The ability of iOS and Android multiplayer games to compete against multiplayer games on other systems

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Abstract

Technology moves forward and new devices are always created, with smartphones and tablets right now revolutionising the gaming industry. They have given us a new take on multiplayer gaming. This report is going to try to give answers to the following questions:

- What are the technological constraints multiplayer game development faces on smartphones and tablets?

- How much do people play multiplayer games on smartphones and tablets and how much are they willing to pay for their gaming experience on these platforms?

- What are the development costs for multiplayer games on smartphones and tablets?

- But most importantly, how will the different devices where you can play multiplayer games, such as video game consoles, PC and hand-held video game consoles affect each others market shares?

Right now smartphones and tablets coexist with other systems, since they offer a different kind of experience than other platforms. This is both due to technological constraints as well as the way people generally play on touch devices. People do not usually play their games for hours on touch-based devices, which is more common on other kinds of systems.

With technological advancements, smartphones and tablets might become serious competitors to gaming consoles.

Sammanfattning

Tekniken gör hela tiden framsteg och nya enheter skapas hela tiden. Smartphones och tablets revolutionerar just nu spelindustrin och har gett oss ett helt nytt sätt att spela på. Vad denna rapport ska ge svar på är dessa följande frågor:

- Vad är de teknologiska begränsningarna multiplayer-spelutveckling på smartphones och tablets ställs inför?

- Hur mycket spelar folk multiplayerspel på smartphones och tablets och hur mycket är de villiga att betala för sin spelupplevelse på dessa plattformar.

- Vad är utvecklingskostnaden för multiplayerspel på smartphones och tablets?

- Fast framförallt, hur kommer de olika enheter där man kan spela multiplayerspel, såsom TV-spels konsoler, PC och bärbara spelenheter att påverka varandras marknadsandelar?

Just nu kan smartphones och tablets leva sida vid sida med andra enheter, eftersom de erbjuder ett annat sätt att spela på än andra system. Det beror både på teknologiska begänsningar och sättet folk spelar spel på smartphones och tablets. Man spelar oftast inte i timtal på touch-baserade enheter, vilket är vanligare på andra enheter där man kan spela multiplayerspel.

Med teknologiska framsteg kan dock smartphones och tablets komma att bli farliga konkurrenter till spelkonsoler.

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1. Introduction

1.1 Background

Multiplayer gaming on mobile phones has become increasingly popular in the last few years with the introduction of smartphones with 3G-connection (and 4G connection) for the general public. Previously, mobile games where mainly singleplayer oriented, since the GSM network does not allow large amounts of data to be transferred within a reasonable time limit or for a low price. Multiplayer games were therefore for the most part enjoyed on PC and video game consoles that is specifically developed for gaming.

The development of 3G and 4G has enabled smartphones and tablets to run games that before could only be enjoyed on PC and video game consoles. Smartphones and tablets are also devices that a lot of people carry with them at all times.

1.2 Purpose

Since gaming on mobile devices like smartphones and tablets has become as popular as it is, developers now face the difficulty of having more platforms to chose from when developing their games than ever before. It also means that the traditional platforms for multiplayer games now face competition from these mobile devices. What this report is going to study is therefore how smartphones and tablets can compete on the market with more traditional systems like PC, video game consoles and hand-held gaming consoles. We also want to study whether smartphones and tablets truly compete with the other platforms in the traditional sense or if it is just different segments of the market that buys multiplayer games on smartphones and tablets compared to other systems where it is possible to play multiplayer games.

1.3 Problem statement

This report is going to study how mobile multiplayer gaming on smartphones and tablets can compete with other systems that also offer similar possibilities of playing with other people. It will then make a prediction about how the near future of multiplayer gaming will look like and if we will see a change in market shares between the systems that today offer the possibility of multiplayer gaming. In order to give a satisfactory answer to these questions, we will have to divide them into three distinct questions that compares smartphones and tablets to other systems that offer the possibility of multiplayer gaming as well.

1. **<u>Technological constraints:</u>** What technological constraints are there? What can be more easily implemented on other systems in comparison to smartphones or tablets?

2. **<u>Demand:</u>** How much do people enjoy to play multiplayer games on mobile devices in comparison with other systems and what is the upper limit when it comes to the price of the games?

3. **<u>Supply:</u>** What are the costs of developing a multiplayer game on a mobile device in comparison with other systems?

1.3.1 Method

We will use three different methods to answer the three questions about demand, supply and technological constraints presented previously in Chapter 1.3.

1.3.1.1 Technological constraints

This is the more technological side of the paper. We will evaluate the key differences between smartphones and tablets in several aspects such as the lack of ethernet port, different user interface and hardware. We then need to put this in the context of multiplayer gaming in order to see if there is flaws in devices such as smartphones and tablets that more easily can be solved on other systems.

1.3.1.2 Demand

In order to understand the demand for multiplayer games on smartphones and tablets, we have created a questionnaire that we have let people on Facebook and gaming boards (in this case ign.com and gamereactor.se) answer. We have asked them whether they play multiplayer games on smartphones or tablets regularly, how much they play, what kind of multiplayer games they play and how much money they spend on multiplayer games on smartphones and tablets. We have then also asked the exact same questions, but with other gaming systems in mind, to be able to determine the difference between them. We ended the questionnaire by asking the question: *Do you think the market for multiplayer games on tablets and smartphones will grow at the expense of other systems?* This question is interesting, since it might differ from what developers and game companies think about the future market for multiplayer

games and it is interesting to compare the actual habits of people who play multiplayer games to their own prediction about the future.

1.3.1.3 Supply

To answer the question of whether the costs of developing multiplayer games on smartphones and tablets is financially rewarding, we have decided to ask developers of smartphone games directly by interviewing them.

We particularly want to find out if games development on iOS and Android is profitable and also how the profit compares to that of development for other systems, but we also want to know if the developers think that games on smartphones and tablets compete with games on other systems or if it is different segments of the market that buys games for the different systems. We are also very interested to find out how the distribution of games works on iOS and Android compared to other systems.

1.4 Definitions

1.4.1 Multiplayer game

A game that can be played by many players both online and offline.

1.4.2 Singleplayer game

A game that can only be played by one player.

1.4.3 Video game console

Video game console refers to any of the systems that is dedicated for playing games, but does not have their own screen built into the system. Some notable examples are Microsoft Xbox 360, Sony Playstation 3 and Nintendo Wii.

1.4.4 Hand-held video game console

A hand-held console is a system dedicated for playing games, that has its own screen built into the system itself and whose primary function is not being used as a phone, which distinguishes it from a smartphone. Some notable examples are Nintendo DS, Nintendo 3DS, Sony Playstation Portable and Sony Playstation Vita.

1.4.5 Gaming

Gaming is used here as a verb describing the act of playing electronic games on either smartphones, tablets, PC, video game consoles or hand-held consoles.

1.4.6 P2P multiplayer game

In a P2P multiplayer game the state of the game is shared between the participants instead of the developers running a server that broadcasts the state of the game to the players. [1]

1.4.7 PC

Acronym for personal computer.

1.4.8 API

An API (Application Programming Interface) is a library that may or may not contain a specification for data structures, object classes, routines and variables.

1.4.9 AAA Game

AAA game is a less formal expression for a game that is developed by a large studio and has a massive budget. The budget usually requires the game to sell several million copies to recoup money invested in game development.

2. Technological constraints for tablets and smartphones

Most games for smartphones and tablets today are either singleplayer games or turn-based games, where you can either team up on the same system or play on separate ones. This is because smartphones and tablets are limited by their bandwidth, which can be insufficient occasionally (due to latency and slow connection) if they are running on the 3G or 4G network. One way of solving this issue is to develop some kind of tool that can identify a smartphone or tablet users latency and connection speed. Microsoft Corporation has developed a tool called Switchboard, which compare smartphone users on these premises when they connect to the service. [2]

If a user with a slower connection enters the game, it could ruin the experience for other players with low latency and fast connection as well. This is particularly an issue in P2P multiplayer games. What Switchboard does is that it groups players together into games where all players meet the requirements. [1] Although this will normally not be an issue on a Wi-Fi network with a fast connection, one of the major benefits with playing on a smartphone or tablet instead of another kind of device is that you usually bring it with you at all times and that it can have a connection with the 3G network in most places. Connection problems can however always be solved with new technology such as better telecommunications networks.

The most substantial difference between a smartphone or tablet and a PC or video game console is the user interface and the lack of buttons and analogue sticks. This means that it can be difficult to bring the exact same experience to a device like a smartphone, even though there are ways to circumvent the lack of similar input as other systems have. It is possible to simulate an analogue stick or a button on the screen, but the experience will still be different and it could be a problem if the users screen is too small, since the fingers might block the screen.

There are however external controllers for smartphones and tablets which are very similar to their video game console counterparts. One good example is the coming Samsung game pad (which doesn't have a formal name yet) that is planned for release this summer (see Illustration 1). [3] A controller like this one would allow players to get nearly the same experience as you can get on another system. The question remains however, how popular will it become? If not enough people buy it, it will be unlikely to be supported by developers.

Illustration 1: Samsung's new game pad attached to a smartphone

Industry Gamers interviewed id Software's co-founder John Carmack about developing games for smartphones and tablets. One of the things he told them was:

(...) It's unquestionable that within a very short time, we're going to have portable cell phones that are more powerful than the current-gen consoles.(...)

He then continued to say:

(...) People have exaggerated the relative powers – the iPad2 is not more powerful than the 360. It's still a factor of a couple weaker. But the fact that it's gotten that close that fast – that means that almost certainly, 2 years from now, there will be mobile devices more powerful than what we're doing all these fabulous games on right now. (...) [4]

This means that the difference in hardware capabilities may not be too great for experiences like the ones brought to us on Playstation 3 and Xbox 360 to be operating on a smartphone or tablet within the next few years.

3. Demand

3.1 Sales comparison between smartphones and hand-held video game devices.

The arguably most closely related gaming systems to smartphones and tablets is the hand-held video game systems. They offer the opportunity to play multiplayer no matter where the player is, as long as there is an available internet connection. The games themselves are slightly more simplified as well, in comparison with their PC and video game console counterparts.

According to IDC, worldwide shipments of smartphones increased with 42,1% between quarter 2, 2011 and quarter 2, 2012. [5] It is therefore interesting to directly compare these numbers to official sales of hand-held video game devices.

The Nintendo 3DS launched in North America on the 27th of March 2011. [6] It did not initially sell as well as its predecessor Nintendo DS, but after a price cut half a year after the release, the sales picked up again and the Nintendo 3DS even managed to outsell the Nintendo DS (which we show in Illustration 2), which was released on November 21st, 2004 in the United States. Before smartphones were widely available to the general public. [7]

Comparison of Cumulative Sales Transition After Product Launch in the U.S. Market
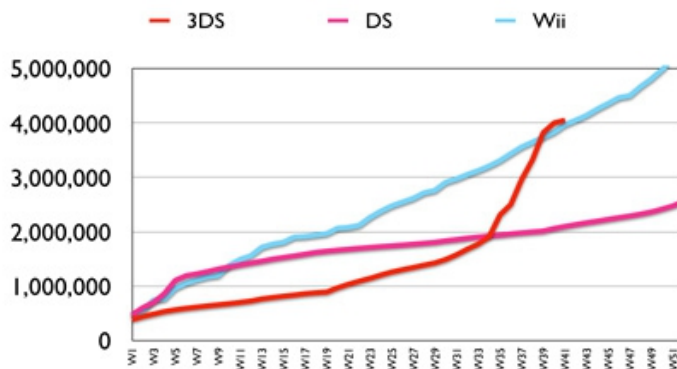
Source: Nintendo

Illustration 2: Cumulative sales comparison between recent Nintendo systems on the U.S. market. The Y-axis represents sold units and the X-axis represents number of weeks after launch.

This means that both smartphones and hand-held gaming devices are managing to exist on the market side by side and they have still managed to do better than their predecessors.

7

3.2 Questionnaire

In order to answer our research question we created a questionnaire with 15 questions about people's gaming habits on smartphones, tablets and other devices. We managed to get 138 answers from different sources such as our own Facebook profiles, the groups on Facebook for year 1-3 on "datateknik", gamereactor.se and ign.com. We tried to circulate the questionnaire in places where most people play both singleplayer and multiplayer games regularly. The 15 questions with their alternatives and their scores were:

A * means that the question is required to be answered.

1. Gender*

- Male – 128 answers (93%)

- Female – 10 answers (7%)

This question is intended to show if there is a difference in gaming preferences between men and women. It however proved to be hard to get females to answer the questionnaire, which could be due to fewer females spending time on gaming boards and similar places.
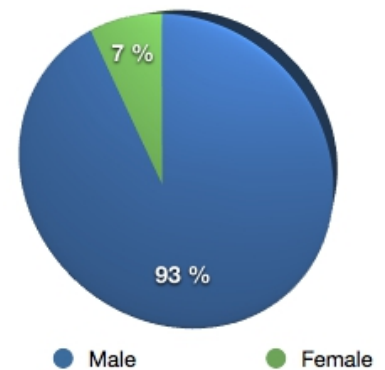

Illustration 3: Graph for question 1

2. How old are you (in years)?*

- Drop down list with numbers 1 to 100.

We wanted to know if there would be a significant difference with age. However, we had mostly people in their early 20's that answered the questionnaire. Probably due to similar reasons as to why very few females answered to it. The results are still interesting though because it does show that it is mostly young men that like to discuss games in general on the internet and we can therefore say that it is very probable that this specific demographic is very important for the gaming industry.
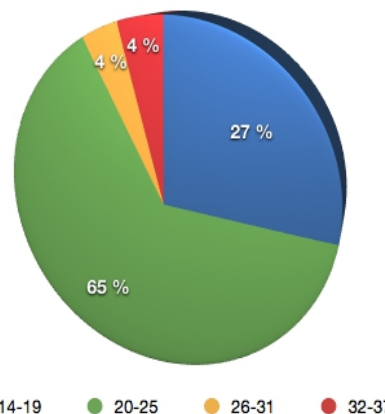

Illustration 4: Graph for question 2

3. Do you play multiplayer games on smartphones or tablets?*

- Yes – 59 answers (43%)
- No – 79 answers (57%)

This is the first question where a comparison is made between smartphones or tablets and other systems, where multiplayer gaming is possible. The results are noticeably less for smartphones and tablets. Although this could be explained by the fact that we used gaming boards as a source where people like to play in general, but most of them started out on more conventional systems like PC, video game consoles and hand-held video game consoles. This might have the consequence that a large portion of the participants in this study tend to be more specialised towards what brought them into gaming in the first place.
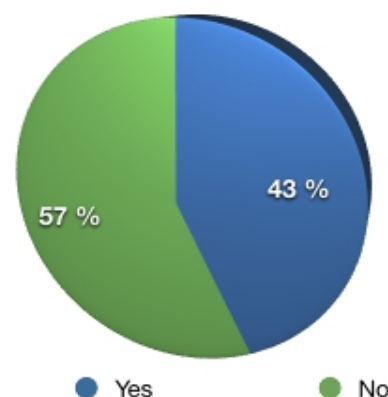
Illustration 5: Graph for question 3

4. How much time do you spend on multiplayer games on smartphones or tablets every week?

- Less than 3 hours – 54 answers (81%)
- 3 to 6 hours – 9 answers (13%)
- 6 to 9 hours – 1 answer (1%)
- 9 to 12 hours – 0 answers (0%)
- More than 12 hours – 3 answers (4%)

Most people play less than 3 hours a week. However, This question was only supposed to be answered by the people who answered yes on the question whether they play multiplayer games on smartphones or not (as stated in the questionnaire), but more people have answered to it than the number of people that said that they played multiplayer games online.

Illustration 6: Graph for question 4

Furthermore, some people who did say that they play multiplayer games on smartphones and tablets could have skipped it since it is not a required question.
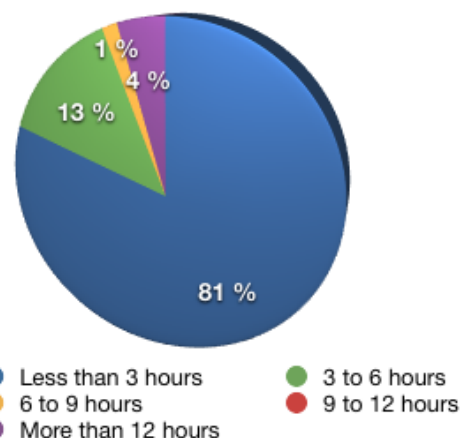
If we look at question 5 and 6 however, it becomes clear that the games generally enjoyed on smartphones and tablets are games such as Wordfeud and other turn-based games. These games do not require someone to play them extensively and fit very well for playing in places like the subway or a bus. Short bursts rather than something you play for several hours.

5. What kind/kinds of multiplayer games do you play on smartphones or tablets? (multiple choices)

- Turn based games online (Wordfeud, Poker, Chess) – 55 answers (69%)

- Realtime multiplayer online (Need For Speed, Asphalt, Call of Duty) – 11 answers (14%)

- Turn based games offline (Same kind of games as the ones online) – 9 answers (11 %)

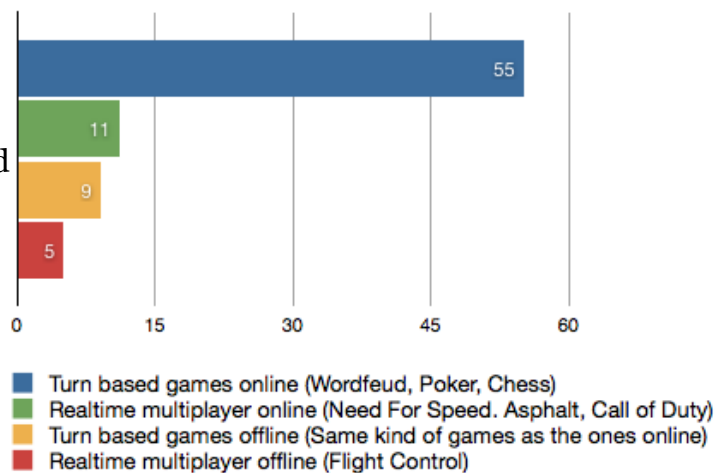- Realtime multiplayer offline (Flight Control) – 5 answers (6%)

Illustration 7: Graph for question 5

The results of this question was very different to the results in the corresponding question for other systems (Question 11). We have already analysed some reasons for this in the previous question and we will come back to the topic in the next question.

6. Which genre/genres of multiplayer games do you play on smartphones and tablets? (multiple choices)

- Action – 12 answers (12%)

- Racing – 9 answers (9%)

- Strategy – 31 answers (31%)

- Fighting – 2 answers (2%)

- Music – 8 answers (8%)
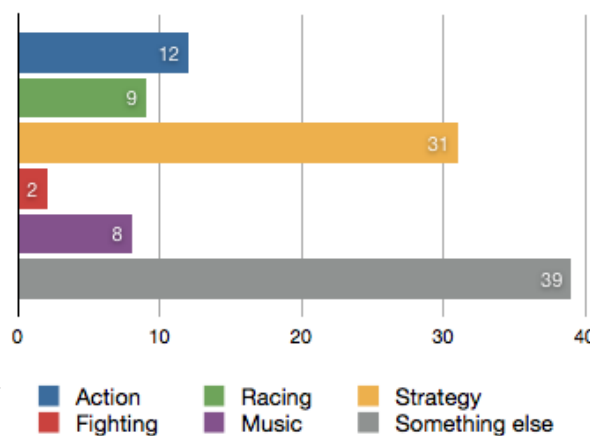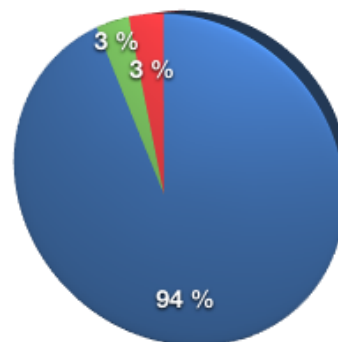
- Something else – 39 answers (39%)

Please note that the percentage on these results do not correspond to the amount of people answering to the question, but to the amount of checked boxes, as the question is a multiple choice one.

Illustration 8: Graph for question 6

This question is important because it is very interesting to know whether the same kind of games have the same popularity over different platforms, because we can then compare it to that of multiplayer games on other platforms and if the answers are equally distributed we can draw conclusions about the competition between smartphones or tablets and other systems. If we have a situation were the same genres are about equally represented it would mean that they compete over the same players, while the opposite could imply that they are in many ways separate markets.

"Something else" was the most popular answer. "Something else" is genres that do not qualify to be in any particular genre, such as Wordfeud or Quizkampen.

7. How much money do you spend on multiplayer games for smartphones or tablets every month?

- Less than $5.00 – 59 answers (94%)

- $5.00 to $10.00 – 2 answers (3%)

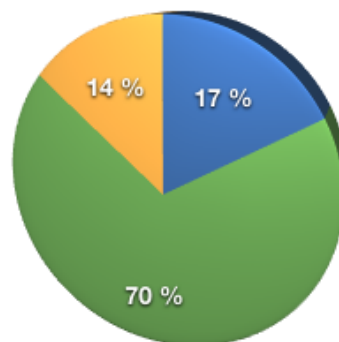- $10.00 to $15.00 – 0 answers (0%)

- More than $15.00 – 2 answers (3%)

This is an important question because it points out how much people are willing to spend on mobile software compared to software for other systems. Games and software on Android and iOS are generally much cheaper and a large portion of the applications found on each of the online stores are free of charge. These applications are also more simplified than similar applications found on other systems.

Illustration 9: Graph for question 7

8. Do you think you could spend $40-$50 for a multiplayer game on a smartphone or tablet if it had the same level of quality as a game on a gaming console or PC?

- Yes – 23 answers (17%)

- No – 96 answers (70%)

- I do not know – 19 answers (14%)

$40.00 - $50.00 is what a new more advanced multiplayer game on PC, video game consoles and hand-held video game consoles usually costs. Hence, this question answers the question if games with a similar budget as the ones released for PC, video game consoles or hand-held consoles could be released for tablets and smartphones as well. Games for smartphones and tablets generally have a much lower budget and costs much less than similar games on other systems. 70% of the participants said "No", which is a clear indication that people have a hard time imagining themselves playing these kind of games on a smartphone or tablet. At the same time, very few games that have a similar level of detail and depth have been released on smartphones and tablets.

Illustration 10: Graph for question 8

9. Do you play multiplayer games on PC, console or hand-helds?*

- Yes – 123 answers (89%)
- No – 15 answers (11%)

The results clearly shows that more people play multiplayer games on PC, video game consoles and hand-held video game consoles.

Illustration 11: Graph for question 9

10. How many hours do you spend playing multiplayer games for PC, console or hand-helds every week?

- Less than 3 hours – 31 (25%)
- 3 to 6 hours – 27 answers (21%)
- 6 to 9 hours – 22 answers (17%)
- 9 to 12 hours – 14 answers (11%)
- More than 12 hours – 32 answers (25%)

It is clear that these numbers are significantly higher than those for smartphones and tablets and as we said in the corresponding question on smartphones and tablets, this could be due to different kind of experiences on the different systems.

Illustration 12: Graph for question 10

11. Which kind/kinds of multiplayer games do you play on PC, console or hand-helds?

- Turn based games online – 24 answers (13%)
- Realtime multiplayer online – 109 answers (57%)
- Turn-based games offline – 23 answers (12%)
- Realtime multiplayer offline – 35 answers (25%)
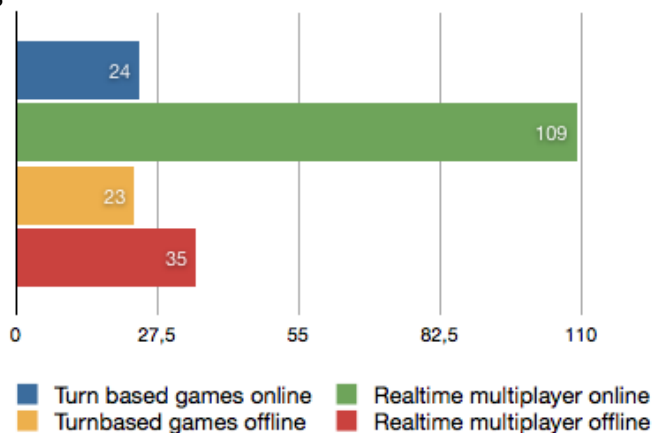
These numbers are very different to the ones we had in the smartphone and tablet section. The most popular choice by far was turn-based games online. This is a clear indication that the games generally played on smartphones and tablets have a different structure than what is popular on other systems.

Illustration 13: Graph for question 11

12. Which genre/genres of multiplayer games do you play on PC, console or hand-helds?

- Action – 97 answers (35%)
- Racing – 22 answers (8%)
- Strategy – 73 answers (26%)
- Fighting – 29 answers (10%)
- Music – 7 answers (3%)
- Something else – 49 answers (18%)
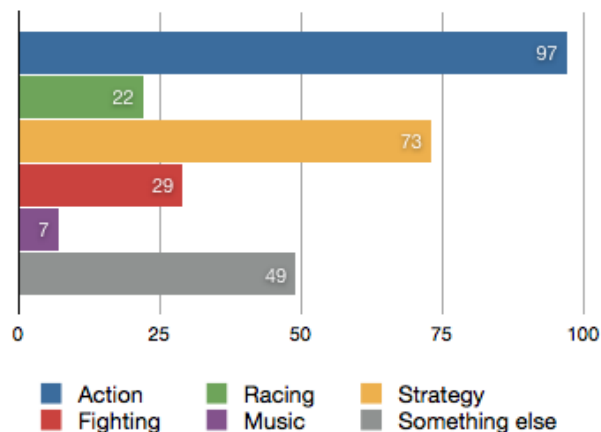
Like the previous question these numbers differ a lot from the ones on the smartphone and tablet section. Here action is the preferred multiplayer genre, with strategy as second.
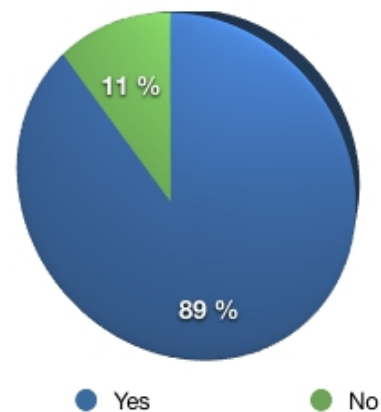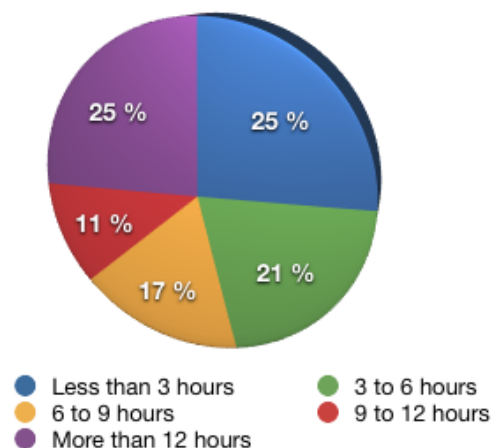
Illustration 14: Graph for question 12

13. How much money do you spend on multiplayer games for PC, console or hand-helds every month?

- Less than $10.00 – 72 answers (59%)

- $10.00 to $20.00 – 27 answers (22%)

- $20.00 to $30.00 – 9 answers (7%)

- $30.00 to $40.00 – 9 answers (9%)
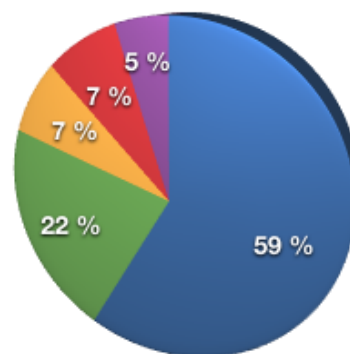
- More than $40.00 – 6 answers (5%)

The amount of money people spend on multiplayer games on systems other than smartphones and tablets is higher, but still most people spend less than our lowest alternative. However, even though we increased the money that you can spend on each alternative, there was much fewer who chose the lowest price range (94% chose the lowest alternative on the smartphone and tablet section). Again this is probably due to expectations of what a game should cost on smartphones and tablets.

Illustration 15: Graph for question 13

14.Which system do you prefer to play on?*

- Smartphone/tablet – 6 answers (4%)

- PC – 91 answers (66%)

- Console – 41 answers (30%)

- Hand-helds – 0 answers (0%)

This result speaks for itself. The preferred system to play on is PC and video game console is the second choice. An interesting aspect is that smartphones and tablets seem much more popular than hand-held video game consoles, even though we showed previously in this chapter that hand-held console gaming still is very popular, even though smartphones and tablets offer something similar.

Illustration 16: Graph for question 14

15. Do you think the market for multiplayer games on tablets and smartphones will grow at the expense of other systems?*

- Yes – 48 answers (35%)

- No – 75 answers (54%)

- I do not know – 15 answers (11%)

"No" is the most common answer, but we can definitely note something interesting in comparison with the previous question. That is that 96% preferred to play games on something other than smartphones and tablets, but 35% think that multiplayer gaming on smartphones and tablets will grow on the expense of other systems in the future. [8]
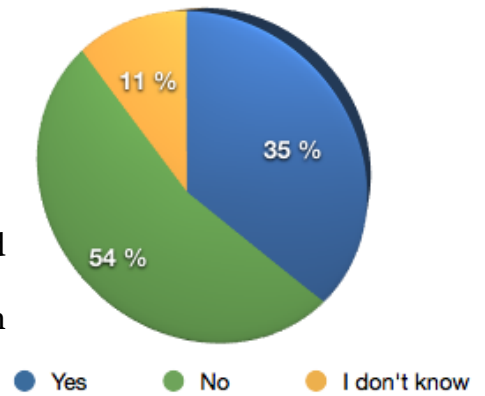

Illustration 17: Graph for question 15

4. Interviews with people working in the gaming industry

As a part of this report we reached out to representatives of the gaming industry, where we wanted to get some information about what developers think about current platforms where you can play multiplayer games including smartphones and tablets and how the future of multiplayer games on smartphones and tablets will look like.

4.1 Companies and their games

 The first company that we interviewed was Illusion Labs. They are one of the biggest and most successful mobile game development studios in Sweden with multiplayer games like: "Foosball" and "Labyrinth 2". They started their company in 2007, at the same time as iPhone was introduced worldwide. The interview was performed with a game developer at Illusion Labs, Marcus Dawson.

Days of Wonder were the second company who we were able to interview. They produce mostly board games and card games, but lately they started developing games for PC, smartphones and tablets. Their most popular game is "Ticket to Ride", which is a multiplayer train game. The interview was performed with Vice President of Sales & Marketing, Mark Kaufmann.

Doctor Entertainment is another Swedish game developer which we interviewed. They are based in Uppsala and develop mostly games for PC and video game consoles, where they have a lot of experience. "Gear Up" is their newest multiplayer game. The interview was performed with their CEO, Jesper Rudberg.

4.2 Costs of developing multiplayer games

In paragraph 1.3 we mentioned that we want to compare the costs of developing games for PC and smartphones or tablets. We asked our developers to supply us with some answers when it comes to their finances.

All developers talked about a very big variation in cost from game to game. Most often productions of games on smartphones and tablets are much smaller, which leads to less cost, which means less risk-taking if it ends up not being very successfull. Mobile games usually do not have even nearly as big budgets as AAA PC games. AAA games can sometimes cost more than tens of millions of dollars to create.

Developers pointed out that there is a big market for multiplayer games on smartphones and tablets and that they sell well in comparison to other games on these devices.

Another part of the questions about the finances was a question if it is possible to sell full price games ($59.99) on smartphones and tablets.

Marcus from Illusion Labs pointed out that people nowadays expect that those

more expensive games on smartphones/tablets should cost no more then $6.99. He also mentioned that developers don't want to risk money on big productions of games, which would increase the cost of games at the online stores.

During the interview with Doctor Entertainment, Jesper said that people are willing to pay more for some games in the form of expansions, new weapons, lives etc. They are just not ready to pay it with a one time fee, because they think that it is too expensive. Jesper has seen some developers try to increase their game price and they have succeeded quite well.

In Mark's opinion, the market is not ready for and maybe never will accept such high prices on mobile devices.

4.3 Pros and Cons

4.3.1 Illusion Labs

4.3.1.1 Pros

A major advantage of mobile gaming is that you can do something fun and powerful in a relatively short time. Small teams can create and publish a game with few resources. It can be done on consoles and PC as well, but it is not as easy to succeed.

Another advantage is that there is a very clear channel to sell their games that all potential customers know about.

4.3.1.2 Cons

One drawback is that it sometimes feels a bit restrictive with how graphically impressive you can make a game. The graphics in mobile phones is not on the same level as a PC or consoles.

One thing that can be both an advantage and a disadvantage is that the controls differ a lot from traditional games which mean that you must design the games quite differently from traditional games.

4.3.2 Doctor Entertainment

Pros

There are clear selling channels that work very well. Multiplayer games as well as singleplayer games do not require big resources to develop.

Cons

Development is constantly progressing and brings new platforms. It can be new iPhone or Android phones with new processors, screen sizes and display resolutions, but it doesn't stop just there, because different companies work all the time on new hand-held devices for gaming.

The biggest problem is the amount of games available on smartphones and tablets that brings cut-throat competition. People who want to start working in

this business really need to think about: What they can contribute with? Why should somebody buy their product? There are already many games of the same genre with different functions and only a few can be successful with truly creative developers that bring gaming to the next level.

4.3.3 Days of Wonder

Pros

Having a single source for sales with the AppStore is a huge advantage - all customers know where to buy and all have given Apple their credit card making transactions smooth.

iOS has a well defined development path and well-established protocols/API's and tools, plus only a handful of devices to support.

Cons

In form of disadvantages Android is much more diverse in terms of devices that has to be supported (or not) and multiple purchase (and pirate) sources. This makes it a financially higher risk platform.

4.3.4 Pros and Cons – smartphones and tablets vs other platforms

The way we play games on smartphones is quite different when we compare it to PC and consoles. We play games on smartphones in different locations and under shorter time frames. It can be on the bus, train on our way to work or school. It may not be optimal to play FPS (First Person Shooter)-games in those location, but if we instead look at strategy games then our gaming experience suddenly change.

Multiplayer games are very dependent on fast response times and on stable connection, which can sometimes be difficult to obtain on a mobile phone. Because of that, many multiplayer games are not realtime multiplayer games.

4.4 Future

Mobile multiplayer games have strong potential and will increase in numbers in the future. There will also be a lot of single-player games with elements of multiplayer, such as games with a global high score.

Right now, many multiplayer games are not realtime multiplayer games because of bad connection and latency. In the future, realtime multiplayer games will be more popular and available because of progress in mobile technology with better 3G and 4G networks. This can lead to more intensive and action-packed games.

4.5 Competition: smartphones and tablets vs other platforms

All games are competing for the players' time and what games they choose to play. Multiplayer games on various platforms are quite different and depending on different circumstances like response time, where they are played and what controls they are using. These circumstances often leads to groups of players where everyone has different capabilities.

4.6 Quotes from well known people in the industry

4.6.1 Cevat Yerli.

(...)The current generations are drying out and the longer we wait for the next generation of consoles, the higher the likelihood that they could fall behind tablets in terms of being the first thing people reach for when the time comes to play games. Tablets are putting pressure on the gaming industry, and taking over in some ways, so that should be kept in mind. - Crytek founder Cevat Yerli. [9]

Cevat Yerli talks about the future of current and next-generation platforms and how quickly people can adapt to new things and make a habit of it. He sees potential in tablets and smartphones, because of their quick evolution and development both in hardware as well as in software. Sony, Microsoft and Nintendo, those three big players in the console gaming industry should not underestimate tablets and smartphone as a big gaming market.

4.6.2 Justin McElroy

(...) I think that people still want to play a game with a controller and a box that you put discs into. I think the future for video games is a phone in your pocket that connects to your controller that rests in your living room and video signal to your TV or your receiver. I think that's the future as far as I'm concerned. I don't think we'll get there during the coming generation (PS4/Xbox720). I think we've got at least one more console generation coming. (...) - managing editor for Polygon.com, Justin McElroy [10]

Justin talks about people's gaming habits and what it can mean for future gaming. He sees it as collaboration of smartphones/tablets and TV's. Mobile devices streams its content to our TV and others devices in our homes. It can be video signals, audio signals or both. Right now Apple have some similar feature called AirPlay which can do the things described above, but it is not available in many devices.

Technology makes progress all the time and new features gets implemented at the same time.

4.6.3 John Romero

"What I didn't foresee in 2005 was the rise of the post-PC, which are all these tablets now. These are the things that actually will probably be the end of the consoles. The new iPad has crazy fast graphics and it's a fast machine and it delivers great games. It can mirror the graphics to a giant HD screen and it's basically just showing you that you don't need a console." - The creator of Doom and Quake, John Romero.

John Romero, have the same view on the situation of future gaming as Justin McElroy and Cevat Yerli. He sees tablets and smartphones, the post-PC devices, as big markets for developing games. John talks even about competition between smartphones and tablets with consoles and even that those will be the end of consoles. [11]

5. Conclusion

Right now there are a few technological and psychological constraints that keeps AAA-games development from becoming more popular on smartphones and tablets.

The latency of the 3G networks is still an obstacle that has to be overcome before the development of realtime multiplayer games can begin to make its transition onto these new formats. It is still possible to play over the Wi-Fi network, but that somewhat eliminates some of the pros with having multiplayer gaming on a smartphone or tablet instead of some other device. This however, is an issue that can be solved by advancements in technology and it is very likely that this is just a temporary problem.

There is also the different method of input on a touch device, which works well on some occasions, but may not work as well in others. As we have seen in Chapter 2, there is controller peripherals that you can connect to a smartphone or tablet. There is however a problem with such peripherals, that is that the game can not completely rely on them since most people will not own them. What we think has to be done in order for such a controller to become popular is to sell it along with the actual smartphone or tablet that it is designed for.

The first psychological constraint is that people are used to buying software on the online stores of iOS and Android at a very low price. This could be solved if gaming companies were to really show off what they can do on the hardware, but it is still a financially risky endeavour. We think that the first games of this kind will be games that has been ported from another system onto the smartphone and tablet format. It is much cheaper to develop a port than to to develop a new exclusive title for these new platforms.

Another psychological constraint is that people can have a very fixed opinion of what a mobile game or a PC game is. If more AAA games where to be released on a mobile platform it could initially prove difficult to persuade people that such a game could work just as well on a smartphone or tablet as on another system.

People also generally do not play games on smartphones and tablets for hours which is more common on other systems. This does not mean that both more advanced experiences and the kind of games that are already supported can not exist side by side.

However, AAA games are not all that matters. Smartphones and tablets have already popularised games such as Angry Birds and Wordfeud, which are gaming experiences that are not as common on other systems. Considering how successful games like these can be, there is definitely a market for games in general on smartphones and tablets no matter if they not are as technologically advanced as games on other systems. As of now we have a situation where every gaming system has something of their own to contribute that can not be copied easily.

If the multiplayer games market of smartphone and tablets continues to be dominated by turn-based and singleplayer games, they appeal to different

segments of the gaming market in comparison to other systems and that would mean that devices relying heavily on their touch screens will continue to coexist with other devices. However, if we are to believe well known people in the gaming industry, the possibility of streaming games to a TV from such a device could very well mean the end of console gaming and we are inclined to agree with that conclusion.

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