



Integrated Project on Pervasive Gaming

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1 EXECUTIVE SUMMARY

The purpose of this document is to provide a survey on the current business models in the gaming industry, and other industries related to pervasive gaming such as mobile and online services.

Business models are analysed from four different perspectives:

- Market structure.
- Revenue models.
- Production process.
- Marketing.

Among the existing business models, this document describes the market structures of studio-publisher and self-publishing. Moreover, it looks at professional gaming (e-sports) and arcade halls/game cafés.

Finally, this document discusses potential future business models for pervasive gaming, with the conclusion that the concept of pervasive games is too broad to be captured by a single business model.

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3 INTRODUCTION

Pervasive gaming could mean a cultural revolution. New devices and sensor technology, combined with innovative game design and social interaction models could change the very definition of what a computer game can be. This could well be the foundation of a new industry. But industries need business models.

The purpose of this document is to provide a survey on the current business models in the gaming industry, and other industries related to pervasive gaming such as mobile and online services. Additionally, this document will discuss potential future business models for pervasive gaming. This survey will be updated in phase two and three to reflect experiences from showcase experiments as well as recent trends in the gaming industry and related research.

3.1 Intended audience

The intended audience for this document are:

- Researchers interested in the business dynamics of pervasive gaming.
- People interested in pursuing a business in pervasive gaming.
- Governmental institutions that want to facilitate game development.

Please note that the presentation is directed towards a scientific audience.

3.2 Methodology

The structure of this report is:

1. First, an analysis of existing business models (see section 4. Overview of existing business models). This includes business models relevant to pervasive gaming, including business models outside the gaming field.
2. Then, a discussion regarding potential business models for pervasive gaming (see section 5. Discussion of potential business models for pervasive gaming). Here the report will focus on the models that are perceived as truly viable.

The term "business model" is rather vague, and this report analyses the business structure from four different perspectives:

- Market structure. Which organisations are present and what roles to they take.
- Revenue models. How are revenues generated, what does the transactions look like.
- Production process. How the product is created, which components constitute the product. How the service is operated.
- Marketing. How the product is promoted.

This document does not specifically cover legal or cultural issues related to pervasive gaming, leaving these areas open for further research.

3.3 The history of the gaming industry

Before jumping into the survey of gaming business models, here is a short summary of the history of the gaming industry.

Games have always been part of the social interaction of human beings, however the first commercially exploited games were board games. It is said that board games have been around for more than 4,000 years. The earliest board game discovered, are more than 3,500 years old. Board games have traditionally been sold in bookstores and are still distributed by publishers.

3.3.1 Computer Games

In 1968, Ralph Baer filed a patent for the first home videogame system. This device would hook up to your home television and allow you to interact with the TV screen. The original games this device played were games like “Pong” or “catch”. Baer could not find any buyers for this system until 1971. Since then computer games have evolved tremendously and turned out to become one of the most popular hobbies of the late 19th and early 20th century.

3.3.2 Arcade Games

In 1971, an Engineer named Nolan Bushnell was trying to build a business on creating stand-alone coin-operated gaming devices and founded a company called Atari. The first project of the fledgling company was a simple computer-tennis game with the familiar two-paddles-and-a-ball interface called Pong. Pong became a watershed for the industry. When they installed a test machine at Andy Capp's bar in Sunnyvale, California, it broke down the very first night from being stuffed beyond capacity with quarters. Bushnell was originally going to contract out construction of the machines, but it looked to be so lucrative that he rented out a skating rink to use as a makeshift factory and Atari began manufacturing the games themselves. Back in 1972 a Pong arcade machine could pull in 100 USD a week from quarters. Atari sold over 8'000 machines that first year and pulled in 700 USD profit from each machine. Today, arcade games are mainly popular in the Far East where they generate up to millions of US dollars each year.

3.3.3 Medium Storage Systems

As the computer industry advanced, technology medium storage systems were introduced and allowed game developers to offer games individually. Although the storage systems have evolved over time, storage systems like CDs or DVDs still represent the majority of the game related turnovers worldwide. The distribution of console and PC games are organized by publishing houses, who in turn works with retail chains to sell the games to consumers.

3.3.4 PC Games

Four engineers at PARC built in 1973 the first device that resembled what we now know as the personal computer. Early eighties the first commercial PC was sold by IBM and with the Internet and advanced software PC games were introduced. Since many PC games could be stored on a singular computer and it was not possible to control the distribution of software of games, licenses (a financing model known from the movie

and music industry) were introduced. Distribution models that only focussed on licence solutions have become more and more important since replication and distribution of software is simple. This dependency has brought considerable damage to the music, movie and game industry.

3.3.5 Network Games

Network gaming began to evolve as PC's improved. In the early eighties two hosts communicating through multiple routers was used for network gaming. MUD (Multi-User Dungeons) was the first proper, workable multi-user adventure game. It pioneered the idea of a computer program that accepts connections from a number of simultaneous users over a computer network, and provides them with access to a shared game session.

3.3.6 Massively Multiplayer Online Games

The first modern MMORPG was launched in 1996 and was called Meridian 59. This game featured a flat monthly subscription fee instead of the traditional per-hour plan. This new pricing model can be seen as the business motivation to shift from the hardcore gamer audience (who played online games as an alternative to network games as the internet got popular and racked up massive fees) towards a broader, massive market. Meridian 59 also arbitrarily set the benchmark at 10 USD a month, but the typical price of subscriptions have gradually been raised since then. This game and its immediate sequels were the first games that used and spread the term "massively multiplayer".

3.3.7 Family games

As computer and console gaming made way into mainstream entertainment, marketers saw the potential of transforming existing family and board games into computer-supported games, games that the entire family could play together. An excellent example of such a socially adaptable game is the Singstar. Singstar is a karaoke game, where players sing popular songs, trying to match their tone of voice with the original artist's. By adding a small additional hardware device such as a microphone in connection with a specially designed game, the Singstar team managed to create a perfect stage for family games.

3.3.8 Mobile games

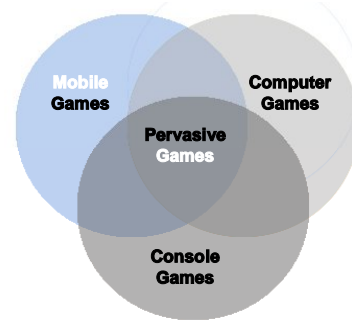
As content for mobile phones (such as ring tones, logos and background pictures) became more and more popular during the late nineties, micro payment systems have been introduced that allow billing per download. This is the currently dominating payment model for mobile games. The initiative in developing mobile games came largely from mobile application developers, the first mobile games were predominantly remakes of the arcade games from the early 80's. However, as mobile phones improve, more and more game play has been introduced into the games. We now see a shift to the publisher model traditionally used by the game industry. However, billing and content distribution is still conducted by mobile application developers and operators for mobile games.

4 OVERVIEW OF EXISTING BUSINESS MODELS

Here follows an overview of the predominant business models in the gaming industry, analysed from four different perspectives: 1) market structure, 2) revenue models, 3) production process, and 4) marketing.

4.1 Market structure

Traditionally, the key businesses within the gaming industry have been publishing, development, distribution, and hardware manufacturers. Publishers often own all or part of a development or distribution company and the hardware manufacturers all act as publishers for their own 1st-party products. However, with mobile gaming emerging, the initiative has mainly been with application development houses that do not specifically focus on games. Mobile gaming business cases have been influenced by content delivery and payment solutions for



e.g. ring tones or logos. Since pervasive games feature elements of all gaming market segments it is necessary to take a look at the past, to see how the business models have developed over time. Also, the wireless and multiplayer game developments have shifted the traditional gaming market structure into a more complex picture.

To develop an understanding for future business models for pervasive games, we can use the experiences from the traditional game industry as well as the mobile game industry, extract relevant features and make reasonable projections of the current state.

Games began as custom hard-coded, closed-end experiences for a single end-user machines and were distributed via existing entertainment channels such as Books or Music. Publishers, developers and retailers captured the majority of the money spent for a boxed product.

4.1.1 Studio-Publisher model

4.1.1.1 Definition

A team of independent talents, game developer (programmers, designers, artists, sound engineers) creates a game, under contract from a publisher. In this model the game developer acts on a subcontract and does not assume the financial risk of game development. The publisher, who finances the game assumes the risk and takes the major share of revenue from sales.

Figure 1 shows the market structure for the studio publisher model. Game development is primarily financed by game publishers. They distinguish between three different types of game licenses: original game titles that are a new invention and therefore available licence free, licensed titles such as follow-up developments of existing games, and games conversions that are based on a comic or a blockbuster and where license fees are required by movie or print publishers.

Retail mechanisms in the studio-publisher model are traditional product distribution models similar to video or CD distribution. The publisher executes sales and marketing. A slight variant is available for product bundles where consoles or PC's are sold with

boxed games in a product bundle. The traditional distribution models are utilized however sales and marketing for bundles will be carried out via the hardware distribution model.

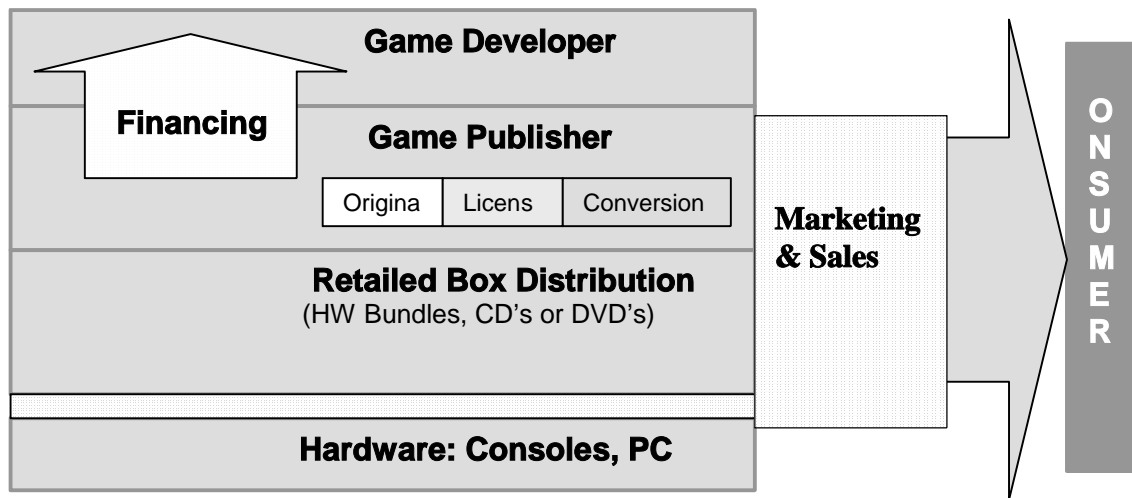


Figure 1. The Studio-Publisher model.

4.1.1.2 Example 1: Console Games

Electronic Arts (EA) is the world's leading independent developer and publisher of interactive entertainment software for personal computers and advanced entertainment systems such as the PlayStation2 Computer Entertainment System, the PlayStation, Xbox video game console from Microsoft, the Nintendo Game Cube and the Game Boy Advance. Since its inception, EA has garnered more than 700 awards for outstanding software in the U.S. and Europe. EA markets its products worldwide under four brand logos and has over 33 product franchises that have reached more than a million unit sales worldwide. EA headquarters is located in Redwood City, California. EA largely contracts out development work, functioning in the same way that a Hollywood studio functions for film, or the way a record label functions for pop music. The focus is on picking up the original creative idea, and the company then supplies appropriate support, most importantly with marketing and distributing the entertainment product. Electronic Arts' has the largest sales force of any new media publisher.

4.1.2 Self-Publishing model

4.1.2.1 Definition

The publisher employs a full-time staff of programmers, designers, artists, and sound engineers to create a game. The team works at the publisher's location, as employees, making games to be sold by the publisher.

Figure 2 shows the market structure of the self-publishing model. In this model, the financial risk is carried by the developer/publisher. When a publisher creates a game using its internal staff rather than an external studio, salaries will have to be paid even if the staff is not booked on a development project. This of course forces the studio to ensure continuous game development in order to stay profitable and subsequently this model is not always suitable for ascending game developer studios.

The trend is towards less and less internal development, and more reliance on external studios (the Studio-Publisher model) to do the actual work of creating the games.

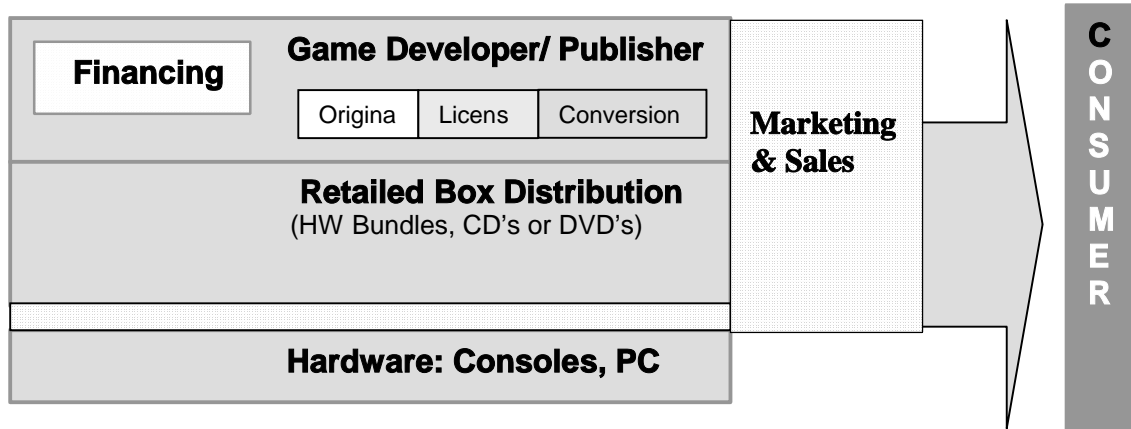


Figure 2. The Self-Publishing model.

4.1.2.2 Example 1: PC Games

LucasArts is a leading publisher and developer of interactive entertainment software for video game console systems and personal computers. Since its inception in 1982, LucasArts has continually been heralded for its focus on creating rich, immersive worlds for players to discover. Their games continually receive critical acclaim and attain commercial success, with the company’s products often earning Game of the Year honours, including multiple awards from the Academy of Interactive Arts & Sciences. Lucas Arts is known for their blockbuster Star Wars Game series.

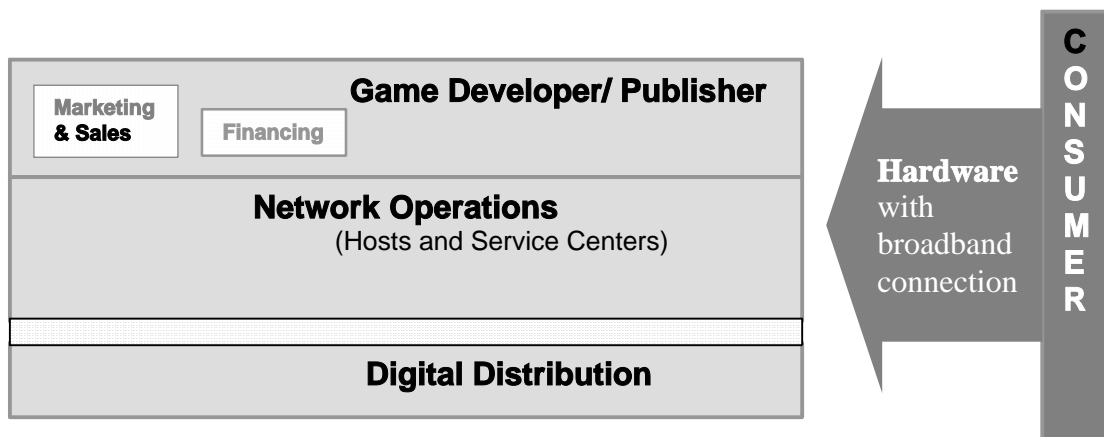
4.1.3 Online games

When affordable broadband Internet infrastructures started to surface, the value chain of PC games shifted from boxed too service oriented products. Internet downloading is developing into the dominant game distribution mechanism and multiplayer online games with subscription fees for time based online games have broadened the market structure for games.

Figure 3 describes the market structure of the online entertainment service model. While MMOGs may employ a studio or self-publishing market structure, there is a distinct difference: MMOGs require a very extensive and expensive network infrastructure and continuous service personnel.

Managing the infrastructure of MMOG’s is no easy task, especially when hundreds of thousands of players are involved. This has given rise for a new distributor role: the game service provider. Their role is to provide publishers and developers with a viable, attractive alternative to implementing the infrastructure and systems necessary to run MMOG themselves. Network operators offer risk/revenue sharing scenarios, whereby the developer/publisher pays drastically reduced upfront costs and the network operator are remunerated through a fixed percentage of revenues.

Digital distribution is marketed through several channels but is usually organized by the game developer/publisher.



4.1.3.1 Example 2: Massively Multiplayer Online Games

Sony Online Entertainment Inc. (SOE), a subsidiary of Sony Pictures Digital Inc., is a recognized worldwide leader in massively multiplayer online games, with a subscriber base of over 750,000 active accounts around the globe. SOE creates, develops and provides compelling entertainment for the personal computer, online, game console and wireless markets. Among the MMOG titles in SOE’s portfolio are EverQuest, Star Wars Galaxies, and PlanetSide.

4.1.4 Professional gaming (e-sports)

4.1.4.1 Definition

Professional gaming, often called e-sports, is when trained players compete in multiplayer games in designated (physical or virtual) arenas. The players are grouped in teams (or “clans”) and compete in selected games such as Counter-Strike, Starcraft, FIFA Football, and Painkiller. The prize awards can be up to \$150’000 and the elite players become idols in the gamer communities. When games tournaments are played on-site, games are typically played on PC’s with a specific configuration, and players are only allowed to bring peripheral equipment such as their own keyboard, mouse, and mouse pad.

The below image shows the different parties and the money streams in the economic ecosystem of e-sports.

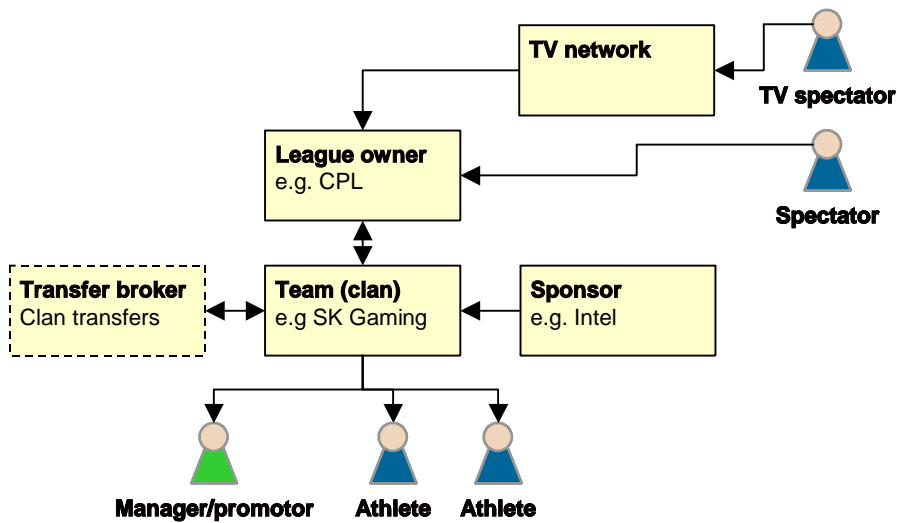


Figure 3. The economic ecosystem of e-sports.

4.1.4.2 Example: E-sports in Korea

There are several different leagues for e-sports, and the lack of one official organisation hampers the growth of the sport. The biggest leagues are *Cyberathlete Professional League* (CPL) in USA, and *World Cyber Games* (WCG) in Korea. The e-sports leagues arrange the competition events, but also manage the rights to TV broadcasts etc.

In Korea, e-sports is the second largest TV-sport (next after Tae Kwon Do). TV companies broadcast the competitions in real time, allowing the TV viewers to see the games from different camera angles. (Eriksson, 2005)

The e-sport leagues attract large technology companies as sponsors of the events. For the WCG 2003 event, the major sponsors were Samsung, Intel, Microsoft, and nVidia. The sponsors get to place their products in the competitions, such as equipping the official competition computers with nVidia graphics adapters (WorldCyberGames.com).

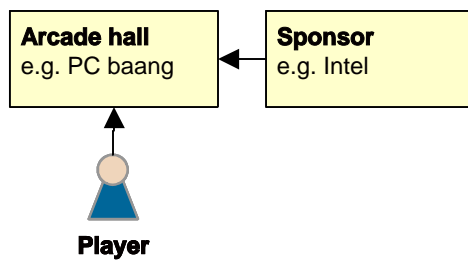
The major teams (clans) are doing business of their own. Several clans, including the big SK Gaming (www.sk-gaming.com) run their own online communities, where they charge consumers for downloadable content, merchandise, and personal training sessions.

Recently, transfer brokers have emerged to facilitate the transfer of players between teams.

4.1.5 Arcade halls/game cafés

4.1.5.1 Definition

An arcade hall is a venue specifically designed for playing games. Players pay for the time they spend playing games, and the halls are also a social spot for young gamer culture.



4.1.5.2 Example: Korean “PC baangs”

Throughout Korea, “PC baangs” (“PC rooms”) can be found. Part Internet café, part video game parlour, the PC baangs are packed with late-model computers hooked up to the Internet over broadband network connections. Players pay about \$1 an hour to play games such as Rainbow 6, Starcraft or Quake. Others cruise South Korea's growing mass of broadband Internet content such as music and streaming video. (AsiaWeek)

There are roughly 30'000 PC baangs in Korea, which between them have some 1.2 million PC terminals connected to high-speed Internet or broadband networks. In metropolitan Seoul, Pusan and other large cities where a majority of Koreans live, there is a PC baang on almost every other street or almost every other block. (Chief Executive)

Some of the bigger gaming cafés attract sponsors who want to expose their products to the visiting players. The sponsors support the café with hardware and software, and sometimes cash endorsements.

4.2 Revenue models

At the core of every business model lies the question “how to generate revenues?”. This section deals with different revenue models that is/has been observed in the gaming industry or other industries related to pervasive gaming.

The key questions are:

- How is money generated?
- How do the transactions work?
- How much money is acquired and how often?

4.2.1 Box retail

4.2.1.1 Definition

The games are sold through retailers by charging a fixed amount for a game package ‘box’ containing software. This is the currently prevailing model for selling games. Either from physical or online retailers, games are sold as software on CD-ROM or DVD-ROM for 30-50 euro.

4.2.1.2 Example: EB Games

EB Games started in 1977 as a single, electronics-focused kiosk located in a suburban Pennsylvania mall. Today, they have 2'000 stores worldwide and also sell games from their website (www.ebgames.com). (EBHoldings.com)

On the website, new PC games are sold for \$49.95, while discount games go for as low as \$1.99. A credit card is used as payment method, and the payment is done before the game is shipped to the consumer. (EBGames.com)

4.2.2 Hardware bundles

4.2.2.1 Definition

The games are sold as a package together with appropriate hardware. This has been a classic method to introduce new technology, and the games industry introduces new technology on a yearly basis.

4.2.2.2 Example 1: Sony EyeToy

The EyeToy accessory for Sony PlayStation 2 was introduced in 2003. Essentially a webcam device linked with the PlayStation 2 console, the EyeToy was a new kind of input device. Instead of moving your thumbs to control a game, the EyeToy allowed the player to interact by body movement and gestures.

Since there was no software supporting the EyeToy available at launch and third-party developers were cautious to develop software for a completely new kind of hardware, Sony decided to bundle the EyeToy with 12 minigames to show off the device's capabilities. The bundle was named "EyeToy: Play", and was later followed up with more bundles: "EyeToy: Groove" and "EyeToy: Play 2". The bundles were sold through retail outlets for a price just slightly over the price of a stand-alone game.

4.2.3 Micro payments

4.2.3.1 Definition

By "micro payments" we mean quick and simple payments of small amounts. The prevailing micro payment systems are based on proprietary credit card systems or by using the user's mobile phone as payment device.

4.2.3.2 Example 1: IVR

The first micro payment solutions for mobile content were introduced in the late nineties when payment methods for small downloads such as ring tones became necessary. These downloads were offered by Service Providers for Mobile Content and the popularity of content such as ring tones, and mobile logos increased. IVR (Interactive Voice Recognition) operators would offer revenue share models. Users would be charged the premium rates on their home phone bill.

4.2.3.3 Example 2: Premium SMS

The IVR solutions were rather difficult. Mobile phone operators were also quick to recognise that micropayments could be a very lucrative business model for them. The mobile phone operators introduced premium rate SMS systems, where user could send legally binding orders via SMS, and receive the content as SMS attachment. The users will see the premium rate SMS on their mobile phone bill. Operator-supported SMS micro payment solutions are now a commonly used form for micro payment.

As the mobile content became more complex new forms for content delivery became needed. Polyphonic ring tones, Java Applications and Games are too heavy to send as SMS attachments. The mobile service providers split the ring tones etc. into 2-3 SMS

that would be distributed in a certain sequence but failure rates were very high with this form of content delivery. Today most content is instead downloaded from secure WAP pages, but paid for using the same SMS micro-payment solutions.

4.2.4 Time-limited subscription

4.2.4.1 Definition

The player pays a fee to play a game for a specified amount of time. The payment is usually done before playing (pre-paid), but can also be done afterwards (post-paid).

4.2.4.2 Example 1: Mobile content subscription

The demand for mobile content has exploded over the last couple of years and content providers have started to create bundle subscriptions. Users can for example subscribe to three ring tones and three Java games a month. Content can be ordered directly from a web page and downloaded at any time from a secured WAP application.

4.2.4.3 Example 2: Massively multiplayer online games (MMOG's)

All the major massively multiplayer online role-playing games – EverQuest, Star Wars Galaxies, World of Warcraft, Lineage, Ultima Online – use a monthly subscription fee.

The subscription fee varies from 10 USD to 15 USD depending on the game and the sign-up period. Payment is done using credit card (or a micropayment system such as PayPal) and the subscription fee is drawn automatically each month from the player's account.

4.2.5 Virtual currency

4.2.5.1 Definition

A virtual economy system where players use in-game money which can be converted to a real-world currency.

4.2.5.2 Example: Project Entropia

“Project Entropia” is an MMORPG created by Swedish company MindArk and launched in 2002. The game is free of charge, i.e. the software is distributed over the Internet and there are no subscription fees. Instead, Project Entropia has an economy system with a virtual currency exchange that allows players to exchange real life money into PED (Project Entropia Dollars) and then back into a real currency again (MMORPG.com, 2005).

The exchange rate is 1 USD = 10 PED and *everything* comes with a price tag: clothes, weapons, houses, and levelling the character. The total economy turnover during January-August 2004 was a staggering 40'700'000 USD (Project-Entropia.com).

Players take on virtual careers as hunters, miners, or traders, and the most successful players can actually sustain a (real-world) living from playing the game. MindArk's revenues come from the fact that all items in the game disintegrate over time; continuous repairs needs to be applied to halt this decay, and repairs means money.

Recently, the game got a lot of attention when an in-game auction was closed. A virtual island within Project Entropia, complete with a castle, forests with wildlife and mines

(and taxation rights to both), was sold to 22-year old Australian Zachurm "Deathifier" Emegen for 265'000 PED (26'500 USD). (GameSpot.com)

4.2.6 Gamer gear

4.2.6.1 Definition

As the player's in-game performance become increasingly important, the significance of her equipment increases. Selling equipment or accessories to be used when playing games can thus be a profitable business.

4.2.6.2 Example: Soft Trading mouse pads

Danish company Soft Trading started in 2001 and launched a product called the Icemat: a mouse pad made of glass, aimed specifically at the professional gamer audience. The product was a big success and a year later, Soft Trading launched another mouse pad: the Steelpad. (SoftTrading.info, 2005)

The mouse pads are expensive: the flagship Steelpad 4S is sold for 39.95 euro. The "Pro Package", consisting of a Steelpad S&S and a Microsoft IntelliMouse Explorer 3.0 (note: the *previous* model, thus harder to find) is sold for 79.95 euro.

4.2.7 Training

4.2.7.1 Definition

As in-game skills become more important, the business of training game skills emerges.

4.2.7.2 Example: Training by professional cyberathlete

A gamer with professional ambitions cannot rely solely on her skills and her gamer gear – being trained by a more experienced player can make a big difference. This business potential has of course been recognised by the bigger e-sports clans, who offer training in different games (e.g. Counter-Strike, Starcraft). The training takes place online in the game with one instructor and one pupil at time. The training session includes different in-game tactics. Payment is done using credit card or PayPal and is paid in advance. (SK-Gaming.com)

4.2.8 Advergaming

4.2.8.1 Definition

The definition of advergaming is that it is a game which is wholly or partially designed and produced with the intent of assisting in the carrying and dissemination of a message. The message can be commercial, as well as ideological. This definition places games in the toolbox of the communications strategist together with all the other medias, like TV, radio, print, PR etc, etc. This definition to a certain extent covers also "serious gaming". Advergaming is mentioned here because of the business opportunities it offers a nascent European pervasive game industry. There are many art house movie companies producing feature films that do advertising films as "bread and butter" between the artistic projects.

4.2.8.2 Commercial prospects of adver gaming

For most European nations many of the most essential markets are mature markets, on top of that we also live in an information-saturated society. So it is not surprising that “classic” “normal” advertising as we know it is losing its ability to do its job. Any person in a brand managerial position must find new ways of communication with the target audience.

This is not the place to go into the larger debate on the death of advertising. (Ries, & Ries 2002 and Zyman & Brott 2003). However, we will note that TV-advertising long seen as the jewel in the crown of advertising strategy is losing about 12% of its audience a year, at the same time that gaming is measurably being done during prime time TV hours (Brightman 2004) both in Europe (IC games 2004) and in the U.S.A (Rose 2004). So any communication strategist should take a look at using games as a media. Do games need communication strategist and brand managers? The following quote (Sawyer 2004) is a potential answer.

“Let's face it, the games business isn't all fun and games, because sometimes the business of making games isn't as much fun as we'd wish. It's tough out there - business is hard, and publishers don't always want to be your friend. Wouldn't it be great if there were some other markets to prospect, and you could diversify, ignoring the general whims of publishers, mobile operators, portals, and the general gaming public at-large? But diversifying in the games business isn't very easy - we can't suddenly shift gears and start a restaurant or consumer goods company. However, you can diversify by selling to others who have a need for game developers, besides the usual suspects. (Sawyer 2004)”

Chen & Ringels (2001) presents a taxonomy (Chen & Ringel 2001) of adver gaming based on how the brand is integrated into the game environment; if it is done in a associative, demonstrative or illustrative way. Chen & Ringels method is useful but limited in the types of adver games it can be applied upon. An alternative taxonomy Svahn (2004) uses a characterisation based on dominance in the relationship between the game and the brand. The Svahn-taxonomy consists of the following types.

- **Type one;** product placements and plot placements in prime games. This is sometimes called in-game advertising. Examples are Burger King in Need for Speed 2, or McDonalds in Sims. In type one the brands present in the game are interchangeable and actually the game would probably be produced with or without any brand placements, so the game is dominant over the brand
- **Type two;** are simple online-games on portals drawing crowds to the banner advertising. The brands or the buyers of the brand advertisement are still interchangeable but without them, there would be no portal. Examples are MSN-games, Yahoo-games etc.
- **Type three:** are prime brand online games, made for one brand only. These games have high production values and are usually available only from the brands website. Type Three games typically constitute the focal point of an integrated marketing campaign.
- **Type four;** games entirely customized, when everything, even the type of the game is chosen to communicate the buyers brand message. This type includes serious games, but the games need not be serious. Examples include Food Force produced for the UN, America's Army, or Jeep Geocaching.

There has been a number of examples where pervasive games, in a wider perspective, has been used as a tool to in order create a communicative effect, this can be called pervasive advergaming. These examples are mentioned here in order to inspire. They have in common that they are all examples of games commissioned and paid for by a third party, in order to bring forth a brand message.

The story of Conqwest

ConQwest was a team-based treasure hunt in urban mostly outdoor environments. It was produced by the promotional agency AMP. Five teams race through a city searching for “treasure” in the form of printed Semacodes that can be captured by a phonecam, and uploaded. The reason for the name ConQwest is that the paying commissioning party was the phone company Qwest. By producing Conqwest and putting it as the centrepiece of an integrated campaign Qwest would be seen as not only talking about innovation for the youth market, but actually doing innovation for the youth market, thereby communicating new brand values in a much more efficient way than a traditional campaign could ever have done. (Slavin 2005)

The story of Virtual Galileo

Virtual Galileo was a mixed reality game in the genre of the political thriller. It is no longer up and running. The Interactive Institute in Sweden produced it, on commission from the Stockholm Science and Art fair of 2002. Virtual Galileo was a mixed reality/live role-playing game that actually had a purpose above the mere ambition to entertain. Slightly inspired by Bertold Brechts’ play about Galileo it had the ambition to stimulate thoughts and discussion about morals and ethics in the role of science in society. It was a political thriller with a message. The Science and Art fair paid for its production to disseminate the fairs’ message and the whole design was designed to convey that message. (Benyamine 2005)

The story of I Love Bees

I love bees was an Alternate Reality Game. It was created in order to market the game Halo 2 for the Xbox and was played free of charge for the player. It began in the summer of 2004, when people who had been previously identified as social centre points of information got jars of honey in the mail. These jars contained plastic letters that could be arranged to spell out “I-l-o-v-e-b-e-e-s”. Later a website appeared, www.ilovebees.com appeared and that address could for a split second be seen in the ends of commercials for Xbox. After a while this grew to include payphones in public locations and much more. A couple of hundred people could “win” the opportunity to get a “pre-play” of Halo2. Altogether this generated a lot viral marketing buzz, in a way that a more ordinary campaign probably could not have done in such a very hard to impress target group. Naturally I love bees at all times, denied it was game. (Szulborski 2005)

The story of “The Beast”

In 2001 when the movie “A.I.” rolled its credits there was a small weird reference to a person who was credited “sentient machine therapist”. This riled some minds that started to find websites and after a while a both groundbreaking and enormous viral marketing campaign was rolling shaped as cross between and a pervasive game and a conspiracy theory. Naturally, “The Beast” denied it was game at all times.

The movie “A.I.” was not a success but of course there could have more factors in the commercial equation. Clear is that “The Beast” was a pervasive game that might have been played by more people than any other pervasive game. (McGonagal 2005 & Szulborski 2005)

Here we are entering a border zone not only for what can be defined as a pervasive advergence but also for what can be defined as a pervasive game at all. Worth mentioning is the campaign for the movie the “Blair Witch Project” set of a trend of websites from fake organisations relating to movie creating the “alternate-reality marketing”, which is now almost standard

practice (see http://www.indiescene.net/archives/cat_film_marketing.html) However that is a possible short term route forward for pervasive game producers.

4.2.8.3 From the buyers' perspective

For the buyer of communication looking for a venue, the main strength of advergame is that the advergame media can infuse a product with transformative/emotional values¹ (Rossiter & Percy 1998) from the lifestyles in the game, while *at the same time* put across instructive and tutoring messages about the products features. The way human beings process information can be divided into central and peripheral processing, (Aronson 2004), in short this means either logically or emotionally, the brain or the heart. Advertising usually aims for peripheral processing, but of course sometimes there has been successful campaigns aimed at central information processing. Games as a media, has both immersion and interactivity, meaning that a user can actually interact with a product, or act upon a message. This means that instructions aimed at central processing can be carried across, embedded in a highly designed transformative environment that in itself, carries across a transformative message. This means that the traditionally seen trade-off between carrying across transformational and instructive messages, (Rossiter & Percy 1998, & Larry Percy 2003) may be overcome in the games media. A simple example of this was the community www.heinzbiteme.com (no longer up and running) It was a community aimed at infusing teen and pre-teen coolness into a group of microwave-heatable fast food products. The aesthetic design of the games was aimed at being graffiti-cool/streetwise while at the same time winning conditions for some of the games was correctly matching time and strength for food products and microwave ovens, or your snack got burned/still frozen.

A problem for the brand buyer is that if for some reason the game does not work well, on the users', PC, PS2, Xbox, cell phone etc, then the user could come to blame the brand and not the game producer. (Kleeberger 2002) Another problem that applies specifically to type one is the long lead times of game production. This puts restrictions on how the placements can be integrated into larger campaigns. The latter problem may soon (or already) be solved with the technology of updating games with current campaigns through insertion-agencies (<http://www.anarchy-online.com/content/news/articles/8526L>) standing as a broker between the communications buyer and the game company. This turns i.e. the PlayStation 2 into a media strategy platform similar to that of networked TV. To succeed, advergame must be able to reach a large number of the target audience at moments in time when they are receptive for the message, and also do this at a reasonable cost. It is not clear how and if this can be achieved, but based on generic communication science and case studies, we believe it is reasonable to surmise that one of the most crucial factors is to employ some kind of viral marketing, i.e. user-to-user marketing. (Carey 1988, Spero, & Stone 2004 & Chielens 2003)

¹ "Transformative" advertising, = advertising entirely based on carrying across emotions and lifestyle values while to a very small extent carrying across anything about the products actual properties, i.e. Coca Cola.

4.2.9 Spectator fees

4.2.9.1 Definition

Certain game events can attract an audience, allowing companies to charge a fee from spectators who are viewing players participating in a game.

4.2.9.2 Example: E-sports

The larger e-sport leagues, Cyberathlete Professional League (CPL) in USA, and World Cyber Games (WCG) in Korea, stage large-scale events in big stadiums.

The WCG 2004 event took place in Bill Graham Civic Auditorium in San Francisco. The attendees were estimated to 150'000 people, and the entrance fee was 15 USD. (WorldCyberGames.com)

4.3 Production process

This section lists a number of processes for the production of game, game technology or similar content, that have been employed in the gaming industry or other industries related to pervasive gaming.

4.3.1 Develop-and-release

4.3.1.1 Definition

The software is designed, developed, tested, and released. After the release date, no changes can be done to the application.

4.3.1.2 Example: Traditional game development

In the traditional game industry, the “Gold Master date” is a holy date. That is when the final game software is sent to the media factory, in the form of CD-ROM discs with the game. After that point, there is no turning back: what is written to the disc remains on the disc. A bug in the code or an imbalance in the core gameplay would be fatal.

The ‘Gold Master’ approach affects the entire development process of games. Design, development, and testing are executed with the strategy to minimise the risk of an error ending up in the final software. When the Gold Master date closes in, this will sometimes lead to radical cuts in game features and content. A feature that could be a main selling point for the game is removed because it has not been thoroughly tested.

4.3.2 Iterative development

4.3.2.1 Definition

Software is continuously being revised and updated, even after the official release date. The software on the player’s computer is updated automatically.

4.3.2.2 Example: running the massively multiplayer online game (MMOG) “Star Wars Galaxies”

Star Wars Galaxies (SWG) is a massively multiplayer online role-playing game run by Sony Online Entertainment. The game is sold as boxed software on CD-ROM through regular retail channels.

Once installed, the entire game can be updated over the Internet. When the player's SWG client is started, it looks for updates from the server. If new software is available, the software is downloaded and installed – the client is “patched”.

SWG is continuously being updated and its development process is quite transparent, visible to visitors of the game's website (www.starwarsgalaxies.com). Software revisions pass four stages: Concept, Development, Test, and Live. Every Friday, new game features are published. Some of them only affect the SWG server, whereas others require patching of the SWG client.

4.3.3 User-generated games

4.3.3.1 Definition

By user-generated games, we mean games created by non-professional game developers, on an existing architecture, which simplifies the development process.

4.3.3.2 Example: Game modifications (mods)

“Mods” (abbreviation for “game modifications”) is the art of changing the art and/or gameplay of an existing game through reprogramming. Sometimes the output is just a minor tweak; sometimes it is a completely new game (such mods are called “total conversions”, or TC's).

The mod community emerged with the release of id Software's “Doom” (1993). With its open architecture for level design, Doom allowed wannabe game designers to create their own game levels and artwork. It would take a few more years though, before the game industry really started paying attention to the mod scene. The “Counter-Strike” mod (1999) based on Valve's “Half-Life” (1998) became the most popular online multiplayer game on PC. Eventually, Valve recruited all of the Counter-Strike developers and made Counter-Strike part of the Half-Life product family.

4.3.4 Player-generated content

4.3.4.1 Definition

Player-generated content is created from within a game, virtual property that is added to the game world.

4.3.4.2 Example: Buildings in MMOG's

In Star Wars Galaxies (SWG), players can create their own buildings as they reach a certain level. To build a house, the player character needs three things: 1) enough skills to be able to build houses, 2) a “blueprint” of the specific house type, and 3) the components or material necessary to construct the house. With all these in place, the player can create one or several buildings, for her own character or for other players. Houses can be decorated with furniture and other items that the player has gathered. The owner of the house must pay rent on a regular basis; otherwise the building will disintegrate over time.

4.4 Marketing

The ways in which games are sold, promoted and distributed are innumerable and since the chapters 4 to 4.3.4 already has listed a large number of them, this chapter will only

discuss some of the remaining issues worth noting. As has been said in this report it is common in the games industry to produce games that are not directly sold to the players playing it, one entity along those lines is advergaming. Another similar marketing phenomenon is co-branding and bundling of games together with other products.

4.4.1 Advertising

4.4.1.1 Definition

Advertising and promotion of games is not in any way different from advertising and promotion of any product. It must be based on sound consumer research and a sound research into the emotional drivers and conscious and subconscious needs of the target groups. That knowledge must be transformed into high-class art direction, and placed into an intelligent media placement strategy, preferably developed before the art directors start working. This process will not be any different for pervasive games. If anything it will only be more important to do it “*by the book*” when it comes to a new and relatively unknown concept such as pervasive gaming. Do not presume that things can be done as they always have been.

4.4.1.2 Example: the promotion of PlayStation 2 and Xbox

Worth noting when considering (future) advertising of pervasive games is the case study of advertising for the current generation of consoles. That was a technological shift, a small one compared to pervasive games, but still a games-related technological shift so it is worth trying to draw some conclusions from that.

The PlayStation 2 advertising was criticised for being too abstract. (Rukin 2002) Specifically the 'Third Place' concept was criticised, but still Sony did well with it, probably because the public at large already knew what a PlayStation was. “PlayStation 2” was self-explanatory without instructional (?) advertising.

The Xbox 'Play More' adverts were also derided as abstract, with the added problem of no one knowing what an “Xbox” was. The name itself is hardly self-explanatory. And none of the adverts ever actually told you what an Xbox was. (Rukin 2002) The series was definitely transformational (Rossiter & Percy 1998) in its nature, and a transformational strategy can be both successful and necessary when it comes to entertainment products, but it presupposes an understanding of what it is that is being “transformed”/infused with emotion.

At first the PlayStation 2 was much more successful and the Xbox did get off to an unpromising start. Without Microsoft backing Xbox, it had run a large risk of failing. Is any pervasive game going to have such a backing?

4.4.2 Sponsorship

4.4.2.1 Definition

A formal definition of sponsorship is “*a negotiated partnership between a sponsor and an event, organization, or property whereby the sponsor pays their fee in cash, products, services, or a combination thereof for the rights to all commercial and marketable benefits (or assets) associated with the partnership.*”

Worldwide expenditures on sponsorship and supporting activity are estimated at 50 billion USD, and the breadth and depth of the market continues to grow. Sponsorship

Marketing has demonstrated that leading brands are benefiting from more intelligent and structured planning and research in developing, managing and evaluating sponsorship programs. A very important factor is, particularly in the gaming sector, the suitability of the sponsored event and the sponsoring company. Although it may appear desirable to sign any sponsorship deal in order to finance an event or game, it is vital to ensure a match of the target audience of the event and the target audience of the advertised product or service. While it is important to ensure a maximum benefit to the sponsoring company, a major reason is to ensure that the sponsoring will not disturb or upset the core audience; gamers in particular are very sensitive to inappropriate sponsorship.

There a number of companies that have built or changed their public brand awareness around sponsored events. A very good example is Red Bull who has selected events targeted at extreme sports and/or events that have an element of “adrenalin boosts“. This not only matched the target audience but also suited the product (it contains a large dose of caffeine). A similar approach was used by Adidas, that sponsored sport based events in city areas such as street basketball, volleyball and football tournaments (see 5.1.2).

4.4.2.2 Partnership marketing

Other than sponsorship, partnership marketing implies that a relationship exists – both parties’ interests are considered. Partnership marketing is usually organized by two equally strong partners and that have their own marketing budgets and want to target the same audience. The difference between this and co-branding is that in the case of partnership marketing, both brands are equally marketed and the intertextuality between the parties is an integral part of the communication effect.

Example: E-sports

Major technology companies such as Intel, ATI, and Microsoft endorse e-sports professionals on a regular basis. By making sure that the cyberathlete is using their gear, they ensure that thousands of fans will request the same products. When the e-sports team “SK Gaming” switched their official mouse to Microsoft’s IntelliMouse Explorer 3.0, the mice quickly became sold out.

4.4.3 Co-branding

In co-branding, one brand is marketed as the major brand. Co-branding has been successful in the credit card industry and helped MasterCard improve its position when the company teamed up with General Motors and AT&T to offer specialized cards (Voss and Wells, 1993). The movie *Golden Eye* is credited with the success of BMW’s Z3 automobile, and also with a game. (Grossman 1997) However, though the Sony Mini Disk CD player held a prominent role in the film *Last Action Hero*, sales were not improved² (Leonhardt *et al.*, 1996).

For pervasive games, co-branding with blockbuster Hollywood movies can be a medium term strategy forward. Such co-branding movie-game combinations are already very common in the games industry, and both products, or all products, would probably

² But both the movie *Last Action Hero*, and the Mini disc, were products with big strategic problems of other kinds, when doing co-branding at least one of the parties must be healthy and strong.

benefit from the intertextuality that develops when the title exists in several media. such. It is admitted that, co-branding with blockbuster movies, or making spin-offs from successful conventional game titles, may not be found stimulating for the nascent pervasive game industry's efforts to develop an identity of its own. But still such co-branding would ease the efforts of developing a mental model on the market for what pervasive games actually are, more on mental models in chapter 5.4

So how is co-branding best done? And how would it be best done for pervasive games? The old Pavlovian method of classical conditioning remains the basic foundation for co-branding. Considerable research has proven that humans respond well to Pavlovian methods. (Rescorla, 1988, and Atkinson et al.2000.) At the moment it is reasonable to hypothesize that the same rules apply when co-branding a pervasive game, as apply when co-branding other high-tech products previously unknown to the consumer. At least that will be the working hypothesis until we have evidence to the contrary. So the future pervasive-game brand manager should observe the following: (Grossman 1997)

1. **Prior brand associations may limit co-branding possibilities.** Co-branding involves tying a brand that already elicits certain associations for consumers hereby referred to as the master brand, with another in our case new and unknown pervasive game brand that will be referred to as the target brand. When attempting going to the marketplace through co-branding it is very important to identify the entire core associations evoked by the master brand. The master brand may be associated with a lot more than you ask for. *Example.* A brand for which consumers are likely to have a wide network of associations is Coca-Cola. This brand may be associated with the celebrities that have endorsed it, the characters that have been tied to it (polar bear), the Olympic games which Coke sponsors, the concept of refreshment, certain music that has been used in advertisements, the colour red and even other brands, such as Pepsi, to name just a few (Farquhar *et al.*, 1992). Because of the wide network of associations already linked to Coke, it may seem be more difficult to tie another brand to an extremely well known and established brand such as Coca-Cola. (Grossman 1997) On the other hand, a seemingly unnatural connection such as Coca Cola and high tech has at least on one occasion been very successful at least in the UK. The MyCokeMusic online music store, a rival to Apples' iTunes was for a moment the largest online music store in the UK¹, proving that unexpected combinations of high tech and strong low-tech consumer brands can be a potent mix. How about the "Sprite/Nike pervasive game marathon"?
2. **Juxtapose the familiar and the unfamiliar.** It is traditionally seen as a good to choose co-branding partners that have something in common, or has some kind of natural connection, (Grossman 1997 & Simonin & Ruth, 1995). Thereby making the consumers "leap of thought" as small as possible." However in the case of a pervasive game, it is on this moment not so easy to see what such a natural partner brand would be, this of course being dependent upon the current fluidity of pervasive games consumer mental model positioning, but nevertheless the recommendation remains true. The case of MyCokeMusic might lead to the assumption that a very "unnatural" pairing can be successful, and that a strong brand need not necessarily overshadow a newer one, but the reader is reminded that Coca Cola has used music as a branding tool for decades often with great success, so the pairing of high-tech music download service and

this century old soft drink, is on second thought actually quite natural, and as is proved by reality, it has indeed worked well.

3. **Keep at it - the advertiser must repeat the co-branding connection.** Classical conditioning research suggests that pairing two brands may be more effective when the connection is repeated a number of times, even though no ideal number is known at the moment. (McSweeney and Bierley, 1984; Mazur, 1990; Rescorla and Wagner, 1972).
4. **Order the images for maximum association formulation.** The optimum way to condition responses is to present the known followed by the unknown (the pervasive game). This is known as forward conditioning and it is believed to be more effective than the opposite. (Stuart *et al.* 1987) so present the target product before the master brand rather than after for optimum conditioning.
5. **Use only one master brand, or everyone will be confused.** Do not try to develop associations with more than one target brand at a time. (Grossman 1997)
6. **Keep it novel;** Choose familiar master brands that have not been excessively paired with other brands in the past.

4.4.3.1 Potential benefits when co-branding

Once a response has been conditioned to a particular stimulus, individuals may respond in a similar manner to similar additional stimuli. This can be expressed as, if you can forge a strong bond between your game brand and a certain situation, you can be seen a “owning” or “being” that category, i.e. it has been measured that Coca Cola benefits from Pepsi-Colas in-game advertising, (Nelson 2002) The implication for Iperg is that as long as a field is new to the consumer, it is easier to become the definition of the category, and further down the line benefit from others efforts, and pervasive games is indeed such a new field. This reasoning also ties into the mental models reasoning in 5.4

4.4.4 Experience marketing

Experience marketing seeks to extend marketing solutions through offering encounters and create an association between the advertised brand and a certain experience. Pervasive gaming is predestined as a tool for experience marketing solutions since it can be used to stage an experiential approach to identify behaviours, attitudes or value sets held in common across an audience whose demographic characteristics – the traditional basis of segmentation – might be quite diverse. "*An experience occurs when a company uses services as the stage - and goods as props - for engaging individuals in a way that creates a memorable event.*" (Joseph Pine and James Gilmore, Harvard Business Review.)'

Pervasive gaming could be used to create emotional connections to advertised products. The target group is reminded of the experience the emotion they had during the event when they see the product for sale and may decide based on that emotion whether or not to buy the product. Methods could vary vastly based on the product advertised. Most experience marketing solution where organized for cars e.g. the Mini Challenge campaign. Sony Network Services created test runs based on Sony entertainment content (movies and games) to investigate different methods and how they work.

Although the example cannot be strictly regarded as a pervasive games since the location element is missing it shows a method.

4.4.5 Integrated marketing

4.4.5.1 Definition

Finishing up the chapter on marketing, a few words on integrated marketing. Integrated marketing is depending on you viewpoint either a Holy Grail, always worthy of pursuing, but never attainable, or as common as the air we breathe. Any way it is the way marketing should be done. Maybe this is the time to point out that in this document we have chosen to blend marketing *of* games, and marketing *with* games. Regardless if you are selling a game, or using a game to sell i.e. a wine, or using a game to sell a game you still need to use integrated marketing. The point is that even if the advertiser is using several different medias, and a number of different platforms and methods, the same message, and the same emotional image is conveyed. To actually achieve this necessitates both breadth and depth of media strategic knowledge. An example of this is the below.



4.4.5.2 Example 1: Cradle of Life movie/Trail of Life game

In the Lara Croft adapted movie “*Cradle of Life*” the heroine drove a certain Jeep, that jeep was placed into an adaptation of the Lara Croft game, the “*Jeep 4x4 Trail of Life game*” which drove marketing both of the movie, and the car, and the movie and the car drove marketing of the game. Yet another player is the “Jeep Geocaching adventure”, same car this time in a Geocaching treasure hunt. This is a case of true cross media integrated marketing, many platforms, same message, same image, same sepia-toned colour range, and a product (the Jeep) that fits well with the adventurous outdoors image of both Lara Croft, and Geocaching. Was this “cross market combo“ successful? Well Chrysler attributes 14% o of their orders for the Jeep to the games so that can indeed be seen as a success. And no less than two games got produced in a part of the process (Ferazzi et al 2003). See also <http://jeepin.com/news/travelbug/index.asp>

4.5 Pervasive Services

4.5.1 Location based services

4.5.1.1 Definition

Pervasive services are a personalized and location based service that creates new experiences based on the places we reside in, the people that surround us, and the devices we use in our everyday lives. This could be a route forwards for producers of pervasive games.

4.5.1.2 Example 1:

Pervasive services are a personalized and location based service that creates new experiences based on the places we reside in, the people that surround us, and the devices we use in our everyday lives.

It is not easy to create content for pervasive services, one has to define and research the target group carefully and create the content based on their needs and interests. After all one wants to reach the consumer with information or services that really interest them or help them. Equally important is to ensure a usability of the service, simple user interfaces and clear business and costing models are necessary to ensure the consumer understands what he or she signs up for.

Whenever new technologies are launched, market introductions are a crucial part for the success of the service. In the early 90'ies, Internet providers have tried to first offer the service for free until a certain number of users have registered and started to use the service and got used to the functionality and then started to bill the consumer. That only worked in cases where the price of the service after the free period was competitive, however if the price was competitive the consumer felt a certain loyalty to the service. Mobile operators when introducing location based services made several critical mistakes, they did not explain the service thoroughly or did not give the consumer a chance to test the service and they offered a very confusing billing model, unclear business models and overpriced services have left the consumer confused and sceptical regarding such services. Wireless service providers however were a good example, although they charged for their services straight away they entered into sponsorship agreements where the wireless service would be free of charge in certain locations. This again gave the consumer the opportunity to test the service and understand its costs implications and usefulness without spending a fortune.

However if all the implications are addressed and catered for pervasive services could be a very useful, fun and interesting service for both service providers and consumers.

One possible approach to finance pervasive services without charging the consumer could be through sponsorship deals to finance experience marketing events (see section 4.4.2 and 4.4.4 of this document). Services could be made available to the consumer for a reasonable price or even free of charge and brand owners could reach potential customers in a very unusual and personalized manner.

4.5.1.3 Example 1: Location-based services

There already are a number of such services available, e.g. in Manhattan one can sign up for a virtual tour around the island with location based multimedia information available at certain spots in the city. Early weather warning alerts based on the location and games utilizing location based information such as BotFighters, Can You See me Know and Uncle Roy all around you and proven successful.

4.5.1.4 Example 2: Mobi-Tip

Mobi tip is a pervasive service developed by SICS and it illustrates the potential for pervasive services,. <http://www.sics.se/humle/projects/mobitip/about.php> It is a social navigation service for shopping malls. The basis is that all the thousands of daily visitors to a large shopping mall, collaborately know much more than the each of the individuals. Using Bluetooth technology individuals can leave notes and tips for each other “in mid-air”. If a salesperson at a store is foul tempered, or a café has a very nice

lunch-offer then that can be shared. This makes it possible to “review reality” in the same way that books are reviewed at Amazon.com.

4.5.1.5 Example 3: Backseat Gaming

A product, and an idea that has been developed within SICS and The Interactive Institute (Sweden) has potential as a pervasive game-like service product in a business-to-consumer perspective. It is the Backseat Gaming concept. It has been developed within the Mobile Life project. It is a game concept where kids having to endure long road trips in the backseat of a car are given a game that utilises location, and land marks along the way in order to tell a story and drive the concept of a game. Anyone who has heard “Are we there yet?” from the back seat of the car realizes the potential of this product. Such a product could be integrated into any device that can handle localization data and sold as a digital product downloaded to a phone, or on a disc such as the UMD for the PSP, or sold as service from a telecom operator covering the road travelled, since the game might be limited to use along the route it is designed for. See: <http://www.tii.se/mobility/Backseat/backseatGaming.htm>

5 DISCUSSION OF POTENTIAL BUSINESS MODELS FOR PERVASIVE GAMING

Pervasive games are not yet a fixed product; they are not even a fixed concept to talk about. Target groups are not set, it is not yet decided what the wished target segments are, nor is it known what consumer needs a pervasive game are supposed to fill. As will be discussed we recommend that such research is done, till then it is a bit early to start recommending business models.

In the short term however, one route that could make sense for a mixed-reality-game producer is to take a business-to-business perspective and go into the area of being a tool in the toolbox of event marketing. This fits well in with mixed reality games that are geographically and temporally limited. However that strategy might limit the potential budgets of such game projects.

Comparisons can be made to film production companies taking the business-to-business perspective of producing films for the event-marketing sector. Occasionally, there are “mega-roll outs” of products with the use of event marketing i.e. Microsoft, General Motors, etc with the accordingly very nice production budgets. But the everyday “bread and butter” of a business-to-business film production for the event-marketing market exists under much more modest circumstances.

Pervasive-game producers going into this kind of a business-to-business market segment might also find that their customers, often will be not the brand holding company itself, but instead an intermediate party like i.e. an advertising agency, and that will probably be unbeneficial for the pervasive-game producer. On the good side the event marketing/ambient marketing/experience marketing strategy is easy, obvious, and probably easy to sell and market communicate. The seller would not have to attempt the difficult art of entering a mass business-to-consumer market, having to educate the consumers from scratch, and also at the moment, any commercial development of pervasive games is good development.

Some obvious customers/targets for the business-to-business strategy would be shopping malls, hotels, event marketing bureaus, indoor and outdoor museums, archaeological sites, tourist agencies etc. Games such as “treasure hunts”/“bomb hunts” could be easily adapted for this purpose, making the very “non-digital” science of creating shopping inducing ambience in malls and the effect of social interaction on shopping and visiting experiences applicable.

When going into the event marketing/ambient marketing/experience marketing field the place for pervasive games would be the storytelling brand strategy. Knowing the heritage of a brand can turn an otherwise purely function- and price oriented customer relationship into a connection with depth, emotion and of course higher prices. Using a real brand heritage, or constructing one where it is lacking or unsuitable, is a basic strategy in marketing today. (Aaker & Joachimstaler 2002)

5.1 Market structure

There are several important factors affecting the market structure of pervasive games:

- Digital distribution is gaining volume due to higher penetration of broadband Internet connections. This undermines the role of a distributor, allowing game developers to publish their own games.

- Mobile services are turning into an open market. In the past, mobile operators has had full control over what services that should be available to their customers. Now, the networks are opening up, giving services providers a larger amount of control.
- Different media and devices have different business models. Cross-media games will face the difficulty of aligning a plethora of business structures.

As distribution costs decrease, the possibilities for the game developer to publish its own games increase. The game developer should most likely have a direct relation to the players. The main challenge will be in managing different media and devices, without having to recruit own expertise in each media.

5.1.1 Pervasive advergaming

Given that a strategist has a design for a fully integrated marketing campaign, what place could a pervasive advergence have in the media mix, and what would such a game look like? When trying to answer that question, it is worth noting that the interactive, sensory and immersive nature of pervasive games gives product- & plot placements an entirely new dimension. Actual products can be not only seen, but also directly experienced by the players. Before one gets too excited about that, a caveat needs to be mentioned: no campaign is interesting unless it has a critical mass of players. Before going into any detail, it is worth noting that both the Chen & Ringel and the Svahn advergence taxonomies are based on the assumption that there is an “outside” of the game and an “inside” in the game, and that a brand agenda can be taken from the outside of the game to the inside where communication is achieved, affecting the brand attitudes outside the game. Since one of the goals of pervasive games is to transcend this “outside of”, and “inside in” duality, they imply that the advergence design methodology must change. But still attempting to use these taxonomies, if for no other reason then because they are the only ones we have, what shape can we imagine that future pervasive advergaming will have?

One seemingly fruitful way forward is the function of being a crowd-puller as in category two. This offers possibilities in the area of promotions and event marketing. But from the point of the pervasive-game player, category one and two might more or less merge, after all what is the actual difference between placing a product in pervasive game, and using the game as a crowd-puller to a brick-and-mortar shopping mall where the players experience the products first hand? With pervasive games game-side banners become quaint and obsolete. Could you imagine “life-side banners”? One possibility could be to steer the pervasive-game player to areas where ordinary billboards are placed, as a kind of “real” banners, but in the real-world game arena of pervasive games this also falls into category one.

5.1.1.1 Example: Brand building sports

Below is a concrete example of how pervasive games can be utilized in a commercial advergaming context.

Brand building sports is a marketing science in itself; it took the legendary shoemaker Adidas from the brink of the grave to a remarkable comeback. (Aaker & Joachimstaler 2002) There are many other examples when outdoor adventure activities and “sport like“ activities seemingly in the public domain but owned and controlled by a brand

holder has been used to lay a very rich and long term stable foundation for consumer brands.

The outdoor/action/adventure nature of i.e. Geocaching (<http://www.geocaching.com>) Can You See Me Now (<http://www.blasttheory.co.uk>) points in the direction of sports. It might seem unexpected for digital games to turn into adventure sports, but a possible route is as follows. Starting from a brand in the area of sports, preferably one with an unenviable market position like Adidas in the early 90:s. A slightly redesigned Can You See Me Now is used to create tournaments where teams play against each other locally, in a city, during a limited time. This approach is inspired by the case studies of Adidas Adventure Challenge; Adidas Predator Challenge and Adidas Streetball Challenge.

The event series need to be organized and made to be noticeable and inviting for spectators. This would qualify as a type 3 advergaming, being totally owned and commissioned for one brand and partially utilizing the branded products in the game. A parallel to this idea might be the previously mentioned Jeep Geocaching adventure see <http://jeeplin.com/news/travelbug/index.asp>. The approach is similar to E-sports.

5.2 Revenue models

The dominant revenue model for games is that they are sold as products, off-the-shelf or as electronic consumables (i.e. mobile content). This revenue model has several drawbacks; the initial cost for testing the market for a game is too high which both makes it hard to reach new market segments and increases the incitement for piracy.

Pervasive games will enable and benefit from a pay-per-use revenue model: games as services rather than as products. This model also enables bundled solutions, where the access to a gaming service is bundled with an offer from an access provider (e.g. telecom or broadband TV).

Furthermore, in competitive gaming (i.e. games as sports) it is possible to earn money on many more roles than just the leisure gamer: money can be earned from spectators, participators in qualifying tournaments, from betting and lottery, and by advertisements.

5.3 Production process

The cost for developing a high-end game today is extremely high and games typically take about two years to develop. This should be compared to the relatively short life cycle of a game: the majority of game copies for a new game are typically sold during the game's first one and a half months on retail shelves.

Additionally, games with location-based gameplay generate vast game arenas that need to be filled with content, preferably with some connection to the location. This requires local presence and knowledge. A pervasive game must reach a broader audience in a local market rather than a narrow audience over the whole world.

The most immediate effect of this development is that pervasive games must not require such large productions as the high-end games of today. Since the numbers of game hours invested in a game per gamer will generally be lower when the audience is widened, the requirement on development time prior to release is lowered.

Instead, a game release will be followed by numerous new releases. This development forces game development companies to radically rethink their production strategy.

Obviously, the tools and methods for game production must be drastically improved to cater for the shortened time-to-market requirements.

A powerful tool for this is end-user production. For end users, the incitement for writing game extensions and modifications increases as games go mass-market, since larger audiences increase the visibility of a modification. User generated content is also a very compelling solution since it not only narrows the problem of meaningful content creation but also provides the player with a more personal and closer bond to the game since they have "contributed" to the game.

5.4 Marketing

There is one issue that all producers of pervasive games need to address before pervasive games can become a profitable mass-market product. Not only must issues of production, target groups, game design and such be addressed. Equally important is to take a clear stance to what the producer(s) of pervasive games want future consumers to define as 'pervasive games'.

There are many examples of basically sound technologies and inventions that have fallen by the wayside due to the fact that they failed to find a place for themselves in the consumer mental categories. There are also examples of technologies that have carved new mental categories for themselves in the minds of the mass market, and found end user acceptance.

However that has come only after very large amounts of resources have been spent, on the basis of sound and thorough consumer research. To elaborate: when a consumer chooses a product many more or less conscious thought processes have gone before the choice. When going to the movies, a consumer does not choose between buying popcorn, or sushi, or when considering home entertainment, a consumer does not choose between buying a PlayStation 2 or a new designer dress.

It is established science that consumers first define the need for a category of products, and then secondly, chooses between available brands in that category. A product that defines a category will always be chosen first, when the need for the category arrives, and a product that does not have a clear belonging to a category of products will never have the chance of being chosen. (Moore 1999, Christensen 2000, Lange & Wahlund 2000, Lange 2001, Lange & Törn 2002)

So one of the first tasks to address, and actually it is ideal to do so already at IPerG's early level of concept development, is the issue of product categorization. It has not been known to us what the alternative choices are when a consumer chooses to spend time and money on a (conventional) game. The point is that every game has many more competitors than just other games. An approach to that could be to develop a model of the behavioural sequencing (Rossiter & Percy 1998) that is applied when making leisure choices. Without particular research, here follows an educated guess of how a behavioural sequencing model might look for a PlayStation 2.

Data inputs	What decision stages			
	Need arousal	Information search and evaluation/ (Store choice)	Purchase decision	Usage
Who	Teenage son (initiator) Husband of the family (Influencer)	Mother & Father (influencers – Payers)	Sales staff – (influencers) Teenage son, (decider), father buyer	Teenage son - main user
Where	In the living room at home	In home, and online	In store,	Sons’ bedroom
When	Friday afternoon	Friday afternoon	Next day	Same weekend, and two years onward
How	Home computer dominated by the son and friend playing games	Finding the nearest discount electronics and games store.	Online stores take to long time to deliver, and can not be trusted.	Son gets exclusive use, and keeps off the home computer

This type of model is a very powerful tool when selecting the market strategy for any product, and it used in many communications agencies around the world. For pervasive games, attempting to develop such a model might be a little premature at this stage, since it presupposes the existence of a category of products for which a need can be felt. But this only highlights the need to find or make a market category for pervasive games.

One of the few things the disparate examples of pervasive games today existing have in common is that they are all to a large degree played outside the players own living room, bringing the game into the outside world. Moving a consumer experience like that is rare, but not unknown. Sony did it when inventing the Walkman, moving music from the living room into the world outdoors, and Apple re-invented the concept with the iPod/iTunes music store package.

Pervasive games are an equal shift in usage points as when music was moved from the living room to the outdoors by the Walkman. However when designing a marketing platform for pervasive games in general, there is a lesson to be learned and we recommend that some thorough behavioural sequencing modelling research is done on consumers of commercially existing pervasive games such as, BotFighters, Mogi Mogi, Gunslinger, Undercover. When the showcases are evaluated the opportunity should be taken to survey the participants, with the goal of understanding how they interpret the consumer concept of the pervasive game they have just participated in.

6 CONCLUSIONS

So what are then the commercial prospects for pervasive gaming at the point of writing? Pervasive games come as a function of developments across several fields, mobile phone technology, pervasive computing, various portable technologies, and networking technologies. What is the prospect of mass consumers taking in the concept of pervasive gaming? Technologically it is a gradual and inevitable development, but marketwise it is a sudden and large paradigm shift. It might be that the vast masses of the mass market will not know, or at all be interested in, the gradual technological development. Why should you expect a consumer to be interested in the technology behind a car? Consumers want to get from A to B, and for quite many it is important to do so in a stylish way, but only few are interested in the computer programming of a car. Like the game "Majestic" from Electronic Arts (Szulborski 2005) consumers will see a sudden new product on the appearing on the market being very different from other such products seen before. On the other hand, we already see a gradual "seepage" of pervasive games into the market, like BotFighters, Mogi Mogi and Gunslinger and maybe even Era of Eidolon. The players of those games are currently being educated into the new concepts of playing pervasive games, with no one telling them that it is pervasive games they are playing. However those players are not being educated into the more grand and well developed mixed reality concepts of e.g. Epidemic Menace or Can You See Me Now, knowledge of which remains with a selected few. Pervasive games going the business-to-business path of i.e. event marketing would also only reach relatively few people at a time. A conclusion that can be drawn is that from the consumer and market perspectives, the concept of pervasive games is too heterogeneous to be a discriminator. At the moment the concept of pervasive games, only within the confines of IPerG covers: The Garden of Earthly Delights, Prosopopeia, and Epidemic Menace - three very different types of games. If they were mass-market commercial products, they would probably be played by different people, and/or at different times, and/or - and this is important - for different reasons. Is it necessary to communicate pervasive games as a unified concept for the concepts own sake?

This is not at all meant to strike a glum note on the commercial prospects of pervasive game methodology. We fully believe that pervasive games have a brilliant commercial future both in the business-to-business and business-to-consumer perspective. We believe that each individual pervasive game product must be seen in its own right, and have its own market and communications strategy aimed at its own players on the occasions right for those target groups.

At least at the moment it would not be fruitful to try to develop a grand unified theory of pervasive-game marketing. Yes there are common denominators even between Prosopopeia, BotFighters and Uncle Roy, but we draw the conclusion that in the eyes of future mass market those common denominators would be as little interesting as is if there a common denominators in the computer programming of a Rolls Royce and Mazda. Both the Mazda and the Rolls Royce have brilliant prospects own their own, but trying to put them under the same roof would be ridiculous, regardless if they would have some technological connections. It is up to the reader to imagine which game is which car. This is based on the reasoning of the mental categories previously mentioned.

Each game necessitates its own consumer research along the lines of occasions, motivations, drivers, psychographics etc. Maybe some general conclusion can be drawn between i.e. BotFighters and Undercover who seem rather similar, and seem to be aimed at the same target groups. But probably not between Mogi Mogi, and Era of Eidolon, even though these games are all mobile phone based pervasive games.

For the business-to-business perspective we are specifically enthusiastic about the route of pervasive services/experience marketing. And we definitely recommend future research into developing pervasive services/experience marketing. Issues of value chains and production circumstances in equal measures necessitate a look of its own, in each individual game case. But if each game is given a perspective of its own; then each game has a golden future in its own right.

6.1 Future work

These conclusions meant that we have identified some tasks for future work in the Business and Organisation work package. It is clear and to some extent intentional that the showcases within IPerG are very diverse, that makes it possible to explore different ‘sub-genres’ of pervasive gaming.

What must be done in the short term is to survey, with focus groups, depth interviews and all the other various consumer science ways, the participants of the showcases and other pervasive, (and pervasive-like) non-IPerG games in order to find out how they have experienced what they have just participated in. The point is to find out what the drivers are (or can be made to be) Ideally the participants in the showcases should be chosen in a way that can make such pre- and post surveys scientifically relevant, i.e. with statistical relevance from various target groups and other groups.

In this report we have made an extensive survey of what could be. But in order to know how to shape the consumers view of pervasive games we must know why the consumers at all have an interest in the existing pervasive games. In order to find and shape communicatable subcategories of pervasive games we must know the larger higher-level mental categories it would be at all possible to put them in.

Was digital cameras a success because of the consumer’s possibility to cut out the film-developer and both save money, and time getting see the pictures *at once*? Or was it because of the snazzy newfangled and revolutionary engineering?

So is pervasive games home entertainment? Or is it a way of exercising and getting fit? Is it a solo-escapist thing? Or a social thing, yet another new way of chatting which friends (like an MMORPG sometimes can be)

We can guess that the answers will be different from game to game. But also that just like with i.e. PS2 games there might be some kind of overarching common denominator for the consumer, but that denominator is virgin territory and the next task for the business WP must be to look for it. – and the denominator probably will not be any one we might expect it to be.

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