The Motivational Power of Game Communities
- Engaged through Game Jamming

Lars Reng
Section of Medialogy
Department of Architecture,
Design and Media Technology,
Aalborg University, Copenhagen
A.C. Meyers Vænge 15, 2450 Cph
(+45) 9940 2478
lre@create.aau.dk

Henrik Schoenau-Fog
Section of Medialogy
Department of Architecture,
Design and Media Technology,
Aalborg University, Copenhagen
A.C. Meyers Vænge 15, 2450 Cph
(+45) 9940 2477
hsf@create.aau.dk

Lise Busk Kofoed
Section of Medialogy
Department of Architecture,
Design and Media Technology,
Aalborg University, Copenhagen
A.C. Meyers Vænge 15, 2450 Cph
(+45) 9940 2473
lk@create.aau.dk

ABSTRACT

Game jams have become a rapid growing phenomenon. Every year brings new and larger game jams. In this study, we closely followed the world's largest single location game jam in order to explore the engagement among participants. The authors joined the organizing group of the Nordic Game Jam 2013, and gained a favorable opportunity to observe the 470 game developers efforts during the 48 hours of non-stop development. The paper presents the results of two surveys conducted just before and after the event as well as observations during the game jam. The main motivational factors among participants were to develop games and to meet new people. We believe that the community building as well as the motivation and engagement due to social aspects and the desire to learn more about game development among participants at such events might have beneficial ripple effects, which are valuable to investigate more closely.

Categories and Subject Descriptors

K.8 [**Personal Computing**]: Games

General Terms

Documentation, Human Factors.

Keywords

Engagement, Motivation, Game Jam, Community.

1. INTRODUCTION

In late January 2013 as many as 470 game developers gathered for the Nordic Game Jam [10], making it the largest ever single location game jam worldwide. The game jam was for the first time hosted by Aalborg University Copenhagen (AAU), and the authors of this paper joined the central planning and decision-committee as representatives of the university. One of the side effects of hosting the Nordic Game Jam was that an increased number of AAU students decided to buy a ticket to become part of the event, even though it was placed right in the middle of a very intense exam period. The students we teach are often asked to create simple games as part of their practical course exercises, and every year they complain about the prices of the few mandatory course books they should invest in to increase their learning outcome. A puzzling question therefore arose: Why would so many young people travel from all over Europe, and pay a fairly large sum of money to do what they in principle could do for free every day of the year in their own home? And what is it about a game jam that can motivate and engage its participants so much that they return year after year?

The original Nordic Game Jam was held in January 2006, and the first Global Game Jam followed it up from January 30th to February 1st 2009. In recent years game jams have continued to spread around the world. The 2012 Global Game Jam included 10,684 participants in 242 locations from 47 countries and participants developed over 2200 games [4].

The research in game jams is an emerging field and investigations has for example focused on how to conduct game jams [6], prototyping during jams [9], creativity during the game development [7], and learning [7]. For people interested in games and development of games, the possibility of being together with people sharing the same interests might be a basic motivational drive like we know from music, film or sports enthusiasts participating in specific activities related to their field of interests [11]. A game jam might in that sense be compared with the ideas of communities of interests, which are communities of people who share a common interest or passion. These people exchange ideas and thoughts about the given passion, but may know (or care) little about each other outside of this area. Participation in a community of interest can be compelling, entertaining and create a 'sticky' community [3, 11].

We also find it interesting to investigate what it is that motivates and engages participants who decide to use 48 hours in a focused activity developing games. With this study we thus want to complement the current knowledge with an insight in the expectations and engagement among participants in large game jams.

The study will describe and present the results of two surveys and observations conducted in relation to the recent Nordic Game Jam 2013. Through a combination of both open and closed-ended questions as well as results from observations, this paper will present a description of the participants and attempt to conclude on what the expectations of the participants were, which factors motivated them to attend the NGJ, what it is that engages them during the event, if they have an interest in learning more about

game development and if they wanted to attended future game jams.

The paper first describes our motivation for this research, the Nordic Game Jam 2013 itself, and how we worked with the volunteers to plan and conduct the event. The research method is then described before we present the results and findings. Finally the main findings will be concluded upon.

2. BACKGROUND

2.1 Motivation of this research

As teachers and researchers in digital games we were very interested in several aspects of the Nordic Game Jam 2013 (NGJ), and an overall question was: What motivates participants to use 48 hours to participate in a game jam? We had the assumptions that participants would be devoted gamers and developers, but we did not know anything about their other preferences or expectations. We wanted to know the different aspects of the participant's interests and expectations and investigate which motivation they had for using their time on developing games in the short time span of 48 hours.

One of our beliefs is that the participants are very motivated when signing up for a game jam. However, our inquiry is concerned with which aspects of motivation and engagement seems to be the most important for the participants.

On a higher level there are two questions that we as teachers must ask in relation to the results we hope to find. Firstly, can game jams be used as a motivational kick to boost students' engagement in their daily education in the months following the jam? Secondly, what is it that attracts and motivates the students, and can these elements be recreated in the courses we teach, to improve the students' outcome of their education?

2.2 Goals and Ambitions

As hosts and co-organizers, we had a number of goals and ambitions for hosting the NGJ 2013 at AAU. One major goal was to offer the Nordic game community a large venue, which could accommodate the projected number of participants. Since AAU recently moved into a new and larger location, it was possible to host the event due to spacious open areas and smaller rooms, which could accommodate the 80+ groups and 470 people.

The ambition was to let students from AAU who were interested in games to meet and network with people from the industry in order to prepare them for future work in the game business. Furthermore the intention was also to motivate students to learn programming as well as experience intense problem solving within a limited time span. Another incentive was to offer students not only from AAU but also from the various educational institutions with game courses and industry people the possibility to enhance the games community in Denmark and the Nordic countries.

2.3 Nordic Game Jam 2013

The Global Game Jam (GGJ) [4] was originally inspired by the Nordic Game Jam (NGJ), which was conceived in order to bring together game developer enthusiasts and the elements of creativity, collaboration and experimentation [10]. According to the local organizers from The International Game Developers Association (IGDA), NGJ has always been the largest GGJ event and NGJ has since its initiation pioneered new approaches on how to organize game jams.

Currently the GGJ events have clear directions and rules on how the events should run which means that it has become easier to initiate a local GGJ event. However, this also means that the GGJ out of necessity needs to be more streamlined while it has become more difficult to try out new formats, which does not fit into the GGJ concept. This year the organizers behind the previous year's GGJ in Denmark decided to part with the global event and chose to organize an independent game jam in order to try new formats. The 2013 event was therefore placed on January 17-20th, a week before the Global Game Jam. This year the organizers of the NGJ then tried several new initiatives such as going 'back to the roots' with less focus on the large commercial companies and prizes and more focus on the creative collaborative development environment. Another new initiative was a range of workshops, which made it easier for participants to cover the competences they did not already have on the team (graphical identity / logo workshop, Unity assistance workshop, and sound workshop). There was also more focus on smaller developers and less on the larger industry companies during the pre-jam talks and presentations. Finally, there was a greater possibility to develop board games and physical prototypes at NGJ 2013.

According to the organizers from IGDA, NGJ also managed to attract more participants from other countries than any other game jam, making it a more international game jam. Furthermore there is still a strong support and cooperation between NGJ and GGJ and several of the organizers from NGJ later visited other GGJ's in Macedonia, United Kingdom, Finland, Germany and Egypt.

The NGJ 2013 event was organized as a cooperation between AAU – represented the authors of this paper – and volunteers from IGDA and students from AAU and other educational institutions. In total there were 40 volunteers to help with everything from managing the information desk to making coffee. The planning took place in the months before the event by bi-weekly meetings between IGDA and the AAU volunteers. At these meetings the logistical challenges were addressed and uncertainties resolved. AAU supported NGJ through an event partnership as well as practical assistance during the weekend including stand-by IT support.

2.3.1 Pre-jam Party

One of the many traditions of the game jam is the casual indie game styled pre-jam party where all participants, local game developers, and other interested individuals can join around a bar, music, and various innovative indie games and old arcade classics. The night has a very relaxed atmosphere, where all people with a passion for games can meet up to enjoy the anticipation for the days to come, and expand their network. The pre-jam party was organized by the local Copenhagen Game Collective [2] and was taking place on the night before the start of the real game jam.

2.3.2 Two Talk Tracks

On the first day of the jam, Friday afternoon, participants could choose between two tracks of talks about technology or games. The Tech talks were about developing for Windows Phone, game analytics and Unity 3D tips and tricks. The Game track focused on indie startup stories, Nordic indie showcase, game presentations and how to make board games.

Before the official Kick-Off, the informal keynote on "How to be a hot indie and make cool shit!" by indie companies Dennaton and Vlambeer gave participants an idea of how to make innovative games in a limited time. At the Kick-Off, the theme of the jam – 'Grotesque' - was announced.

2.3.3 Jamming

One of the interesting elements of the Nordic Game Jam is that participants can turn up at the jam with an already premade group, or come alone and meet a group of new strangers to work with for the next 48 hours. Group forming was conducted by dividing the participants who did not already have a group into two main groups: 'The Capitalists' (for participants focused on specific game ideas) and 'The Scandinavians' (for participants interested in 'humanistic' and experimental games). The groups were then formed based on pitches, short exercises and acts.

From Friday evening until the deadline Sunday afternoon, the participants worked on designing, implementing and testing their games. The work on the games was only interrupted by breaks where participants were offered breakfast, lunch, and dinner.

After the deadline, the 80 teams were divided into four rooms where they presented their games and the best projects were selected to compete at the finals.

3. METHODS

Engagement is considered as a multifaceted and complex concept to evaluate. In order to investigate participants' engagement at NGJ 2013 we used an approach inspired by earlier explorations concerned with engagement among digital game players [17]. With this approach we understand engagement as the motivation to begin an activity, a desire to continue the activity and the willingness to try the activity again. This means that it is possible to investigate participants' engagement over time through several surveys [16]. We decided to acquire knowledge about participants' engagement before and after the event. In order to make the data collection as least intrusive and time consuming as possible, we decided to gather data through online questionnaires and observations.

3.1 Procedure

On this background we designed our own online pre-survey, which was accessible a couple of hours from the beginning of the event. The survey consisted of open- and closed-ended questions e.g. about participants' backgrounds, game development interests, expectations, and motivation.

Respondents were recruited through opportunity sample as the questionnaire was distributed through the participant mailing list provided by IGDA and was described for all participants at the kick-off of the game jam. At the end of the event we distributed a post-survey inquiring about the participants' experience, what they have gained as well as what engaged and made them continue during the event. Again, participants were informed about the questionnaire – this time at the closing ceremony. Participants were encouraged to respond to the questionnaires by offering 3x2 cinema tickets by a random draw.

The pre-survey was concerned with the following specific questions:

- What motivated you to join the Nordic Game Jam?
- What do you expect of the Nordic Game Jam?
- What do you think will motivate and drive you during the 48 hours?
- What do you hope to work with during the game jam?
- Are you hoping to develop a game in a group?
- Do you hope to continue to work on your game after the jam?

This survey also included demographic questions concerned with age, gender, education, experience and occupation.

The post-survey included questions about the following topics:

- What motivated you to join the Nordic Game Jam?
- What motivated you to continue working during the 48 hours?
- How many group members were in your group?
- What is the best thing working with others?
- What did you work with during the game jam?
- How much would you agree to the statement: "The game jam experience have motivated me to learn more about how to make games"?
- Will you continue to work on your game after the jam?
- Would you look for more game jam events in the future?

The post survey also included demographic questions concerned with the same topics as in the pre-survey.

Furthermore, during the 48 hours of the event three observers made observations and inquired the participants about their motivation and the general experience through informal talks.

4. RESULTS AND FINDINGS

4.1 Participants

In total 470 people joined the Nordic Game Jam. Participants came from all over Europe e.g Sweden, Finland, Germany, Italy and the Netherlands and even as far as Egypt. Most parts of Denmark were also represented, and this was partly due to an initiative which made it possible for participants from Danish provincial towns Aalborg, Aarhus and Viborg to be picked up by a bus Friday noon and to get back home Sunday night.

In total 110 participants responded and answered all questions in the survey, which was distributed before the jam began while 71 participants answered all the questions in the survey that was sent around after the game jam ended.

The participants consisted of approximately 90% males and 10% females, who stated that they mainly work in the industry or attend some kind of study. Figure 1 shows the distribution of the age where the average age was 25.6 years.
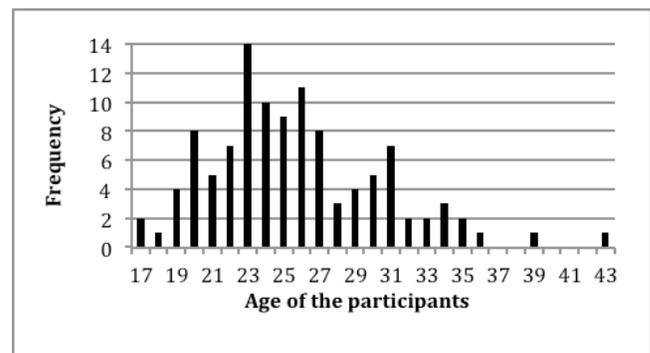

Figure 1: Age (for all 110 answers of the pre-jam survey).

As can be seen in Figure 2, the distribution of the participants concerning experience shows that 60 (55%) of the participants had between zero and two years of experience while the reported average was 3.2 years of experience.
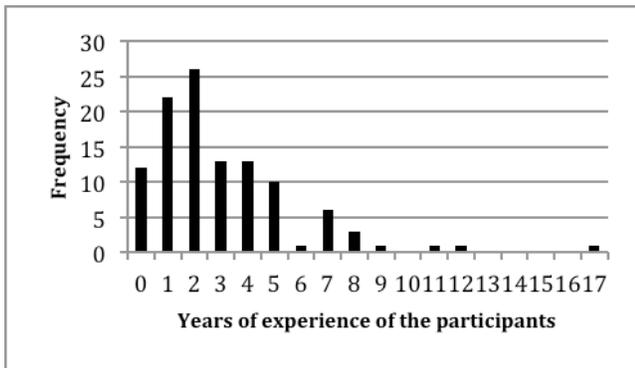
Figure 2: How many years have you been involved in game development? (for all 110 answers of the pre-jam survey)

The demographic responses in general show that the largest group of participants is young males with only a few years of experience in game development.

4.2 Results from Closed-ended questions

In order to gain a better understanding of the participants, we decided to ask a number of closed-ended questions before the game jam began. The questions concerned the participants' expectations regarding the areas they wanted to work with, and their preferences of working in a group or as an individual. In the post survey after the game jam we repeated these questions.

We were curious to see if the participants wanted to work in a group or how many – if any – would actually show up hoping to work alone.

As can be seen in Table 1, 95 % of the participants hoped to work in groups. This fits well to the idea of being part of a community of interests [11], but it is also a challenge for those who have to find and organize a new team in the game jam. However, our observations showed that it was very important for the game jam organizers to assist the participants with the forming of the groups.

Table 1: Are you hoping to develop a game in a group?

	Participants	Percentage
Yes	104	95%
No	6	5%

After the event, the participants responded that the average group size was 5 persons per group. In order for a game production to be successful each group must have a good balance of different skills and knowledge areas needed for developing and implementing the specific game. The team could consist of a mix of programmers, designers, art and sound artists, as well as someone who could ensure a user-friendly interface and be responsible for testing the game with a group of players. Furthermore when working in a group, team members would also need skills connected to teamwork like communication and cooperation [1]. This is especially important when a group is working with a tight 48 hours deadline.

To investigate if the participants were actually able to work in all the fields they were hoping for, we asked them to list the areas they hoped to work with before the jam and what they ended up doing after the game jam. These results are illustrated in Table 2 and Figure 3.

Table 2: (Before) What do you hope to work with during the game jam? vs. (After) What did you work with during the game jam?

	Percentage		Participants	
	Before	After	Before	After
Programming	59%	49%	65	35
Design	65%	69%	71	49
Artwork	36%	41%	40	29
Sound	23%	21%	25	15
Interface	19%	28%	21	20
User test	25%	27%	28	19
Other	13%	13%	14	9

The responses show that most participants wanted to design and program during the event, while a lesser part wanted to work with artwork, sound, testing and interfaces.
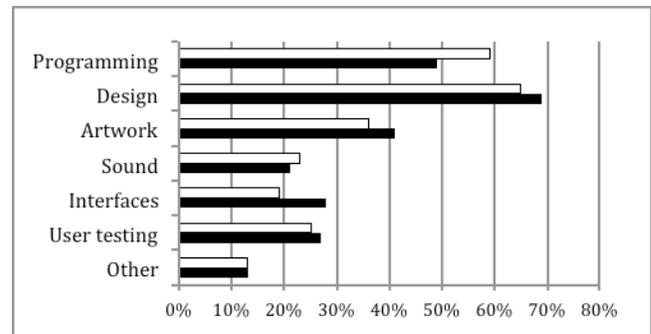

Figure 3: White bars: What do you hope to work with during the game jam?, Black bars: What did you work with during the game jam?

We knew from previous game jams over the last few years that these events attract both very experienced game developers as well as new untrained students hoping to learn from the experienced [7]. We therefore asked the participants how they would rate their own level of experience both before and after the game jam. Hopefully each participant should become better and more experienced after the game jam. But they might also have realized that they still had some distance to go before becoming a game developing expert. Even though the pre-jam and post-jam surveys are not responded by the exact same people, we can see that there is a tendency to rate own experience at a lower level for those who rated themselves close to expert level before the game jam (see Figure 4).

We know from observations that many participants realized that developing high quality games require extensive practice and lot of time, but also that many participants found that they actually could contribute to the work in their group.

After conducting numerous experiments in relation to motivation and teaching over several years [12, 13, 14], we had a special interest to see the ripple effect regarding learning after participating in an event such as the Nordic Game Jam. After the game jam, we therefore asked if the participants had become more motivated to learn about how to develop games, and also if the experience had been so successful that they could state that they hoped to join more game jams in the future.
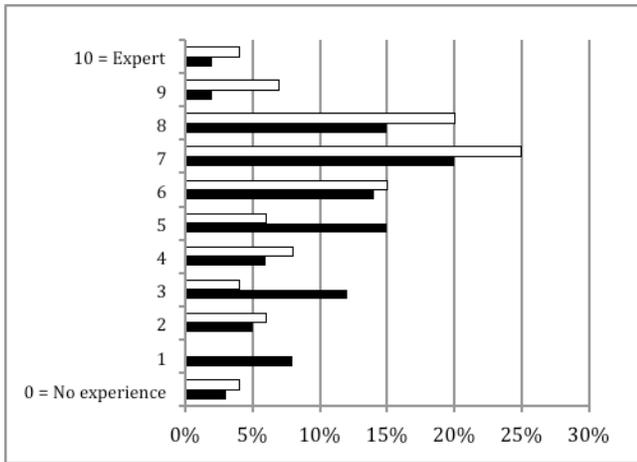
Figure 4: How would you rate your own experience in game development? (White = before , Black = after)

Seen from a learning point of view it is interesting that 86% of the participants stated that they somehow agree that they are motivated to learn more about making games after the game jam experience (See Figure 5). In that sense game jams can be seen as an important learning space with characteristics known from communities of practice [18].
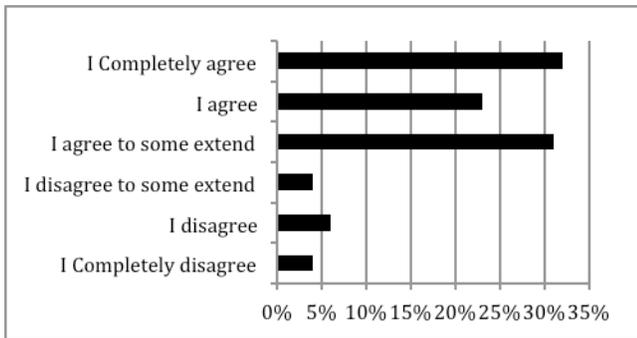

Figure 5: How much would you agree to the statement: "The game jam experience have motivated me to learn more about how to make games"

79% of the participants also state that they are motivated to look for future game jams (Table 3). These responses indicate that most respondents have been engaged to such a degree that they want to try the experience of attending a game jam again.

Table 3: How much would you agree to the statement: "The game jam experience have motivated me to look for more game jam events in the future".

	Participants	Percentage
I Completely disagree	3	4%
I disagree	3	4%
I disagree to some extend	9	13%
I agree to some extend	15	21%
I agree	19	27%
I Completely agree	22	31%

Another interesting question was to see if the participants were hoping to continue to develop their game after the event. This question was asked both before and after the game jam. The result of this question is shown in Table 4. It can be discussed why around 21% responded that they wanted to continue developing their game after the game jam. 63% of the participants answer that they might want to continue developing their game before the event while only 32% of them are in doubt after the event. However, those who answer after the jam that they do not wish to continue working on their game is largest (38%). We know from observations that some groups actually finished their games. But the 'No' answers might be connected to the characteristics of a game jam as having a fixed time frame activity, and when the activity is closed down, the group is broken up as well.

Furthermore, it was also observed that some groups did not manage to implement their game to a satisfactorily level. Some were also so dissatisfied with their core game idea that it made little sense to continue working on it after the game jam.

Table 4: Do you hope to continue to work on your game after the jam? (Left) vs. Will you continue to work on your game after the jam? (Right)

	Percentage		Participants	
	Before	After	Before	After
Yes	18%	21%	20	15
No	17%	38%	19	27
Maybe	63%	32%	69	23
Other	2%	8%	2	6

Summing up, the answers from the closed-ended questions show that NGJ 2013 consisted of a group of mostly male participants in the age group around 20 – 30 years. Participants generally wanted to work with programming and design. A majority of them wanted to work in a group and they rated their game development experience on a scale as being rather different from each other. The participants also stated that the game jam experience motivated them to learn more about making games as well as looking for more game jams in the future.

4.3 Results from Open-ended questions

4.3.1 The motivation for joining Nordic Game Jam.
The answers to the open-ended questions were analyzed for trends and the results show that participants have different motivational reasons to join NGJ, which can be divided into intrinsic and extrinsic objectives [14]. Some are motivated by their own intrinsic goals and objectives, while others are driven by the extrinsic objectives like the prizes set up by the organizers. Furthermore, some are in the area where they have both intrinsic and extrinsic motivation elements [19].

The observations made it clear that almost all participants love to play games and according to the closed-ended questions they also had some previous experience with both playing games as well as designing games. Some participants were motivated to join NGJ because they have heard about previous game jams and wanted to try for themselves, but the interesting findings are that participants had different reasons connected to motivation factors either just making games or a combination of several factors:

"I love making games which in itself was enough to get me here ... I also found it a great way to meet cool people". Or "I like making games, so for me it was quite natural to join this game jam in 2011 – and I have been coming back after".

Also the learning aspect and getting more experience with making games was mentioned as motivation to join the jam, but almost always together with the social aspect. So the participants were very conscious about game jam as a social activity, which can support possibilities for the motivational factors as both competition and cooperation and enhance the learning [8]. From the observations we can also see that the social part is very important. In the groups the participants were very concentrated, but they also emphasize that they are having breaks and fun as well. Some responses connected to the question about what motivated the participants to join the game jam are:

"Meet new people and get better making games". Or "I want to learn and I want to meet people".

"Getting a great learning experience and meet other people with the same interest". Or "...improve my skills along with building a network and having tons of fun".

Some participants are very specific about mentioning their motivation as a concrete goal for their future within the game industry but again connected to a social aspect.

"Having fun and getting a finished game for my portfolio". Or "I wanted to have an extra game to put on my portfolio, get extra experience creating a game and also socialize with other game developers".

Game Jam participants are also focused on possible concrete goals as networking, creating a job or getting contacts with game companies.

"I am trying to start my own game production and it seems like an excellent way of doing some networking as well as getting some insight into what is moving the community". Or: "Been planning to make games as a job with a friend who is also attending the jam, and we both thought a game jam would be a good way to get some experience". Yet another comment is:"I am interested in developing games, so meeting people from industry. Creating more games and putting myself out there can only help me".

When investigating the answers to the questions concerned with what participants thought would make them want to continue the jam activities and what actually motivated them to continue working during the 48 hours it is evident that the responses are very similar.

The extrinsic objectives stated by participants included the competition with other teams and the challenge of not failing due to the time pressure to finish the development of a playable game before the deadline.

The intrinsic objectives and drivers were also concerned with learning more about game development and to experience how it was to participate in a fast progressing development process from idea to a finished playable game while still having something unique to show and compare with other teams' games. Respondents also described the positive emotions, which helped maintain the drive to continue such as enthusiasm, fun, and the joy of participating. Finally social aspects are again mentioned frequently as important intrinsic drivers for the desire to continue. More specifically these social drivers are reported as working together in a team where group members are feeling responsible

for each other and everyone are having the same interests and goal. One participant gives an insight to this drive:

"The inspiration you get from working hard in a group to make this one thing work, as well as being surrounded by so many people with one specific goal in mind as well. I'm convinced the common drive between all these people will help share inspiration, and have the outcome be way greater than the sum of all parts".

Summing up, as we can see from the mentioned motivational factors, the interest in developing the game itself plays a large role, but this interest is mixed with an important social part as meeting both new and old friends and socialize with other game developers, which can mean that the participants really appreciate to be part of the community. Participants also state that this social aspect is what is engaging them and making them wanting to continue to work during the jam. Also developing a game in a team and get new experiences as well as learning are important factors. Finally, many participants see network and company contacts as an important motivational aspect of the game jam.

4.3.2 Expectations of Nordic Game Jam
Nordic Game Jam is founded on a game development community that can be understood as a social network [12], and as revealed above, the social part is playing an important role, which also can be seen in the comments related to expectations in the questionnaire. Many answers are concerned with meeting people and developing a game, and for many participants, it is also the ambition that it has to be a good game. The learning is also mentioned as an important expectation as well as experimenting. Finally networking is also part of expectations. Some additional answers to the questions are:

"Meeting some cool people, making a crazy game and having fun". Or: "Meet some likeminded people, have fun and create an awesome game".

"Working on a cool game idea, finishing a game prototype, meeting new interesting people and hanging out with people I have met at previous jams".

"Having fun, working hard, meeting new people, developing games".

The expectations connected to learning are about the different skills – technical as non-technical – of making games, but there are also expectations about making something good:

"Build some better skills in programming, teamwork and brainstorming – along with building a network with the organization and fellow participants" Or: "To learn about game design, programming and how to structure a game, making progress from the people around me".

"Expect to learn a lot about developing a game from idea to execution and meet some new people who share the same passion"

One participant is very precise in summing up the motivation, engagement and enthusiasm connected to expectations:

"I'm really looking forward to both the brainstorming/idea building process, as well as the crunch time, where you are frantically working to get a minimum amount of functionality working, as well as just going around and talking to people about their ideas and thought. I think a really big part of this is just getting my brain pumping with inspiration. Even though I won't

be making a game outside the jam anytime soon, I'm convinced that the inspiration will help me in a lot of unrelated projects as well".

4.3.3 The achievement – what did you get from participating in NGJ 2013?

The observations confirmed that during the whole game jam the expectations, motivations and engagement was high, but what was gained during the experience? 86% of the participants agreed or agreed to some extend to the question that the game jam experience had motivated them to learn more about how to make games. Another finding is that the participants have worked with several different aspects of game making where design and programming are the top scores. Some of the participants found that the best thing about the Nordic Game jam was:

"Making games and being social". Or *"Getting a chance to make a game with other awesome people in a very short time".*

We can assume that the expectations to a certain degree were fulfilled. We know from our observations that the social aspects were very important for all participants, that the participants networked and enjoyed making games in teams. They liked the different presentations, the elements of competitions as well as cooperation. From the observations notes it is clear that the way the game jam was organized, with a balance of a well-structured schedule, gave possibilities for the participants to find and develop their own mode and share previous and new possibilities, and the freedom to engage fully in the process of jamming. This did play an essential part in the motivation and engagement during the game jam. It was also noted by the observers that the process consisted of many different aspects like working in the group, visiting other groups for either inspiration, assistance or small talks, getting snacks, coffee, drinks and food and at the same time sometimes watching presentations, being test persons or taking a short nap.

5. CONCLUSION

Some of the most important motivational factors for participants to join the Nordic Game Jam were to make games and to meet people. And it is thus not surprising that 95% of all participants hoped to develop a game working in a group. It fits well with all the expressions about the social part of a game jam. Participants were looking forward to be together with friends or to meet new people with the same interests in game development. It is therefore obvious that the game jam has an important social aspect. The social dimension is related to the desire to learn more about making games as well as more specific parts of game development as e.g. programming. On a deeper level of the social aspect the participants seems to aspire the feeling of being part of a community where people share the same interests for all aspects of game making.

Moreover, there was almost a balance of the areas that participants wanted to work with at the game jam with an overweight of programming, design and artwork, but we do not know if they were equally presented in each of the groups. The pre-jam skills and qualifications of the participants were also the qualifications they used during the game jam. It is obvious that the motivational factors are a mixture of an essential interest in the game making process and the social elements and collaborative environment during the 48 hours as well as acquiring new experience and leaning about all aspects connected to game development. Furthermore, based on our observations and surveys we can conclude that the participants of the NGJ 2013 were very

motivated to begin the jam, they were engaged during the whole event and 79% wanted to attend similar events again. The participants wanted to work in teams, have fun, and at the same time they produced games, made important contacts, networked and above all the participants were full of energy and continued to work with high enthusiasm during the 48 hours. A clear majority of 86% of participants replied that they were also motivated to learn more about game development as a result of the game jam.

6. PERSPECTIVES

If one has any desire to become or maintain a career as a game developer or a close related profession it seems like a highly viable option to participate in one or several game jams. Taking a closer look at the skills and abilities needed for a successful game development group reveals that game jams might prepare its participants for much more than just game development. The management and communication skills needed to organize the production of a playable game in less than 48 hours with a group of random strangers is non trivial and most likely an asset in a wide range of professions. A highly skilled game programmer is by any standard also to be considered a highly skilled non-game programmer. There is thus a large range of skills being used and trained in game development. Most of these are also highly regarded in other areas and industries.

Reviewing the results of the surveys, it is clearly stated that about half the participants came in the hope of programming and most became more motivated to learn more after the game jam. We believe this study in itself demands further research in game jams as a motivational booster for teaching. In relation to the pursuit of extracting the game jam essence, and applying it to a normal university course, only future studies can verify if studies done in this direction [12, 14, 15], can be further developed based on the findings in this paper.

The results of this study additionally indicate that building communities around topics such as game development may help support the motivation and engagement among students. The potential of using interest-based student communities and events such as game jams to enhance students' desire to learn might inspire new forms of teaching activities and problem based learning.

7. ACKNOWLEDGMENTS

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