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A Typology of Mobile Games

Introduction

What are the main genres of mobile games? Are these games and entertainment forms intrinsically different from other forms of entertainment? Building on the general game typology in Aarseth et al. (2003), we here examine the categories and genres of the mobile entertainment industry, and present an alternative typology of mobile play.

As the variety of games increases, both user communities and the entertainment industry feel the need for categories and concepts to promote their products or to identify interesting games. This has resulted in a large number of ad hoc game categories. Confusion reigns, both among developers, websites that promote or sell games, and in the retail shops. A quick look at a retail web site will illustrate the problem.

There are three major ways in which web sites let users find games or information about them. Among the retail web sites we find www.myphonegames.co.uk. This site first asks the buyer to select his/her type of telephone from their list. (Naturally, if the phone is not listed, there will be no games available from the site.) Potential buyers then select games from the following categories:

- Arcade Games
- Puzzle Games
- Platform Games
- Sport Games
- Casino Games
- Driving Games
- Board Games
- Misc (Miscellaneous) Games
- Multiplayer Games

Although some of these categories provide the buyer with some ideas of what to expect, the list seems arbitrary and overlapping. A driving game could well be a sport game, and the difference between a platform game and an arcade game might be hard to spot. And multiplayer games could be part of every genre mentioned above. Not to mention the miscellaneous genre.

Myphonegames.co.uk also offers the possibility of choosing the newest games, the top 10 bestsellers and the sites of other game retailers. These mostly operate in the same way, using the same kind of categories.¹

Some other retailers and developers prefer to categorize by platform:

- Java
- WAP
- SMS
- Symbian
- Embedded
- Palm
- BREW

Since this kind of categorizing focuses exclusively on which platform the game is made for, independent of phone type, this could make a new buyer unsure of what to do. While Java might be somewhat familiar to many users, who will know, or care about, the difference between BREW and Symbian?

The third group of developers and retailers of mobile games offers only simple name-based game search. Their sites often contain very few games and the need for categorization might therefore be minimal.²

Some retailers, such as the multi-mobile phone retailer www.inpoc.no, offer more details but still adopt a simple solution, e.g., SMS and MMS services, ringtones and so on. They have chosen not to offer every type of mobile game and have instead concentrated on just Java-platform-games. Amongst these games one can select games from five different genres:

¹ www.phonegamesdirect.co.uk, www.freemobilephonegames.co.uk

² Examples are www.telmore.dk (retailer/mobile operator, Denmark), and www.djuice.no (retailer/mobile operator, Norway).

- Shoot'em up Games, Sport Games,
- Board & Puzzle Games,
- Platform & Labyrinth Games
- Misc(ellaneous) Games

Again we see an overlapping mixture of genres, as well as the novel combination genre of "Platform and Labyrinth Games".

One particularly interesting site is Wireless Gaming Review (www.wgamer.com), which offers numerous possibilities and search facilities:

- Simple name (of game) search
- Advanced search with keywords
- Developer's/Publisher's name search
- Carrier & Platform
- Carrier/Portal
- Phone type/ Game Device

Much space is dedicated to three developers/carriers and sponsors, whose games can be consulted by a simple click-through function. The phone developer Nokia is not only presented by its name, but also by its latest gaming device, N-Gage. The site also offers various forums and articles, as well as previews and reviews of a large number of games. In addition to WGR's search engine facilities, games are categorized or under-categorized in various ways:

- Hot Games (listed by rating)
- Top Carriers (under which games are listed by phone type and name of game)
- Cool Phones (games listed directly under the compatible phones)

The introduction of devices like N-Gage has made large, international game developers more visible for the mobile market. Sega is now re-launching many classic games for mobile phones, in particular Nokia's and Samsung's. Sega Mobile³ uses the following genres:

- Action games
- Race games
- Arcade games
- Retro games
- Sports games

³ <http://www.sega.com/mobile/home.jhtml>

- Puzzle games
- Strategy games

Some games are listed in more than one category, and some are playable by more than one player at the time. Again, we see a style of categorization which is somewhat arbitrary, overlapping, and idiosyncratic. It may not be possible to convince the industry to adhere to a common standard, but in suggesting an alternative method of categorization we hope to encourage a more critical and analytic conceptual model for both the industry and the research community.

Evaluation of current concepts and categories

As we have shown, several different types of categories and concepts are being used in the mobile gaming industry. A game can be classified as belonging to several categories at once, and the same genre may have different names according to different companies. This leads us to several critical aspects that will now be discussed.

Usefulness

All the above terms and categories could be considered useful, but only to a certain degree. There's no doubt that a board game IS a board game (or rather, modelled after one) or that a sports game mimics some kind of sports activity. But overall, the categories are weak and overlapping. Is Tetris, for instance, a puzzle game or an arcade game? Perhaps it could also be considered as an action game? Is it interesting for buyers whether Tetris is programmed in Java (J2ME) or not? Users would undoubtedly benefit from a more standard, industry-wide method of categorization.

On the other hand, to classify games based on phone/device types is of course very useful, since the users will then find games that are compatible with their own phone or portable device.

Since new platforms constantly evolve, classification by platform cannot be considered as useful as classifications by content. First, because there is no agreement about what kind of platform one is talking about, as well as the fact that most users do not need to know what platform the specific game is made for as long as it is, or is not, compatible with the users' gaming device. These technical terms are far more useful to developers and publishers than to the common user. Also, this way of classifying games, including the device categorization mentioned above, is less

useful in an analytical approach where the typical aspects of the game, not the device of the platform, are studied.

Overlap

As already mentioned, the terms, categories and concepts used by the mobile entertainment industry might sometimes overlap too much. Again, isn't a driving game also a sports game? Isn't Tetris both a puzzle and an Arcade game? What is explained about a game when it is called 'multiplayer' apart from the fact that more than one person can play it at the same time? But there are also games that do not fit in to any of the existing categories, as with various versions of the game Pinball, that is always put amongst the miscellaneous. This shows that the current categories are both too wide and too narrow to include all the possible games that exist or can be made in the future. There is clearly a need for creating clearer, less overlapping categories that also include games that are not yet categorized.

The analytical usefulness of industry categories

Given this plethora of partly overlapping content, and the focus on hardware platforms and programming tools, it is sometimes hard to figure out what the games contain. The terms in use by the gaming industry are of course interesting for game analysts to criticize, and as noted earlier, the terms can be targeted to different recipients: the general user/public, the developer, the operator, the publisher and so on.

Nevertheless, mobile game research would profit from a better classification system and genre terminology, although it might be hard to convince the industry itself or even the users/players to adopt it. Obviously, blurbs or instructions like "in this game you have to shoot as many gangsters as possible" along with simple screenshots from the game tell us little or nothing about the game's content or the gameplay.

The Sega Mobile site offers the possibility of choosing games that are similar to the ones you've enjoyed playing. Similarity here means that the "story" of the game is similar, or that an action game is like another action game, and that you would probably like the next game because it belongs to the same "genre".

It seems clear that the categories used by the mobile game industry simply reflect the ones used by the game industry in general, except when it comes to technical platforms. This is also reflected by the games themselves, which are limited

by the technical constraints of the mobile devices, and resemble (and in some cases copy) pc and console games that were popular 15-20 years ago. In the pc and console markets, however, the traditional game genre categories are losing their usefulness fast, as leading games like Warcraft III, Halo and Grand Theft Auto 3 mix genre elements and blur the distinctions between strategy, shooters, driving games, Sport games, and adventure/action. Thus, it might be argued that instead of having a separate “retro” category, like Sega does, most mobile games are retro games, and so even this broad category is meaningless as a contrast to other genres.

The next part of this paper will try to examine the usefulness of our theoretical game terminology (Aarseth, Smedstad and Sunnanå 2003), and will focus on the need for including specifically mobile aspects. Can mobile games be said to exist as a genre of their own, or are they simply following the lead of arcade, pc and console games?

Typologizing mobile games

The industry’s genres and concepts are clearly insufficient from an analytical perspective, since they do not identify the differences between the games. But what alternative would be better? Do we need a tailormade typology to categorize mobile games, or is it enough to use the general typology presented in the previous paper? Are there any important differences between mobile games and other computer games that disappear if we apply our general typology?

The game *Snake* (Nokia 1999) was the first game embedded in a mobile phone, and it is the most widespread mobile game ever, with more than 250 mill. units distributed free with Nokia handsets. In many ways Snake is *the* classic mobile game, even though it already existed on PCs. If we assume that our typology may be used on every computer game, it should also be possible to apply it to mobile Snake:

Mobile Snake:

- perspective→omnipresent
- topography→geometric
- environment→static
- pace→realtime
- representation→mimetic
- teleology→finite
- playerstructure→singleplayer
- mutability→power-ups
- savability→non-saving
- determinism→non-deterministic

rules→topological

It is unproblematic to make the game fit into the categories of the typology, which indicates that these are valid categories for mobile games also. Clearly, the PC Snake version would categorize exactly the same. There are no differences between computer Snake and mobile Snake, other than in the hardware. Differences in devices are not differences in games, unless there is a need to convert the playing rules to fit another technology, and in most cases regarding mobile games, there is not. So, for most, if not all, mobile games, our typology seems to hold.

But games that are specially designed for mobile devices using the unique properties of mobile technology do exist, and some of them cannot be transferred to computers. These are games using the advantages of i.e. the sms-network, the gps-technology and the gsm-network. In the following pages, we are going to exemplify the limitations with our typology, by examining three of these games: Gangster City, Geodashing and Botfighters.

Gangster City⁴ is a Norwegian multi-user game that is based on the sms-network. The playing ground is a map-representation of four of Norway's largest downtown areas (in other words, not very large). The cities are divided into several zones where the number of zones depends on the size of the city, the range being between 20 and 60. The players can choose to join either of these four gangster-clans: the Nobles, the Homies, the Angels and the Outsiders; they are also invited to form subgroups (mobs). To move around in town and to search for, attack or steal from other players, one must send sms-commands to a central server (i.e. "go University" (one of the zones), "search Beast23" or "attack Tough"). The fighting is done by means of the paper-scissors-rock principle, and if the player's response time is too long, the central will choose a random value. The goal is to accumulate the most cash during a week, help your group control as many city zones as possible, and hence rule the downtown. Every Monday the player's pockets will get filled up with new cash. The top score list and references to the ongoing fights are published in the game's web cite, where also prizes are announced. Even if there are almost 20.000 registered players, the game has not been a success. It is too expensive, since one has to pay for the messages received from the central (and many of them are really unnecessary),

⁴ www.gangstercity.com

and there are too few active players for it to be any fun. Most of them are just trying out the game for a day or two, but they don't get deleted from the member list. This makes it almost impossible to search for other players on the web site. There is a chat function, but our impression is that this is rarely used.

Geodashing⁵ is a game based on gps-technology. It is possible to play this game both in teams, and alone against other single-players. One game lasts for a month and it begins with a computer randomly placing out thousands of waypoints on the world map, called "dashpoints". The coordinates of the dashpoints are given, and the aim is to reach as many dashpoints as possible during the game. The first person to visit the dashpoint collects three score points, the second visitor gets two and all the others get one point. One has to document the dashpoint visit with photographs and a story of the adventure reaching it. The top score list is published on the website, and the winners get fame and fortune until the next game begins. Because of the lack of communication between gps-recievers, the geodashing game is dependent on the web, and one has to be a member of the yahoo! Group "Geodashing" to get all the features of the game.

Botfighters⁶ is the first positioning mobile game, and it was released in Sweden in november 2002 by the company It's Alive! (See Sotamaa 2002) Botfighters is a game that has a lot of common with Gangster City. In both games, one wanders about in a town hunting other players, and by means of sms-messages one can search, follow and attack them. The story is also similar; in Gangster City the aim is to be the toughest gangster in town, in Botfighters the aim is to be the toughest robot. However, this is where the similarity ends. Where Gangster City is a sms-game taking place in a virtual world, Botfighters is a sms-game taking place in the real world. Instead of sending a command to get moving, one actually has to move. It is not possible, as in Gangster City, to choose the command "run" in order to avoid an attack, so one has to get running. This is possible due to the gsm-technology, since this technology allows positioning to a certain degree (although not as accurately as gps). It also allows communication between the devices. When a player has targeted another player, the targeted player will get a message which tells him that he is

⁵ www.geodashing.org

⁶ www.botfighters.com

targeted, and the hunter will be told where the opponent player is, and when she is close enough to shoot at him (this differs from 500 to 2000 metres, depending on the weapon she uses). The victim may choose to run, stay passive, or start a counter attack. If the hunter succeeds, she will be rewarded with local cash, robobucks, which can be used to buy equipment and better weapons. The toughest robot any time will throne the top score list.

The three games above are all mobile games that exploit different unique technologies that mobile devices possess. By that we mean that they normally do not share these with computers or other entertainment consoles. By using different technologies, the games also differ quite a lot from each other. Three questions still remain in order to evaluate the typology presented: Do the categories of the typology fit these kinds of games? Will the differences between these mobile games and other computer games be detected using the typology? Will the differences between the mobile games themselves be identified?

Dimension:	Gangster City	Geodashing(team)	Botfighters
Perspective	Vagrant	Vagrant	Vagrant
Topography	Topological	Geometrical	Geometrical
Environment	Static	Dynamic	Dynamic
Pace	Turnbased	Realtime	Turnbased
Representation	Arbitrary	Mimetic	Mimetic
Teleology	Infinite	Finite	Infinite
Player structure	Multiteam	Multiteam	Multiteam
Mutability	Xp	Static	Xp
Savability	Non-saving	Non-saving	Non-saving
Determinism	Non-deterministic	Non-deterministic	Non-deterministic
Rules	Topological, objective	Topological, objective	Topological, objective

To answer the first question, in neither of these cases are the dimensions problematic. None of the games is hard to assign values to, as long as the definitions of the dimensions (see Aarseth & al. 2003) are as they are. This indicates again that the categories are valid. They are applicable, but the typology still doesn't manage to

identify important differences between the mobile and non-mobile games. If we compare Geodashing with Gangster City we find that they differ quite a lot. The only differences between Gangster City and Botfighters, however, are the topography, the environment and the representation of time. Botfighters and Geodashing are only divided by the dimensions of teleology and mutability. These are all important differences. It is for instance hard to imagine that Gangster City should have a mimetic representation of time. If that were the case, the central would have to wait half an hour to give a confirmative response whenever a player sent a “go University” message while at Burger King, half an hour away, and that would not be very fruitful. But this still does not indicate the most important differences between the two. If we compare Botfighters with Anarchy Online (which is a “massively multiplayer online role playing game” (MMORPG)) we see that they have exactly the same profile, but that is certainly misleading, since the games are not the same.

Gangster City is completely similar to a MUD (Multi User Dungeon), and as for Geodashing, the single player variant seems to be quite similar to other simple single player quest games, even if the gaming experience of the two differs a lot. Botfighters and Geodashing take place in physical space, and this is what makes them unique compared to other computer games. Hence, what we need is to add a dimension called Physical Space to the typology, in order to include mobile games that utilize the unique positioning technologies of these mobile devices. This would also distinguish some of these games from other computer games like Botfighters from Anarchy Online.

Physical Space

There is a difference between the physical spaces represented (and used) in Geodashing, and those represented in Botfighters. In Geodashing, it's only necessary to know the coordinates of the dashpoint – one doesn't have to be near any other player or know where they are. Therefore we propose to add two dimensions of physical space to the typology: *Location-based* and *Proximity-based*, both with the possible values *absent* and *present*. The definition of these dimensions is as follows:

Location-based: Games that depend on player position in physical space.

Proximity-based: Games that depend on proximity between players in physical space.

Botfighters is both location-based and proximity-based, Geodashing is only location-based, and Gangster City is neither, just like the other computer games. Representing this in a table, we get the three quite different mobile games in different categories:

		Proximity-based	
		Present	Absent
Location-based	Present	Botfighters	Geodashing
	Absent	(Bluetooth- and infrared-based two- and multiplayer games)	Gangster City Anarchy Online Adventure MUD

Botfighters is separated from Anarchy Online, and Geodashing is separated from Adventure, but Gangster City still shares all the same values as a MUD. This is actually quite logical. Gangster City is only built on the sms-network, which basically consists of text-messages. And text is not anything unique for mobile devices even if the sms-network is. Gangster City does not have anything that a MUD hasn't, except for the opportunity to play it wherever one wants, and that brings us back to the mobile Snake versus computer Snake-discussion, where we established that there is no relevant difference between them. Gangster City is merely a very primitive and simple MUD.

What about the fourth category, for games that are proximity-based but not location-based? Even if there are no such games yet, in any case not for commercial use, it is not difficult to imagine their existence. This would be games where two or more players would start a game whenever they came within range of each other, but where the location as such did not matter.

But if this addition to the typology only makes sense to some mobile games, and is irrelevant to all other computer games, is it necessary to add the physical space-dimension to the general typology? Could we not use it only when dealing with mobile games? We certainly could do that if the Physical Space-dimension was unique to mobile games. But it is not. Even if there are no location-based computer-

games, there are hundreds of location-based and proximity-based games that are not virtual, i.e. real space soccer and real space board games too complex to be played by letter or phone-communication. For these games, there is a location and one has to be near the other players and teammates.

Therefore, including the physical space-dimension in the general typology makes perfect sense. It is now better suited to describe the differences between all games, and to address the mobile technology in the games where this matters.

Conclusion

Mobile games are perhaps best regarded as two different types, one that happens to be played on a mobile device, but otherwise does not differ from other, non-mobile types, and one inherently mobile game type that can only be played on these devices, either because it is location-based, proximity-based, or both. Apart from this, the category of mobile games (and mobile entertainment in general) does not seem to differ much from games in general, except that it trails behind the cutting edge of game design and technology by about 10-15 years. Mobile Snake and Console Tetris have much more in common with each other than with Botfighters.

A separate category of mobile games is therefore not analytically useful; and with increasingly more powerful PDAs and laptops, as well as increasingly ubiquitous wireless networks, any game could be considered mobile. On the other hand, innovative games such as Geodashing and Botfighters challenge our traditional notions of both computer games and mobile entertainment, and clearly show the need to include both proximity and location in our future typologies and categories.

Perhaps instead of having one broad category of mobile games it would be more fruitful to distinguish between retro-games and innovative mobile games? Unfortunately almost all mobile games belong to the former category, and too few belong to the latter to investigate it properly at this point in time.

References

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