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STUDENTS' LEVEL OF INTEREST AND OPINIONS ON A POSSIBILITY OF ACQUIRING A SCHOOL PROVIDED PERSONAL LAPTOP.
Oulu University of Applied Sciences, School of Business and Information Management

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ABSTRACT

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Oulu University of Applied Sciences, School of Business and Information Technology is planning to implement a project where students would have the possibility to get a laptop to his/her use. The purpose of this thesis is to study if and how Oulu University of Applied Sciences, School of Business and Information Management should implement the laptops for students project.

The theoretical back ground consists of four main elements: software, hardware, networks and internet security. The main tools of research are interview and questionnaire. The interview is conducted to the University of Oulu IT-department and the questionnaire to the students of Oulu University of Applied Sciences, School of Business and Information Management.

Based on the interview and questionnaire results, suggestions on if and how the laptop project should be implemented are given. Based on the research it can be concluded that there are interest towards the laptop project. If the environmental issues such as power sockets, WLAN and network drives are improved the laptop project has good chances to succeed.

Contents

1. INTRODUCTION

Studying, completing courses and ultimately completing a degree requires the use of computers. Whether registering to courses, making research for a school project, or checking timetables, the use of a computer is mandatory. The juxtaposition of needing a computer, a fairly expensive equipment to a student's budget, and the necessity for one in order to be able to study efficiently, can be resolved by providing laptops for students also outside of school.

This method has been employed in many institutions providing higher education in Finland, and it has been utilized by the students. The purpose of this Bachelor's Thesis is to examine whether the system of providing computers to students should be taken into use and how it should be implemented in the Oulu University of Applied Sciences, School of Business and Information Management. The methods utilized vary from questionnaires to interviews. Main tool of research used are the questionnaires. The questionnaires are used to find out if the Oulu University of Applied Sciences (OUAS) School of Business and Information Management (SBIM) students are interested in the possibility of getting their personal laptop or notebook from the school, and how the students feel the project should be implemented. Since University of Oulu has a similar laptop project implemented, interviews are also used in order to acquire valuable knowledge from them. The interviews and questionnaires are analyzed and proposals for the implementations are made.

The theory base used in the study consists of four key areas: software, hardware networks, and internet security. Since software dictates the need of the hardware the first part in theoretical background introduces the computer software and software licenses. In the second part of the theoretical background basic computer hardware and computer types are introduced. Laptop and notebook hardware such as mouse, memory, central processing unit, graphics processing unit and the size of the screen are covered. The third part of

theoretical background introduces network and internet issues. Especially basic level of WLAN is introduced and the WLAN efficiency in the OAMK building is discussed.

The last part of theoretical background is Internet security. The Internet security chapter will discuss issues that have to be taken into consideration, such as the need of filtering and blocking website of certain nature, restrictions on what the student is able to install to the computers, viruses, malware, antivirus software and other software.

1.1 Oulu University of Applied Sciences, School of Business and Information Management

School of Business and Information Management is located in Oulu Finland. According to the website of Oulu University of Applied Sciences (OUAS) (Oulu University of Applied Sciences 2011, date of retrieval 25.10.2011), the school offers five Bachelor degree programmes: Degree Programme in Business Information Technology, Degree Programme in International Business, Degree Programme in Library and Information Services, Degree Programme in Business Economics and Degree Programme in Business Information Systems. The scope of each degree programme is 210 ECTS credits and it takes approximately 3.5 years to complete a degree programme, (Oulu University of Applied Sciences 2011, date of retrieval 25.10.2011).

The School of Business and Information Management (SBIM) has over 1700 students and employs 100 staff members. (Oulu University of Applied Sciences 2011, date of retrieval 25.10.2011) SBIM has approximately 450 desktop computers and a library which holds books mainly from the field of business & administration, library & information services and business information technology, (Oulu University of Applied Sciences 2011, date of retrieval 25.10.2011).

1.2 IT-Organization

In modern day workplaces the use of computer has come mandatory. This is not different when talking about a school. Information is published and read in the Internet, lecture slides are composed with a computer and presented to the students again with a computer and communication between teachers and students are handled via e-mail. These are just a few examples where a computer is a necessity. It cannot be argued that computers and the Internet have not made working and communicating more efficient. In order to keep the working and communicating effective and efficient, a proper IT-department has to be established.

University of Applied Sciences (OUAS), School of Business and Information Management (SBIM) has an IT-department which is responsible of keeping the ~450 computers up to date and up and running. The IT-department that is responsible of the daily maintenance and support task of OUAS, SBIM has currently 2.5 employees; two of the employees are working full time and one is working part time. The part time employee is doing half of the full hours per day. As mentioned earlier, the responsibility of the IT-department is to ensure that the computers, printers, routers, LAN, WLAN and other equipment are working at all times. Help-desk for teachers and students is also a responsibility of the IT-department. Buying new computer hardware, software and computer accessories are a task of IT-department. (Kämäräinen 22.2.2012, Interview)

It is clear that the IT-department plays a key role in keeping the working community of OUAS, SBIM effective. When computers, printers or Internet are not working, many of the daily routines in the school are put to halt or are significantly harder to complete. The already heavy load on the IT-department is made even heavier if the OUAS, SBIM laptops for students project is implemented. Introducing new computers into the school will probably mean

more work and responsibility to the IT-department. It should be noted that the increased workload can be too much to the 2.5 person staff that is currently handling the IT responsibilities. Therefore, to ensure the smooth and effective operation of computers, printers, the Internet and other equipment, recruitment of additional IT-staff could be needed

2 THEORETICAL BACKGROUND

2.1 Software

According to Khanna (2008, 14) software is what makes a computer actually function. Software gives the hardware step-by-step instructions of how to work and compute. Without software the hardware cannot function. Any instruction which makes the hardware perform a task is called software. (ibid)

Software can be categorized into system software and application software (Khannia 2008, 15). System software can, for example, refer to software which makes the computer activate itself, transfer the data from keyboard to computer's memory or which makes the processor run and do calculations. (ibid) Examples of system software are operating system, commands, utilities and device drivers. Device drivers are software which makes devices such as printer, mouse and web cameras operational once connected to a computer. Operating system is a requirement for a computer to work and a user to use it. Operating system activates all its devices, components, resources and makes them functional. Examples of operating system are Microsoft Windows, Linux and Mac OS X. In this category Microsoft Windows is the most well known and widely used operating system. Commands are the basic instructions which are used in everyday use of a computer. Examples of these commands are storing data into a file, viewing contents of a stored file, making copy of the file and renaming the file. Utility software refers to software which guards the computer and its resources from outside threats, thus ensuring a proper functionality of the computer. Examples of utility software are data compression tools, virus protection software and disk fragmentation software. (ibid)

The second category of software is application software (Khannia 2008, 15). Application software is software which automates a manual task. Examples of application software can be calculating income tax or booking tickets to a sports event. Most of the software used to work or study is application software. (ibid) Application software is commonly developed to automate a specific task (Khannia 2008, 16). Microsoft Office, Photoshop and 3-D Max are well known and widely used application software which automate a specific task. Microsoft Office is used for office activities whereas Photoshop is used for image editing and 3-D Max is used for 3D modeling. Overall it can be said that application software are widely used software which enables more effective work and study.

It can be said that system software is the most crucial part of making the computer operational. Therefore, most of the system software is pre-installed to the computer before sold to a final customer. Although the system software is mandatory in order to computer to function the application software is also important. Application software allows the use to work with the computer. Therefore an effective computer needs a working mixture of system and application software.

When talking about software, it is crucial to note that all software is protected under copyright (Keskikiikonen 2008, 13). Software can be put into three categories: proprietary, freeware and open-source. In order to use proprietary software a user has to buy a license which grants him/her the right to use the software. Sometimes proprietary software has a trial period where the user is allowed to try the product before making the purchasing decision. When the software is stated as freeware it allows the user to use and share the software free of charge. The restriction in freeware software is that the source code of the software is not public meaning that the user is not allowed and in many cases cannot alter the source code. Growingly popular is the open-source software, best example of open-source software is Linux. In open-source software the user is allowed to use, share and also alter the software. (ibid)

The software used by Oulu University of Applied Sciences (OUAS), School of Business and Information Management (SBIM) are mostly proprietary. Examples of these software are Microsoft Windows, Microsoft Office and the software used in the courses, for example UML diagram tools or Adobe Photoshop. Depending on the amount of laptops acquired by OUAS, SBIM and the amount of unused licenses available, OUAS, SBIM may have to buy great deal of new software. Due to the price of software the investments can be considerably high. The software list of OUAS, SBIM can be found in Appendix 3.

Software is a good starting point for the research of how the Oulu University of Applied Sciences, School of Business and Information Management should implement its project of providing laptops to its students. It is a good point to start because software dictates the needed hardware. There are software that can be used with a cheaper and smaller sized notebook and there is software that require a more expensive and larger laptop. Examples of these software are: Adobe Photoshop which requires a laptop with more RAM, faster processor, efficient graphics chip, larger screen and large enough hard-disk. On the other hand there are software like an Internet browser and Microsoft Word which can be efficiently used with a smaller and cheaper notebook. As mentioned earlier, it is important to determine the desired software before consideration of the hardware.

2.2 Hardware

The most important components of any computer whether a laptop, notebook or a PC are: motherboard, processor, hard-drive, random access memory (RAM) (Keskikiikonen 2008, 5). These are the parts that make that make the core of any computer hardware. Other important components and accessories of a computer are: monitor, keyboard, mouse, DVD-drive, and in case of laptops and notebooks, the battery. Additional devices of a computer or a laptop are for example: printer, scanner, external hard-disk, and speakers. (ibid)

As the focus of this study is on laptop and notebook computers the hardware discussed in this Bachelor's Thesis is laptop and notebook hardware. According to Laptops and Mobile Devices Made Easy (2011, 8) laptop is a small, lightweight computer consisting of built in screen, keyboard and a rechargeable battery. The light weight, size and possibility of working wireless enable the users to carry and use the computer to where ever they want to. (ibid)

Laptops are capable of doing almost everything that a traditional desktop PC (Laptops and Mobile Devices made easy 2011, 8). By everything is meant such as reading e-mails, surfing in the Internet, editing photos and video and even playing games. The difference to a desktop PC is that laptops need to have power in the battery whereas desktop PC is always connected to the power socket. (ibid)

According to Laptops and Mobile Devices Made Easy (2011, 9) a notebook differs from a laptop by its smaller size which is usually 1kg or lighter and a smaller screen size which ranges from 6 to 10inch. From the hardware point of view notebooks contain smaller and more compact components allowing the size of the computer to be smaller. As discussed earlier, notebooks differ from PCs and laptops by having usually smaller, and therefore less powerful components. For example, less random access memory (RAM), smaller hard-drive, smaller processor and not as powerful graphic chip. Because of the hardware limitations, notebooks are not as suitable for graphics and RAM intensive use. (ibid)

As stated earlier, laptops and notebooks have a battery (Laptops and Mobile Devices made easy 2011, 24). The battery gives freedom to the user but it also sets limitations. The common battery-life for a regular laptop battery is three hours. Using WLAN, internet browser and other tools make the battery drain faster. In practice this means that if a student has a two or three hour lesson, without plugging the laptop or notebook into a power socket, the battery of the laptop or notebook is drained and needs to be recharged. This could become

an issue, since the amount of power sockets in classrooms, hallways and in other areas is limited.

The practical issue with laptops in school is the storage of the computers when school day is over. Will the student take the computer to home or will it be stored in the schools lockers? If the student is allowed to take the computer home, laptop or notebook carrying bags are necessary to ensure the computers stay intact. However, if the computers are stored in the lockers, it must be ensured that there are enough lockers available. The use of notebooks helps the storing and carrying situations slightly due to the smaller size of the computer.

As discussed earlier, there are differences between laptops and notebooks. Laptops are bigger in size but better in performance, notebooks are smaller in size but have less performance. When comparing prices of these two devices, the smaller sized and less powerful notebooks are often cheaper than the heavier and more powerful laptops. The difference in price is due to the different hardware used. Notebooks use less expensive slower performance hardware and laptops use more expensive higher performance ones. A laptop can cost anywhere from 500€ to 3200€ (Verkkokauppa.com 2011, date of retrieval 10.01.2012). The cheapest 500€ laptops are suitable for normal office use, writing documents, browsing the Internet. The expensive over 1000€ laptops are intended for more specific use: playing games, editing video and using software which requires high performance. The price range of notebooks differs quite significantly. Usually a notebook costs from 150€ to 2000€, (Verkkokauppa.com 2011, date of retrieval 10.01.2012). The cheap 150€ laptops are suitable for browsing the Internet and using, for example, the Microsoft Office tools. The expensive notebooks have quite good performance and can be used more like laptops.

Due to the context of this work, it must be noted that even the cheapest laptops can be too expensive for student budget. The possible price issue of the laptops would support the laptops for students project, since the students would get an affordable computer.

2.3 Networks

There are several ways connecting to the Internet. In our homes the common way of connecting to the internet is Digital Subscriber Line (DSL), (Keskikiikonen 2008, 15). After establishing the Internet connection for example via DSL or other methods, the connection can then be wirelessly shared to other devices such as laptops and notebooks, (Laptops and Mobile Devices Made Easy 2011, 184). In short WLAN requires a sender which can be for example a DSL router and a receiver which can be for example a laptop or a notebook. (Ibid)

In this Bachelor's Thesis the focus will be on WLAN, since laptops are connected to the Internet via WLAN. As mentioned earlier, WLAN requires a device that sends the signal and a device that receives the signal. In this case the sender is a WLAN hotspot and receiver is the student's computer, laptop or notebook.

In Oulu University of Applied Sciences (OUAS), School of Business and Information Management (SBIM) there is a public WLAN connection panOULU available for free use, (panoulu 2011, date of retrieval 12.11.2011). panOulu is provided by co-operation with City of Oulu, University of Oulu, University of applied sciences, Hengitysliitto Heli Ry, VTT, DNA Oy, Elisa Oyj, and Netplaza Oy, (panoulu 2011, date of retrieval 12.11.2011).

There are some issues with the WLAN in OUAS SBIM. The problem is the connectivity of the WLAN. For example, in the bottom floor of the school the connectivity is very low or the connection cannot be established at all. In addition some parts of the third floor in the A wing of the school building has low connectivity of the WLAN. These problems of connectivity are most likely a result of a weak WLAN signal. The weak signal is most probably due to the distance of a WLAN hotspots. In my discussions with (Kämäräinen 22.2.2012, Interview) the WLAN issue will be resolved in the near future since the OUAS, SBIM is planning to acquire more WLAN hotspots. When there are enough

hotspots near the building the WLAN connectivity issues will most probably vanish.

Besides the connectivity, an issue to consider is that if hundreds of students simultaneously connect to panOulu, the connection speed could be very low or even establishing the connection could be impossible. The students rely heavily on the Internet in their everyday studying. School projects, lecture materials, timetables, announcements, lunch menus. Therefore the WLAN connectivity in the school premises for the laptop project is crucial.

Final issue to be taken in to considerations is the Y and K network drives. In Oulu University of Applied Sciences (OUAS), School of Business and Information Management (SBIM) Y drive is a network drive where teachers save the lecture and exam materials. The intention is that the students can then access the Y drive and get the latest materials. K drive is a network drive for students to save their personal files in. K drive is most commonly used for students personal school work and documents storage.

The problems with the Y and K drives are that, according to my interview with (Kämäräinen 22.2.2012, Interview) the students are only able to access the Y or K drive via the school's computer in the school's network. This leads to a problem, where student has a school provided laptop in his/her use but cannot access the lecture materials or personal materials with that laptop. This is something to take into consideration, since it would make the use of the laptops more efficient.

2.4 Internet Security

While the Internet is crucial in modern day learning and studying it can also pose a threat to the computer. Viruses, malware, spyware and even hackers can be a potential risk to the device (Keskikiikonen 2008, 18). The malfunctioning computer leads to extra work for the IT-staff. Therefore it is important to pay notice of the Internet security. The best way of protecting a computer against these threats is with software and responsible use. There are

several free and commercial software available, which are intended to protect the computer from external harm. There is no one best software intended for this kind of use. Therefore, the best solution will depend on the practices of Oulu University of Applied Sciences (OUAS), School of Business and Information Management (SBIM) and possible available software licenses of OUAS, SBIM.

Since the computers will be in the use of students and connected to the internet via public WLAN, the security will be mainly in the hands of the student using the computer. The most effective way of protecting the computer from harm would be pre-installing firewall, anti-virus software and setting up a user and administrator accounts. By removing the admin rights from the student prevents the user from installing software to the computer and changing the system settings of the computer hence improving the security of the device. Another issue to resolve is the user accounts. Since the computers are using public WLAN and not being connected to the schools network the most effective way would be setting up a Windows operating system username and password. The updating of the operating system, anti-virus programs and other software will be the user responsibility.

Besides to the preventive methods of anti-virus software, firewall and removing some of the administrative rights from the user, Oulu University of Applied Sciences, School of Business and information management could implement a set of rules of using the computer and if the rules are clearly broken, the right to use the computer would be taken from the user. For example a rule where the student has to keep the software and the operating system up to date and if the user fails to do so and ends up having viruses, malware and other harmful content on the computer the right to use that computer would be taken from him/her. The measures taken in order to protect the computers will be in tied with ownership of the computers. Meaning that, if for example, the computers are sold to the students, the decision of how to upkeep the computers will be entirely up to the student. If the computers are rented to the students, more strict measures could be taken into use.

Despite the preventive methods, computers might break down and need to be restored. The effective way of restoring a computer is to create an image file of the system. The image file can then be used to restore the computer to its original configuration. The image file can be done with the operating systems own tools or with an external software. The maintenance responsibility depends on the ownership of the computers. If the computers are sold, the student has the responsibility of maintaining the computer. If the owner of the computer is the school the school has to maintain and upkeep the computers.

3. RESEARCH

3.1 Methods Used

In this Bachelor's thesis both qualitative and quantitative research methods are utilized. In the research both questionnaires and interviews are conducted. The purpose of the interviews and questionnaires is to find out what is the most effective way for Oulu University of Applied Sciences (OUAS), School of Business and Information Management (SBIM) to implement the laptop project. The interview was conducted in the winter 2011 and the questionnaire in spring 2012. The findings are then analyzed and presented in the chapter 3.2.

The interview is conducted by consulting the IT-services of the University of Oulu. The reason for this is that the University of Oulu has implemented a similar laptop project for students. The experiences of the University of Oulu will hopefully aid OUAS, SBIM to implement their project in an effective manner. The results of the interview are presented in chapter 3.2. Findings and also used to in Chapter 5 to make proposals to OUAS, SBIM. The questions for the Oulu University IT-department interview questions can be found in Appendix 1 and the answers in Appendix 2.

The questionnaire to the students of OUAS, SBIM is conducted with an Internet based survey and analysis tool called Webropol. Composing and sending the questions are both using this tool. Finally, Webropol is also utilized in the analysis of the answers to the questionnaire.

Questionnaires are conducted to the students of OUAS, SBIM. The population of 268 students is chosen from five different degree programs; two degree programs in English: Degree Program in International Business and Business Information Technology, and also three Finnish degree programs: Tietojenkäsittelyn koulutusohjelma (Information Technology), Liiketalouden

koulutusohjelma (Business) and Kirjsto- ja tietopalvelun koulutusohjelma (Library and Information Services). In each of the five degree programs, there are several groups of students based on the year they have begun their studies. From these groups, the population for the research is randomly selected. The chosen degree program groups are: BIT1SN and BIT9SN from the Business Information Technology, DIB0SN and DIB8SN from the Degree in International Business, KIR1SN and KIR0SN from the Kirjsto- ja tietopalvelun koulutusohjelma (Library and Information Service), LIK9SNB and LIK0SNA from the Liiketalouden koulutusohjelma (Business) and finally TIK1SNB and TIK9SA from the Tietojenkäsittelyn koulutusohjelma (Information Technology).

The purpose of these questionnaires is to find out if the students are interested of the laptop project and how the students feel the laptop project should be implemented. Again, these findings are presented in Chapter 3.2 and then further analyzed in Chapter 5.

3.2 Findings

As mentioned in the previous chapter, research in this thesis is done with the help of questionnaires and interviews. The questionnaire is conducted to the chosen students of Oulu University of Applied Sciences (OUAS), School of Business and information management (SBIM). The purpose of the questionnaire is to study if the students are interested in the laptop project and how the students feel that the project should be implemented. The interview is conducted to the University of Oulu IT-department. Because the University of Oulu has had a similar laptop project active for over 5 years, they have valuable information which might help OUAS, SBIM avoid some pitfalls and help in the overall implementation.

3.2.1 University of Oulu interview

Total of nine questions was asked in the interview with the University of Oulu. The person interview Jari Röpelinen, is a senior system analyst. The

interviewing took place in 13.2.2012 at the University of Oulu. The idea behind the questions was to get as much valuable information as possible in order to help OUAS, SBIM laptop project with the project. In my opinion the University of Oulu was an excellent subject for the interviews since the environment where the laptop project is implemented is similar to the OUAS, SBIM environment. Biggest difference is that the University of Oulu is a bigger institution with more students.

In the interview I found out that University of Oulu has approximately 130 computers for rental. Most of the computers are regular sized laptops and some of the computers are smaller sized notebooks. Majority of the laptops are Microsoft Windows operating system based (97) and only 33 of the computers are Mac OS X operating system laptops. The reason behind the Microsoft Windows dominance is software compatibility and the fact that most of the students are more familiar with Microsoft Windows. Besides the operating system some basic default software is installed to the computer. Examples of pre-installed software are: Microsoft Office, Anti-virus software and firewall. Responsibility of the upkeep of the software and the computer is in the hands of the student. In addition to the pre-installed software, students have full administrator rights in the operating system and are allowed to install any software without limitations. (Röpelinen 13.2.2012, Interview)

Due to the fact that only five computers per year need maintenance due to a software issue and three computers per year because, of hardware issues students do not have any specific set of rules to follow when renting a laptop. This of course would change if more of the computers start breaking down all of a sudden. The maintenance is done in-house by the IT-department. The maintenance is done by using image files of the clean operating system installation. When computer needs maintenance, the image file will be used to quickly restore the computer to its default settings and installations. (Röpelinen 13.2.2012, Interview)

As discussed earlier the University of Oulu offers laptops and mini laptops for rental. The rental prices can be seen below in Table 1.

TABLE 1. Laptop rental prices, University of Oulu.

Examples of prices:	1 week	1 month	3months
Minilaptop	10€	30€	70€
Laptops	20€	50€	100€
Mac	10€	30€	70€

As seen in Table 1, the price of the rental consists of the time of the rental and the type of computer to be rented. Maximum rent time is three months, excluded the twelve laptops with extended rent time. These twelve computers can be rented out for one year. The maximum rental time is due to the license limitations and license costs. Mini laptops cost from 10€/week to 70€/ three months. Regular sized laptops are from 20€/week to 100€/three months. Mac laptops are from 10€/week to 70€/three months. To be noted is that one specific MAC laptop is little a bit more expensive than illustrated in the table because of the aluminum case of the computer (20€/week and 100€/three months). In the interviews I also found that the laptops are extremely popular among the students and it is not rare that there are only a few of the laptops left for rental at specific time Röpelinen, 13.2.2012, Interview. It could be argued that the price is the most important factor in the popularity of the laptop project. Since it seems that the University of Oulu laptops project is extremely popular, the rental price is probably quite optimal.

When discussing laptops battery life and WLAN issues have to be considered. According to my interview with the University of Oulu no actions have been taken to increase to amount of power sockets in the school building. The existing power sockets in the hallways and lecture halls have been sufficient and no real complaints have been received. It is the students responsibility to keep the battery of the laptops charged. The WLAN used by the students in the University of Oulu building is provided by panOULU. For time to time there are some connectivity issues due to the high traffic and low connectivity. The

internet issues are again a responsibility of the student using the computer. (Röpelinen 13.2.2012, Interview)

University of Oulu laptop rental system has been successful for more than five years. Renting laptops is very popular and running into real problems has been minimal. As shown in the low need of maintenance, the students that use the laptops are using them responsibly, therefore resulting the rental system to operate smoothly without causing stress to the IT-department. The amount of freedom given to the students and how that freedom is resulting to an effective rental system is somewhat surprising. To be noted is that when a student rents a computer, a specific computer is assigned to the student and if some harm would come to that specific machine, it would be easy to track down the previous user. This probably leads to a situation where the user cannot afford to use the computer irresponsibly.

3.2.2 Questionnaire

The final part of this chapter presents and analyzes the questionnaire answers conducted to the students of Oulu University of Applied Sciences (OUAS), School of Business and Information Management (SBIM). As mentioned in chapter 3.1, the questionnaire was conducted with an Internet-based survey and analyze tool Webropol. Total of 268 e-mails were sent to the students of OUAS, SBIM. The population consists of ten groups; from each of the five degree programs, two groups were selected randomly. With the questions asked in the questionnaire the goal is to study the interest level of the students towards the OUAS, SBIM laptops for students project and to find out the opinions of the students on how the project should be implemented.

The questionnaire was open for responses for 18 days. During that time period total of three waves of e-mails were sent. First wave was the initial request to participate in the questionnaire, second wave of e-mails was a notification to the population and the final wave was a final reminder that the questionnaire was about to close. In addition, the e-mail reminders I personally visited the classes of the chosen population with a goal of acquiring more responses. Out of the

268 e-mails that were sent, 52 generated responses. Therefore the response rate was approximately 19%. It has to be noted that due to the low response rate the analysis is not as accurate as it could be but due to the nature of this Bachelor's thesis, the analysis work had to start. In terms of the response rate, the goal was to get at least 100 responses with a response rate of 37%. The reasons behind the low response rate are hard to pin point. It is likely that the students who the questionnaire invitation was sent did not view the questionnaire as something that concerns them. One interpretation that can be concluded from this is that the interest towards the project is not significant due to the low percentage of responses. However, as students are asked to answer several questionnaires concerning school matters, it is likely the case that they find answering to questionnaires tedious. Another reason for the low response rate could be the fact that both the invitation e-mail and questionnaire was in English. This might have discouraged the Finnish speaking students to answer.

As mentioned earlier, 52 students from the total of 268 responded to the questionnaire. As seen in Figure 1, from the 52 respondents 13 (25%) were from the Finnish TIK (Information Technology) degree program, 11 (21%) from the English BIT (Business Information Technology) degree program, 9 (17%) from the Finnish DIB (International Business) degree program, 14 (27%) from the Finnish LIK (business) program and 5 (10%) from the Finnish KIR (Library and Information Services) program.
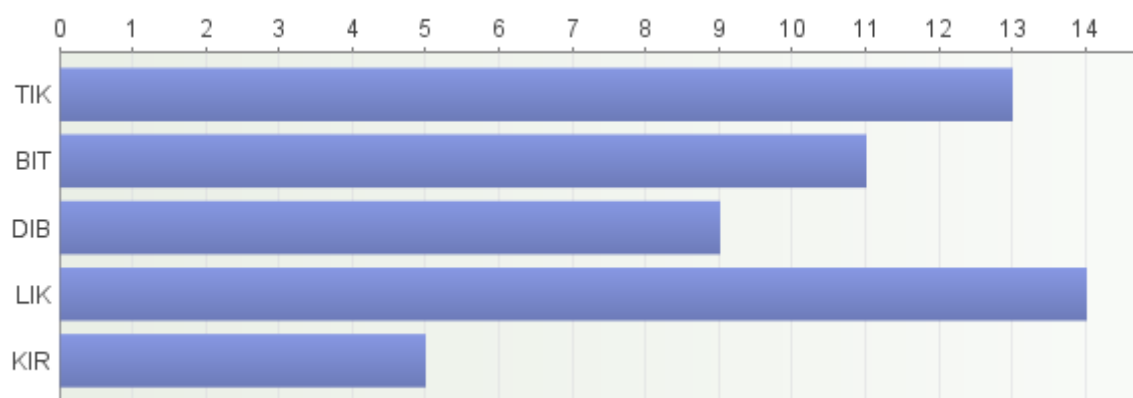

FIGURE 1. Total respondents divided to groups.

The LIK and TIK students were the most active respondents. The KIR students were to least active to answer to the questionnaire. For the accuracy and relevancy of the analysis, a higher response rate would be needed but as stated earlier due to the nature of Bachelor's Thesis, the analysis had to start.

In the questionnaire respondents evaluated their computer skills as follows. 15 (29%) of the students thought they have excellent skills and 33 (63%) said they have good computer skills. Only 3 had mediocre skills and 1 had beginner skills. This result was expected, since in a modern-day world computers are very common and people from wide range of ages are using them daily.

As seen in Figure 2, the level of interest towards the laptop project was quite high. 19 (37%) of the 52 students who answered were very interested and 17 (33%) were interested in the laptop project. 8 (15%) were slightly interested and 8 (15%) were not interested at all.
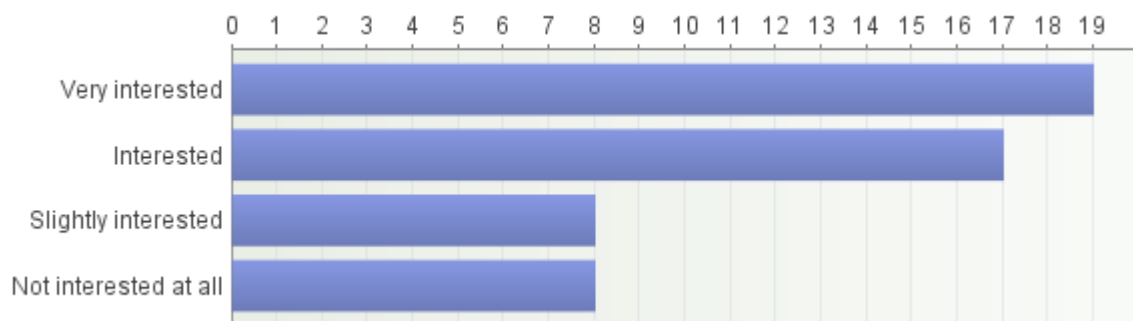
FIGURE 2. Level of interest towards getting a laptop to use from the school.

Majority of the students who responded to the questionnaire were interested in the laptop project. Only eight students out of 52 were not interested at all. One of the tasks in this Bachelor's Thesis is to find out whether the laptop project should be implemented and what how interested towards the laptop project are the students. As seen in Figure 2, majority of the students are interested and only eight students out of 52 were not interested at all. This is a positive sign to the Oulu University of Applied Sciences, School of Business and Information

Management. 69% of the students thought that the device that would be most suitable for the laptop project would be a laptop. Notebook was the second best option.

As seen in the Figure 2, the interest level of the students is high. The reasons why some of the respondents were and some were not interested is important and needs to be further examined. The main reasons why the students are interested in the laptop project and getting a laptop to their use are: easier to make notes in lectures, easier to do group work, student does not have a personal laptop and all of the school work would stay on one computer. As discussed in chapter 2.2, laptops and notebooks are compact and easy to carry with where ever the user chooses to go. This goes well together with the research result where the versatile nature of the laptop is seen as the biggest advantage. The main reasons why the students would not be interested in a school provided laptop are: student already owns a personal laptop and school already has sufficient computer classes.

The high level of interest towards the laptop project that was discussed earlier shows that in the opinion of the students, a personal laptop at school would be beneficial. 15 (29%) of the respondents think that personal a laptop at school would benefit them very much. 24 (46%) of the respondents thought that laptop would benefit them quite much. 10 (19%) answered that it would benefit them not that much and finally only 3 (6%) thought that laptop would not benefit them at all. These results are also depicted below in Figure 3.
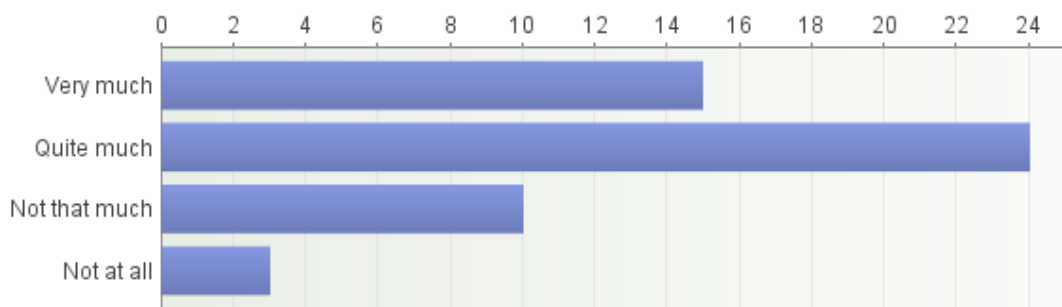
FIGURE 3. Respondents opinion on how much would a student benefit from a personal laptop at school.

In order for a student to gain full benefit from the laptop the student should take the device with him/her to the school. Students seem to agree, since 10 (19%) would be willing to carry the laptop to the school every day and 25 (48%) almost every day. Rest of the students would not take the laptop with them that often or never. Results can be seen below in Figure 4.
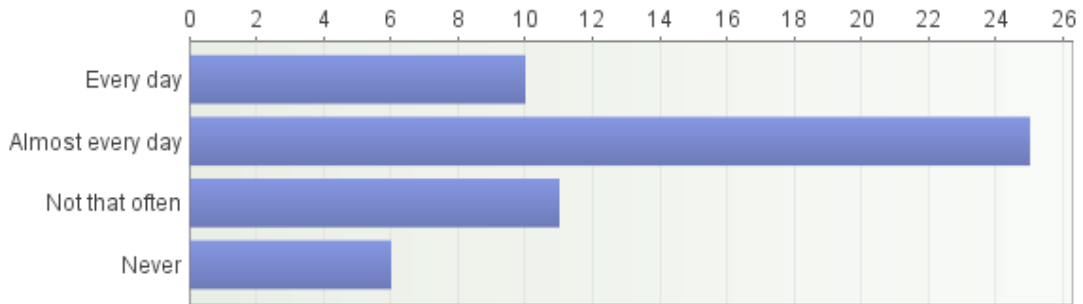

FIGURE 4. Willingness to carry laptop with you to the school.

The important question of whether the students would be willing to pay for the use of a laptop is showing unanimous results. Majority of 39 (75%) of the respondents say that they are not willing to pay for the use of the laptop. Only 13 (25%) said yes. The respondents willingness to pay for the use of a laptop can be seen in Figure 5.
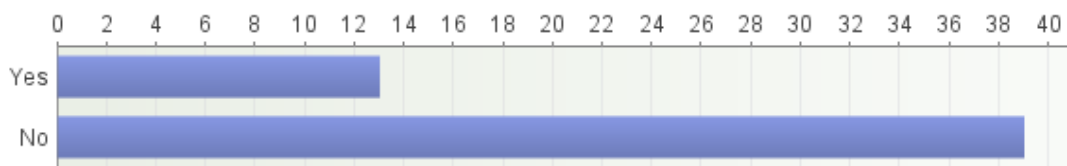

FIGURE 5. Willingness to pay for the use of a laptop.

Students were asked if the use of the laptop would require a payment. The not-willing-to-pay respondents thought that suitable price range would be 0-50€ per month and 0-250€ with onetime payment. Most common amount of rent per month was 5€ and 100€ as onetime payment. The students who were willing to pay for the use thought that suitable price range would be 0-100€ per month and 2-1500€ with onetime payment. Most common amount rent per month was

10€ and with onetime payment 100€. This does not correspond with the rental prices of the University of Oulu. In the rental system in the University of Oulu the laptop prices are significantly higher. Although the higher prices of the University of Oulu the laptop rental is very popular. However, this is probably due to the fact that when people are given a choice regarding prices, they are most likely to choose the lowest possible amount. The opinion on how much the laptop should cost did not differ much between the students who were willing to pay and the students who were not willing to pay.

From the marketing point of view, the laptops can be used to lure more new students to the school. In the students opinion 7 (13%) thought that it would make the school very much more appealing and 21 (40%) said that it would make the school quite much appealing to apply. 16 (31%) thought not that much and 8 (15%) not at all. Results are depicted below in Figure 6.
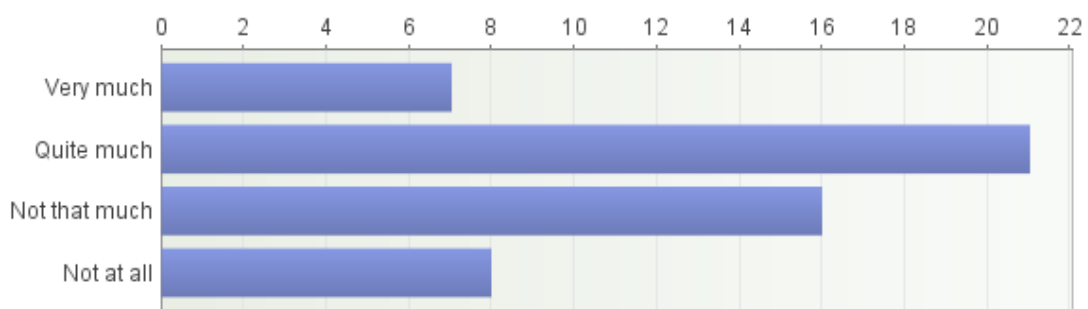

FIGURE 6. How much would the laptop project make the school more appealing to new students.

The conversion of some computer classrooms to regular classrooms was received with mixed feelings by the students. 32 (61%) thought that some of the classrooms could be converted in case the laptop project would be implemented and 20 (38%) said no.

In the free comment section, students were asked to give any comments which might help in the laptop project implementation. The main suggestions were that the laptops should be small enough to be easily carried around but still have enough performance to run for example Microsoft Office programs. Also the price for the laptop should be as low as possible, suitable for a student wallet.

Overall the results of the questionnaire were positive. It seems that the students are interested about the project which is a good sign for the Oulu University of Applied Sciences, School of Business and Information Management. The respondents felt that having a personal laptop during a school day and at home would benefit their studies. From marketing point of view the students thought that the laptop project would appeal to the new students whom have not yet decided whether to apply or not. If the laptop project will be implemented the amount of computer class rooms could be reduced. 61% of the respondents thought that some of the classrooms could be converted and 39% said no. In the respondents opinion most suitable device for this kind of use was laptop. This is due to the screen size and performance of the laptops. To ensure that the laptop project is beneficial the students have to carry the devices from home to the school as often as possible. Fortunately the students agreed. 19% said that they would carry the laptop every day and 48% would carry the laptop almost every day.

The biggest pitfall that surfaced from the questionnaire was the willingness to pay for the use of the computer. The high negativity could be an issue but it probably will not mean that all the students who said no will not actually pay. As said by the students, the laptop will benefit the studies and will make the school more appealing to the new students. This leads to a situation where both parties the students and the school will benefit. Although the positive effects on the both parties there might be some negative ones too. The most likely negative effect will be a situation where a student instead of following a lecture is surfing in the Internet or playing games. This leads the student to study less and school to spend more resources on repeat exams.

4. CONCLUSIONS AND DISCUSSIONS

The aim of this Bachelor's Thesis is to study if and how Oulu university of Applied Sciences (OUAS), School of Business and Information Management should implement the laptops for students project. The research is conducted utilizing questionnaire and interview. The questionnaire is conducted to the OUAS, SBIM students. The purpose of the questionnaire is to find out if the students are interested in the laptop project and how the students think it should be implemented. The interview is done to the University of Oulu. University of Oulu was selected due to the fact that they have had a similar project in a similar environment working for at least five years. With the valuable information from the University of Oulu, OUAS, SBIM could avoid some of the pitfalls in the implementation.

As mentioned earlier the interview with the University of Oulu and questionnaire to the OUAS, SBIM students aims to help in the laptop project implementation. From the interview it quickly came clear that the laptop rental system in the University of Oulu is working very well. The laptops are very popular among the students, the laptops rarely need maintenance and the system has been up and running for more than five years.

First of all, based on the success in the Oulu University and based on the answers of the questionnaire, there are good chances that the laptop project will succeed in OUAS, SBIM and that there is enough interest from the students.

As said in the chapter 2.1 the need of software dictates what type of hardware is needed. In my opinion this is the starting point for the OUAS, SBIM laptop project. The software needs should be carefully considered of. Based on the answers in the questionnaire my suggestions would be that only essential software should be installed to the device. By essential software is meant Microsoft Office, browser, VPN client; the basic software that are used to gather information and compose that information into documents. According to the University of Oulu the operating system for the laptops should be Microsoft Windows 7 and for notebooks, Windows XP. The reason why laptops should

have Windows 7 is due to the fact that Windows 7 is the best windows operating system available. Windows XP is the most suitable operating system for notebooks since it requires less performance from the device. Besides the basic software also pre-installed virus and malware tools should be installed before the laptops are given to the students. After the installation of the operating system and the basic software is done, image files of the system should be made in order to restore the computer back to its original state if needed.

Another issue to consider is the maintenance of the computers. Most logical solution would be that the current IT-department would carry out the maintenance. Due to the amount of staff working in the IT-department the extra workload could become too heavy and recruitment of new personnel is needed. During my interview with the University of Oulu, I discovered that there are hardly any rules of rental or any restrictions to the students. For example, the students have full admin rights to the computers. Despite the freedom given to the students, the amount of laptop maintenance needed is extremely low. Therefore, it is hard to say how the students of OUAS, SBIM are going to handle the computers. The suggestion would be that some set of rules and restrictions should be taken into action. Setting up Windows user account administration restrictions will most probably not be necessary. With time the rules and restrictions should be monitored and changes made if needed.

After the software decisions the hardware must be chosen. According to the questionnaire, majority of the students thought that the suitable device for this project should be a laptop. I agree with that opinion and would suggest that a laptop sized computer would be the best option for this kind of use. As discussed in chapter 2.2, laptop prices vary from 500-3200€. In this situation the cheaper 500€ laptop would be sufficient. Although the performance of the notebook would be able to run the software that were mentioned earlier, the screen size of notebooks can be an issue even when browsing the Internet or writing a document. Although the laptops were the most popular among the respondents, notebooks should also be considered. Availability of both devices would give the student more options to choose from. Due to the fact that

notebooks are cheaper and smaller, would some of the students prefer notebooks due to the price and size. Last point concerning the hardware is the accessories. As a preventive measure, each of the devices should have a protective carrying bag included. With the help of the bag the computer is easy to carry safely. In addition including a mouse with the laptops could be beneficial to the students.

Besides the hardware and software issues the environment the computer is operated in must meet certain criteria. As mentioned in chapter 2.2, laptops and notebooks have a rechargeable battery. The common battery life is three hours meaning that if a student has a 2 hour lesson where he/she makes notes and uses browser the battery would be depleted. This leads to an operating environment issue where the amount of power sockets available for the students should be increased. There must be enough power sockets available especially in the classrooms. Easiest way to fix the problem would be to use extension cords, though more convenient solution should be implemented. Another issue to be taken into consideration is the storage of the computers. Since according the questionnaire not every student wants to carry the laptop home every day therefore there should be enough locker space to accumulate the amount of laptops.

In chapter 2.3 network issues were discussed. The most important issue to ensure is that WLAN is functioning. Without the wireless internet connection computer becomes significantly less useful. The reasons behind this are the constant use of the Internet. It can be said that almost every information that student needs is published in the Internet. From lunch menus to time tables, everything is available in the Internet. This may be an issue since the WLAN connectivity in some part of the OUAS, SBIM building is nonexistent. Especially in the bottom floor and some parts of the third floor there are parts where the WLAN connection cannot be established. Luckily this issue has already been addressed, since according to the IT-services more WLAN hotspots are to be established.

Final issue also addressed in the chapter 2.3 is the network drives. OUAS, SBIM has two network drives. Y drive is for lecture material sharing between teachers and students and K drive is for student's personal storage space. K drive is most commonly used for storing school related work and documents. The problem is that K and Y drives cannot be accessed with a laptop outside the OUAS, SBIM internet network. In other words, students can only access their own documents and teachers lecture materials trough a school's computer. This makes the laptops less versatile. In my opinion the network drive issue should be resolved since it makes the studying more efficient.

Whether the laptop should free of charge or not is difficult to say. According to the questionnaire the students would not be very eager to pay for a laptop. In reality if the fee is reasonable the students will most likely rent or buy the computer. According to the questionnaire respondents a fee of 10-15€ per month would be most suitable. In my opinion the suggested fee of the respondents is not realistic. A realistic fee would be between the suggested by the students and the fees of University of Oulu.

If the suggestions and issues that were mentioned in this thesis are taken seriously, the OUAS, SBIM laptop project has good chances of succeeding. Therefore based on the interview and questionnaire I would recommend the Oulu University of Applied Sciences, School of Business and Information Management implementing the laptop project. The project would benefit the students to study more effectively which would also benefit the school. Also the laptops could be used as an effective marketing tool for appealing to the new students who still have not yet decided which school to apply.

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Appendices

Interview questions to the University of Oulu, IT-department   APPENDIX 1

Interview questions to the University of Oulu, IT-department

1. What type of computers have been bought and why?
    a. What are the operating systems of the computers?
    b. Has it been popular?
2. How is the internet security handled and who is responsible?
    a. Do students have all the admin rights in windows?
3. Does the university have enough power sockets to recharge the computers?
4. How is responsible of the maintenance and is it free?
    a. How many computers come to maintenance in a year?
    b. How is the maintenance done?
5. How do the students pay for computers?
    a. Some kind of rent?
    b. Ownership of the computers?
6. Do students have some set of rules they have to follow?
    a. Penalties for not following the rules?
7. What are the major problems?
8. How long has this system been active?
9. How do the students connect to the internet?

Answers

1. Notebooks (mini laptops), regular size laptops and Mac laptop. The computers are intended to the students for doing their school work.
    a. Mac's have the Mac OS, Minilaptops have Windows XP and regular size laptops have Windows 7. About 130 computers. 97 Windows OS and 33 MAC OS X. Windows is more familiar and compatible.
    b. The renting system has been very popular.
2. By pre-installed software (anti-virus, firewall, office) and the students have responsibility to update the software.
    a. Students have full admin rights in windows.
3. No actions have been taken to increase the amount of power sockets. The sockets in lecture halls and in the hallways of the University have been sufficient.
4. Maintenance is done by it-department the same department who handles the renting. Maintenance is free of charge.
    a. The need for maintenance is low. Approximately 5 computers per year need maintenance because of a software failure and approximately 3 computers per year come to maintenance because of a hardware failure.
    b. The it-department maintains image files of a clean windows installation. Every time a computer comes to maintenance or is returned the image file is used to restore the system.
5. The students pay rent for the computers. The amount of the rent is determined by the time of the rent. To be noted is that because of the license issues most of the computers have maximum rent time of 3 months. 12 of the computers have a extended 12 month rent time. Laptop carrying bag is included to the price.

Examples of prices:	1 week	1 month	3months
Minilaptop	10€	30€	70€
Laptops	20€	50€	100€
Mac	10€	30€	70€

6. Students don't really have any rules to follow.
    a. Therefore no penalties. Of course if the students physically break the computer he/she has to pay.
7. No real problems.
8. System has been active for more than 5 years.
9. Students connect to the internet via PanOulu. The connectivity and the internet issues are the student's responsibility.

Ohjelma / Software	B165	B166 self study	B222	B226	B239.1	B243	B248	B249	B254	B260	B319	B321	B326	B328	B339	B341	Seminaria	Libraria
3D Studio Max 2010								on										
Adobe Master Collection 5.5																		
Adobe Acrobat Distiller 9.0 (CS4)								on										
Adobe Acrobat 9 Pro								on										
Adobe After Effects CS4								on										
Abobe Bridge CS4								on										
Adobe Contribute CS4								on										
Adobe Dreamweaver CS4								on										
Adobe Encore CS4								on										
Adobe Fireworks CS4								on										
Adobe InDesign CS4								on										
Adobe Illustrator CS4								on										
Adobe Photoshop CS4								on										
Adobe Flash CS4 Professional								on										
Adobe Premiere Pro CS4								on										
Adobe Acrobat Reader X	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on		on	on
Audacity 1.2.6								on										
Econet						on		on			on	on	on	on				
Expression Studio 4	on		on		on		on		on	on				on				
Gimp 2.6.10	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on		on	on
Gantt Project 2.0.10			on		on		on		on		on		on					
Internet Explorer 9	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on		on	on
Java J2SE Development Kit 1.6.0_24			on	on	on		on		on			on		on				
Java J2SE Runtime environment 1.6.0_24	on	on	on	on	on	on	on	on	on	on	on	on	on	on			on	on
Microsoft Office 2010	on	on	on	on	on	on	on	on	on	on	on	on	on	on			on	on
Netbeans 7.10			on	on			on		on			on		on				
NetSupport	on		on	on		on	on	on	on	on	on	on						
Programmers Notepad 2			on	on	on		on	on	on	on							on	on
Project 2010		on			on	on								on				
Publisher																		
Quicktime 7.66								on										
Reflection																		
RefWorks Write&Cite																		
SAP Frontend 7.10											on	on	on					
PuTTY	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on		on	on
SPSS 19 for Windows						on			on		on	on	on		on			
SQL Client			on		on		on											
Slik Subversion 1.6.16	on		on		on		on		on					on				
Toimintolaskenta 2.2.5 (entinen SW kannattavuuslaskenta)					on						on	on	on					on
Teemu Aho & Navita yritysmalli											on		on					
TortoiseSVN 1.6.15	on		on		on		on		on					on				
Typingmaster(OnLine	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on

Version)																		
Windows Media Player	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on		on	on
7-ZIP	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on		on	on
Windows Virtual PC	on		on	on				on			on							
Visio 2010	on	on			on	on							on	on				
Visual Paradigm for UML 8.2			on		on		on		on									
Visual Studio 2010			on		on		on		on					on				
VLC Media Player 1.1.8	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on		on	on
WinSCP 4.3.2	on	on	on	on	on	on	on	on	on	on	on	on	on	on	on		on	on
XAMPP			on						on		on	on						
Skype 5.3																	on	on

Questionnaire questions and answers   APPENDIX 4

Laptops for students

1. Degree programme

Vastaajien määrä: 52
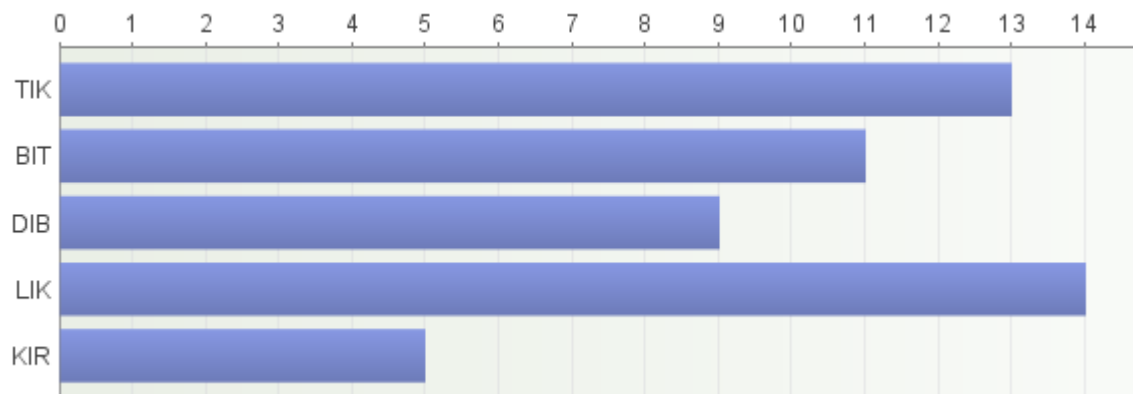
2. How interested would you be in getting a laptop to your use from the school?

Vastaajien määrä: 52
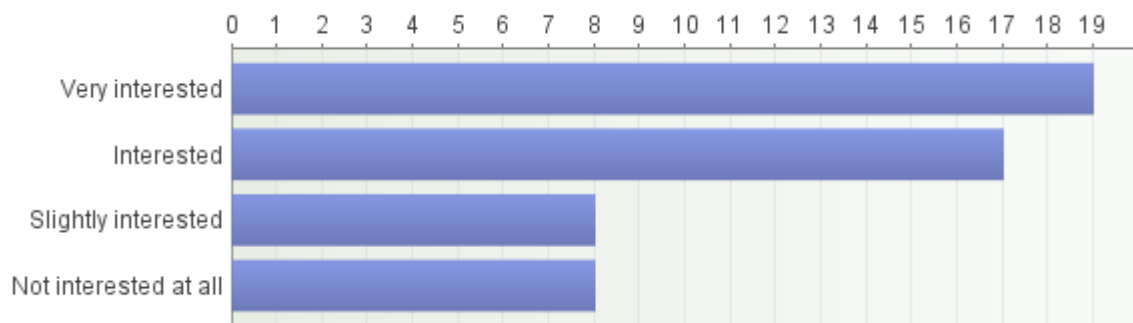
3. Please state the reason why you would or would not be interested in getting a laptop.

Vastaajien määrä: 52

Type your answer here.

- I already have my own laptop, but it's a mac which makes it sometimes hard to work with school projects that require programs that only work with a windows operating system. But if I didn't have a laptop already I would be very interested in getting one for school. It would make it easier to do group works.
- If the laptop is small and battery-efficient, it wouldn't be bothersome to carry with and use when needed. Personal laptops tend to be so expensive that a student wouldn't risk carrying it with them every day.
- I wouldn't need to print material for classes. I wouldn't need notebooks because I could write notes with the laptop.
- I'm studying information technology so I work with the computer everyday. It would be good to have a separate computer that would be used only for school projects and such. At school I probably wouldn't need it so often because the school has quite good computers and programs.
- every school projects stays in one computer
- The needed program's would be with me at home and at school, and I wouldn't forget any schoolwork at home because I could work always on the same computer.
- Taking notes would be much easier
- It would be more productive when you use a lot of computer program to support your study instead of writing on paper and with the cloud technology nowadays everything the student work at home will follow them everywhere so they don't need much spaces to keep the materials.
- Students usually don't have enough money to get a new laptop and the newest programms. In OAMK you really can't do without a computer. My old laptop was too old and powerless to do any schoolwork with it. Fortynately i won a new mini laptop which i used for all the writing work i needed to do for courses.
- It would be new and you could store your school things in one place, but then again I think I would still keep my own laptop, so I`m not sure if two laptops is such a good idea.
- I have a computer at home.
- it would be quite convenient to have a laptop / notebook for studying
- cause doing school works with laptop makes my studying better.
- I already use my own laptop. Laptop that I bought only for school.
- -
- My own computer at home is quite old and the software on it is also outdated in some parts. But since it still works, I have not yet bought a new one. So if the school would provide me a laptop, I would be more than thankful.
- A mini laptop would be kinda handy to carry with you to make notes and other stuff.
- easier to get/read materials. Big help if you don't have own computer.
- more convenient, and helps to complete the task on time. reliable and effective
- Laptops are easy to carry around and i can work wherever i want. In addition not every studebt can afford to have their own laptops.
- I already have one
- I have already 3.
- Quite many of the students are lacking laptops / desktop computers of their own, and the adp rooms at school are always full.

    Getting a laptop from school would help out a great deal as more and more course tasks require the use of computer.
- My own laptop is too large and works badly
- I would be interested getting a laptop because then I wouldn't have to necessarily buy one myself
- Everybody doesn't have a change to work at the computer at home so you have to go to school do everything you need to do woth computer which is nowadays nearly everything. Using own laptop at home would help people work and do their homework. Also there isn't computers to everyone in our school so sometimes you have to queue. With own laptop that wouldn't be necessary.
- Since I have my personal one
- No more need to print materials.
- I have one, but I think it would be very beneficial to others who do not.
- I have my own laptop and it's good enough for common use :P
- I will really favour student in their academic inprovement most especially for those who

does not ahve one at home.
- We have awesome tabletop computers
- I use my own laptop
- I've got 2 laptops at home and whenever we need a computer in our studies, we're in a classroom full of computers. Also the current working rooms for students have always had a non-occupied pc for me to use.
- There's really no use for a laptop; school offers a decent amount of computers and you can carry almost everything in a memory stick if you need to tranfer information.
- School assignments and computer related hobbies like programming (which obviously improves professional skills) would benefit from a laptop. You could use it between the classes and during a buss drive. There would be less wasted time and you always have an access to a computer when you need one.
  The downside is that not all people have enough self-control and would use it for non-school related activities during the classes.
- I do have already a laptop of my own.
- I alreay have my own laptop home, but at the lectures it would be good.
- it would make working on school projects easier, for there isn't always free computers when work needs to be done.
- games
- It would perhaps motivate more to study.
- It would be nice to have it because then we could do our notes with it and not use paper.
- As long as there are computer classes I do not see laptops necessary. If I didn't have a computer at home then I would be more interested in getting a laptop from school.
- cos most of the courses are computer based and getting a laptop to work with at home with make your assginements easier
- Ei tarvitsisi kuormittaa oman henkilökohtaisen tietokoneen kapasiteettia koulutehtävillä ja kaikki tarpeellinen olisi yhdellä koneella helposti löydettävissä.
- I use most laptop for schooltasks.
- Not all students have a laptop when school begins. For a student it is a big expense if the cituation arrives, that a laptop is needed. Having a laptop would greatly improve group working after school when you have a project you need to do with other students.
- I have my own desktop computer in my appartment so i don't need one in there and in think that the computer class rooms that we have at the school are very good so i don't even see where i would use the laptop.
- I think BIT and TIK students need laptops. It would be easier for them to carry their material with them and classes would not be restricted to computer classrooms only. Teachers could have programming lessons in regular classrooms since every student has been given a laptop for school projects.
- It would be easier to take notes and important documents would always be available. But it should be quite small.
- convinience
- Most of my school work is done on computer and being able to carry one around with me would be awesome. I previously own a laptop but it's big and heavy so not really optimal for carrying with me.

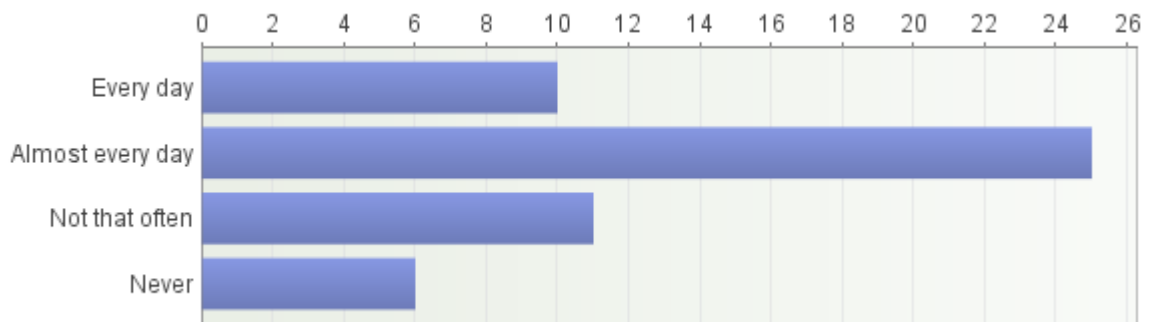
4. How would you evaluate your computer skills in general?
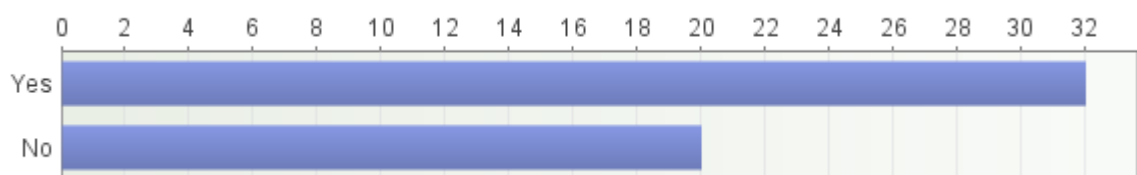
Vastaajien määrä: 52
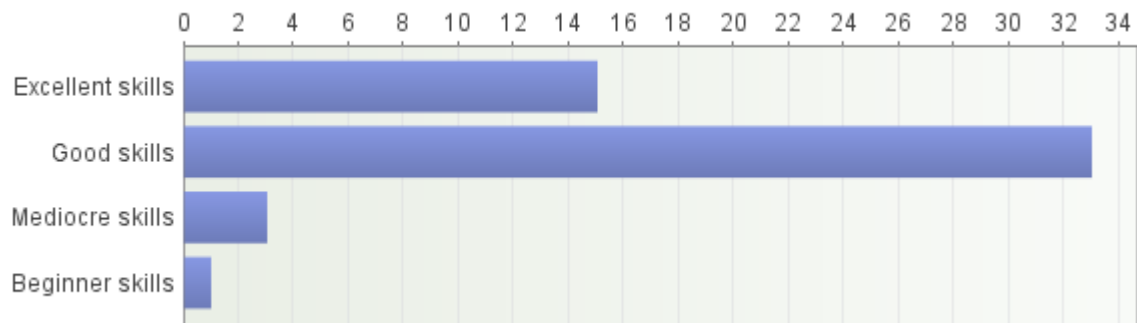
5. How often would you be willing to carry a laptop with you to the school?
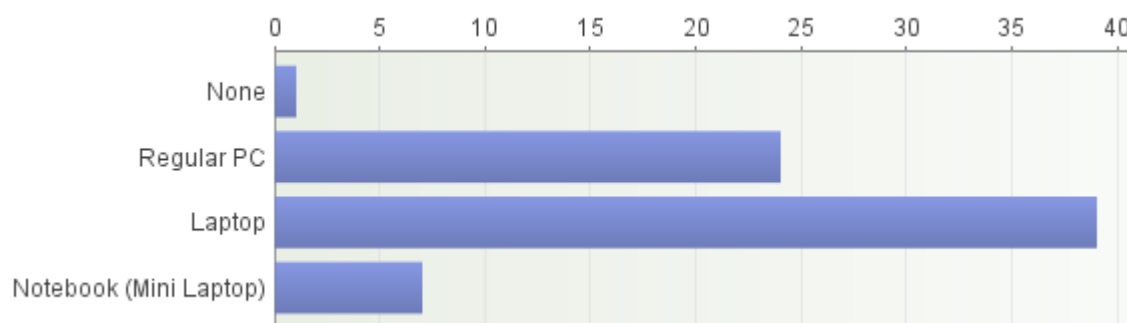
Vastaajien määrä: 52

6. In your opinion, could the school convert some of the computer classes to regular calssrooms if this laptops project would be implemented?
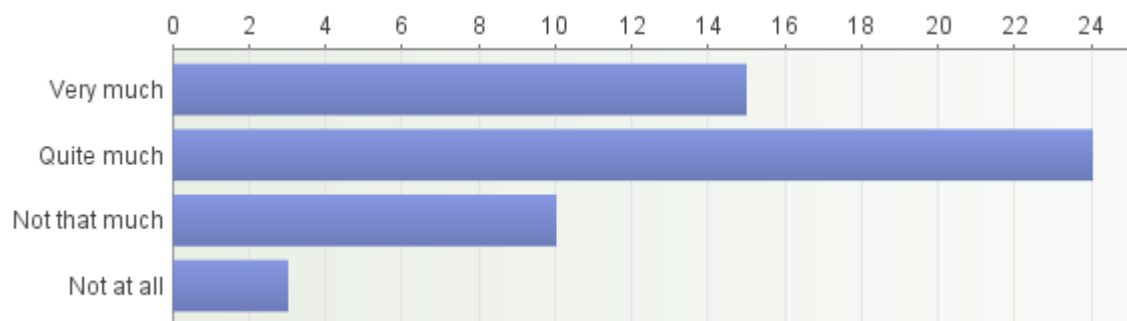
Vastaajien määrä: 52

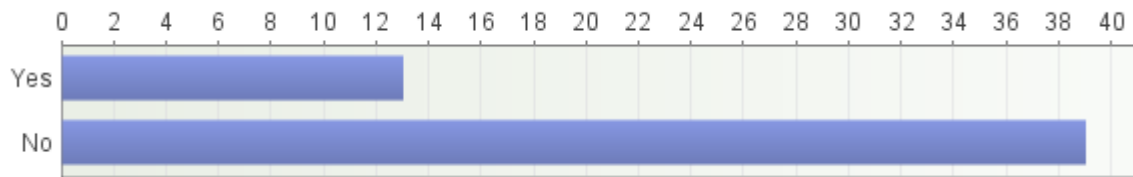## 7. What kind of a computer do you have at home now?

Vastaajien määrä: 52

8. How much, in your opinion, would a student benefit from being able to use a personal laptop at school?

Vastaajien määrä: 52

9. Would you be willing to pay for the use of a laptop?

Vastaajien määrä: 52

10. If getting the a laptop from the school would require a payment, what would be the suitable amount in Euros? (Answer to both options.)

Vastaajien määrä: 52

Rent per month
- 10
- 5-10
- 20
- 5€
- 0
- 5
- 5
- 10
- 5
- 2
- 5
- 10
- 5
- 5
- 5
- 5
- 3
- 5-10
- 15 €
- 10
- 10
- 9,99
- 20
- 0
- 50
- 10e
- none
- 3
- 5
- 20€
- 5
- 0
- 15
- no idea
- 20
- 5
- 5
- 20
- 20
- 100
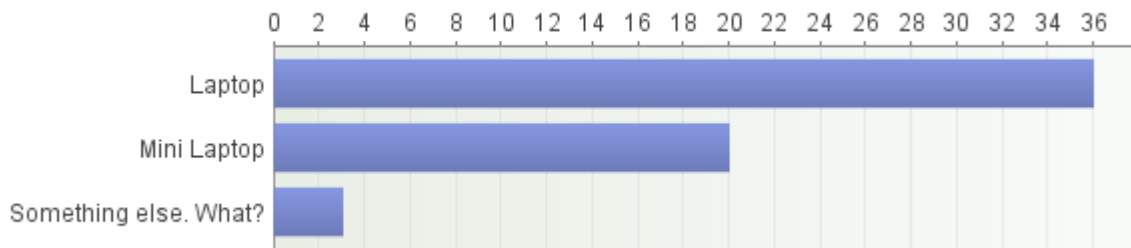- 20
- 0

- 3
- 20
- 0e
- 15
- 10
- 5
- 5,00€
- 5€
- 2
- 3

One time payment
- 100
- 50-100
- 200
- 100€
- 0
- 100
- 50
- 200
- 100
- 100
- 5
- 50
- 5
- 100
- 50
- 150
- 100
- 100
- 3 €
- 50
- 50
- 99,99
- 200
- 100
- 3
- 2e
- none
- 40
- 50
- 1€
- yes
- 0
- 250
- no idea
- 5
- 50
- 150
- 2
- 100
- 1500
- 100
- 0
- 10
- 200
- 50e
- 200
- 240
- 30
- 45,00€

-       5€
-       5
-       50

11. What kind of device do you think would be most suitable for this type of use?
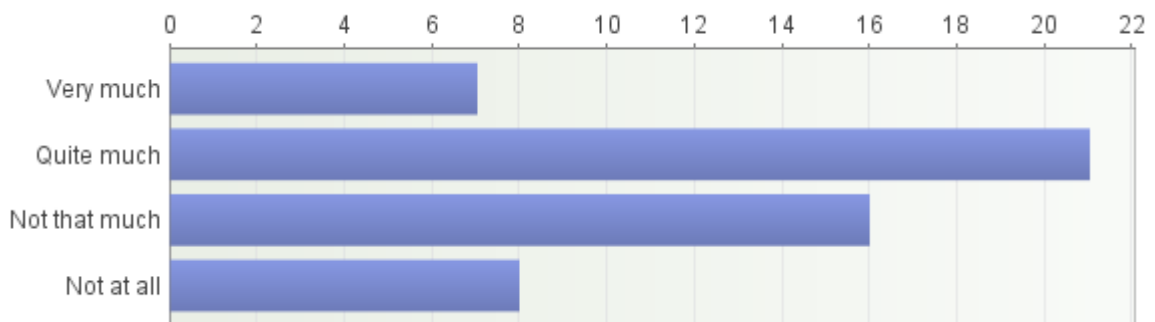
Vastaajien määrä: 52

Avoimet vastaukset: Something else. What?
-       My new Asus eee PC 1215B is great laptop to work with. Large enough to work properly, but small enough to carry it with me also to the school.
-       iPad
-       15"screen with decent performance and suitable storage space

12. If a school was to provide laptops for its students, how much would it influence your decision to apply to that particular school?

Vastaajien määrä: 52

13. Any comments or suggestions that might help the school to implement the laptop project?

Vastaajien määrä: 15

- The laptop doesn't need to be very expensive one for normal schoolwork. Just make sure that mobility and battery are good enough.
- It's easier to carry a mini laptop than lots and lots of books/notebooks.
- I was writing my thesis while my old computer broke down. I had no money to buy new one and i had moved to another city, so i couldn't use computers at school. Luckily i got some help from relatives and from the place i was training, and had money to buy new laptop, but it would have been a great help to get a laptop from school!
- If everyone had laptops with them, there would be no discussion or problems whether students have their study material with them or not. No need to print out the material (environmentally friendly one might say..) and all in all it would increase the study motivation.
- well, it jst for student benefits, if school can afford it then why not. on the other hand the one ´which school is providing us this ADB rooms with computers is good too, the main idea is to so our work not for entertainment.
- Its basically the best idea, but then strict rules must be defined for those who are careless and mess up the laptops.
- In my opinion the school should just buy some few
  since some students have got even sophisticated ones
  and might not need it from school.
- More and faster wlan stations to kampus.
- Regular PC is much better than a laptop overall, laptops could probably only be useful for those students who don't have a computer at home but wanna do some study related with computer....
- Well i'd prefer using that money to Microsoft Office -programs for students for example... That's because there's no need for these laptops at least on TIK-side, but there would be a huge need for Office-programs, so the students wouldn't have to use their own money for them.
- The laptop should have big enough screen (13-15 inches would be good) and a good battery life. I have no intention to rent a laptop, but I can see people doing it if the price is not too high. In the worst scenario it could also discriminate those students who don't have enough money for the laptop.
- Ainakin Raahen yksikössä opiskelijat saavat jotain tiettyä panttimaksua vastaan käyttöönsä miniläppärin. Koska Raahe on osa Oulun seudun ammattikorkeakoulua, niin miksei meidänkin koulussa voisi olla mahdollisuus moiseen?
- I believe IF the school is able to provide ok laptops it would benefit the students a lot. There might be bigger group work which you have to do on time and it can be hard to find a work room, in which all the people of the group has a computer. Also the work rooms at our school are silent areas.

  In addition, I must say that if students had laptops they wouldn't even neccessarily have to stay at school after the school day is over to finish a group project. It also ensures that everyone in the group has a computer at their disposal.

  It would be preferred, if the laptops were free. But, If this is not possible the school could rent out the laptops for a low cost(suitable for a students wallet).

  This is a great idea.
  Gets my full support.
- Only way i see that this could be useful is to those people who don't have a computer in their home other than that ei really don't see it happening
- The laptops offered could be very minimalistic in features(web camera, bluetooth, blu-ray drive, filler software etc. are not necessary) but should be reasonably powerful(CPU, GPU and RAM) so they could handle programming and image editing.

  If a school offered students laptops it would deffinitely be an indicator that the school has advanced teaching methods and it would make the school much more appealing when deciding where to send an application.

  Having your own laptop would make it much easier to carry your own material and homework with you. It would also help the student be more efficient in his work since the

computer used is always the same and you can develop shortcuts and really personalise the computer to suit your working habits and preferences.