

Group Forming Processes - Experiences and Best Practice from Different Game Jams

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ABSTRACT

Game jams attract participants from different disciplines, with different backgrounds and professions, and various skillsets. At game jam events, these diverse participants, who in many cases have never met before, will work together in a short time span on a game project. Results of a first small study suggest that groups, which are not well balanced, can lead to frustration among the team members and can reduce their overall satisfaction with the experience and the project outcome. Participants of well-balanced groups are by contrast more satisfied with their final project and their team's success. Furthermore, we provide insights into team building issues of game jams and offer best practice solutions based on our experience in small, medium, and large-scale game jam events.

Categories and Subject Descriptors

K.8.0 [Computing Milieux]: Personal Computing, General – Games.

General Terms

Management, Design, Experimentation, Human Factors.

Keywords

Game jams, group forming, collaboration.

1. INTRODUCTION

Game design and development can be one of the most challenging software engineering processes. The process is so tricky, because of its multidimensional character. Game development is not only about engineering, but also about design, art, psychology, innovation, and much more. As a result it requires the coordination and cooperation of people from various disciplines with different skill sets, including art, programming, audio, management, or quality assurance [8,10].

The game jam event is a game development event, which is becoming increasingly important as a means of making people aware of the game development process, to build indie development communities, and also to teach game design and development [1,3,5]. Game jams are gatherings of game enthusiasts, who work together in small groups starting from a first game idea and concept, through to the final project [12]. It can be described as creative, social experience to design and implement video games [7]. In a game jam situation the game design and development process is additionally challenging due to the short span of time involved and the restrictions of location, theme, and tools [2].

One main goal and also challenge of traditional game jams is to bring together participants from many different backgrounds,

fields of expertise, mindsets, and skillsets. Participants additionally have different levels of experience with game jams and the game development process, and are used to different tools and game engines. Also, their process and style of development can differ [4]. Additionally, they are in many cases people who have never met before. They need to form small person groups for the game development project with various responsibilities, such as game design, art creation, testing, programming, or level design. A well-coordinated group forming process is thus essential.

In the literature and in the web only a few different group forming processes are suggested. In [6] two group forming exercises are introduced: (1) the capitalist group forming process and (2) the socialist group forming process. The capitalist group forming process focuses on the presentation and pitching of ideas. People form small brainstorming groups to prepare together game ideas and concepts, which will be pitched afterwards. In a first round, idea owners try to sell their idea to bring people with fitting skills into their team. In a second round, people who are not in a group are matched with groups based on their skills. This method is specifically designed for game jams with less than 100 participants, since the pitching process with too many ideas can take too long and can get confusing.

In the socialist group forming process, the focus is first not on the idea finding but on finding matching teams. Thus, in a first step the groups are formed, which will decide later on a game project. This method is better suited for large-scale jams with more than 100 participants. Both methods suggest that the organizer supervises the group formations and coordinates eventual skill mismatches in the groups.

In this paper we will investigate group forming issues and chances in different game jams of different sizes. First, we illustrate in a small study that an unsupervised group-forming process without consideration of the different skillsets and backgrounds can lead to reduced satisfaction with the final project outcome and we investigate factors that can enhance group balancing. Furthermore, we explain and analyze different group forming processes for game jams of different scales with a focus on the different characteristics of the participants.

2. GROUP FORMING ISSUES – A CASE STUDY

A typical game jam using the capitalist group forming process includes two group and community building activities. First, the idea finding process, which leads to the idea pitches. Second, the pitching process, which is used to present ideas and gives participants the chance to assign an idea to themselves. In a first case study with a small game jam setup of 25-40 participants, we tried out three different group forming processes. The first process

was an unsupervised group forming process, where participants were able to join groups without any restrictions. In the second jam event, an external supervisor coordinated the group forming process. The supervisor was responsible for balancing the groups based on the participants' skills (e.g. 1 artist, 1-3 programmers, 1 designer, and 1 audio designer per group). In the third jam grouping process preferred languages, game engines, and tools were additionally considered.

2.1 Unsupervised Group Forming

In a first small-scaled game jam with about 30 participants (24 records in the post-survey) an unsupervised grouping strategy was followed. The participants were able to pitch topics, and later assign to topics without any further supervised and controlled coordination skill/background/experience distribution in the groups. The skills, experience level, and responsibilities in the single groups were not balanced despite the fact that the distribution of the skillsets of the all participants was relatively well balanced (see Figure 2a), and furthermore 15 participants (62.5%) stated that they had experience in game development and had already developed a game.

The post-survey shows (see Figure 2d) that the overall satisfaction of the participants was average. On a Likert-scale between 1 (not satisfied) and 5 (very satisfied) the mean was 3.5 (SD=0.8). In open-ended questions the unequal balance of the teams was mentioned in ten answers. The balancing between artists and programmers, the engine choice, and the balancing between experts and non-experts were mentioned in particular.

Figure 2g illustrates the perception the participants have of their skill development. They answered on a Likert-Scale between 1 (not at all) and 5 (very much) how they think they skills have improved in the different areas.

2.2 Supervised Group Forming (including Skillset)

A supervised group forming strategy was introduced in a subsequent game jam event at the same location. After the pitching process, participants were able to assign their names to the topics. An external group supervisor reorganized then these groups, however, taking into account the skills (programming, art, designing, testing, managing) and experience in those skills on a personal rating between 1 and 3. The size of the game jam was about 25 participants. 15 persons (15 males) filled-out the post-survey form. The overall skill distribution of the participants was not as balanced and definitely more programmers than artists were available (see Figure 2b), however, it was still possible to form balanced groups with at least one dedicated artist and at least one dedicated programmer per group.

The overall evaluation of their satisfaction with the outcomes was better (see Figure 2e). On a Likert-scale between 1 (not at all) and 5 (very satisfied) the mean satisfaction with the final games was 4.08 (SD=0.86).

In the open-ended questions only one group forming issue was mentioned by one participant. This participant suggested that the tool/engine preferences should also be included in the group forming process. The participants also perceived a more balanced improvement in their skills (see Figure 2h).

2.3 Supervised Group Forming (including Skillset and Tools/Engine)

In a third game jam event at the same location we tried a supervised group forming approach, which included not only the skillsets of the participants, but also their tool/engine preferences. The overall size of the game jam was about 30 participants, 17 persons (16 male) filled-out the post-survey form. The overall skill-distribution was well balanced (see Figure 2c). Most participants were satisfied or very satisfied with their final results. On a Likert-scale between 1 (not at all) and 5 (very satisfied) the mean satisfaction with the final games was 4.12 (SD=0.6).

Figure 1 illustrates the overall satisfaction of the participants with their game projects relative to the three different group forming approaches.

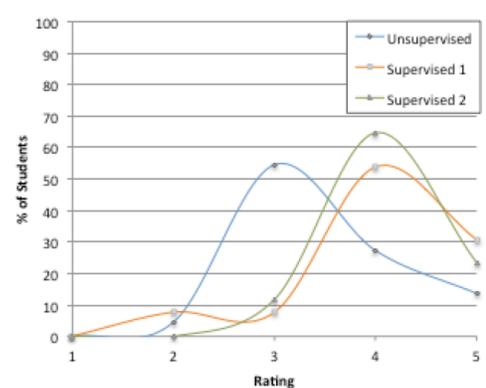


Figure 1: Comparison of the overall satisfaction on a Likert scale between 1 (not at all) and 5 (very much).

2.4 Methodological Implications and Discussion

This survey gives some first very interesting insights on the participants' preferences and ideas what items could be included in the group forming process. However, the survey design had many limitations in covering different aspects of the process. Only a small amount of participants has completed the survey. Also, mainly male participants have participated in the survey. Thus, only a limited number of responses were gathered, what could bias outcomes. For future research in this area it would be crucial to gather more information on the participants and their motivation already before the jam event. Thus, a pre-jam-survey should be conducted to get information about the participants' expectations and their experiences can be used to get further insights.

Also, the three surveys were conducted with three very different populations at different events with different themes and jam-specific factors. For a future experiment, it is planned to simulate two different group-forming processes at the same game jam event with two smaller subgroups. In a future study it would be also an interesting and important aspect to get information on differences between the group forming behavior and the final satisfaction of first-timers and repeat participants.

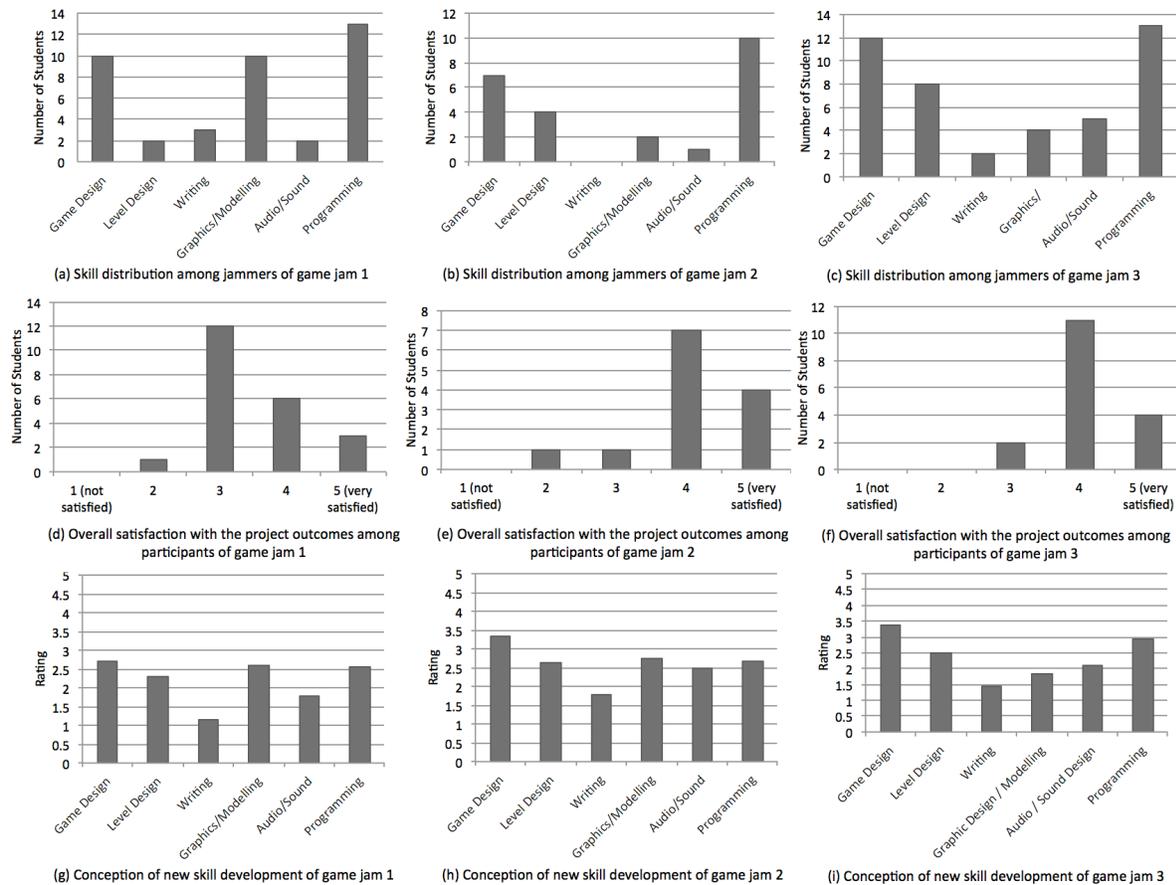


Figure 2: Results of the three game jam events with focus on skill distribution among the participants, their satisfaction with the project outcomes on a Likert scale between 1 (not satisfied) and 5 (very satisfied), and their conception of new skill development on a Likert scale between 1 (not at all) and 5 (very much).

3. GROUP FORMING PROCESS

Based on the outcomes of the study and experience reviews [6] the following characteristics of the participants and their place in the group should be considered: (1) skills of the participant (art, programming, modeling, sound, audio, project management, game design, level design, quality assurance), (2) experience with game jam events, (3) experience with game development events, (4) experience in the game industry, and (5) tool/language/engine preferences. In the following section we explain issues and chances of group forming processes of first hand game jam experiences with different scaled game jams. In this example we provide two sample sizes.

As a first example, we describe experiences with small jams. In this context we describe small jams as events with less than 100 participants, a typical jam size, which is often described as upper limit for jams that can be organized with the capitalist methods [6]. For small game jams we describe experiences with a modified and supervised version of the capitalist method. The socialist method is suggested for game jam events with 100+ participants. But how can we handle giant game jam events with more than twice as many participants? Thus, as a second example, we describe experiences with giant game jam events, which often face additional issues than smaller events. We describe giant game jams as events, with more than 200 participants. The Vancouver game jam with over 350 participants is used as an example of the group-forming process of large-scale jam events. Jams of this size

often require organizers to engage pre-organized group forming processes and think of different approaches to tackle specific issues.

3.1 Small Game Jams (< 100 participants)

In small game jams the best results can be achieved with a supervised approach, which takes into account the skill balancing in the groups, but also the engine/tools preferences. Additionally, at least one so-called expert can be integrated in the group, who can help the achievement of a more structured game jam development process. This expert can be someone with experience in game jams, game development in industry, or simply has developed games before.

The Graz Game Jam [9] is a regular event with Graz University of Technology as the location and involving a small but growing community. The base community, participants who regularly attend the Graz jams in particular, is very strong. Thus, it is easier to balance the groups not only based on the skillsets of the participants, but also based on their development experience. Small jam events allow the coordinator to make sure at least one expert is assigned to each group. Since many participants with experience in industry also attend the jam we also tried to ensure there was at least one industrial expert in each group.

An additional dimension of the Graz jams is that they are co-located with a university course on Game Design and Development and the students are committed to attend the jams.

These students often lack experience in the game development process and can profit from the tips of these experts and also their contacts to industry.

3.2 Giant Game Jams (200+ participants)

As game jams grow in size, the ability to tailor the groups not only fails to scale, but it also starts to interfere with some of the social/practical expectations of the participants about meeting new people. Many arrive with pre-formed teams in anticipation of the jam, while others arrive anticipating the opportunity to meet new people—the breadth of attendee skill sets means there is less pressure to create a balanced team in advance. In this context pre-organized teams often have a sense of being contrived in such large settings. The Vancouver Global Game Jam site (in Vancouver, Canada) [11] has grown from 25 participants six years ago, to over 350 in 2015. The organizers of this event have experimented with multiple models, and have adjusted and learned from the process as the jam has grown. In its current form, about 25% of the jammers organically arrive with a team already formed. Those jammers without teams (or those teams looking to add to their team's skill inventory) are invited to give a 30-second pitch of their game for the people in the room. In past years as many as 50 people have pitched games. Pitchers then spread throughout the atrium (the entire event takes place in a single room) while volunteers help the jammers to find the team they are seeking. As the teams are settling down, volunteers communicate between the teams and the individual people to assess their skill sets and help them connect with teams. It is estimated that only 10-20 people do not find a team organically. In the case of these jammers, they often opt to form their own teams, or the volunteers work with them to find teams in need.

One interesting aspect of the Vancouver GGJ is its centralized audio department. Even on such a large scale, there are rarely enough audio specialists available to have one per team with the result that these jammers often run around from team to team. As a consequence of this situation the decision was taken a few years ago to centralize audio (under the moniker "Tree of Audio") and handle audio as a service. The Tree consults with teams to create and deliver assets jam wide. Typically all audio specialists choose to work under the Tree model—it provides an excellent learning, collaboration and networking opportunity for all involved, while providing an especially relevant and enjoyable challenge for the audio jammers.

4. CONCLUSIONS AND FUTURE WORK

In this paper, we attempted to explain the issues of unbalanced game jam teams due to unsupervised group forming processes. Our results indicate that unbalanced teams can lead to participant frustration and an overall reduced satisfaction with the final game. The findings were based on experience reports from both a small game jam and also large game jams.

In the case of supervised and coordinated group forming processes for small game jams the following characteristics can be considered: (1) skills of the participant (art, programming, modeling, sound, audio, project management, game design, level design, quality assurance), (2) experience with game jam events, (3) experience with game development events, (4) experience in game industry, and (5) tool/language/engine preferences.

A coordinated and supervised grouping approach becomes more challenging for large game jams. Pre-organized teams can help in overcoming the problem issues. In the case of the other participants a capitalist group forming approach is used to pair ideas and participants. Skill sets are assessed and teams can be balanced with the help of volunteers in the role of coordinators. An interesting approach to overcome issues such as a lack of specialists (e.g. audio specialists) is a centralization approach (Tree). This specialist Tree consults the teams and handles the development (e.g. of audio files) as a service.

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