

Nordic playground

- Pan Nordic network – contact point for researchers, industry, government, and media regarding play, toy and game research
- Visibility and networking - key factors for success
- Nordic Game Potential



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Abstract: The Nordic Playground network project was initiated by the Nordic Innovation Centre in 2004 with the goal to become a Nordic game related knowledge base and a forum for dissemination of research results between academia, industry and culture. The overall purposes of Nordic Playground have been the creation of the network itself as well as to take part in and arrange cross- disciplinary meetings, workshops and seminars in the field of interactive entertainment. This report reveals how far the network has come during it first year of existence. The results of Nordic Playground are presented through two perspectives. The first perspective, the <i>cross-disciplinary process</i> , deals with the processes that have continued throughout the project. Collaboration issues in a cross-disciplinary setting, networking, reasons for misconception or success in communication and the pro's and con's of a young industry is addressed. The second perspective, <i>the activities</i> , addresses the results of the specific activities conducted by Nordic Playground. Because of the variety of activities within the project, as well as the different mix of participants, a flora of diverse outcomes has been produced. The results range from issues dealing with possibilities and problems in emerging markets, standardization of the mobile game market, the need for inclusion of women in the game industry and the game research community, the need for new business and funding models in the game industry and academia, and last but not least the creation of new networks. Some of the future recommendations include viewing the mobile games industry as a new sector, that pervasive games has the potential to become the next market of growth after mobile games and that government support and pushing the business-to-consumer perspective in the standardization effort within the mobile game market is a key issue for success to reach those goals.		
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Executive summary

The Nordic Playground network project was initiated by the Nordic Innovation Centre in 2004 with the goal to become a Nordic game related knowledge base and a forum for dissemination of research results between academia, industry and culture. Today it doesn't exist a natural bridge between academia, industry and culture within interactive entertainment, something that isn't uncommon in other sectors as well that share interests in the same field but approaches that interest from different perspectives. Nordic Playground has been an attempt to become that bridge in the sector of interactive entertainment and this report reveals how far the network has come during it first year of existence.

The overall purposes of Nordic Playground have been the creation of the network itself as well as to take part in and arrange cross- disciplinary meetings, workshops and seminars in the field of interactive entertainment. By facilitating meetings between different actors in the network, the aim has been to create a Nordic knowledge base and through that knowledge base pinpoint questions of interest to support further cross-disciplinary research and project applications. Except from the creation of the network, the extraction and dissemination of knowledge and experience between researchers and companies have held the highest priority and the identification of new areas of game design, modalities and technology development second priority.

The stated goals of Nordic Playground are:

- ...to create a network for business, industry, culture and research within interactive entertainment.
- ...to identify areas of development regarding game design, modalities, and technology.
- ...to extract and disseminate knowledge and experiences between researchers and companies.
- ...to arrange workshops for specific target groups.

The long-term objectives for Nordic Playground is to ensure that the Nordic region have a strong identity in the global market. Therefore, Nordic Playground have during the last year strived for making interactive entertainment and foremost games an important part of the Nordic economy as well as people's everyday life. Our strategy in achieving this has been to take part in larger Nordic, national and international events which promotes the Nordic creative industries in different ways, as well as hosting our own events.

The Nordic Playground project has been successful on many levels. The overall goal was to promote contacts and to create formal and informal networks within the Nordic game industry and research community. Over the course of the project representatives of these types of organisations have met several times, meetings that were facilitated by or would not have taken place had it not been for the Nordic Playground project. On the same note, many related projects were initiated, carried out and/or more successful than what would otherwise have been the case on account of Nordic Playground. A full list of events can be found in Appendix 1.

Process and implementation

When common interests are shared and the actors involved from different sectors acknowledge each other strengths, a quad-helix network can be created and collaboration fruitful and innovative. The core group of Nordic Playground has during the past year tried several different meeting and collaboration formats: Work meetings with the whole group has been held at the Nordic Game Potential conference, problem-solving and information meeting has been held over the phone and through email, information meetings, lobbyist meetings and visionary meetings have been carried out by all the members of the group at conferences, workshops and seminars both as individual actors, by smaller cluster of the Nordic Playground group and also in collaboration with outer groups. The meetings have been held within sectors, across sectors and across sectors and national borders. Some of the meetings have been open, some have had screening processes before participants were invited and some have targeted special interest groups in the sector of interactive entertainment.

Result

The results of Nordic Playground are presented through two perspectives. The first perspective, the *cross-disciplinary process*, deals with the processes that have continued throughout the project. The experience of creating a cross-disciplinary network, the ideas and methods that worked well and the ones that didn't are valuable for future work in a cross-disciplinary setting. The second perspective, *activities*, deals with the results of the specific activities within Nordic Playground. Because of the variety of activities within the project, as well as the different mix of participants, a flora of diverse outcomes has been produced. The results range from issues dealing with possibilities and problems in emerging markets, the formation of cross-disciplinary vocabulary to the creation of new networks within each of the participating sectors.

Results concerning networking:

- **Collaboration issues** – There is a need for a better analysis of the problems concerning collaboration issues. Different goals which drive industry, academia, art and culture have been defined. Deployment of both formal and informal communications strategies are also of importance, as this tends to provide a more stable common ground for all project participants.
- **Networking** - Networking in itself is a long term investment whose *fully* pay-off can not be summed up and analyzed within a year. However, Nordic Playground would argue for more investment in cross-disciplinary events within interactive entertainment, since our experience is that personal connections made are more valuable and easier to maintain when established under such format.
- **Communication failure** – Misconception in general communication, due to the fact that the same terminology means different things in diverse sectors can lead to good ideas being dismissed too early. Therefore the establishment of a common language and models for communication between sectors are vital.
- **The pro's and con's of an immature industry** – The gaming industry is still an immature working place from some aspects which could certainly gain from the exchange of knowledge and working methods from research, government and other related industries, such as film

Results concerning activities:

- **New types of games** – The Nordic region has the opportunity to become a leading area for mobile games that utilises the mobile phones affordances like gyros, gps, and camera as part of the actual game. Pervasive gaming are also an area with high development potential as is Serious gaming, or educational games as it is also called.
- **The inclusion of female computer developers and researchers is important** – A heterogeneous work environment spurs creativity and the outcome of a wider selection of games. Women are gamers, but they are not part of the producer-side and therefore the market and the products remain male dominated. This is probably also connected to the immaturity of the game industry.
- **Establish the first mobile game and pervasive game association** – There exists no established framework for mobile (or pervasive) games today as it does in the well-established computer game industry with its own quality measures and industry fairs. Building on the experiences from the IPerG and MoGame projects, the Nordic countries are well positioned for fostering such forums, e.g. by supporting a set of events including art fairs, trade shows, and scientific conferences focussed on mobile and pervasive games.

Future Recommendations

As concluding remarks, Nordic Playground has several ideas for further recommendations within the industry of interactive entertainment.

- The mobile games industry should be regarded as a new sector! Mobile games are in many ways different from both PC and console games, and the development is funded with different business models. Even so a lot of the content made for mobiles are just copies of the content for PC or console games market. There is a need for support for the developers that actually utilises the unique features of the mobile phone. Growth within the mobile games sector as predicted by game developers and researchers are game design concepts dealing with local short distance multiplayer games, proximity gaming and online massive multiplayer gaming.
- Pervasive games will be the next market of growth after mobile games! Nordic countries are well positioned for fostering this development and can through this be able to *create a new market* building on the Nordic strengths of *wireless communication, mobile devices and sensing technology*.
- Cross-disciplinary work is hard, but by *creating a formal system for knowledge acquisition* that works well for industry, academia, art and culture involved in Creative Industries, collaboration will become easier.
- There is a need to push the business-to-consumer perspective in the standardization efforts within the mobile games market, by supporting both application developers and consumer organisations in participating in such initiatives.
- There is a need to identify measures to change the vocational game training programmes to insure the inclusion of women in interactive entertainment. This would also advance the game industry, on to a more mature industry more in line with the diversity of the film industry and music industry.
- Establish the first Mobile Game and Pervasive Game Association
- There is a need for new business and funding models within the Creative Industries.
- Establish a Nordic Game Research School tightly interwoven with the game and hardware industry as well as traditional academia.

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Background

The Nordic Playground network project was initiated by the Nordic Innovation Centre in 2004 with the goal to become a Nordic game related knowledge base and a forum for dissemination of research results between academia, industry and culture. Today there doesn't exist a natural bridge between academia, industry and culture within interactive entertainment, something that isn't uncommon in other sectors as well that share interests in the same field but approaches that interest from different perspectives. Nordic Playground has been an attempt to become that bridge in the sector of interactive entertainment and this report reveals how far the network has come during its first year of existence.

The project started in February 2005 and re-started again in November the same year at the Nordic Game Potential conference in Malmö after change in project management from SITREC to the Interactive Institute. The idea of creating a Nordic knowledge base springs from the belief that one Nordic country in itself might be interesting for the global game industry, game research and cultural work but Nordic countries together can offer a wider and more credible selection of game related services and innovation potential. The project consisted of 9 partners that made up the core group. Depending on the activity performed within the project, the core group has worked both together and with other partners depending on the area of interest and expertise, as decided upon in the original project plan. Participating partners in the project are (in alphabetical order):

Hypermedia Laboratory at the University of Tampere (Finland) offers education on hypermedia and interactive and digital media that are closely related to it. The education is aimed at designers, developers, producers and users in the field. In addition to education the Hypermedia Laboratory conducts research and development of hypermedia in different aspects of science. Two of those aspects are understanding the questions of the social and cultural dimensions of information and communication technology. The Hypermedia Laboratory has a long experience of co-operation with leading research institution, operators and mobile device manufacturers both in national and international level.

Interactive Institute (Sweden) is an interdisciplinary research institute operating in the border area of art, technology, science and business. The ownership of Interactive Institute is held by the Swedish ICT Research, an organization owned by the Swedish government and industry. The overall aim for the Institute is doing world-class research on digital communication and consumption of information, art and entertainment. Therefore, the Interactive Institute works in close collaboration with universities and university colleges, industry and societal institutions. The Institute provides ideas and prototypes that in combination with an entrepreneurial spirit will contribute to new businesses started by people with a background in the Institute.

Impra – Innovation Centre Ice Tec IRC Iceland operates an Incubator Centre at IceTec where it is possible to nurture a total of nine companies that are working on innovative business ideas. Assistance is provided in forming and operating such companies for several years. Impra's role is to assist entrepreneurs in evaluating business ideas, provide counselling with start-up, growth, and management of companies, and be a link in the communication chain between individuals, companies and public agencies. Impra also advise small and medium sized enterprises (SMEs) on how to improve their business productivity, encourage innovation and assist in export planning, for example, by facilitating cooperation in R&D and technology transfer with foreign businesses.

Innovation Centre Hedmark (Kunnskapsparken Hedmark, Norway) has the overall goal to stimulate innovation and entrepreneurship in the Hedmark region, and to assist new companies on their road to success. The Centre is established as a company with both public and private ownership and participates in a network of regional centres all over Norway. Innovation Centre Hedmark (Kunnskapsparken Hedmark) has two main focus areas, based on the business structure of the region: biotechnology and creative industries (the latter with a focus on game and interactive entertainment industry; music industry and sports business). Since 2002, the Innovation Centre and the Hamar-region is focusing on game and interactive entertainment industry, especially through their game business incubator "Game Studio Hamar". The University College in Hedmark has several Bachelor programmes on interactive entertainment. The Innovation Centre is also host to the International Game Developers Association in Norway (IGDA Hamar).

Learning Lab Denmark is a part of the Danish University of Education and has a large national and international network of practitioners in both private and public organisations. The laboratory focus its research on learning and competence development in the knowledge society. LLD engage in close collaboration with partners from many sectors and consider communication to be the key element in everything they do. What is vital for LLD is to create useful research-based knowledge by building on established practice-based knowledge, therefore development of new learning media and learning materials, including learning games and application of ICT is key elements in the organisation. LLD staff comprises professors, associate professors, assistant professors, research assistants, project managers and Ph.D students. Among the staff members exists people with various backgrounds in education, sociology, mathematics, chemistry and neuro-psychology.

Neogames (Finland) is a national game centre of business research and education which operates within the Technology Centre Hermia. Nearly all the members of the Finnish gaming community are also members of Neogames. This strong base offers Neogames a unique view to all the aspects of games and game development in Finland. Neogames' approach to game cluster development is very pragmatic and based on the needs of its members. Four cornerstones lay as the foundation for Neogames activities, namely; the creation of a comprehensive network of players in the games field, the development of games-related business; the support and coordination of research and training related activities to support the games field; the improvement of the image of the games field and making the field better known: transferring games-related news from the culture section to the financial pages.

Spelplan-ASGD (Association of Swedish Game Developers) is an interest group and trade organisation for game development companies in Sweden. Spelplan is the forum and voice of the industry who works to improve conditions for game development in Sweden and the Nordic region. Spelplan provides press, government, researchers, companies within and outside the game industry, overseas players and others with information, industry facts, contacts, services etc. They also run a number of projects on staff supply, talent development, financing, and other areas to meet the needs of the developer community

Danish Producers Association (DPA) is an association of Danish film and TV producers. The organisation's members produce short film and documentaries, feature films, TV programmes, film and TV commercials, educational films, multimedia productions, and corporate profile videos. As both a trade association and an employers' association, Danish Producers Association has a two-fold purpose. In the role of trade association, Danish

Producers Association seeks to gain political influence and promote members' interests relative to the copyright organizations, public institutions and TV stations that play a part in determining production conditions for film and TV producers. As an employers' association, DPA negotiates agreements with the various employee groups in the industry

Through the experience and the different perspectives of the actors participating in the network, Nordic Playground have today become a platform for discussions on both the present and the future opportunities of interactive entertainment and games.

The purpose of Nordic Playground

The overall purposes of Nordic Playground have been the creation of the network itself as well as to arrange and take part in cross- disciplinary meetings, workshops and seminars in the field of interactive entertainment. By facilitating meetings between different actors in the network, the aim has been to create a Nordic knowledge base and through that knowledge base pinpoint questions of interest to support further cross-disciplinary research and project applications. Except from the creation of the network, the extraction and dissemination of knowledge and experience between researchers and companies have held the highest priority and the identification of new areas of game design, modalities and technology development second priority.

The goals of Nordic Playground

The stated goals of Nordic Playground are:

- ...to create a network for business, industry, culture and research within interactive entertainment.
- ...to identify areas of development regarding game design, modalities, and technology.
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Sub-goals

The long-term objectives for Nordic Playground is to ensure that the Nordic region have a strong identity in the global market. Therefore, Nordic Playground have during the last year strived for making interactive entertainment and foremost games an important part of the Nordic economy as well as people's everyday life. Our strategy in achieving this has been to take part in larger Nordic, national and international events which promotes the Nordic creative industries in different ways, as well as hosting our own events.

Project delimitation

Due to changes in project management and time resources, the original project plan has been rewritten and the project re-started in November 2005. This means that the more active work of the core group has taken place during 9 months instead of a full year, although some important events were visited as well as hosted by some, but not all, of the project members before that. All events conducted can't be described in depth, due to the length of the report. The ones described are therefore selected based on the following criteria:

- They were marketed as a Nordic Playground activity primarily and secondly as an activity held by the organisation responsible for the event.
- The amount of work hours and money invested in the event.
- The importance of the outcome for the Nordic region generated by the activity.

Process and implementation

Being a project which to a large extent deals with issues regarding networking, meetings, collaboration, and cross-disciplinary work, means that handling these issues are of great importance.

How well a meeting or a meeting method works depends on several different factors; what kind of meeting is this, how well is the method suited to reach the decided upon goal in question, the context where its used, who are the actors involved in the meeting, what are the personal agendas and goals of the participants and the impact the latter makes on the matter about to be discussed. Also, different sectors favour diverse meeting methods and reject others, because within the sector of organisation often exists a pattern of standard meeting procedures used to reach certain goals. The goals in question and occasionally even the way to get there can sometimes be expressed with the same terminology but interpreted rather differently depending on a person's background and area of work. When a person from one sector encounter a person from another sector and discuss the same world, (in our case the world of games and gaming) we generally have a hard time to agree. The reason for this is because we discuss the world of gaming from how it is *constructed*, how *it is*, rather than from the perspective how we as individuals from different sectors *perceive* it. We believe that what is crystal clear to our self is also that to the other person involved in the conversation or meeting. How goals, the way we communicate them and the way to reach them are valued, rated and approached between sectors can only be understood if one acknowledges what drives the people involved in a cross-disciplinary project like Nordic Playground. Actors from the business side are in collaboration to make money, researchers to do research, culture workers to promote the artistic side of things and government to nurture a rich society, to name but a few. As a result, working cross-disciplinary creates friction, but this isn't only a bad thing, since friction creates creativity!

Management within a cross-disciplinary framework

When common interests are shared and the actors involved from different sectors acknowledge each other strengths, a quad-helix network can be created and collaboration fruitful and innovative. The core group of Nordic Playground has during the past year tried several different meeting and collaboration formats: Work meetings with the whole group has been held at the Nordic Game Potential conference, problem-solving and information meeting has been held over the phone and through email, information meetings, lobbyist meetings and visionary meetings have been carried out by all the members of the group at conferences, workshops and seminars both as individual actors, by smaller cluster of the Nordic Playground group and also in collaboration with outer groups. The meetings have been held within sectors, across sectors and across sectors and national borders. Some of the meetings have been open, some have had screening processes before participants were invited and some have targeted special interest groups in the sector of interactive entertainment.

How does one prepare, in the role of a project manager, for the task of acting as a leader in this mix of diverse individuals, phases of development in the project and other up-coming situations? No clear solutions exists, though if we can learn to identify the most common signals for an up-coming problem or situation chances are we are better equipped to deal with them. If this is combined with a notion of the people within the group and where they stand in their group dynamic process, then a solution to the problem or situation are close at hand. The FIRO (Fundamental Interpersonal Relationship Orientation) theory, as formed by psychologist Will Schutz deals with the understanding of what happens in the development of

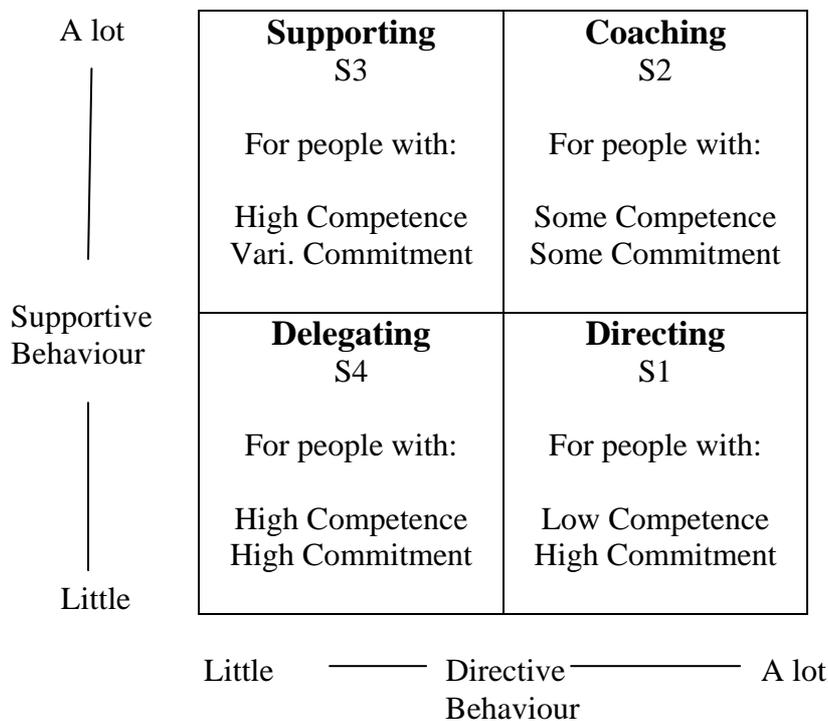
a group and how that development are connected to its efficiency. In accordance to the theory all groups have to go through five different phases to develop a well-suited and working spirit of co-operation and connectedness, which is needed to reach the full capacity of efficiency in the group. Different types of conflicts are bound to occur during different phases in the group process and it is an advantage to be aware of them, since that helps when trying to find the right method to solve the conflict of interest and help the group to move to the next phase.

The most important thing for a project manager is the ability to adapt the leadership to the group’s level in the group dynamic process and the situation currently at hand. The Situational Leadership method from Kenneth Blanchard and Paul Hersey (2001) addresses this specific question and introduces a tool for leadership in the form of a matrix.

Blanchard and Hersey characterized leadership style in terms of the amount of direction and of support that the leader gives to his or her followers. They introduce the terms Directing/Telling and Participating/Supporting leadership and by balancing “directing” and “supporting”, two other terms can be constructed – Selling/Coaching and Delegating leadership. A Directing/Telling style is when a manager actively addresses a situation, organize and give clear instructions about when, where and how the situation should be solved. This is an authority driven leadership where the manager also actively supervises the work performance of the group.

A Participating/Supporting style is characterized by encouragement, active listening and guidance with the purpose that the individual or group itself shall make the right decision – a more democratic driven leadership.

Model of Situational Leadership by Hersey and Blanchard



The leadership styles (S) in the matrix are to be used in the following situations:

First quadrant (S1): Telling/Directing – The roles and tasks of the group are defined by the leader who supervises them closely. Communication is to a great extent one-way since decision is made by the leader and announced to the group. This style is for the group who lack competence but are enthusiastic and committed, there need is for direction and supervision.

Keywords for this quadrant are: High task focus and low relationship focus.

Second quadrant (S2): Selling/Coaching – The roles and tasks in the group are still defined by the leader, but the leader is signalling that ideas and suggestions from the group are welcome. Communication is much more two-way but the decisions are still the leaders to make. This style is for the group who has some competence but lack commitment. They need direction and supervision because they are still relatively inexperienced. They also need support and praise to build their self-esteem, and involvement in decision-making to restore their commitment.

Keywords for this quadrant are: High task focus and high relationship focus.

Third quadrant (S3): Participating / Supporting – The role of the leader is to facilitate and take part in decision making and to pass down day-to-day decisions such as task allocation and processes to the group who has now defined their own roles. This style is for the group who has competence but lack confidence or motivation – direction is not needed since they possess skills, but support is vital to bolster their confidence and motivation.

Keywords for this quadrant are: Low task focus and high relationship focus.

Fourth quadrant (S4): Delegating – The role of the leader is to be involved in decisions and problem-solving without controlling the group, and its up to the group to decide how the leader will be involved. This style is for the group who is confident and has a high amount of trust in its members, conflicts are rare and situations are handled with a high degree of professionalism. They are committed, willing and able to work on a project by themselves with little supervision or support.

Keywords: Low task focus and low relationship focus.

These theories work well in practise but they demand that the leader of the group have the ability to move around in the matrix according to the situation, so there is no style that is always right. One way to approach this is that the leader defines his or hers preferred leadership style according to the matrix.

The competence and commitment of the group can also be distinguished in the same fashion.

Methods – a way to communicate

What all meeting formats and methods have in common is *communication*. Communication is performed in many ways depending on the sender, the message, the receiver, the medium chosen to communicate the message and the effect (result) of it being sent. This section of the report aims at describing the methods used by the project to communicate results, vision and knowledge both internally and externally. In both *external* and *internal* communication there are various means of going about. One way of describing communication methods are by dividing them into sub-categories. *Direct communication* is when sender and receiver can

communicate directly in time. *Indirect communication* occurs when sender and receiver choose to communicate at different time frames. *Formal communication* is usually structured and organised so that sender and receiver both understands the context, or rules, on how communications is to go about. *Informal communication* usually occurs in unstructured circumstances without a clear context, or need for one. Below a description is provided on how the communication methods where implemented and why is directly related to the overall purpose of Nordic Playground, the goals as well as the sub-goals.

External communication

In Nordic Playground external communication bares a strong importance for many reasons. It is important for the research community and business sector to have a clear picture of the Nordic Playground network, its aims and goals in order for the project to become a natural contact point. One way of external communication is to strengthen the platform of the stakeholders within interactive entertainment is through the development of common vocabulary on content and concepts. Yet another way is finding models to allow cooperation between actors with different time frames and from different contexts in order to bridge the gap between basic research, applied research and product development.

Another important factor in this area is communication with actors who do not directly partake in the network, yet are valuable to it. Such actors can be media, decision makers, investors et cetera. Having a clear external communications strategy clearly increases the possibility to strengthen the position for Nordic business and research on a global market.

Here follows a description of different ways of external communication as performed by the actors within Nordic Playground.

Direct

Within the project direct external communication mainly focused on targeting prime external actors of importance for the outcome of the project. Decision makers and media where pinpointed so that they in person got a clear picture of the project. Key persons in leading game companies, publishers, government and media companies were contacted in person in order to promote Nordic Playground as whole as well as specific activities of the project.

For the success of maintaining these contacts a communications project manager was brought on the team during some critical phases of the project. This in turn resulted in enhanced publicity as well as participation from key actors.

Indirect

Different ways of indirect communication was carried out within the project in order to facilitate the needs of external actors. On the whole, letters, email, brochures, webpage content and postings in discussion forums were some means of this. Being a network structured out of a Nordic dimension, both time and language hinders means of direct communication. This in turn increases the need for a communications structure based on indirect communication.

Formal

As Nordic Playground is the first attempt to form a pan-Nordic network for organisations dealing with interactive entertainment there was a great lack of structures, as well as informal connections between the stakeholders of the project. In building up a network where there previously has not existed a structural framework calls for much planning and organising on a

formal level. Until stable and established formal structures are established, the so valuable informal contacts and connections have a hard time to grow. This is why Nordic Playground has focused on participating in formal events within the overall framework of interactive entertainment in the Nordic region as well as internationally, as well as building meeting places which brings together actors from the different participating sectors.

Since informal structures are fundamental in the building of networks, different formal communication methods were used within the project activities that help build informal connections and contacts. One method used for this purpose was Open Space, a networking and network management tool which creates inspiring meetings and events.

Formal ways of communication within the project for external purposes include workshops, conferences, seminars and lectures.

Informal

The creation of informal contacts between people and organisations, within and between sectors, are crucial for the development of a vital network. To meet this need is one of the most difficult aspects of network building, since the establishing of a network often is organised out of a formal approach. Thus the formal structures must be created so that they facilitate for the informal needs of the participants of the network.

As mentioned above, formal methods can sometimes create an informal atmosphere. Apart from this, using the gaps between formal activities in a suitable way can provide the time needed for participants to engage in informal activities. For instance, the chit-chat during a buffet can produce more valuable contacts than you possibly can gather sitting in a lecture hall at a conference.

Industry events are a good place to meet, both formally and informally. During the past year members have taken part of several industry events, both as presenters, organisers and ordinary participants.

Dinner parties at bigger events, inside as well as outside the Nordic region, are a way to create opportunities to meet other Nordic delegates and to promote a spirit of Nordic co-operation. Gathering a large number of Nordic delegates not only builds a sense of pride and accomplishment within the Nordic community – if marketed properly it also communicates a message to the rest of the sector or sectors in question. Besides communicating to the outer world, these environments also promote networking and business opportunities – which for the most part is why people attend in the first place. As an example, Nordic game industry and research play vital roles in the international game community. Meeting with other Nordic delegates at conferences, is therefore looked upon as quality time well invested and generally greatly appreciated and valued by the participants.

Within the framework of Nordic Playground the project has facilitated for informal contacts during its activities by providing for dinners, coffee breaks, lounge atmosphere, fun and laughter.

Internal communication

In all networking projects, building strong internal communication structures is a necessity for implementing the issues of the project. Due to the nature of Nordic Playground, partners come from all Nordic countries and from different sectors of expertise. The different background of

the participants makes internal communication more troublesome to facilitate than for example a geographical local networking project within one organisation. Different cultural aspects, as well as different working vocabulary and language pose obstacles to be dealt with in order to provide for a communication based on common core values and goals.

In Nordic Playground, formal structures for communication, both direct and indirect, have been addressed for the project in various ways. This has also been the case for informal communication, although this in itself is a difficult area to handle.

Direct

Direct communication within a network is vital for the establishment of a good working climate as well as the progression of the project. In projects such as Nordic Playground with a strong international dimension direct and physical communication is both expensive and time-consuming. Having said that, it is still necessary to achieve some physical meetings since the informal aspects of communication is hard or impossible to establish otherwise.

Due to the physical distance between project partners, most meetings in the project were carried out by phone. Three internal face to face meetings with the full group were carried out within the project in conjunction to conference activities. Apart from this several physical meetings with a smaller number of partners were held during the project.

Indirect

Indirect communication has by far been the most common form of communication within the project. Email has been the major form of this communication. Apart from email other forms of informal communication has also been carried out such as postal mail and fax. These latter forms of indirect communication derive from the need to send economical reports and such.

The main content of emails has been focused around spreading information; project planning documents, strategic documents, reports, enquiries and proceedings from physical and phone meetings.

Another indirect means of communication has been the creation of the Nordic Playground activity log. To facilitate writing of the status as well as the final report and to ensure that the content in those reports meet the requirements from NICE, a template in the form of an activity log was made by the project manager as a tool for the members to report their events. The template was based on the structure of NICE's requirement for the final report.

Finally, the Nordic Playground website facilitated a range of possibilities to communicate within the project. The website included an online document repository with both public and members-only areas and was supposed to operate as an important tool for coordinating the activities between workshop and seminar sessions.

Formal

Formal internal communication was mostly carried out in the beginning and in the end of the project. In the start up phase of Nordic Playground, there were two project applications which were merged into one project on the initiative of NICE. This merger caused some tension on the behalf of the two project groups. Most introductory communication was carried out on a formal level and the introductory meeting of the project was also carried out in a formal manner.

The physical meetings with the full project group were all carried out in a formal manner as well. In areas where it's important to have a good documentation of the proceedings, formal communication has been used. In the end phase of the project formal communication was carried out when dealing with areas such as project economics and administration.

Informal

Internal informal communication has been carried out between partners throughout the Nordic Playground project. This informal communication is usually made in an indirect manner through phone, chats, email et cetera. On some occasions there have been physical informal meetings. These have been conducted in connection to other events within the Nordic Playground project, but also outside the project in other events within the interactive entertainment industry and research area. Due to the nature of informal meetings, documentation and evaluation is a very difficult issue, as it's hard to beforehand conclude when and where such activity will take place, and by whom. Regardless of the difficulties in documenting and evaluating this means of communication, it is without doubt a very important feature of all networking activities. Informal communication within a project makes people come to know each other, creates bonds between people and organisations and builds a platform for understanding between partners. With a common understanding the risk for conflict and mismanagement will reduce greatly.

Result

The results of Nordic Playground are presented through two perspectives. The first perspective, the *cross-disciplinary process*, deals with the processes that have continued throughout the project. The experience of creating a cross-disciplinary network, the ideas and methods that worked well and the ones that didn't are valuable for future project work in a cross-disciplinary setting. The second perspective, *activities*, deals with the results of the specific activities within Nordic Playground. Because of the variety of activities within the project, as well as the different mix of participants, a flora of diverse outcomes has been produced. The results range from issues dealing with possibilities and problems in emerging markets, the formation of cross-disciplinary vocabulary to the creation of new networks within each of the participating sectors.

The cross-disciplinary process – a way to extract and disseminate knowledge between groups

The ways to exchange, extract and disseminate knowledge between different groups within the project, across sectors as well as to outer groups has been many. In order to explain the process and the measures taken to reach the project goals, a division between external communication processes and internal communication processes has been made.

External communication

A heavy focus has been placed on external communication in the Nordic Playground project. This is natural, as the network being built up had to be advertised within its community, activities had to be organised and new people had to be introduced to the area of interactive entertainment. A great variety of activities have been conducted through the project, and a number of new and interesting connections have been produced through it. Below the results are presented through a formal and an informal perspective.

Formal process results

A number of key actors and organisations have taken part in the networking activities within Nordic Playground. Here follows a list of all the relevant external actors and organisations involved as *co-partners or organizers* in different activities:

- **Blaze** – Tom Söderlund participated as one of the main speakers at the Future of Mobile Gaming workshop, Sweden.
- **Futuramb ab** – Martin Börjesson participated as moderator at the Future of Mobile Gaming workshop.
- **Gotland University** – Professor Craig Lindley was an invited partner to the Seminar on Playing Roles in Finland. Also, SuperMarit are connected to the university.
- **IO Interactive** – Jesper Donniss was the main speaker at the Workshop on Innovation in computer games – New ways of learning in Iceland.
- **IPerG project, the Interactive Institute** – co-organiser of the Future of Mobile Gaming workshop, Sweden. IPerG also supported the Seminar on Playing Roles in Finland.
- **IT-University Copenhagen** – co-organiser of the Playing Serious Seminars, Denmark together with Learning Lab Denmark. Simon Egenfeldt Nielsen, also ITU was one of the main speakers. Professor Lisbeth Klastrup, also ITU was an invited partner to the Seminar on Playing Roles in Finland arranged by University of Tampere.

- **Jadestone** – Tommy Palm participated as one of the main speakers at the Future of Mobile Gaming workshop, Sweden
- **Malmö University** - co-organiser of the Playing Serious Seminars, Denmark.
- **Medical Images and Computer Games (NICe)** – Neogames KooPee Hiltunen participated as a speaker at the 3rd brainstorming workshop on Synergies between Computer games and Reconstructive Surgery at the Helsinki University of Technology. The subject for the speech was “How to make a successful game”.
- **MIT** (Massachusetts Institute of Technology) – Eric Klopfer participated as a speaker at the Playing Serious Seminars, Denmark.
- **Muskedunder Interactive** – Magnus Alm worked as a consultant event manager for the Future of Mobile Gaming workshop and as communication manager for the whole project at this time.
- **Nokia Research Centre** – Jussi Holopainen participated as one of the main speakers at the Future of Mobile Gaming workshop, Stockholm
- **Nordic Game Program** – Main organiser of the Nordic Game Potential Conference, now known only as Nordic Game, Sweden.
- **SpelBar** – organiser of informal activities in conjunction with the Future of Mobile Gaming workshop, Sweden.
- **SuperMarit**, Sweden – co-organiser of Nordic female computer developers and researcher workshop, Sweden.
- **Telcogames** – Mark Olilla participated as one of the main speakers at the Future of Mobile Gaming workshop, Sweden.
- **The Swedish IT Policy Strategy group, Ministry of Industry** – co-organiser of the Future of Mobile Gaming workshop, Sweden.

The names listed above are only the people or organisations that were *actively involved* in arranging the activities or had some other key function at the events. Participants *at* the actual events included people from high level research (Swedish Institute of Computer Science (SICS), IT University of Copenhagen, Chalmers University of Technology, et c), leading game companies (Digital Illusion, Massive Entertainment, Funcom et c), game organisations (Svenska Datorspelsinstitutet, Swedish Game Awards and Riksförbundet Goodgame), publishers and media (Telcogames, Peligroso, Nordisk Film, Svenska Dagbladet, SuperPlay, Ny Teknik and SVT). Contacts have also been made with game communities like blip.se and the facilitators of game communities like PlayCom Game Design AB and Micromarketing AB.

Media have written about Nordic Playground on several occasions. Most of the articles produced deal with specific activities or features of Nordic Playground, but rarely on the networking aspect specifically. This is most likely due to what is found being “news”.

Media coverage of Nordic Playground:

- Mobilspelaren.se den 31/3 2006; www.mobilspelaren.se
- Gamedev.se den 13/4 2006; www.gamedev.se
- Manual-spelbranschens nyhetssida, 21/4 2006: www.manual.se
- Svenska Dagbladet den 26/4 2006; www.svd.se/dynamiskt/noje/did_12468088.asp
- Ny Teknik den 4/5 2006; www.nyteknik.se/art/45908

The Nordic Playground has been present on the Internet through www.nordicplayground.net. The website was published in its final version in March 2006 and contained information on the projects, past and current activities etc.

Within the project external information was published through a folder generated from the Future of Mobile Gaming workshop. These folders were distributed to the 60 persons involved in the workshop and will also be distributed through the projects website as well as at events connected to mobile gaming.

Invitations to conferences, workshops etc have been distributed through various media. The estimated number of people receiving information about these activities is hard to calculate, as information has been distributed through various partners and channels. An estimated number of people receiving information of all events conducted amount to between 500 and 3000. The lower number is based on participants in different events, the higher number take into account invitations to bigger conferences as the Nordic Game Potential or the Nordic Dinner at Game Developers Conference in San José.

Most activities within Nordic Playground have been organised within a formal communication setting, such as conferences, workshops and seminars. A number of activities has been either directly hosted by Nordic Playground, cooperative activities together with other organisers or have been part of larger organised ventures. A list of all the activities conducted within Nordic Playground can be found in appendix 1.

Being a cross-disciplinary networking project in a field where there is a lack of previous organisational structures to build upon, it has been important to provide measures for participants in activities to meet on more informal grounds. In the project certain methods have been used in order to facilitate for informal communication within a formal activity. Open Space is one method which proved to be successful in this aspect, another process of submitting papers to the seminar on Playing Roles. This will be discussed further below.

Informal process results

During the wide range of formal activities, informal communication has been provided for through dinners, coffee breaks and lounge environments. In these environments actors have mixed with each other, sharing ideas, developing thoughts and learned about new fields in the area of interactive entertainment. It is very hard to fully document the results of this informal activity. Having said that, it can be noted that some new connections have been formed that can be seen in coming activities and networks. Here follows some examples of new projects and ideas that have aroused from the work within the Nordic Playground project:

- The network for Nordic female computer developers and researchers
- The activity of creating a Nordic Pavilion at E3 in 2006...
- ... and as a result of the members working together in creating the Nordic Pavilion: the European Game Developers Federation
- The process of creating the first Journal of Role-Playing Studies

Internal communication

Cultural aspects, the different working vocabulary and language have posed obstacles to be dealt with in order to coordinate the project and in trying to establish communication based on common core values and goals. Not being in the same location, the same organisation and even different countries have made internal communication more problematic to provide for

than in local networking projects. The internal communication in the project has mainly been conducted by email, secondly by phone or telephone conferences. A tool, as to facilitate the reporting of members' project activities has been created in order to document and collect knowledge.

Formal process results

A variety of methods have been used to facilitate for internal communication in the project.

There have been three physical meetings with the full group of partners within the project.

- Meeting 1 took place at the Nordic Game Potential in 2004
- Meeting 2 took place in Gothenburg in June 2005
- Meeting 3 took place at the Nordic Game Potential in 2005

During these meetings the focus was on issues regarding purpose of the network, structure, economy and administration.

Conference phone calls have been a valuable tool for the network. During the project, two conferences phone calls took place with the whole group and several with different fractions of the group. During these meetings, issues regarding success criteria, publicity and communication where discussed.

Most communication within the working group was carried out through email. Apart from email other forms of informal communication has also been carried out such as postal mail and fax. These latter forms of indirect communication derive from the need to send economical reports and such.

The Nordic Playground activity log aimed to facilitate the writing of the status, as well as the final report and to ensure that the content in those reports meet the requirements from NICE. This tool was a ready-to-use template handed out to members of the network in 2005 for them to use when communicating what activities had been conducted by them in the name of Nordic Playground.

The website of Nordic Playground hosted a number of tools for internal communication. These were not used as intended, partly due to the fact that the webpage was not up and running until March 2006. The reason for this was the communication firm responsible for the creation of the webpage using a platform with web components not acceptable for the host Interactive Institute. The members of the network were asked if they could host the website, but from those who answered, they couldn't. Negotiations with the communication firm resulted in a webpage finally being launched. The website has since been a valuable tool for uploading documents, communication of upcoming events and workshop registration. Also, the website has a forum for discussions, which was decided upon to facilitate open cross-disciplinary conversation with actors outside the network. However, this tool has still yet to prove its worth.

Informal process results

A range of informal activities and discussions have taken place within the Nordic Playground project. As stated above, documenting this information is almost an impossible task, due to the nature of informal processes. That said, there are some results that have become clear over time.

The organisations taking part in the Nordic Playground project have during the time frame of the project come to know more about each other. People within the organisations know who works with what, what the aims and goals are with each organisation, what future projects the different organisations are interested in and what fields of work the participating organisations are not interested or competent in. This knowledge is of great value for future work within a Nordic framework.

During the implementation of different communications methods, knowledge has been gathered regarding the types of communication which work within an informal setting. Over time different communications barriers have been dealt with, which mostly appear due to the different cultural aspects present in the project, such as sector, nationality, field of work, academic background et cetera.

These results are valuable to all working partners within Nordic Playground, as they are the informal backbone for further discussions of future work.

Conferences

Nordic Playground's members have attended several conferences, but the ones of the most importance to the network without a doubt E3 because of the work in creating the Nordic Pavilion and the co-organization of the Nordic Game Potential conference since it is the largest computer game conference in the Nordic region.

E3

The Electronic Entertainment Expo (E3), "Where Business Gets Fun," is the world's leading trade event exclusively dedicated to showcasing interactive entertainment and educational software and related products. E3 2005 and 2006 was held at the Los Angeles Convention Centre May 18 - 20 with 250 exhibitors in 2005 and 400 in 2006. Participants from the Nordic Playground network where Spelplan, Neogames and Danish Producers Association. The exhibition can be divided into the following tracks:

- Entertainment & edutainment software
- Reference and special interest software
- Wireless/Mobile/PDA software and technologies
- Game and computer accessories
- Game consoles
- Online entertainment
- Online content and technologies
- Multimedia and peripherals
- Production and packaging services.

Background to E3 activities

Alain Tascan (Vice President and Studio General Manager, Electronic Arts, Montreal), presented a theory of global hot spots at Game Developer's Conference Europe in London in September 2005. This is a set of prerequisites necessary for a cluster of game developers to be internationally successful in the coming 5-10 years. Based on a study of regions that have previously spawned several global hit developers, Tascan states that they all qualify for these criteria:

1. Good education institutions

2. Highly developed IT-infrastructure
3. Cultural diversity
4. Competitive living costs
5. Culturally active region
6. Proactive support from public and government authorities
7. Entrepreneurial culture within population and business

Scandinavia, according to Tascan, does not qualify in 2005 but is included in the “hot spot forecast” for 2010. In an article in Jyllands-Posten, discussing Tascan’s theory, Diginet’s Knowledge Director Henriette Moos concludes that Scandinavia qualifies for all but the last two criteria: government support and entrepreneur culture. However, Moos remains optimistic that developers with 10-15 years of experience from employment in established studios will increasingly leave their current positions to start new development houses, thereby contributing to a culture of entrepreneurship.

One Nordic country in itself might be very interesting for global game industry players, but Nordic Countries together can offer a wider and more credible selection of game related services and innovation potential. Therefore, a good way to boost Nordic game business is to have visibility in the big markets and attend meetings like E3. The problem is *how to get* visibility and how to be *credible* as a strong growing community in the eyes of the international market. Nordic Playgrounds answer was to organise a big gathering where important actors from the Nordic interactive entertainment industry and research got to meet each other as well as some international strategically chosen guest.

Objectives for activities at E3

The main objective for the Nordic participants at E3 in 2005 and 2006 was to market the Nordic Countries as one of the 4-5 regions in the world that has the potential of making computer games for the next generation of consoles and platforms, which is a common goal for the Nordic community. The way to do this was to get together in LA, discuss, spread the word and offer visibility in different ways. Besides being part of the Expo in 2005 the “The Nordic Games Network Rooftop event” was also an excellent meeting point for the game industry and game researchers both within the Nordic Community and on a global level. The organizing partners for the “The Nordic Games Network Rooftop event” were Spelplan, Danish Producers Association, Neogames and as sponsors Nokia and the Finnish game magazine *Pelaaja-lehti*.

Activity and outcome of activity

For the first time the Nordic game community met outside the Nordic countries, forming an umbrella organization during “The Nordic Games Network Rooftop event ” to both make new internal Nordic contacts as well as offer visibility to the international market. The event was held at The Standard Hotel in LA and during four hours the Nordic computer game developers, publishers, distributors and the Nordic countries Trade Associations together with other actors of Nordic interactive entertainment got the opportunity to meet each other and international guests.

- 350 of the most influential people from the Nordic countries together with some strategically chosen international guest attended.
- The objective of The Nordic Games Network Rooftop event was to get global attention to the Nordic Game Industry. Over 400 Game business / Game research related persons was invited, and most of them actually came.

- The Nordic Games Network Rooftop event offered excellent visibility to Nordic Game companies and the attending Nordic companies were very satisfied with the party.

Companies have got some real benefit for this occasion (sales, visibility and reliability) and it has also strengthened the Nordic Game community.

The outcome of the work at E3 in 2005 became the process of creating a larger Nordic Pavilion at E3 2006, a work process driven by members of Nordic Playground (Spelplan, Neogames and Danish Producers Association). A number of Norwegian and Icelandic companies together with the Nordic countries different Trade Associations have also been involved. By the time of writing, E3 2006 has just finished, with the Nordic Pavilion in place. The pavilion included a catalogue, show reel and specially designed booth with individual display areas hosting the 33 participating Nordic companies, a well-appointed lounge as well as 10 private meeting rooms.

Nordic Game Potential

The Nordic Game Potential, now re-named Nordic Game, is the largest Nordic game developer's conference. The conference aims at discussing and formulating common ideas, strategies and points of action for Nordic computer games, for industry, research, education and government. The Nordic Game Potential conference is co-arranged by Spelplan both in 2004, 2005 and 2006. In 2004 the first preliminary meeting for the creation of Nordic Playground was held and in 2005 the Nordic Playground held its first core group meeting under new project leadership.

Nordic Game Potential in 2005 had about 30 seminars and 250-300 participants with a disposition of several track. The first day consisted of a common track of interest for all participating fields and the final day consisted of four tracks that focused on business, game development, public policy, and research. The Nordic Game Potential conference concluded with a joint panel discussion where Sten Selander representing Spelplan was part of the panel.

Activities - Identified areas of development

A lot of small as well as large activities have been performed within the network and it is quite impossible to cover them all in depth in this report. Therefore a few important activities have been picked which are deemed to be representative of the work conducted. A list of all activities that has taken place within the framework of Nordic Playground can be read in appendix 1.

New Networks

Using Nordic Playground as a platform, two new formal networks have been created. These networks are more crystallized in their nature than Nordic Playground and therefore play an important part to strengthen different aspects of the Nordic and European game community.

A Nordic network for female computer developers and researchers

Kunnskapsparken held a workshop for Nordic female computer developers and researchers (in collaboration with SuperMarit) 21-22 February 2006, at Furillen Conference Centre, Gotland, Sweden. The objectives for the activity of this first meeting of women computer game developers and researchers from the Nordic countries was to establish contacts and to decide the exact purpose of the network and the means to achieve them.

It was decided that through a series of seminars and ongoing discussions the network wants to develop a set of action-oriented strategies for how to transform the game industry by promoting girls' and women's participation as gamers, game students, developers and game producers. The strategies will be created by and for (as well as published and widely disseminated to) educational planners, the game industry, game researchers and vocational training centres and universities.

The network is now established and will start its activities.

European Game Developers Federation

The EGDF is a result of people getting to know each other from the work process in creating the Nordic Pavilion at E3 (named Nordic Game) in 2006. Participants from both Nordic Playground and Nordic Game are currently founding this pan-European developer's association of which more information can be read on the association's webpage:

<http://www.egdf.net/>

Emerging game genres

This section addresses findings from workshops and seminars that were dedicated to "new" game genres or genres that are deemed to hold great potential. The workshops and seminars that have been taken place within the network has been focusing on primarily role-playing in combination with serious gaming as well as pervasive gaming combined with mobile phone games. There are several reasons for this; first of all, both Interactive Institute and Hypermedia Lab at Tampere University are also partners in the Integrated Project on Pervasive Gaming (IPerG), a project that focuses on exploring future gaming forms. IPerG is funded under the European Commission's IST Programme and started on 1 Sept 2004, having duration of 42 months. It has a total of 6 MEU funding from the IST Programme and consists today of nine partners. IPerG are committed to produce entirely new game experiences, which are tightly interwoven with our everyday lives through the items, devices and people that surround us and the places we inhabit. Pervasive gaming can best be described as extending the gaming experiences out into the physical world. The pc-gaming experience of today is screen-based; the gaming experience of tomorrow uses your home city street as a playground with everyday life co-existing side by side. The "tools" used for gaming may be your mobile phone, physical objects with augmented computing functionality or other location-based activities or services.

The second reason for the workshop and seminar focus is the growing popularity of educational games – serious games! These games add a pedagogical value to the gaming experience besides pure entertainment and are at the focus of research at Learning Lab Denmark. Serious gaming can be conducted without technology, ranging from card games to role-playing and live action role-playing, but if you add technology the gaming experience, thus learning experience, can become more intense and likelier to be remembered. Learning through practice, where the gamer has to make decisions and deal with the consequences of the decisions are the core of every game, but in a serious game the consequences of the choices made are connected to real life and put a spotlight on the difficult questions involved in a specific social context. One example of this is the game Food Force, developed by the United Nations World Food Programme where the gamer have to deal with world hunger and the division of food to people in need. The lessons as well as reflections learned from this game is a greater understanding of the work conducted by UN and the hard ethical questions involved when deciding what geographical area to prioritise and how this affects another area since the amount of food is limited.

Serious gaming do not necessarily need to be a pc-game, if technology is added it could as well be an enhanced live action role-playing game or a mobile phone game where the gamer/student (as an example) receive information about the environment he or she is walking through. The latter is an example of the use of location-based technology. Sweden as well as the other Nordic countries, have expertise knowledge within the areas of wireless technology, industrial IT, and certain software development as the likes of business solutions, security and computer games. Also, other strengths are the high level of IT knowledge within the population as well as the high penetration of personal computers and other IT devices such as mobile phones, iPods or handhelds like PSP or Nintendo DS.

Since IPerG investigates how technology can be used to bridge the gap between different media channels and game spaces, how pervasive games affects and fit into alike social environment, how technology can enhance the game experience and how that experience could take place both online as well as on the streets, researchers interested in serious games or pervasive games in the Nordic region have a lot in common.

Role-playing and Serious gaming

Several seminars and workshop concerning role-playing and serious gaming has been conducted in the project. This section of the report addresses two of them.

Innovation in computer games – New way of learning

The workshop on “Innovation in computer games – New way of learning”, was held in Reykjavik by Imprá Innovation Centre, IceTec in collaboration with Learning Lab Denmark.

Iceland does not have many actors in the field of computer games, but many of them who are, are related to knowledge material production. It is very important for the Serious Gaming developers in Iceland to have good access to information and knowledge from abroad. It is also very important that actors are aware of each other activities. Therefore the “Innovation in computer games – New way of learning” workshop was held to introduce the Nordic Game Plan project and it was also a very important meeting point to build up a network of actors in the field. The workshop was also an important knowledge platform for the sector.

Before organising the workshop, Imprá made a mapping of the actors in the computer games sector in Iceland. It became clear that many of the actors are developing and producing learning material for kids and use technology known from computer games. Based on this, Imprá decided to have the focus on how computer games can be used in learning and how the experience and knowledge from game design can be used in this purpose. To attract people from the Icelandic sector, Thomas Duus Henriksen from Learning Lab Denmark was invited as he is a PhD Fellow on Serious Gaming. Also Jesper Donniss from IO Interactive, Denmark was invited to fill the part of the practioner.

Thomas spoke about dimensions in educational game design, and the potential for these games to meet current educational needs. He also addressed a number of challenges if games are to play a role in an educational setting. Key issues are the design and implementation of learning games, as they each provide their set of challenges. In order to meet these challenges, five key dimensions in educational game-design were presented, as well as a structure for implementing learning games into an educational setting in a beneficial manner.

Jesper spoke about practical game design, addressing questions like how is a modern AAA computer game designed, and how does it produce those all-engaging experiences with the players? Jespers speech covered a presentation of the key elements in designing a successful computer game title, which is how to balance play, narratives, interaction and rules to create the player experience.

Besides being able to pass on high level knowledge of Serious gaming from both the production and the research side to the Icelandic developers, Imprá feels that having the Icelandic actors together in one room was equally important, giving them the opportunity to meet and discuss their business, problems and success.

Playing Roles

The seminar on Playing Roles was organised to bring together academic researchers, practitioners and professionals dealing with role-playing in various forms. The Nordic role-playing is unique in many aspects, and one of the important strengths for both Nordic game development and games research to build upon. Spreading information about the key research findings within the role-playing studies is central to the aims of Nordic Playground: supporting the innovation processes and dissemination of key information between researchers, SMEs, practitioners and cultural or creative sectors. The aim of the Seminar on Playing Roles was to bring the Nordic role-playing experts into contact with the state of the art, and also support exchange of ideas and creation of contacts to the key actors around the world.

Researchers around the world submitted long abstracts for review of which the 20 best presentations were selected. Authors submitted full papers two weeks prior the seminar which means the papers were available for all attendees before the seminar. The papers were briefly presented in the seminar, followed by comments from Assistant Professor Klastrup from the IT University of Copenhagen and Professor Lindley University of Gotland followed by a lively general discussion, chaired by Professor Frans Mäyrä, University of Tampere. The seminar was concluded by final discussion moderated by Klastrup, Lindley and Mäyrä. Also, the future of role-playing research was discussed and some possible action points were identified.

Role-playing is an artistic form of expression that has – in its contemporary form – risen during the last 30 years. Year one of role-playing has been placed in many ways, but most often to the publication of the first edition of Dungeons & Dragons: Rules for Fantastic Medieval Wargames Campaigns Playable with Paper and Pencil and Miniature Figures by Gary Gygax and Dave Arneson in 1974. Certainly this game that shifted the typical focus of war gaming from an army to an individual, has very little to do with role-playing as it is understood now, but it provided one starting point for these contemporary ways of interactive and creative story production. After a while of fighting with these individual heroes, the players began to create increasingly elaborated backgrounds and personalities for them, and the game referees began producing more and more sophisticated scenarios and long-term campaigns where these fictional people acted.

Earlier academic approaches on role-playing have been scarce, and been published in variety of forums that often are hard to access, thus sharing the information in academic context has been inadequate. The seminar on Playing Roles was therefore designed to facilitate information sharing between researchers and designers who are interested in studying role-playing, and innovating beyond the current state of the art.

The seminar was deemed as a great success by the participants, and the key players agreed to build new initiatives on the top of the connections that were now created in this first seminar of this growing field.

The main results from the seminar on Playing Roles have been summed up as:

- The exchange of information between groups: What type of research in this area that is being conducted in the Nordic countries and also in other regions of the world was established and then disseminated via papers presented at the seminar.
- Networks and contacts have been created both within the Nordic countries and beyond (the most far-away contributions into the seminar were coming from Singapore, Turkey and Australia)
- Special interest group for role-playing have been founded under Digital Games Research Association DiGRA.
- A process to establish the first Journal of Role-Playing Studies have been started with the goal to disseminate the information better both within the research community, and to the wider audience.

The organisers and participants concluded at the end of the seminar, that role-play is extremely complex and central concept, which takes different forms in e.g. table-top role-playing games of different varieties, in live-action role-play (larp), and in online and computer role-playing games. Role-play can be conceptualised as a universal feature of human social life and human psychology, yet it is very hard to agree even on the definition of the phenomenon: does role-play involve creation of alternative persona, or is it just acting some side of one's everyday self? Can role-play transform one's personality, or even society? No final conclusions were drawn, but a common framework of terminology and theories was established in the seminar, which is extremely valuable for future research and design of RPG style games.

Mobile and Pervasive Gaming

The reason why computer developers from areas like the Nordic region are able to compete on a global scale is due to local and government investment in IT related programs, which stimulates the development migration from traditional bigger development countries. This is also the reason why Nordic Playground invited the Swedish IT Policy Strategy Group to co-host the workshop on the Future of Mobile Gaming, which was the single biggest event hosted in the name of Nordic Playground. In order for mobile gaming to reach its full potential, there must be an understanding of this potential as well as an interest to fund research and development of the area. Today the Nordic region has a high penetration of mobile phones as well as a good infrastructure to support the next generation of games. However, the same infrastructure needs to be filled with good content and mobile games can provide just that.

Future of Mobile Gaming

The Future of Mobile Gaming Workshop wanted to target and bring together; SME's that might be looking for new business areas and have developed new technologies, the (mobile) game industry (companies and independent game designers), game research groups, online game communities, the core group of Nordic Playground and others interested in the area of mobile games, pervasive mobile games, and pervasive games in general.

The workshop had two goals:

- Mixing people from different disciplines and getting them to work together in a playful, unconstrained but yet meaningful way.
- Work around questions concerning mobile games and pervasive games and through that get a better perspective of the possibilities and limitations of this area.

100 people from level 1 and 2 in computer game development, mobile game development, game research, game communities, education, government and culture was invited to participate in Stockholm. The chosen location set the limited number to participants to 70, and 55 participants signed up for the workshop.

When planning for the workshop the Interactive Institute wanted the participants to work around pre-set questions, but from the advice of our experienced moderator for the workshop, the participants worked in accordance to the method Open Space, which let them, set their own agenda of interest. In hind-sight, the questions the Interactive Institute wanted to raise were addressed by the participants themselves. This is an overview of topics that was *suggested* for discussion, which can be compared with what the participants actually discussed:

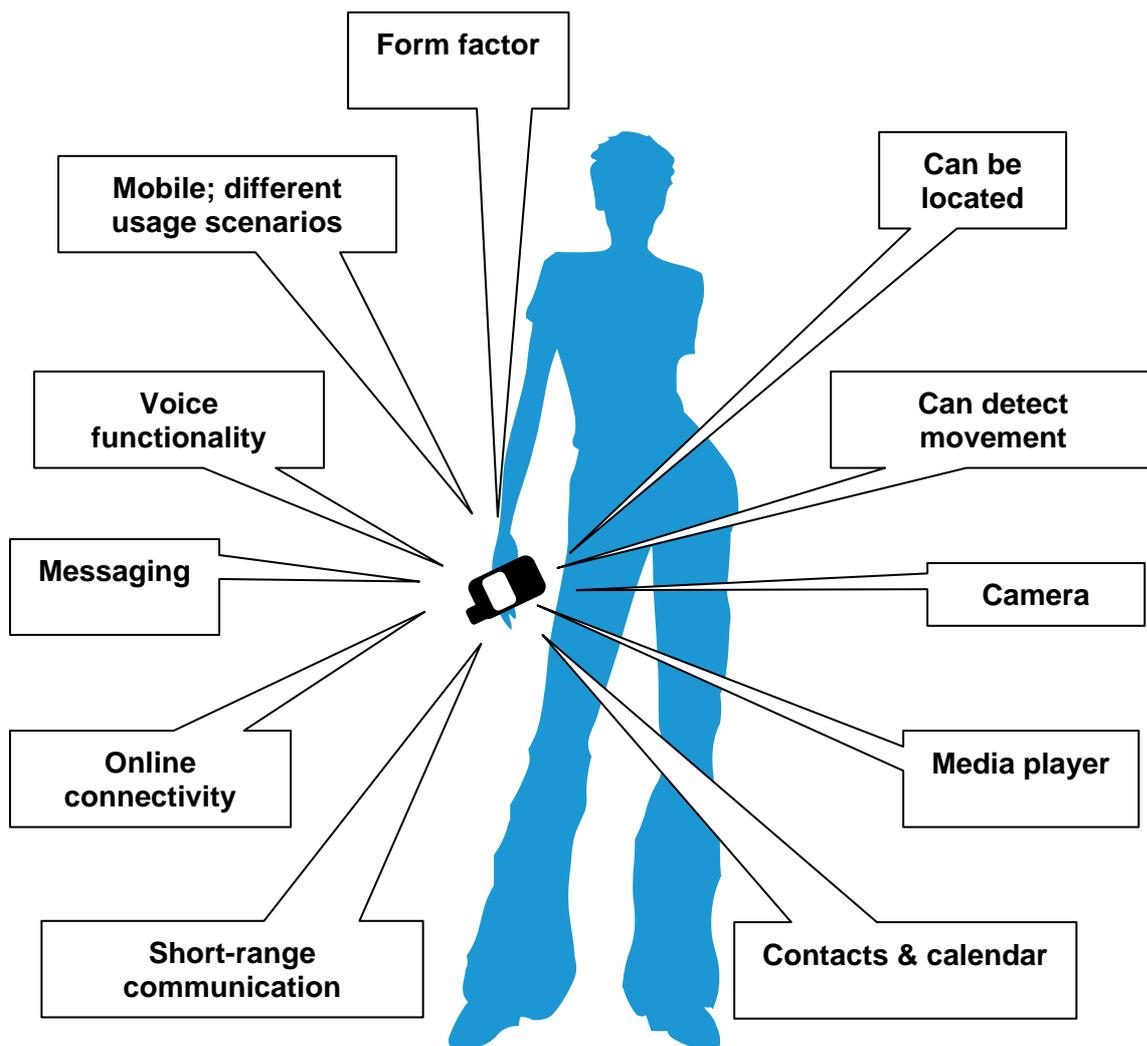
- What are the biggest obstacles to overcome in making pervasive or mobile gaming a reality? (Different perspectives from different disciplines)
- Why hasn't the industry invested money in building new platforms?
- How can SME's with novel technologies get involved in this area?
- What can be learnt from current game research?
- What does the market look like today?
- What is the design potentials, the things not already considered?

- How can game communities like blip.se (Sweden’s biggest game community) take part of mobile game research and mobile game development?

Setting the framework – Four key speakers share their visions

The Future of Mobile Gaming Workshop was opened by project leader Maria Åresund and Torbjörn Skarin of the Swedish IT policy Strategy Group. After the opening speeches, four specially invited speakers were given time to inspire the participants on key issues regarding mobile gaming: Jussi Holopainen from Nokia Research, Mark Ollila of Telcogames, Tommy Palm from Jadestone and Tom Söderlund of Blaze (former Synergenix).

The first speech was held by Tommy, Jussi and Tom. They represented as well as presented the mobile game industry from three different angles. Tom presentation held a publisher perspective, working as head of games publishing at Blaze. Tommy’s focus as an innovative game designer at Jadestone was that of the developer. Representing present and future possibilities concerning mobile gaming, Jussi Holopainen, head of the Game Design Group at Nokia Research Centre and member of the Integrated project on Pervasive Gaming (IPerG) joined the two latter. Together they shared their experiences and expectations of the mobile gaming industry, in the form of a time journey ranging from the eighties to the future.



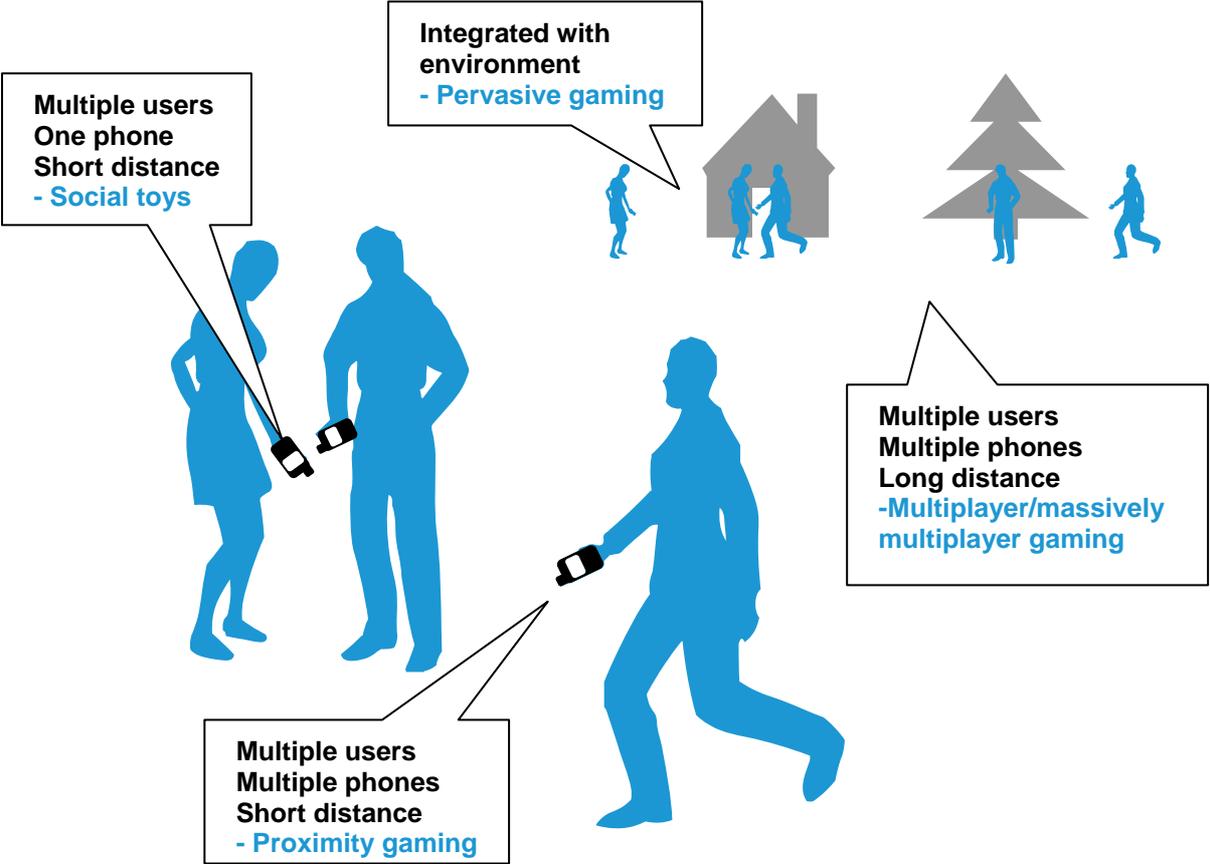
Functionality offered by a mobile phone.

Picture by Tommy Palm, Tom Söderlund and Jussi Holopainen, taken from the Future of Mobile Gaming workshop.

When focusing on today, the audience was given a reality check on the present market of mobile phones and what they actually are used for. Many things, but not really that much for gaming, concluded Tommy Palm. This however, the three speakers was sure would change in the future.

When shifting focus to the future, the speakers predicted that the mobile games market would exceed the PC/Console games market, at least in the amount of players. The speakers also had great expectancy in simplified digital distribution which could get the producers closer to the end consumers, granting the studios greater revenue share and bigger income. Also as the mobile technology will get more advanced the games can evolve along with the hardware, therefore making more immersive and intense games. As for game design concepts the multiplayer gaming option was mentioned as an expected growth sector, such as local short distance multiplayer games, proximity gaming and online massive multiplayer gaming. Pervasive gaming using mobile phones, which is games which expands socially, temporally and spatially and blend virtual elements with real world elements, were also mentioned as a possible development of mobile gaming.

The future was summarized with these four optimistic and, from the speakers' perspectives, realistic headlines: *New technologies, digital distribution, accessible games and casual social games.*



Picture by Tommy Palm, Tom Söderlund and Jussi Holopainen, taken from the Future of Mobile Gaming workshop.

Mark Ollila went on to talk about the complexity of the mobile games industries typical business model. Showing a diagram of value chains and typical actors in the process of getting an idea to a developed game and finally to the consumer. Even though the numbers of ways to get the game on the market were many, the revenue share were typically low for a developer. Even so Mark emphasized that the business was growing and therefore pointed out many reasons why the mobile games business was interesting and potentially beneficial. The video game market is around 20 Billion USD. The mobile game market hit 1 billion USD at end of 2004 and was expected to hit 2 billion at the end of 2005; however this has yet to be confirmed. Also the volume of mobile handsets suitable for gaming shipping each year is over 500 million.

Once more showing a diagram of a typical revenue share model, the developer normally receives 25% of the end user price. Operator/Channel takes around 40-60% of end user price. Aggregator/Distributor typically takes 25% of end user price. However, as a developer there is a problem with long delays before actually getting paid.

Mark went on to talk about different marketing channels for mobile content. Sometimes mobile games are advertised through web pages, with questionable groups being behind the website. These sites often contain downloadable adult material side by side with the mobile games which clearly indicates that the intellectual property rights of the downloadable games are probably not own by the owners of the sight. These websites has done damage to the serious websites with downloadable games where the developer and publisher of the game are credited for their work. Still, it's hard to know what you're actually paying for, since the description of the games is often very short, containing only one or two pictures. A consequence of this is that good mobile games can be overlooked, since consumer chooses brand names and game titles that they are familiar with, often old console or arcade games from the 1980's. Interesting enough one of the most successful mobile games "Driver 3" was co-marketed with an Xbox-title, showing that money invested in advertising is paying off also for mobile games. TV-commercials for mobile games and content are getting more common and expressive.

Finally the participants of the workshop were shown an impressive demo of a 3D application which was real time rendered on a "near generation" mobile phone. Mark talked some more on the subject of hardware 3D chips in mobiles and the possibilities that lay ahead, before moving on to summarize his speech. Mobile gaming is a growing market and established publishers such as EA Games are entering the market. It is still a challenge to survive for the small developers but the future is bright for hard core mobile gaming since hardware accelerated mobile graphics will hit the market in 2006.

Open Space – a method to make your voice heard!

Martin Börjesson – a creative and dynamic analyst with a background in philosophy and IT and the workshop moderator, initiated the workshop part by introducing the participants to the Open Space method. This method is a way to enable all kinds of people, in any kind of organization, to create inspired meetings and events through managing their own agenda of parallel working sessions around a central theme of strategic importance.

Martin explained the process and aided the participants in creating the agenda. Discussions were held in designated areas and participants were free to move between their discussions of interest. The person who initiated a certain topic for discussion was automatically responsible

to record the conversation in form of notes. Those notes act as the foundation for this section of the report.

The idea generating phase was initiated by allowing every possible subject of interest to be raised and noted for further discussion. Filling up many large sheets of paper the participants had no problems finding interesting problems, possibilities and solutions to discuss. After lunch the participants' chose among the different topics and scheduled the ones of interest for the remaining of the day which where:

- Lack of standardization of mobile platforms
- How can the distinct features of mobile games be utilized for educational games?
- Can mobile games evolve from activities to social economic spaces?
- Pervasive social engagement gaming
- Mobile phones vs. handheld consoles such as PSP and Nintendo DS
- Are traditional computer games what we should be putting onto mobile devices?
- Issues on IP - Intellectual property
- Alternative interaction for mobile phones
- Should the mobile games industry be regarded as a new sector?

Pinpointing problems, possibilities and solutions

Gradually with the influence from the moderator, the workshop space was transformed from a large area of subjects to more defined areas, trying to pinpoint target questions related to cross-disciplinary work. First the participants where asked to identify different ways for society, academia, industry, art and culture to work together, with the goal of strengthening the Nordic mobile game market.

How to collaborate

When given the task to pinpoint how industry and academia can collaborate, the participants had many thoughts, but few concrete suggestions. An insight was that one of the greatest problems with collaboration is that there really is no physical space for dialogue about it. There's no current physical or online meeting place where the two parts can meet and discuss forms of cooperation. Also the language isn't always shared between industry and academia, and therefore a problem of misconception and general communication can occur. This all boils down to the fact that industry and academia has different approaches to mobile games, mainly because of different needs and ways to implement their work.

One solution to overcome these problems could be to, in the words of the participants "balance the goals". If one was to find common denominators which applied to both industries, academia and even art and culture, the collaboration between these actors could be executed more swiftly. When trying to list these different goals, the participants mentioned the following ones:

- Industry goals
 - Finance product
 - PR
 - Accuracy
- Academic goals
 - Results
 - PR (Local and global)
 - Visibility

- Answering questions
- Personal goals
 - (In)famous
 - Make a living
 - Freedom of expression
 - Financial
 - Learn
 - Fun
 - Make a difference, influence others
- Art and Culture
 - Freedom of expression
 - Questioning and testing
 - Avoiding structures
 - Redefining

Although, some participants also pointed out that there could be problems with trying to balance the goals. The theory to support this was that perhaps imbalance drives creativity and therefore pushes the development further, rather than constraining it.

Challenges and prejudice

Moving on, workshop leader Martin proposed that the participants discussed the actual challenges and prejudices which could prevent effective collaboration between industry and academia. These are some of the subjects that were stated in the following discussion.

- *Culture and values – “They don’t understand us”*
- *Balancing different goals – (Industry vs. Research vs. Society vs. Art and Culture)*
- *Idea theft*
- *They join, then they don’t give a **** - (what happens when a partner doesn’t deliver?)*

What can we achieve if we succeed?

Shifting focus to the bright side, the participants was asked to set aside the challenges, prejudice and problems and discuss what actually could be achieved if collaboration between industry, academia and culture succeeded. The participants concluded that we in the Nordic countries have the means to establish a market for high quality mobile games, but that we also have to educate the market as well as the game industry to what the interesting features of mobile gaming could be. Jussi Holopainen of Nokia Research stated that he wanted games to be part of everyone’s life. Other participants recognized the Nordic countries possibility to become a leading area for mobile phone games, not all games, but the ones that actually uses all the advantages of the mobile phone in itself, like gyros, gps, camera functionality et c, using them as elements in the game. Pervasive games could also play a part in strengthening the region, since ground breaking gaming projects like IPerG (Integrated Project on Pervasive Gaming) is already running and has helped put the Nordic region on the map. Also, the IPerG project will, when ending in 2008, present business models as well as new types of game experiences which can be utilized by game developers to set the Nordic arena.

Other major insights from the workshop can be summarized as:

- There is a need for a physical or online meeting place between sectors
- There is a need for a better analysis of the problems concerning collaboration issues.

- Misconception in general communication, due to the fact that the same terminology means different things in diverse sectors can lead to good ideas being dismissed too early.
- The gaming industry is still an immature working place from some aspects which could certainly gain from the exchange of knowledge from research, government and other related industries, such as film
- The Nordic region can become a leading area for mobile games that utilises the mobile phones affordances like gyros, gps, and camera as part of the actual game.
- There exists no established framework for mobile (or pervasive) games today as it does in the well-established computer game industry with its own quality measures and industry fairs.
- A national or possible Nordic research school could be beneficial for game research, game industry and Nordic hardware companies involved with sensor technology.

Discussion

Out of the Nordic Playground project several different fields can be discussed. The first field relates to the organisational development within the project and the cross-disciplinary interaction. The second discusses the reasons for forming a female computer developer and research network on a Nordic and international level. The third field relates to the work done within the project and possible new viewpoints that has emerged through the work.

Cross-disciplinary work

As the Nordic Playground project has progressed, a number of difficult issues and problems have been identified. The identified key problem within the Nordic Playground project was different aspects of handling resources - human, material, immaterial and economical, within the project. Most of the other identified issues and problems can be structured within the framework of the key problem. Three perspectives on this problem will be analysed; collaboration, competence and organisation.

Collaboration and sharing the same view

During the project it became evident that there is a lack of common perspectives and understanding between the different sectors within the working area. Dialog takes place mostly within organisations and sectors and discussions between sectors are more infrequent. When they appear they are mostly based within a formal context. As with all inter-disciplinary and cross-sector work, actors are sprung from different traditions. They often have different educational background and the aims and goals of their organisations differ. There is a weak external pressure and strong internal forces within each organisation that sometimes hinder further development and change. When cross-disciplinary and cross sector work takes place, such as in Nordic Playground, the time for decision making is extended and the need for grounding issues within the project takes a lot longer time than in the participants mother organisations. This makes cross-disciplinary work more troublesome for many organisations, which in turn leads to a loss of interest in the project.

For successful collaboration within a cross-disciplinary project it is important to identify the underlying structures, backgrounds, aims and goals of the participating organisations and sectors. Using a participatory approach where all actors are able to show their interests and viewpoints during the start up phase of a project, many of the problems discussed above can be handled. Deployment of both formal and informal communications strategies are also of importance, as this tends to provide a more stable common ground for all project participants. This internal communications strategy should be deployed throughout the project so that future cross-disciplinary work can build upon previous vested time, interest and knowledge.

Competence

A lack of knowledge within each participating organisation has been identified within the project in some areas. The need for knowledge in cross-disciplinary development, project work and management has been identified as being some of these. Most of the formal educational backgrounds within the sectors do not bring up the above mentioned competences, especially not how they co-exist in an inter-cultural setting. For a project such as Nordic Playground, and for further projects of similar nature, the investment in such knowledge on a broad base within the project will greatly enhance the amount of results produced.

Organisation

Most of the participating organisations of Nordic Playground did not have a structure that was well suited for cross-disciplinary work. The structure within an organisation usually centres around the goals of the organisation and is not initially intended for cross-disciplinary work, even though the organisation has a deep interest in doing just that. Different national structures, such as financial structures, legal structures and organisational culture can hinder the growth of international inter-disciplinary work. When organisations have trouble with cross-disciplinary work it often results in short-term projects and experiments of collaboration that do not lead to long-term development.

The Nordic Playground project was initially founded out of two different project ideas that were merged into one project. Two of the organisations who took an active part in the development of the initial ideas did not follow through to the project when it started for different reasons, and all remaining organisations except for two have exchanged the key persons taking part of Nordic Playground. The consequences of this were that no, or at least few, organisation felt ownership of the project to the extent that they would vest extra energy into it. A further complication was the appointed project managing organisation leaving the project, causing a change in project management in the middle of the project, which to some extent re-shaped the project. These organisational issues posed a negative stress on the project which in turn most likely resulted in less end results, although many have been achieved despite these facts.

Using the Situational Leadership model by Blanchard and Hersey as provided in the “Process and Implementation” chapter, it is, when looking into the mirror, quite clear that the above mentioned issues caused problems in the management. The model states that the leadership style of the management must correspond to the development level of the project participants, and that the management are those who should adapt in order for a successful project. By adopting the right style to suit the project participants development level, work gets done, relationships are built up, and most importantly, the follower's development level will rise to everyone's benefit. However in the case of Nordic Playground, where the dynamic group process to a large extent has shifted between the two quadrants of “Supporting” and “Coaching”, adapting the leadership is extra hard since everyone participating is an expert within their field, but have little knowledge about another field. The fact that the organisations shifted contact persons during the project also meant that the development level of the group fluctuated when some members had clear ideas of their role in the group (project) and others needed to form their group identity.

In order for management to be successful in the development of a project, it is vital that the management has time and knowledge of the project participants, their aims, goals and means. Handling organisational issues and building a framework for knowledge acquisition in the area of cross-disciplinary work would greatly enhance future possibilities of collaboration. From the start up phase throughout a project it is fruitful to have a base of previous knowledge to build upon. Some of this knowledge can be found within the Nordic Playground project, and some of this knowledge has to be provided for in the start up phase of the specific project. One method of sharing and building knowledge over time is to use accessible project management and collaborative networking tools where this knowledge can be shared over time and projects within the working area. There is a wide flora of such tools available, some of which was used within the Nordic Playground project. The knowledge of how to use and sustain usage over time with such tools needs to improve greatly within the sectors connected to the Creative Industries in order for the tools to be of value. One possible reason for the lack

of knowledge in this area can be the nature of the emerging market and the youth of both companies working in the area of interactive entertainment, as well as the newly formed research institutions. Although knowledge is lacking, the tools exist within the working area, and could become a backbone for further inter-disciplinary work.

A Nordic network for female computer developers and researchers

During the workshop at Furillen, a manifesto for the new female network was made which clearly describes, discusses and motivates the new networks intention. The manifesto written by Kunnskapsparken Hedmark and SuperMarit discusses why it is important to include women in the game industry and also describes the current work situation facing women in the game industry and in high level education. The text has been left unedited, since it is well-written and although part of the Nordic Playground project, more importantly part of the mentioned manifesto.

“The computer games industry has quickly developed into one of the most important providers of youth-culture of this century, affecting many people’s lives and spare-time to a great extent. At the same time, girls and women are still excluded from the game industry, as well as most of the male dominated techno-culture at large. Women are gamers, but they are not part of the producer-side and therefore the market and the products remain male dominated.

We want to challenge the male domination of one of the world’s largest industries. We want women to take their part as producers in this industry. We strongly believe that this would also advance the game industry, on to a more mature industry more in line with the diversity of the film industry and music industry. We want women to invent and develop games which are not entirely focused on violence, sexism and stereotype messages. Computer games have a lot to offer to all ages, and we want to see a broader range of intelligent, diversified games on the market; for both sexes and all ages. Not least, we are convinced that a more diversified and mature game market will strengthen the competitiveness of the European game industry, which is lagging behind the American and Asian markets.

We see a strong need to transform the game industry and, not least, the vocational training programmes which are providing professionals for this industry. Existing research and studies of the industry underline this need for change. Like the game industry, the vocational game training programmes are male dominated. Male students and male lecturers maintain a homogenous game culture with too much focus on violent and sexist content, which is likely to be uncomfortable for women. We know from surveys that some vocational game training institutes are even cautious about advertising for female students, because they are afraid of loosing their male students. A recent survey of vocational game education programmes and game industry in Sweden carried out by the Gender Institute Gotland/project SuperMarit, shows that only 7% of all the vocational game students are women. On a global scale, only 16% of the work forces in the international game industry are women.

In this proposal we suggest that in order to change the male domination of game industry we have to begin with the vocational game training programmes which provide professionals. We have to identify measures to get more female students and lecturers into these programmes. Once we educate more women game developers and producers, the industry will be up for a change. In other media sectors, for example the film industry, measures have already been taken to get more women into the industry. The Swedish film industry, for example, has focussed on promoting women as filmmakers. In Europe today, we find a lot

more female filmmakers than women game developers, in spite of the fact that the international game industry is now larger than the film industry. We want to achieve this by establishing a strong trans-national network of women (and interested men) in the game industry and vocational game programmes.”

Identified areas of development

The single largest event held in the project name was the Future of Mobile Gaming workshop in Stockholm. It is also the one event that has been method driven to generate content and answers to questions of importance from both a Nordic network perspective and from the perspective of mobile and pervasive games genre. The nature of the questions discussed is both generic to the whole game industry as well as specific for the genre of mobile and pervasive games. Therefore, the discussions from the workshop as recorded by the participants will therefore be addressed in this section.

It should also be noted that a *pervasive game* could be much more than the discussed *pervasive mobile phone game*, which is also different from today's current *mobile games*. So what does it take to create a pervasive game? The answer ranges from advanced sensing technology engineering and software computing to good game design and an understanding of what it will be like to live with these games as part of our everyday life. The Nordic countries have a world leading position through Nokia and Ericsson when it comes to the infrastructure needed to make pervasive games a reality, namely *wireless communication, mobile devices and sensing technology* that is able to pick up changes in the players environment. However, the new types of mobile games that were discussed during the Future of Mobile gaming workshop *are* pervasive in their nature. This is due to the participants discussing innovative gaming solutions which builds upon the technologies mentioned. For the participants it was likely not thought of as a “pervasive mobile phone game”, during their discussion, since terminology (as stated before) are delicate issues in cross-disciplinary work. As a result, the discussion below don't uses a clear distinction of terminology, but it should be noted by the reader that when addressing questions like current revenue chains, the term mobile phone game refers to the present, while new interaction and gaming solutions refers to the future pervasive mobile phone game.

When summing up the workshop on the Future of Mobile Gaming, one question was fairly obvious for the participants: how should future collaboration look like? Both academia and industry recognized the need for meetings and neutral spaces to discuss projects and approach each other with business proposals. But everyone was quite clear on the fact that there were problems with academia and industry working together in today's climate. In Sweden and possibly also in the other Nordic countries, there is very little funding for projects that combine product development within industry with research at universities and institutes. Most funding resources are dedicated for one or the other, or at the very least assume that the industry funds its own development. This severely hampers the potential for innovation to disseminate from research to industry in novel industrial sectors, which typically are dominated by small companies and this includes the Nordic game industry.

Many attendants shared the hope that just simple dialogue could be the solution to this problem, or as one person said “*Talk is cheap, so let's use it more often*”. But the dialogue needs to cover all involved and they have to use the same language. This implicates that although “talk is cheap”, organized meetings where people not only get the opportunity to *present* their ideas but *receive the help to get the message across* to another sector is vital. Although different sectors connected to the entertainment industry see an advantage in

sharing and receiving information and news, communication failure results in dismissal of innovative ideas since different sectors use different terminology. Therefore, pinpointing or even creating new models for communication between sectors is required to facilitate meeting formats as well as aiding researchers getting across to game developers and vice versa.

One important insight was that a mobile phone is much more (and also different) than a PC or Game console. So should the mobile game industry be regarded as a new sector? Well, the mobile games sector is different from traditional PC games, film industry and TV with its own revenue models and value chains. Right now, a lot of the market consists of the traditional computer games being ported to mobile platforms. There are common issues that industry and academia have a joint interest in lobbying wise, such as consumer patterns, payment and billing, device fragmentation and an open discussion of the quality of concepts.

The conclusion was that perhaps the mobile games industry should be regarded as a new sector, as would pervasive games. The technique is still a problem, due to the large number of mobile phones and standards, even so the technology could be used for innovative gaming solutions. Right now there are few titles that utilize the bonus features of mobile platforms and future games will hopefully benefit from using the mobile phones built-in features such as gyros, vibrators, and cameras. In one session at the Future of Mobile Gaming workshop titled "*Pervasive social engagement gaming*", the discussion focused on social interaction and the possibilities around this if mobile games could include such features as gyros, sensors and simple controls. The idea to interact with the world around the gamer is already in use, but as technology develops, so does the potential.

Another problem that faces the mobile game developer everyday is the many types of mobiles, user interfaces, protocols and APIs. For developers it's a hassle to develop a game since it has to be ported to a wide range of devices at a huge cost. The amount of questions raised during the session dedicated to standardisation at the Future of Mobile Gaming proves in itself that standardisation is a hot topic and something that needs to be dealt with.

So why bother to develop or invest in mobile games if the lack of standardization is such a big issue? Well, if compared to other handheld devices the start-up-kit for PSP and DS is hard to reach for new developers and very expensive. Mobile phones on the other hand offer a platform which is possible to develop on for anyone with an Internet connection. The platforms are not necessarily competitors though as they promote different styles of games and game styles. Mobile phone games are optimised for short playtimes, whilst PSP and DS are suitable for longer sessions. Games for mobile phones do not generate reviews and brand names. PSP and DS games automatically generate more buzz when they are released.

Another hot topic for discussion was: *Are traditional computer games what we should be putting onto mobile devices?* Should we be utilizing the tradition of innovation in Scandinavia to create more original content? This is not a problem for the research industry, but it presents fiscal problems for the games developer. The participants felt that if they were to successfully create content that exploits the advantages of the mobile phone, the developers need to gain access to the phone's hardware functionality. Communication between research and mobile hardware industry needs to support content design that is based more on the cultural tradition we have. Some of the participants asked themselves: "Why are we still emulating USA? We have two of the world's most successful hardware companies, Ericsson and Nokia, but we are still producing weak copies of American content when it comes to game content."

Currently, there is no “killer app”, that is “the game that makes the difference” and really takes mobile games or pervasive games beyond what it is today. Even so, there might be good mobile games out there, but they are hard to find for the typical consumer that preferably chooses branded games. A different explanation for why the consumer prefers branded games is also that the downloadable games are poorly described and marketed – you don’t know what you are paying for, hence you choose a familiar brand.

Another important insight is that too little is known about the “typical game consumer”. There are few studies that show who today’s typical mobile gamer and computer gamer are, and both research and industry has a strong interest in receiving this information! The future pervasive gamer or mobile gamer is also depending on this statistics if they are to be provided with good and immersive game play. The reason why so little is known is that statistical data is hard to get, since downloading a mobile game is an anonymous act and that there exists no sale statistics from the stores when it comes to demographics for example.

Conclusion

The Nordic Playground project has been successful on many levels. The overall goal was to promote contacts and create networks within the Nordic game industry and research community. Over the course of the project representatives of these types of organisations have met several times, meetings that were facilitated by or would not have taken place had it not been for the Nordic Playground project. On the same note, many related projects were initiated, carried out and/or more successful than what would otherwise have been the case on account of Nordic Playground.

Collaboration issues

There is a need for a better analysis of the problems concerning collaboration issues. Different goals which drive industry, academia, art and culture have been defined as listed in page 28 and 29, but maybe balancing goals isn't the problem, but definition of clear roles might be? Different actors have different goals which during collaboration need to be clearly defined to set a platform for internal understanding. The different time frames are also an issue. In academia you publish or perish, in the game industry you keep a lot of information within the company until the game is relished.

Deployment of both formal and informal communications strategies are also of importance, as this tends to provide a more stable common ground for all project participants. This internal communications strategy should be deployed throughout the project so that future cross-disciplinary work can build upon previous vested time, interest and knowledge.

Networking

Networking in itself is a long term investment whose *fully* pay-off can not be summed up and analyzed within a year. However, Nordic Playground would argue for more investment in cross-disciplinary events within interactive entertainment, since our experience is that personal connections made are more valuable and easier to maintain when established under such format.

The channel created by the project through its member organisations gives the opportunity to get in connection with people in other countries than our own. The value of this channel is its possibility to enable discussions on various subjects, both between the members of Nordic Playground and through them and their contacts, the rest of the Nordic countries.

The strength of Nordic Playground is its core members both representing different fields within the area of interactive entertainment and at the same time being in the lead in those areas of expertise within their different countries. This means we have created a platform and through that can provide a neutral meeting ground on a higher level than most networks and organisations. Networking is a long term investment which needs to be maintained. The platform created under Nordic Playground should be established as a long-term innovation network project with a designated co-ordinator to secure that the network created is not lost.

Communication failure

Misconception in general communication, due to the fact that the same terminology means different things in diverse sectors can lead to good ideas being dismissed too early. On the subject of prejudice, the game industry consider Academia not having to deal with the realistic limitations of the market, and this is often regarded as a problem during collaboration by companies who need to deliver a finished product to get paid. Academia on the other hand

can see the industry as conservative and reluctant to innovate and experiment. Therefore the establishment of a common language and models for communication between sectors are vital.

In order for management to be successful in the development of projects, it is vital that the management has time and knowledge of the project participants' backgrounds, their aims, goals and means. Handling organisational issues and building a framework for knowledge acquisition in this area would greatly enhance future possibilities of collaboration. One method of sharing and building knowledge over time is to use accessible project management and collaborative networking tools where this knowledge can be shared over time and projects within the working area. The knowledge of how to use and sustain usage over time with such tools needs to improve greatly within the sectors in order for the tools to be of value.

The pro's and con's of an immature industry

The gaming industry is still an immature working place from some aspects which could certainly gain from the exchange of knowledge from research, government and other related industries, such as film. Idea theft in itself wasn't viewed as a core problem, since an experienced game designer knows his or her game design benefits from feedback from others. The "killer app." is yet to be made for mobile games. There is still a bit of a gold rush/anarchy feeling within the mobile game industry which is not only a negative thing, but also opens up the possibility to set the borders and standards for something innovative and new.

The inclusion of female computer developers and researchers is important

The computer games industry has quickly developed into one of the most important providers of youth-culture of this century, affecting many people's lives and spare-time to a great extent. At the same time, girls and women are still excluded from the game industry, as well as most of the male dominated techno-culture at large. Women are gamers, but they are not part of the producer-side and therefore the market and the products remain male dominated. A heterogeneous work environment spurs creativity and the outcome of a wider selection of games.

New types of games

The Nordic region has the opportunity to become a leading area for mobile games that utilises the mobile phones affordances like gyros, gps, and camera as part of the actual game. Game design concepts using the multiplayer gaming option is an expected growth sector, such as local short distance multiplayer games, proximity gaming and online massive multiplayer gaming. Pervasive gaming are also an area with high development potential as is Serious gaming, or educational games as it is also called.

Nordic Playground

As stated before, networking is a long term investment which needs to be maintained over a longer period of time in order for different sectors to find their role within this new way of working. The platform created under Nordic Playground should be established as a long-term innovation network project with a designated co-ordinator to secure that the network created is not lost. There's no current physical or online meeting place where academia and industry can meet and discuss forms of cooperation, although Nordic Playground has the potential to become just that.

Establish the first mobile game and pervasive game association

There exists no established framework for mobile (or pervasive) games today as it does in the well-established computer game industry with its own quality measures and industry fairs. Building on the experiences from the IPerG and MoGame projects, the Nordic countries are well positioned for fostering such forums, e.g. by supporting a set of events including art fairs, trade shows, and scientific conferences focussed on mobile and pervasive games. This will put the Nordic countries on the map as the centre for mobile gaming and also pave the arena for mobile games companies in the area. There are common issues that industry and academia have a joint interest in pushing and lobbying for, making public, and sharing solutions for, namely:

- Device fragmentation
- Payment and billing
- Consumer patterns – who is the consumer?
- Quality concept – joint, open quality discussion that is available as consumer information – affect how games are marketed and packaged

Establish a Nordic research school

A Nordic research school could be a tool which would benefit not just game research in itself but game industry and hardware companies.

Based on the above, Nordic Playground concludes that project was a success by all and any means and does hope for continued initiatives on the same note.

Future Recommendations

As concluding remarks, Nordic Playground has several ideas for further recommendations within the industry of interactive entertainment.

The mobile games industry should be regarded as a new sector!

Mobile games are in many ways different from both PC and console games, and the development is funded with different business models. Even so a lot of the content made for mobiles are just copies of the content for PC or console games market. There is a need for support for the developers that actually utilises the unique features of the mobile phone. Also the developers need to be able to access the functionality from the hardware companies. A gaming industry study could be done, with the purpose of defining the innovative developer's needs and vice versa the hardware companies demands and interests.

Next generation of mobile games

Growth within the mobile games sector as predicted by game developers and researchers are game design concepts dealing with local short distance multiplayer games, proximity gaming and online massive multiplayer gaming. Also pervasive games, where the player experience expands beyond the mobile phone, blending virtual objects with real world objects is the next logical step as hardware platform keep on developing. The Nordic Playground speakers' perspectives from the workshop of Future Mobile Gaming listed the future realistic headlines: New technologies, digital distribution, accessible games and casual social games. As an example: In 2006 accelerated mobile graphics hardware will hit the market, which opens the door for new innovative game design.

Pervasive games will be the next market of growth after mobile games

The Nordic region has the opportunity to become a leading area for mobile games that utilises the mobile phones affordances like gyros, gps, and camera as part of the actual game. This new use of technology falls within the definition of *pervasive games*, which are games that uses physical objects with augmented computing functionality or other location-based activities as part of the game. The first commercial step is using the mobile phone as a tool for pervasive games, but they need not to be mobile phones. Building on the experiences from the IPerG and MoGame projects, the Nordic countries are well positioned for fostering this development and able to *create a new market* building on the Nordic strengths of *wireless communication, mobile devices and sensing technology*. The Nordic countries have a world leading position through Nokia and Ericsson when it comes to the infrastructure needed to make pervasive games a reality. Besides the existing infrastructure, research is needed to find a balance between the pervasive game conducted on the streets and the non-players who inhabit them.

Identify measures to change the vocational game training programmes

The inclusion of women and girls in the game industry is extremely important for the development of the Nordic and international gaming industry. Today, the vocational game training programmes that provide professionals to the game industry is highly male dominated and it is important to identify measures that insure that female students and lecturers get included in these programmes. The women in the industry should be encouraged to take their part as producers in the game industry. This would also advance the game industry, on to a more mature industry more in line with the diversity of the film industry and music industry.

Standardization

The mobile games market, and in the long run also the pervasive games market, is currently hampered by a lack of standards, both concerning phones as devices and payment models. This problem is already recognised by the telecom industry and many standards initiatives are in place. However, these are driven entirely from an industrial perspective and the consumer perspective is not well represented. There for, there is a need to push the business-consumer perspective in these standards efforts, by supporting both application developers and consumer organisations in participating in such initiatives.

Governments support a key issue for success!

In 2005, James Purnell, Minister for Creative Industries and Tourism in the UK launched a Creative Economy Programme since he is convinced that the interactive entertainment industry is vital to the UK economy and want to ensure that the sector plays a key role in advising Government. The programme consists of seven different groups: “Education and Skills”, “Competition and Intellectual Property”, “Technology”, “Access to Finance and Business Support”, “Diversity”, “Infrastructure” and finally “Evidence and Analysis”. Nordic Playground would like to see a similar approach from the Nordic Governments, possibly on a joint Nordic level rather than only a National level, since one Nordic country in itself can be interesting for the global game industry, but Nordic countries together can offer a wider and more credible selection of game related services and innovation potential.

Establish the first Mobile Game and Pervasive Game Association

If there ever is going to be a strong collaboration between academia and the mobile games industry in the Nordic region there is great need of a coordination force. That coordination force could come from an association devoted to market the Nordic region and Nordic mobile content. Another purpose could be to do demographic research on consumers and organise mobile gaming events and research conferences.

New business and funding models

Current revenue chains and business models hamper creativity, since the developer usually receives 25% of the end user prize. As a developer there is also a problem with long delays before actually getting paid. A potential approach is to adopt the EU funding model in cross-disciplinary projects, where both research and industry partners are part financed, for Nordic projects. But to really attract small companies, such projects should be shorter term (e.g. max two years) and employ a quicker application process than EU projects. Also, educating venture capitalists on how the interactive entertainment sector works is a good idea.

A formal system for knowledge acquisition

Cross-disciplinary work is hard, but by creating a system for knowledge acquisition that works well for industry, academia, art and culture involved in Creative Industries it can become easier. By developing a tool based on the needs of the Creative Industries, and by investing time and money to educate different sectors in the use of this tool, project participants will earn a greater understanding of the project itself as a useful resource and more willingly disseminate knowledge cross-sector. A side effect of this is an increased knowledge among project participants of what the responsibilities and expectations is for the members, and the know-how to fully use a network.

In cross-disciplinary work it is also vital that the project manager swiftly gain knowledge about conflict management and a cultural understanding of the members participating in the project. One way to do this is to exchange experiences with other project managers dealing

with cross-disciplinary network project, either through face-to-face meetings or in an online environment. There is also a need to gain an overview of the structural obstacles within the Nordic region in order for collaboration to run smoothly. One reason for this is the different countries laws and regulation for, as an example, project revision, knowledge which is hard to require before an actual problematic situation occur. One way to disseminate this knowledge is to create an information database, containing information about Creative Industry related questions and answers who clearly shows the structural similarities and differences between the Nordic countries. This will also help shaping a cross-disciplinary project or other network project in a fashion suitable for the laws of each country.

Establish a Nordic research school

A cross-national Nordic research school could be a tool which would benefit not just game research in itself but game industry and hardware companies. The Nordic research school should be closely connected to both Nordic hardware companies like Ericsson, Nokia as well as high quality game companies. Top University's today within game research and interactive entertainment includes the IT University of Copenhagen, University of Gothenburg and the IT University of Gothenburg, the Royal Institute of Technology in Stockholm, the University College of Gotland and the University of Tampere. Beside those mentioned exists many good University colleges with master programmes within interactive entertainment in the Nordic countries which lay a foundation for recruitment of future game researchers. The research school should besides doing research on directly game related topics also support research in entrepreneurship connected to games, consumer behaviour, communication models to facilitate cross-disciplinary work and interaction design.

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Appendix 1

2004

- November - Nordic Game Potential. The first meeting to form a triple helix network. The conference is also co-organised by Nordic Playground through Spelplan.

2005

- May - “The Nordic Games Network Rooftop event” at E3 in Los Angeles: Arranged by Neogames (Fi), Danish Producers Association (Dk) and Spelplan (Se), (Nokia and Gamez Magazine as sponsors)
- September – April 2006 - Playing Serious seminars - A Lecture series on perspectives of learning games. Arranged by: Learning Lab Denmark, IT-University Copenhagen, and Malmö University. Speakers from MIT (Eric Klopfer) and Food Force.
- November - Nordic Game Potential. First meeting with new core members.

2006

- February - Workshop for Nordic female computer developers and researchers (Kunnskapsparken Hedmark in collaboration with SuperMarit) at Furillen Conference Centre, Gotland, Sweden
- March – Nordic Dinner at Game Developers Conference, San José: Spelplan and Interactive Institute.
- March - Seminar on Playing Roles, Tampere: Hypermedia Lab, University of Tampere in collaboration with IPerG.
- April - Workshop on Innovation in computer games – New way of learning, Reykjavik, 18 April: Imprá, LLD, IO Interactive
- April - Workshop on Future of Mobile Gaming, Stockholm: Interactive Institute and IT Policy Strategy Group (Torbjörn Skarin). Speakers from Blaze (Tom Söderlund), Jadestone (Tommy Palm), Nokia Research Centre (Jussi Holopainen) and Mark Ollila (Telcogames). Moderator was Martin Börjesson, Futuramb AB and event manager as well as communication manager was Magnus Alm, Muskedunder Interactive.
- May - E3, Nordic Pavilion (Nordic Game), Los Angeles: Neogames (Fi), Danish Producers Association (Dk) and Spelplan (Se)
- August - Nordic Game at Games Convention, Leipzig: Neogames (Fi), Danish Producers Association (Dk) and Spelplan (Se) (in planning)



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Nordic Innovation Centre

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The Nordic Innovation Centre initiates and finances activities that enhance innovation collaboration and develop and maintain a smoothly functioning market in the Nordic region.

The Centre works primarily with small and medium-sized companies (SMEs) in the Nordic countries. Other important partners are those most closely involved with innovation and market surveillance, such as industrial organisations and interest groups, research institutions and public authorities.

The Nordic Innovation Centre is an institution under the Nordic Council of Ministers. Its secretariat is in Oslo.

For more information: www.nordicinnovation.net