requirements while increasing participant freedom. For example, Halfbrick allows anyone in the studio, regardless of profession, to pitch their favourite ideas and develop them during Halfbrick Fridays [24] and embraces failure, as only 5% to 10% of Halfbrick prototypes become published games [5]. The themes in jams are usually open-ended or ambiguous, such as an abstract phrase (GGJ), open game design using intellectual property (HBF), or exploration of a research domain (GJ4R). These intrinsic

motivations combined with open-ended outcomes have facilitated self-determined outcomes, i.e. game jammers making the games that they want to. Although this game making draws on skills from the workplace, many game jammers leave workplace values (e.g. efficiency and productivity [15]) behind by embracing values such as having fun or “working on a cool game idea” [31]. In doing this, play is extended from simply playing games, but also to making games. In designing for homo ludens, our work depends on our play [15], but in a game jam, jammers are not only designing for homo ludens, but *as* homo ludens and the nature of their designing can be seen as a craft [38]. As the homo ludens game craftsperson, work and play are subsumed into what we call *ludic craft*. In ludic craft, the participation in a game jam is a constructive form of play - jammers make through play. Ludic craft is a characteristic of game jams present in indie, industry, and academic jams alike. Ludic craft provides a means to understand the game jam as a game - designed with game design principles to be played by jammers.

#### 4. PLAYFUL AND GAMEFUL JAMMING

Ludic craft - a constructive form of play - provides a means to explore game jams as play. Caillois placed play on a continuum between ludus and paidia [3]. In this continuum, ludus describes structured activities with explicit rules while on the other end of the continuum, paidia describes unstructured or spontaneous play. Play on the ludus end of the continuum is gameful, and conversely, play on the paidia end is playful [9, 25].

**Playful** Unstructured, spontaneous, open-ended; paidia.

**Gameful** Structured, rules based; ludus.

Playfulness and gamefulness act as a lens to explore ludic craft, with play as an experience creating outcomes in game jams. Visualising the playful and gameful continuums in Figure 1, we identify the different natures of game jams that can take shape.

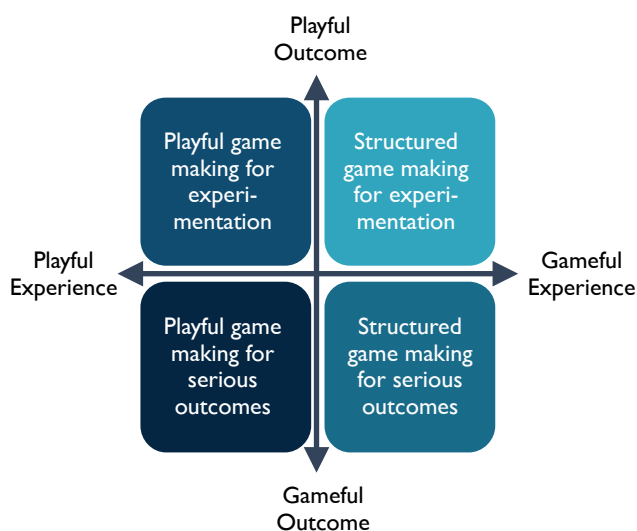


Figure 1: Visualising playfulness vs. gamefulness in both the experience and outcomes of ludic craft.

The properties identified in Table 1 provide a point of comparison between different game jams. These properties identify four areas of investigation: people, process, place, and outcomes (including product). Analysing these areas under the lens of playfulness vs. gamefulness, we will explore how different experiences and outcomes are elicited in game jams.

Based on our observations of game jams, we have derived a set of guidelines from the dual-perspective of game design and production. These guidelines are mixed throughout the paper, borrowing from similar traditions in game design literature [33]. The guidelines underpin what we believe game jams are all about; ludic craft. It is this attitude toward game jams that we believe evokes not just the most creative outcomes, but also the most positive experiences and distinguishes a game jam from other forms of game making. With ludic craft being the foundation of game jams, the properties of play, and the continuum between playful and gameful, are the basis for deriving our set of guidelines.

A game jam is a game to be played constructively. This gameplay we call ‘ludic craft’. Remember the rules of play: it is voluntary and intrinsically motivated.

1. *Participation of a game jam should be voluntary.*
2. *Game jams should facilitate game makers making games they want to.*

#### 4.1 People

Game jams are social events, often with over 50 participants at an event (e.g. fab48hr, LD48, GGJ, HBF). The coming together of many different people proves a strength for game jams by facilitating discussion and multi-disciplinary collaboration. Furthermore, the large number of participants enables the formation of game jam communities [17, 30]. Participation in indie jams is typically open by having minimal costs and little-to-no restrictions for participation. Industry and academic jams are less open with restrictions to only staff such as in HBF or having higher fees and requiring position statements, such as in GJ4R. Importantly, game jams facilitate social play, providing a motivation for participation. Many game jammers use the experience to meet new people [31]. Even LD48 Compo [26], a competitive jam for individual game makers still supports these social features through their website (e.g. web posts).

A game jam is spent game making. This employs a balance of creative and technical skills. However, with the right attitude to learn anyone can jam. Participants should be able (or prepared to learn) how to make games and are best suited with an inclination to collaborative or social practices.

3. *Attract people enthusiastic to make (or learn how to make) games.*
4. *Attract a diverse cohort to balance skills and perspectives.*

### 4.1.1 Teams

The multidisciplinary nature of game making lends to jamming in teams. Game jam teams are typically composed of about 5 people, mostly interested in either programming, design, and artwork [31]. In some jams these teams are registered in advance (e.g. fab48hr). This enables the participants to find a cohesive team with a good balance of personality types and skill sets. However, this may limit the social outcomes (e.g. networking) and increases the barrier to entry. Conversely, GGJ encourages participants to form teams during the event [12]. This may have a drawback of creating teams that are less productive and creates a risk that jammers may form a team out of necessity and not out of their own volition, which takes autonomy away from the participant. HBF structures team formation around pitches. The game concept pitch attracts game makers passionate in making the same game. This allows jammers to work with different people in the company, but has a coordination overhead and risks supporting only making popular games. These alternate rules are gameful (structured) ways of eliciting effective teams for design outcomes vs. new teams for social and playful design outcomes.

Teams are the players in ludic craft. These teams provide the balance of skills needed to make games.

5. *Facilitate the formation of balanced teams.*

**Playful** Emphasise team formation during the event.

**Gameful** Teams register for the event.

### 4.1.2 Free Agents

Some game jams facilitate free agents, i.e. jammers that are not bound to teams. Some game jammers are particularly interested in floating between teams for the social benefits (e.g. meeting new people). Some particular design practices, such as sound design and composition, may not provide enough creative opportunity to dedicate a jammer to a specific team. These free agents float between various teams, offering inspiration or skills to different games through discussion, feedback or making. Free agents facilitate a playful experience through unstructured participation in the jam.

Jammers who know their teammates may be more likely to look at collaborating with others, as well as with their teams. Jams that support in-event team formation may leave jammers without a team they would like to join. Other jammers like to spread their skills across multiple teams.

6. *Facilitate free agents in jamming to allow expression of autonomy and increased creative collaboration.*

### 4.1.3 Community

Many game jams have communities. These communities support the game jam outside of the scope of the event. For example, teams often form in advance of the game jam (e.g.

LD48 and fab48hr). Additionally, the communities enable jammers to communicate so that they can share their ideas, reflections, or discuss tools for the jam. Game jam communities are typically supported by their respective websites and social media. For example, the GGJ website facilitates their global community and location based communities. This website acts as a landing pad to share games, jams, find people and connect with social media. This facilitates community growth through awareness and opportunity, acting as a publisher or archive for games, and helping the community persist. For example, in the history of fab48hr, there have been participants and teams that have reappeared through the jam's 7 year history. Additionally, creative participation is sometimes extended to people in the community. For example, in the fab48hr people can contribute to the annual logo. In Ludum Dare, participants vote in rounds for the keyword acting as the theme for the game jam.

Communities can contribute to the long term success of game jams. They can facilitate team formation, preparedness and supporting ongoing game making.

7. *Catalysing a community can be as simple as starting a social network channel (e.g. hashtag "looking for team #fab48hr")*

### 4.1.4 Democratised Game Making

Game jams can facilitate democratised game making, which we believe is a form of democratised technological practice. This practice includes elements such as: playfulness, decisions around tool use, and the crucial role of knowledge sharing [35]. Playfulness is seen through open participation and egalitarian attitudes. For example, game makers can participate regardless of their professional role [24] and at any level of education [12]. Furthermore the teams formed during game jams often have no hierarchy or designated roles. Tool use is usually unrestricted within the context of game making, limited only by issues of licensing or copyright.

Knowledge sharing is facilitated by bringing different perspectives and skill sets together. The diverse sets of skills needed in game making draws from various disciplines at various professional levels [12]. In a jam students, professionals and hobbyists make games alongside each other [28]. Throughout the game jam, social interactions through simple spectatorship, play testing, and collaboration exposed jammers to different kinds of knowledge sharing such as inspiring new concepts, new tools and production or design processes. In our experience with GJ4R, the rapid milestones and shorter overall time limited opportunities to socialise with other jammers to curated times (such as breaks or coordinated dinner), limiting opportunities for spontaneous socialisation, making it more gameful. GGJ, fab48hr, and HBF jams have limited process structure, supporting spontaneous socialisation. However, we observed that greater motivations for serious outcomes in GGJ (e.g. completed games) limited the playfulness of the social experience.

Ownership can affect motivation to participate in a game jam. Participants need to know about any claim on ownership in order to make voluntary and intrinsically motivated commitment to jam. Ownership can also be a concern within jam teams.

8. *Any claims on ownership or copyright should be transparent and available before registration.*
9. *Mitigate intra-team ownership issues by facilitating collaborative ideation.*

## 4.2 Process

Game making processes vary. Indie and industry game jams do not typically structure process, leaving production decisions up to teams to decide upon. A popular framework to address the process of game making is scrum. This is popular in indie and industry game jams, as it facilitates iterative and incremental game making through theory, such as timeboxing [22]. Open process facilitates unstructured experiences in game jams, leaving playful or gameful ludic craft up to participants. Conversely, GJ4R structured game making process through milestones. These milestones set the pace of game making against external deadlines throughout the day, and shifted ludic craft toward a more gameful experience.

### 4.2.1 Team Processes

Game jam teams may elect to structure their process of game making. These help improve productivity and inform design practice. Starting with ideation, teams may structure ideation process better performance [23]. Despite the limited time to make a game, development pace, measured as velocity in scrum [22] can stall without sufficient project management or design direction. Consequently teams looking for high productivity might decide to adopt frameworks such as scrum [22], usually with a designated facilitator (i.e. producer). These lead to a more gameful experience through directing measurable outcomes.

Game making in a jam supports shared creation and decision making. In most game jams, the design process starts from ideation within the event, allowing everyone to be a creative owner and blurring the line between who owns the idea. This is not the case in jams such as HBF which use pitches to start a production cycle. However, this may be less of an issue with the game being owned by a company, and developers choose which idea to work on, assuring they are working on an idea they want to. The short time to make a game can necessitate jammers making outside of their usual discipline, which some jammers may voluntarily do for the experience or learning outcomes.

### 4.2.2 Timeboxing

Timeboxing is a project management technique used to constrain scope based on time [22]. Scope can be a production problem in game making<sup>5</sup> which faces issues such as

<sup>5</sup>Parkinson's law states: "work expands so as to fill the time available for its completion" [29]. This adage succinctly describes the value of timeboxing.

'feature creep', a term for features being added after scope has been defined. [22]. Timeboxing is leveraged in game jams through the length set for the event. Indie game jams are typically timeboxed in a continuous 24-48 hour period [28]. GJ4R operated over the weekend during business hours and HBF typically operates over 5 working days [24]. This time is often set over a long weekend and without break. By using a short timebox, teams are forced to scope their project accordingly.

Design processes can vary vastly. Some teams spend a long time on ideation, others race to implementation and ideation. Timeboxes can act as motivating goals, but can also constrain design process. Timeboxing forces game makers to grapple with scope. However, even small games take considerable effort.

10. *Consider appropriate length for your game jam. 48 hours is a good default.*

**Playful** Display a prominent countdown encourages jammers to self time manage.

**Gameful** Use optional milestones structure the pace of jamming through timeboxing.

### 4.2.3 Awards

Awards are used in game jams, and are given to the games created. Awards can motivate participants and encourage certain behaviours. For example, fab48hr has various awards such as "Who Dares Wins", which rewards taking risk, "Best Audio", "People's Choice", "Most Commercially Viable". These various awards reward different qualities, such as risk taken, technical quality, critical reception, and popularity. Various GGJ sites offer awards<sup>6</sup>, similar to fab48hr and LD48 [26]. GGJ provides a later date where the jammers can return to meet up again and share their game and receive awards. Awards define rewarded design outcomes and may affect the experience of jamming by encouraging particular behaviour. Consequently, use of awards in a game jam lend it toward more gameful outcomes, and potentially, a more gameful experience.

There is merit in awarding success, but that facilitators should consider the implications. The criteria to awards can influence the processes and outcomes of game jams. Furthermore, we believe these detract from the intrinsic motivations of play. What are the outcomes you want to facilitate? What are the tradeoffs?

11. *Use awards to facilitate designed outcomes.*

**Playful** Use a breadth of incompatible awards to suit different jammers and facilitate diverse outcomes, e.g. most fun, most frustrating, weirdest game.

**Gameful** Use objective awards for structured outcomes.

<sup>6</sup>GGJ Melbourne awards are detailed on <http://igdamelbourne.org/2013/02/and-the-winners-are/>

#### 4.2.4 Tools

Making a game at a jam requires tools. When making digital games, usually software tools are used which can support different parts of the game making process, such as documentation, project management, asset creation, collaboration, and building. Indie game jammers often share tools used in industry practice, especially those used in small teams. Some popular tools we see in game jams are Unity3D, Game Maker, and UDK. These tools are accessible and include visual scripting to lower the technical barrier to making games. Unity3D, for example, also supports in-editor-execution for rapid iteration cycles. Other specialised tools are used to address discipline specific creation, such as Maya and Blender for 3D assets. Collaboration is often enabled with the use of version control systems, such as Git. Less technical game makers might use cloud storage services for their ease of use. Simple project management and documentation tools include Google Docs and Trello. Collectively, these tools form a toolchain in game development. Different tools can be incompatible, so teams may coordinate a toolchain in advance of the event.

Some tools may be incompatible, needing appropriate coordinations among teams. Other tools need preparation, such as downloading. The tools define the medium game jammers will be working with and affect the shape the game takes form in.

12. *Enable game jammers to coordinate the appropriate tools for game making.*

**Playful** Provide or suggest novel tools for making, especially not common in game making.

**Gameful** Facilitate conventional game making with game controllers and familiar tools.

#### 4.2.5 Design Constraints

Game jams use rules to constrain the design space and scope of the event. These constraints are used to encourage novel or specific game designs. For example, indie game jams use themes (e.g. [12]) or abstract words or phrases (e.g. fab48hr and LD48). During these events, the themes are often kept secret until during the event to force ideation to occur at the event. This helps demarcate the jam from external game making and promotes playful game making through shared ideation. GGJ expands on the jam's influence on design by providing optional diversifiers [12]. The diversifiers<sup>7</sup> provide small gameful sub-goals for game makers to target. Industry game jams may use pitches (e.g [24]) causing the concept ideation stage to fall outside of the jam. The defined concepts act as the design constraint for the jam. Academic game jams (e.g. [6]) may situate the games within a research context, acting as the theme. These various constraints tend to be ambiguous and open to interpretation, tending toward being playful. The more specific the theme or constraint, and the inclusion of micro constraints such as diversifiers elicit more gameful outcomes..

<sup>7</sup>GGJ diversifiers available at <http://globalgamejam.org/global-game-jam-diversifiers>

Design constraints such as keywords, themes, and diversifiers can expose fertile design space.

13. *Use a carefully constructed designed theme or other design constraint.*
14. *Avoid literal themes which could lead to too many similar games and diminishes play.*

**Playful** Ambiguous themes foster open-ended games, given design autonomy to the jammer.

**Gameful** Optional diversifiers, or sub-themes, can provide extra targets for game makers.

### 4.3 Place

The designated place of a game jam brings people together to form a critical mass. This facilitates the social, collaborative, and cultural characteristics of game jams. The game jams we have observed all have a concept of place, ranging from the physical location to virtual. For example, LD48 [26] coordinates the event through their website by communicating the rules and state of the event.. The fab48hr is hosted within two open rooms, one of which is the size of a gymnasium. Including a kitchen, the fab48hr is hosted on university creative industry space, with large open spaces and cafes nearby. GGJ coordinates with various local jams under its brand at over 200 locations [12]. Some of the specific GGJ sites include university classrooms, such as in the Melbourne site<sup>8</sup>. Industry jams, such as HBF [36], typically take place within the company's studio. GJ4R [6] took place in a workshop space at an academic conference (CHI). The places of each of these game jams each elicited different characteristics contributing to the playfulness and gamefulness of the jam.

The LD48 website enables jammers to register accounts and interact with the community through a blog like forum. Furthermore, the website acts as a landing pad for personal interactions, through embedded social media (Twitch, Twitter, Reddit). This enabled us to socialise voluntarily by providing the structures through place, but limited the spontaneous interactions found in physical co-location. Blog posts afford structured communication, contributing to gameful social interactions. The classrooms in the Melbourne GGJ site acted as a structure for separating groups of participants, contrasting the larger open space at fab48hr where the use of open space facilitated spectatorship and drifting through the jam. We believe this increased spontaneous interaction contributes to a playful experience. However, we note that the classrooms may have facilitated more intimate interactions due to being smaller and separated.

#### 4.3.1 Intimacy

Game jams can facilitate intimate experiences. The combination of co-location and continuous participation (often an unbroken 48 hours) lends to intimate interactions. This is particularly evident in indie game jams (e.g. GGJ), where jammers sleep in shared spaces and may be provided coor-

<sup>8</sup>GGJ site list available at <http://globalgamejam.org/2014/jam-sites>

minated shared meals. Intimacy is designed in some game jams (e.g. fab48hr) through the “hall pass” rule. The few hall passes available to each team limits the number of people that can exit the jam site at a given time. While not strictly enforced, this contributes to the “hardcore” (vehemently passionate) atmosphere we observe in indie jams by encouraging jammers to sleep on site or work through the night and spend their downtime spectating the jam. By leveraging the benefits of co-location, these game jams often facilitate playful experiences.

The combination of co-location and non-stop jamming facilitates increased social interaction and can lead to a greater sense of intimacy. However, it is important to be mindful of the compatibility with your game jam audience.

15. *Find the right place for your game jam, balancing openness, shared facilities, and other collaborative affordances.*

**Playful** Use open spaces to facilitate spontaneous social interaction.

**Gameful** Structure jammer locations for designed use of space.

## 4.4 Outcomes

Through the process of ludic craft, game jams facilitate outcome creation. The main outcome of a game jam is the body of games made. However, the games take various forms, and suit different purposes. For example, exploring technology limits [1], experimenting with interfaces [34], and exploring themes [23]. Other jam outcomes exist such as learning [12] and in research [6] in the research through design method. We have also observed jam outcomes for design portfolios and creating commercial games. Each of these outcomes is relevant to different contexts, such as research, education, and industry, in addition to their popular context in game maker sub-culture.

### 4.4.1 Tangible Outcomes

A core outcome of game jams is the body of games made. The conclusion of a game jam is typically marked with the submission or presentation of the games. For example, in fab48hr, the teams submit their game along with a video of gameplay to the jam facilitators. In GGJ, games are digitally self-published on the jam’s website. In industry and academic settings (e.g. HBF, GJ4R), the games are presented to the other jammers. These different submissions have their own affordances and requirements. For example, digital submission facilitates the making of playable digital games (e.g. implemented prototype [22]) and requires a breadth of game making skills and typically more time to make. On the other hand, presentations affords other design forms, such as paper prototypes, incomplete (but demonstrable) games, or refined presentable concepts. These factors lend indie game jams toward having digital game outcomes. For example, games from GGJ and fab48hr are often situated within existing game genres. We observed multi-player games being popular, built with common interfaces (such as game controllers) and with familiar tools. The cre-

ation of structured, implemented, and familiar games, along with process characteristics, lend toward gameful outcomes. Conversely, by HBF placing less emphasis on completed outcomes, requirements on form, and embracing failure, it lends itself toward playful outcomes.

Submission deadlines enforce the jam timebox. Submission may create a better sense of accomplishment and a source of motivation. Publishing or distribution serves as a source to facilitate jam community through portfolio sharing.

16. *Use submissions to enforce tangible outcomes and motivate jammers.*

**Playful** Encourage jammers to share their game however they way.

**Gameful** Use specific formats for submission to design for outcomes in particular forms.

### 4.4.2 Design Outcomes

Through the process of game making, game makers create design outcomes. These outcomes may be part of the game itself or act as a tangential artefact. These contribute to game design practice beyond an implemented game. Examples include: technical or conceptual exploration [23, 34], innovation [5], reflections [22], and research [4, 6]. Exploration allows game makers to experiment with new technology or concepts, potentially exposing new game mechanics, genres, or styles. These designs and their processes can be documented in a postmortem, a reflective writing piece providing insight into game making experiences and outcomes to be shared with others. Documentation is generally made in the process of game making, often in the form of a game design document [22], and offers insight into game design.

Explorative game jamming is when new processes or risky ideas are tested. This facilitates potential innovative outcomes and aligns with those who have game making experience.

17. *Design to facilitate exploration outcomes with appropriate design constraints, e.g. “invent a new genre or mash-up”.*

18. *To get the most out of these explorations, facilitate the writing and sharing postmortems and other documentation.*

**Playful** Mitigate concerns over risk by encouraging failure.

**Gameful** Measuring success leads jammers to safe and familiar.

### 4.4.3 Learning Outcomes

Game jams facilitate learning soft skills and technical skills [12]. Most jammers experience at least some amount of skill improvement [12]. The pragmatic game making environment extends an opportunity to learn through experience.

Jammers can also learn from others in an environment with mixed skill levels [28]. Scoping games, for example, is a tacit skill that is honed through game making experience, allowing game makers to grapple with feature creep and over-ambitious concepts [22]. Soft skills, such as team skills, are also developed during a game jam [12]. Participants typically work within a team of interdisciplinary game jammers to develop game production and project management skills. Game jammers who spontaneously learn in an event are employing self-motivated learning which lends toward playful learning outcomes. Jammers learning because of event, team, or other requirements, structures the learning experience, lending toward gameful learning outcomes.

Game jams provide an opportunity to facilitate learning skill sets, such as game development tools, programming languages, and art styles. A game jam designed for learning is best suited for participants interested in learning game making, such as students.

19. To design facilitation for learning outcomes, use rules such as “use a new game engine” or “jam a genre new to you”.

#### 4.4.4 Long Term Outcomes

Game jams act as a starting point for long term outcomes. Games made in a jam are sometimes continued beyond the end of the event. This is usually not facilitated by the game jam. For example, the first CHI game jam [4] lead to research outcomes (e.g. [13, 14]. In industry, HBF has lead to several successful titles [24] where it has become part of the studio’s culture. These long term outcomes are the result of strategically using game jams, such as practice lead research through design [39], or as part of a larger innovation strategy [36].

#### 4.4.5 Research through Design Outcomes

Recently, game jams have been appropriated for research, where they have been situated within research through design [39]. For example, hosted within the CHI conference, GJ4R [4, 6], facilitated the exploration of problem space and solutions for interaction design. The first of these jams has now lead to research papers exposing new interaction design space within HCI research [13, 14]. Game jam games often focus around a core mechanic or distilled theme. They are focused and potentially useful for interaction research, such as human-computer interaction.

In a game jam, making a game is the agenda. Consequently, immediate research outcomes should not be an expectation. However, some games will lead to better research than others. Finding the right questions, or design space, will influence research outcomes.

20. Facilitate for designed research outcomes by using themes lending to fertile research space.

21. Balance jammers with different research methods to extract the most knowledge out of games.

22. Mix non-academics with academics to bring different perspectives and skills.

**Playful** Embrace the risk of exploration in a game jam and make the most out of the experience.

**Gameful** Use position statements (without game ideas) or research strategies to situate game making in research contexts.

## 4.5 Plotting the Balances

Distilling our reflections of jams into a visual form, we have plotted the playfulness and gamefulness of jams onto Figure 2. The varying manifestations of experience and outcomes are seen. From our experience in these game jams, we believe that jams leading toward playfulness present the most risk for complete or viable outcomes, but also lead to the strongest outcomes, such as innovation.

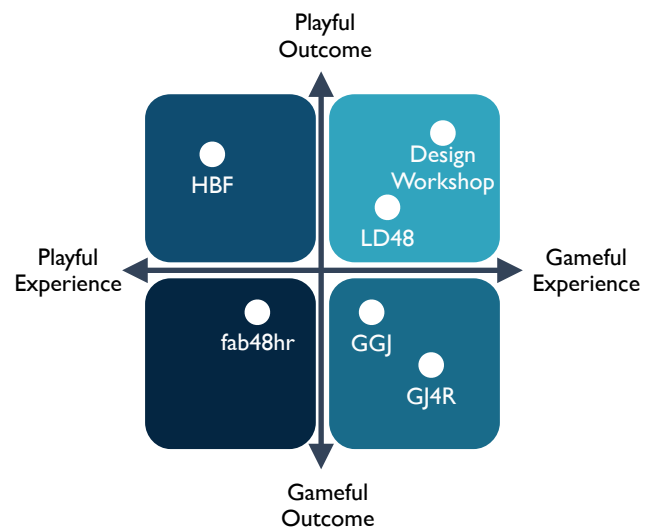


Figure 2: Plotting game jams against playfulness vs. gamefulness in both the experience and outcomes.

## 5. DISCUSSION

With our exploration of the characteristics of game jams we observe that game jams challenge the traditional values of the workplace for creation. Ludic craft, the playful attitude in constructive practice, exhibits the autonomous aspirations of individuals to self-actualise. We wonder, what can this teach us about design research and practice in creative environments? However, this observation goes two ways. Despite the merit of this playful attitude of game jams, their appropriation and study risks their instrumentalisation. Attempts to understand, standardise, or improve (including this paper), might go too far. Consequently we consider the generative nature of their contribution and concern over standardisation [16]. The homo ludens designer lends game jams an immeasurable richness.

As the potential for outcomes from game jams continues to be understood, we hope to see game jams adapted to



new contexts, while maintaining their core values that make participation a ludic craft. As facilitators for game jams, we should be mindful of the values of play and democratised making in game jams and continue this spirit of openness and while we anecdotally observe increasing inclusion and diversity in game jams, such as Games [4Diversity] Jam [7] as a concerted effort toward this, there is much progress to be made, such as seen in the significant imbalance between gender participation [12].

## 5.1 Future Work

Based on our analysis of the set of game jams, we observed that game jams lending toward playfulness tended to facilitate more innovation. These game jams were of decent technical and creative quality by our subjective measure. We conjecture that a playful or lusory attitude which turns work into play is beneficial to innovation in game making. Consequently, a study understanding the differences between work minded game making practice is warranted, building our understanding of designing for and as homo ludens [15]. Specifically, in considering work as play, it would be worth studying the differences of gamefulness and playfulness from a productivity perspective.

The emergence of game jams in academia has exposed their potential as a research method. Currently, game jams are being informally used in research through design, however, we do not know how game jams can be used research, or how to design our research to leverage game jams as a research method. The growing use of game jams in research warrants a better understanding of how game jams can be used for research outcomes such as incorporating game jams as a method as part of a larger practice-led research methodology.

## 6. CONCLUSIONS

In this paper, we combined our observations and experiences of facilitating and participating in game jams with the growing literature on game jams, contributing new perspectives on game jams (industry and academic practice). Using these observations, we identified some of the key properties of game jams (such as event rules, people, process, place) generally observed in indie, industry, and academic game jams.

We identify the nature of game jamming as ludic craft - a constructive form of play and explored the characteristics that emerged from these jams. As a form of play, we used a game designer perspective exploring how these characteristics facilitate play on the continuum between paidia and ludus (playful and gameful), contributing to the understanding of game jams and the outcomes elicited from the different properties.

Through a reflective process drawn from game design practice, we derived a set of guidelines. With the lens of play and its playful or gameful forms, these guidelines contribute to the design of game jams for facilitating play, balancing playfulness with gamefulness for designed outcomes. These guidelines help game jam facilitators design game jams, both in existing and emerging contexts, such as research, education, and industry with the aim to emphasise the form of the event, the ludic craft, over its function.

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