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Assessing The User Experience – Case Massidea.org

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Assessing The User Experience - Case Massidea.org

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Tämän hetkisen trendin mukaan kohti käyttäjäkokemusta ja käyttäjäkeskeisyyttä käyttäjäkokemuksen arviointi massidea.org:in tapauksessa on vain yksi yritys tai askel kohti parempaa ymmärrystä käyttäjäkokemuksesta yleensä. Käyttäjien ja tuotteiden väliset vuorovaikutukset ja kokemukset, jotka ovat lähtöisin näistä kohtaamisista, ovat hyvin haluttuja, jotta voidaan ymmärtää kokemusta yleensä sekä käyttökokemusta, jota saadaan tuotteiden käsittelystä. Juuri tästä syystä tämä opinnäytetyö esittelee joitakin lisätutkimuksia käyttäjäkokemukseen, joka pääasiassa kasvaa käyttäjien myötävaikutuksesta, joka voidaan nähdä massidea.org-tapauksessa.

Tämän opinnäytetyön tarkoituksena on esitellä tasapainoinen lähestymistapa käyttäjäkokemuksen tutkimukseen ja välttää keskittymästä ainoastaan käyttäjäkokemuksen toisensa poissulkeviin näkökantoihin. Tässä opinnäytetyössä pyritään vastaamaan tämänhetkiseen puutteeseen kattavista tutkimuksista, jotka tutkivat käyttäjäkokemuksia eri näkökulmista, ei vain yhdestä erityisestä näkökulmasta. Tämä opinnäytetyö keskittyy tutkimaan käyttäjäkokemuksia teknisistä ja subjektiivisista näkökulmista. Opinnäytetyössä tutkitaan käyttäjäkokemusta massidea.org:n tapauksessa ja yritetään nähdä malleja eri toimijoiden kohtaamista käyttäjäkokemuksista eri ikäryhmissä, jotka ovat mukana kokeilussa.

Opinnäytetyössä pyritään myös arvioimaan potentiaalia käyttää IMI-tyyppisiä kyselylomakkeita sekä teemahaastatteluita käyttäjäkokemuksen arviointiprosessissa eri ikäryhmistä ja käyttäjistä massidea.org:n tapauksessa.

Opinnäytetyössä on suoritettu tutkimus eri ikäryhmistä koostuen Laurea-ammattikorkeakoulun opiskelijoista, jotka käyttivät massidea.org:ia heidän tehtävissään. Tutkimuksessa käytettiin IMI-kyselylomakkeita sekä teemahaastatteluja, joilla kerättiin tietoa tutkimukseen osallistuvista kohteista.

Opinnäytetyöhön johdettu teoreettinen rakenne on yhdistelmä IMI-kohdistettuihin empiirisistä tutkimuksista ja ihmisen ja tietokoneen välisen vuorovaikutuksen (HCI) näkökulmasta käsitteelle ''käyttäjäkokemus''. Näin toimimalla, opinnäytetyö esittää tasopainotettua lähestymistapaa käyttäjä kokemukselle yhdistämällä käyttäjä kokemuksen teknisiä puolia ja henkilökohtaisia subjektiivisia näkökulmia, mitkä perustuvat ''käyttäjäkokemus'' määritelmään esitetty opinnäytetyössä.

Opinnäytetyössä löytyi joitain yhtenäisiä malleja käyttäjäkokemuksista eri ikäryhmissä. Erot havaittiin ja analysoitiin. Näkökulmat käyttökokemuksista, jotka määritellään tässä opinnäytetyössä, tutkittiin myös kunkin ikäryhmän kokemuksen ja yhtäläisyyksien osalta sen suhteen, millä tasolla näitä näkökohtia havaittiin. Joitain sukupuolten välisiä eroja ja yhtäläisyyksiä eri ryhmien välillä havaittiin. IMI-kyselylomakkeet ja teemahaastattelut osoittautuivat suuressa määrin luotettavaksi, kun haettiin ymmärrystä käyttäjäkokemukseen. Muita ehdotuksia jatkotutkimuksille annettiin myös sen jälkeen, kun johtopäätökset esitettiin.

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With the current trend towards user experience and being user-centred, evaluating the user experience in the case of massidea.org represents one attempt or step towards a better understanding of the user experience in general. Interactions between users and products and the experience that comes from these encounters are well sought after as a means of understanding experience in general and the user experience that results from dealing with products. It is for this reason that this thesis presents some further research into user experience in an area that mainly thrives on the users' contribution as exemplified by the case of massidea.org.

The purpose of this thesis is to present a balanced approach to the study of user experience and avoid being focused on only exclusive aspects of the user experience. This thesis aims to respond to the current lack of comprehensive studies that investigate the user experience from various perspectives, and not from one specific perspective. Thus this thesis is focused on investigating the user experience from technical and subjective perspectives. The thesis explores the user experience in the case of massidea.org and tries to see the patterns of user experience encountered by the users from different age groups included in the experiment. It also aims to assess the potential of using the IMI type of questionnaires as well as thematic interviews in the process of evaluating the user experience of different age groups of users in the case of massidea.org.

This thesis has conducted research on different age groups from the students of Laurea University of Applied Sciences who used the massidea.org in their assignments. It used IMI questionnaires as well as thematic interviews to collect the data from the subjects of the experiment.

The theoretical framework for this thesis is derived from a combination of the perspective of the Human-Computer interaction (HCI) for the concept of "user experience" and the IMI-focused empirical studies. By so doing, the current thesis presents a balanced approach to the user experience combining the technical sides and personal subjective aspects of the user experience based on the definition of the "user experience" presented in thesis.

The thesis has found some uniform patterns of user experience among different age groups. Differences too were detected and analyzed. Aspects of user experience defined in this thesis were also evaluated in the experience of each age group and similarities regarding the levels of the presence of these aspects were detected. Some gender differences and similarities across the groups in the user experiences of different groups were also detected. The IMI questionnaires and the thematic interviews proved to be reliable to a considerable extent in gaining an insight into the user experience. Suggestions for further research are also given after the conclusions.

Keywords

Functionality, Multivariate data analysis, thematic interviews, Usability, User Experience, UX Evaluation Methods

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1   Introduction

This chapter presents an introductory synopsis of the subject matter of this study and the roots for the proposed topic. It also presents the main research problem and the sub problems whose answers are expected to help understand the bigger framework related to the main research problem mentioned in this chapter.

1.1   Subject Description And Rationale

New products or systems that improve the lives of the users are simply the result of understanding the user experience and how people interact with products or with each other and the resulting emotions and experience from such interactions. With this basic idea for the intended thesis, evaluating the user experience when using the massidea.org is only one further step towards better understanding the user experience in general. Understanding experience is generally a critical issue for a variety of professions, especially design. To understand experience in general and the user experience that results from interacting with products, research needs to focus on the interactions between people and products, and the experience that results. It is for this reason that this proposed thesis aims to present a further research into user experience in an area that mainly thrives on users' contribution as exemplified by the case of massidea.org.

1.2   The Objectives & Research Problems

The objective of this thesis is going to evaluate the user experience when using the massidea.org as an open innovation community where users upload their ideas, visions of the future and today's challenges and linking them with other user's brainchildren.

As this thesis intends to assess the users' experience, it aims to present some answers to the main research problem and the sub-problems listed below. It also aims to help bridge the gap of knowledge caused by the fact that there is not enough research on user experience of any interactive system or social media platforms in general, and specifically when not only focusing on technical aspects. Current research in the area of user experience so far has either focused on the technical aspects related to the product or subjective user related aspects, but has not used a balanced mix of both perspectives.

Therefore, as the purpose is generally to help add a new perspective to the understanding of user experience, this is intended to be done through presenting some answers to the following problems:

- The main research problem that the thesis wants to solve is how different the user experience is in the case of different student age groups in Laurea using the platform called massidea.org?
    - What meanings and emotions, if different for different groups, do users in the selected groups attach to their experience? (Chapter 4)
    - How can the understanding of user experience improve the user experience for the massidea.org? (Chapter 5)

2 Theoretical framework: The User Experience

This chapter presents an overview of the main approaches regarding user experience as a research area. It also presents some of the attempts to understand it as a concept and gain insights into it. It also presents some concepts like quality of use, which is related to the ease of use or usability. The reason for including such a concept in the theoretical part here is the solid relevance of quality of use to the usability aspects, which in turn affect the user experience in the massidea.org. So, it is necessary to include these aspects in the theory and consider them when assessing the user experience.

2.1   Summary of the existing relevant approaches

The relevant literature here will have to possibly review the area of user experience studies that focused on internet interactive applications or software development as it appears that the concept of "user experience" has been relevant among others to studies on usability. Relevant literature will also possibly have to partly come from the area of concept design where the focus is on the experiences that future users find meaningful, useful and delightful.

2.2   Subject definition

The term "user experience" is associated with a wide range of meanings, and no cohesive theory of experience exists for the design community. However, there is great interest in the subject, and there have been initial efforts to create theories of user experience as shown by Alben (1996), Forlizzi and Ford (2000), Kerne (1998), and Mäkelä and Fulton (2001). There also have been more recent efforts to exemplify and categorize specific types of experiences as they relate to designed products as shown by Desmet (2002) and Pine and Gilmore (1998). Therefore, there is a need to better understand how the different approaches relate to each

other. In practice, these theories must be made actionable through relevant tools, methods, and processes.

There is the most common or default interpretation of User Experience, as expressed by Uxdesign (2010), saying it is basically anything that one expects other persons may experience while using an interactive system. There is also the view that it may be the totality or the sum of a series of interactions between people, devices, and events or any combination of them all together.

User Experience (abbreviated: UX) is also defined as in Knemeyer and Svoboda (2007) as being the quality of experience a person has when interacting with a specific design. This can range from a specific artefact, such as a cup, toy or website, up to larger, integrated experiences such as a museum or an airport.

There are many definitions for the term "user experience", but there has not been any agreement about one definition though. However, even the most diverse definitions of user experience all agree that it is more than just a product's usefulness and usability; this seems to be a shared line of thought among researchers like Alben (1996), Hassenzahl and Tractinsky (2006), and Mäkelä and Fulton (2001). In addition, they seem to emphasize and stress the subjective nature of user experience. User experience or UX is being impacted by the user's internal state, the context, and perceptions of the product.

Obviously, the one main problematic aspect in applying or developing methods for user experience evaluation later on during the course of this thesis is the need to simply have some specific understanding of what user experience means when there is still no definition for user experience that widely agreed upon. Despite the views and attempts that the user experience perspective can add something to the traditional usability perspective, Battarbee (2004) claims there is difficulty in simply naming or deciding on whether this newly perspective as a component can be "emotional", "experiential" or "hedonistic" in nature.

Therefore, for the purposes of this thesis and for a logical contribution to the area of user experience evaluation, there is a prerequisite to present one's own understanding or definition of user experience and making it manageable and measurable so as to proceed on a solid basis in terms of the practical experimentation involved in this thesis. Since there is no definition of user experience that is widely agreed on at the present stage, it is possible in this thesis to agree partly with the definitions given by Alben (1996), Hassenzahl and Tractinsky (2006), and Mäkelä and Fulton (2001) that user experience does not only mean usability, but also include the subjective nature of user experience .

User experience, in this thesis referred to as user experience, is therefore to be defined as outcome of the user's interaction with the given service or target product. This outcome basically results from practical aspects relating to the product/service in question on the one hand, and others relating to the users. The aspects relating to the target product/service can include for example the usefulness, practicality and the ease of use of the target product/service, known usually as usability. The aspects relating to the users themselves include for example the users' interest, enjoyment, perceived competence, or perceived comfort, felt pressure and tension, and perceived choice while performing a given activity interacting with the product/service in question.

Thus, user experience is influenced by the user's internal state, the context, and perceptions of the product, which is the subjective side of the experience as well as by the objective side of the experiences, that is, the practical usability issues of the product or service in question. With this definition in place, the current thesis views that both kinds of aspects, the user-related and product-related aspects have to be measured to evaluate the kind of user experience resulting from these aspects.

2.3   Theoretical background

Having described the concept of "user experience" as shown above, it is useful to combine the perspective of the Human-Computer interaction (HCI) for this concept on the one hand, which mainly focused on usability issues or the technical side of the user experience, and empirical studies, on the other hand, which focused on the subjective aspects of the user experience. As HCI-focused studies represent one direction of research on the similar kind of user experience studied by the current thesis, though only limited to one aspect of user experience as explained before, this section quotes it for reference to help see the research scene on this front. This section also presents IMI-focused empirical studies to help show how other studies, focused on the subjective sides of users, have used the IMI to gauge the same subjective aspects that this thesis aims to study in the light of its definition of the user experience. This section also presents a fair introduction to the concept of massidea.org to help get the reader acquainted with the portal whose user experience the thesis is trying to evaluate. This section as a whole is intended to ultimately show the grounds on which the research in this study was conducted based on other research attempts in this direction.

2.3.1   What is Massidea.org all about?

Massidea is an open innovation community that helps users upload their ideas, visions of the future and today's challenges as shown in Figure 1. It presents a space for establishing link and networking with other users to exchange various points of view about various topics as it

can be integrated to all disciplines and fields of studies for an environment of unexpected ideas as shown in Figure 1. As the platform is suited for academic collaboration, the platform has been in active use as a space for academic collaboration among students as a tool for networking and communication where students may submit assignments and exchange tasks for courses when asked by the teachers.

 The idea here is to allow for an outcome that will likely be a mix of insights that could help boost the people's creativity and allow for the introduction of innovative revolutionary ideas. The platform was only started in 2009 and has been gaining popularity ever since. Some of the intentions of setting up this platform include supporting faculty members and facilitating the process of iterative content production. As the platform is still in development, activities like apprenticeships, longer project studies and thesis are used to help further development.

The basic theoretical foundations of Massidea.org include the open Innovation and open Source where software is freely available for the public to use and modify so as to allow for anyone can become a publisher. Therefore, concepts like Web 2.0, Social media, User-generated content, and Crowd sourcing are central theoretical themes when discussing the core of the concept of Massidea.org.
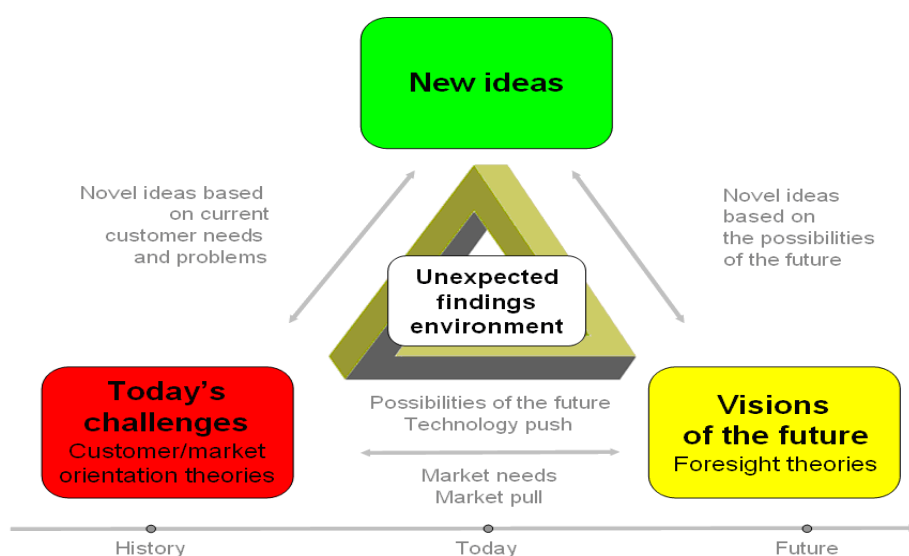
Figure 1: The theoretical foundation for the interactive cycle of massidea.org

. The mechanism of forming new interesting and unexpected ideas on the Massidea.org basically works by categorizing the input of the users under predefined levels, namely, User profile, Tags, keywords, and Industry. Teams of users are not limited to Laurea users only, but also all users from other partner UAS's (Universities of Applied Sciences). This therefore can take various communication patterns as possibly occurring in the directions shown in the Figure 2 and Figure 3
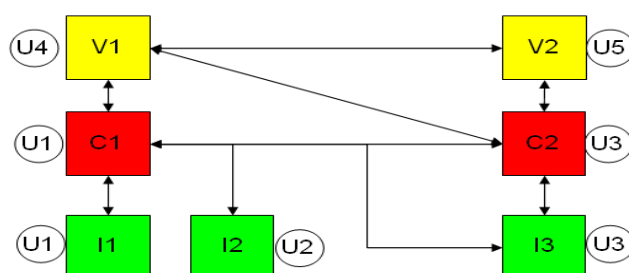
Not only connecting content (ideas, challenges and visions) but also users behind content

Figure 2: The theoretical communication pattern of the users in massidea.org
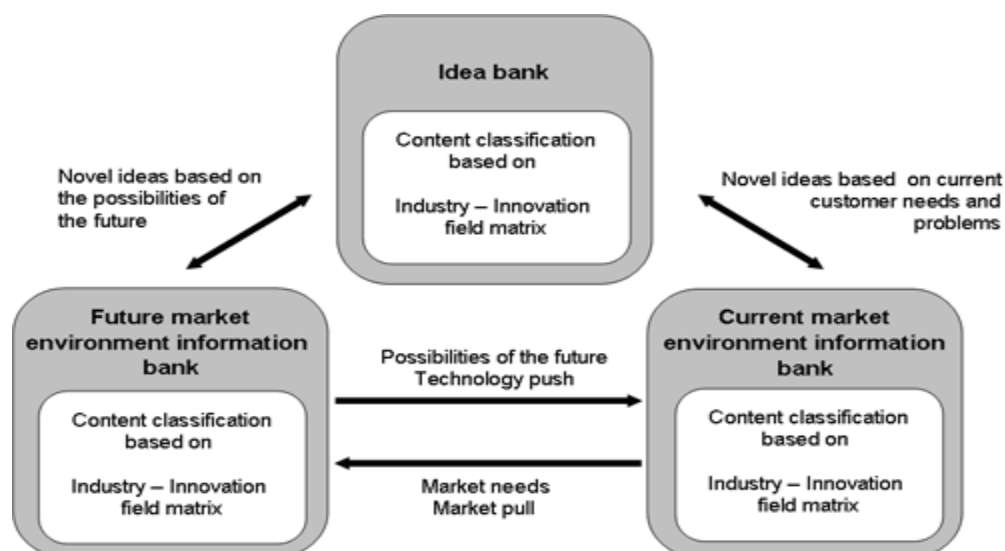
Figure 3: The theoretical foundation for the interactive cycle of massidea.org

Key actors in massidea.org include faculty members, universities, students and possible policy institutions as shown in Figure 4. Each of these partners theoretically stands for some return in this cycle of interaction. So, for faculty members, privileges include learning the use of open networks and interacting with students and companies, which represents an integral part of the studying process. For universities, facilitating the process of coordinating between designing courses with actual needs of the business environment and adopting new studying methods can be a remarkable gain. For students, there are various gains. For example, students can experience being a part of an open network as content producers and a developers as well as networking for other users' help, which prepares them to be efficient in teamwork and team leadership. Through the regular use of massidea.org as a routine part of studies, it is likely that students will develop a personal knowhow profile/CV, which helps in networking and promotes their chances with employment later on.
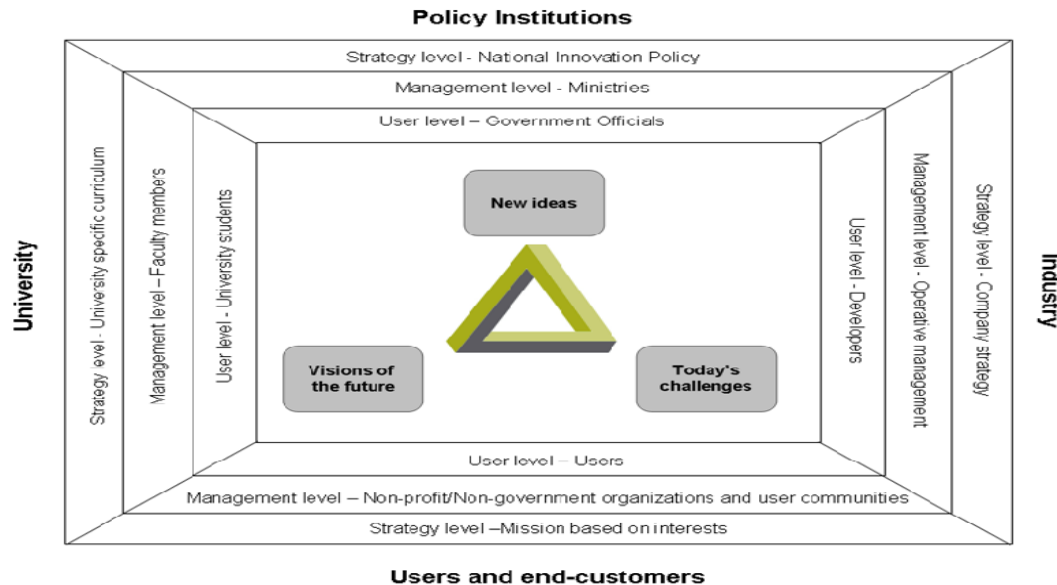
Figure 4: The key actors in massidea.org

2.3.2   Human-Computer interaction (HCI)

Looking at the theories of Human-Computer interaction (HCI), it is possible to note that usability has been the main focus of almost all HCI research for the past few decades since the 1960's. An example of this trend is presented in this section, which reviews the Interaction model developed by Abowd and Beale (Dix et al. 1992). The model has presented a theoretical interaction framework to help explain the main aspects of the HCI process, which closely relates to the concept of user experience as explained before. Looking into the interaction model principles, it is possible to understand the choices made in the research part of this study to cover certain usability aspects in the IMI questionnaire.

This model has basically four main components as follows:
1. The system, which is referred to by (S)   2. The user, which is referred to by (U)
3. The input, which is referred to by (I)   4. The output, which is referred to by (O)

According to the Interaction model, the interface is the medium for interaction between the user and the system. The interactive cycle as shown in the Figure 5 has four steps indicated by the arrows. According to the interactive model, the user carries out a given job or task to end up with an ultimate goal, which is referred to by the term "articulation". The user controls and uses the computer by way of the input data particular to the input language. The input language is then interpreted by the systems core language to perform the operation which is referred to by the term "performance". The system, after undergoing the changes based on the orders or input data, converts into a new state, which is referred to as the output. The output is communicated to the user by "observation".
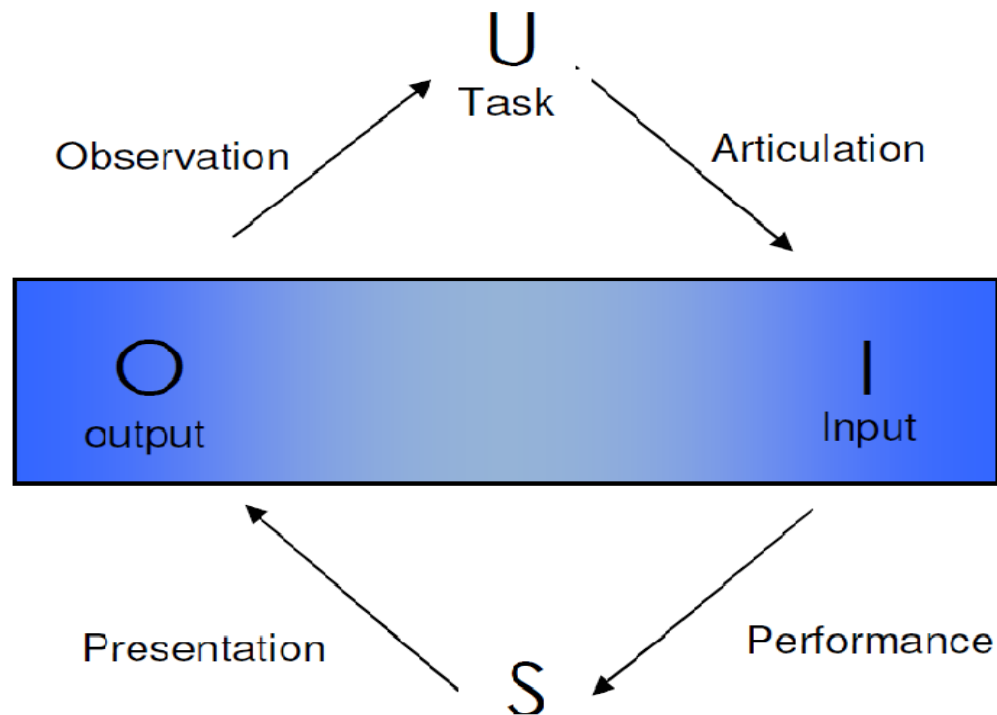
Figure 5: The interactive cycle of the interactive model by Abowd and Beale (Dix et al. 1992)

Hinze-Hoare (2006) has performed an analysis of HCI commonly cited rules and presented what he viewed as the most important eight principles in HCI which can be presented as follows:

1. Recoverability

This principle refers to the possibility that users recover from errors that possibly fall in. These errors can have either a forward and backward direction for recovery. Preventing errors from happening is considered a forward recovery whereas reversing mistaken actions or errors is considered a backward recovery. While backward recovery is user- based because it depends on users' actions, forward recovery is system-based and should be designed in the system. In this sense, this basic usability a level is a priority, which Ken Maxwell (2001) views as "error protection".

2. Familiarity

This principle refers to the extent that users can benefit from their former experiences and accumulated knowledge to help them become efficient when faced with a new system. This principle of familiarity remarkably influences users' attitudes and therefore their user experience. When users can build on their former experience when working with a new

system, it reduces the time and effort exerted in learning or in other words the cognitive burden that users go through.

3. Consistency

This principle refers to the similarity in the behaviours or task objectives in different situations of interaction. The importance of this principle is seen when considering how important it is for users to have a consistent interface. However, it has to be noted that whereas consistency here can relate to aspects such as the mouse movements or menu structures, familiarity relates to "consistency on the level of individual experience"

4. Substitutivity

This principle refers to the possibility that users can do the same actions in various ways based on their individual preferences. A certain application or software may be started through the use of a mouse or the keyboard for instance, shortcuts or menus. This possibility to substitutively or alternatively use input data influences the overall HCI experience.

5. Task Migratablility

This principle refers to the possibility of transferring the task execution between the user and system. A user may for instance decide on checking the spelling for a text he wrote by himself or transferring this task to the system to do it. According to Maxwell (2001), full automation is sometimes a good idea, however, sometimes tasks in question require handling by the user when complex aspects are involved and the system may not be as good as human beings.

6. Synthesisability
This principle refers to the extent that the interface can allow users to mentally predict the model for the way it works. Through the use of a given interface, users create some expectation for what the next actions may be. Users may not easily learn any uniform or consistent sequence for interacting with the interface which influences their user experience rather remarkably.

7. Predictability

This principle refers to the extent that users can predict the effect of possible interface forthcoming actions using their previous knowledge of the system. This simply helps users to know beforehand what will happen when they perform a given action such as clicking on a shortcut or a program. This principle is a user-focused one as it is up to the user's previous

experience that allows him to predict the responses of the system. However, it is possible to note the influence of this principle on overall user experience if the system does not perform or react consistently with the user's expectations.

8. Perceptual Ergonomics

This principle refers to the extent that users can perceive possible stimuli for physical sensing. This relates to how efficient an interface can be stimulating the human senses of the users by way of audible or visible signals that render another level of interactivity for the interface. This principle therefore focuses on the human side of HCI and shows in situation where the users may or may not notice certain colours or the audio messages for example. So, these mainly relate to the perception level of the human users, which is why they are referred to as "Perceptual Ergonomics"

The above mentioned HCI principles were used a convenient theoretical framework to evaluate the user perception about Virtual Research Environment (VRE) in the case of an international collaborative research project called "EURASIA". According to Kaushal et al. (2009), the purpose was to assess the tailor-made VRE based on the above-mentioned Human Interaction principles. Kaushal et al. (2009) viewed that since VRE's mainly were designed to address the challenges ahead of collaborative research activities though a Human-Computer interaction centred approach, applying HCI principles as the basis for this framework was justifiable.

Based on this research attempt, the present thesis decided to adopt the HCI principles as the general guideline for assessing the usability-related issues in the user experience. These guidelines were also considered when designing questions collecting information from the participants in the research in the current thesis, whether in the IMI questionnaire or the interviews.

2.3.3   Intrinsic Motivation Inventory (IMI) & relevant IMI-based empirical studies

As the HCI model and studies are mainly concerned with usability related technical aspects of the user experience, it is convenient to complement the lack of focus on user related subjective aspects of the experience in the case of HCI by quoting the Intrinsic Motivation Inventory (IMI) that is very suited to studying these personal aspects of the user experience.

The Intrinsic Motivation Inventory (IMI) is a measurement tool taking the form of a questionnaire with a number of modules or subscales, all having the purpose of evaluating the participants' subjective experience related to a target activity defined in a research

experiment. This tool has been credible in the sense that it was used in several experiments related to self- and regulation intrinsic motivation.

This method is theoretically pretty convenient in the case of online studies, lab studies, field studies and questionnaires. Furthermore, it can be used to provide an appropriate quantitative approach to the research if applied on a reasonable number of research subjects. It does not require trained researcher nor any special software or equipment. Therefore, it is rather handy to use and does not cost much of any extra expenses for any essential software for instance. It also comes with no concerns about the validity nor reliability as it has been tested already in other researches. It is also flexible in use and can be adapted to many new topics or areas without affecting neither the validity nor the reliability.

According to the description given by University of Rochester (2011) WebPages, Intrinsic Motivation Inventory (IMI) consists of some main subscales. In its display of the main subscales of this questionnaire tool, University of Rochester (2011) names the subscales with the titles: "interest/enjoyment", "perceived competence", "effort/importance", "pressure/tension", "perceived choice", "value/usefulness", "relatedness". University of Rochester (2011) claims that "Interest/enjoyment" subscale is considered the self-report measure that focuses on evaluating the aspect of intrinsic motivation. Therefore, University of Rochester (2011) explains that this is the reason for the fact that the Interest/enjoyment subscale often has more items on it that do the other subscales, apparently to better capture the self-reported internal side of the respondent when it comes to measuring inner feelings. While the "perceived competence" and "perceived choice" concepts are viewed as being positive indicators of both self-report and behavioral measures of intrinsic motivation, and "pressure/tension" is viewed as a negative indicator of intrinsic motivation. Between those two ends, "Effort" subscale is however a separate variable that is relevant to some motivation questions. Yet, the "value/usefulness" subscale is used in internalization studies such as Deci et al. (1994), and it implicitly means that people may internalize and become self-regulating regarding the activities which they can consider as being useful or valuable experience for themselves. Finally, the "relatedness" subscale is usually utilized in research studies focused on aspects such as interpersonal interactions, friendship formation, and so on. This method is theoretically pretty convenient in the case of online studies, lab studies, field studies and questionnaires. Furthermore, it can be used to provide an appropriate quantitative approach to the research if applied on a reasonable number of research subjects. It does not require trained researcher nor any special software or equipment. Therefore, it is rather handy to use and does not cost much of any extra expenses for any essential software for instance. It also comes with no concerns about the validity nor reliability as it has been tested already in other researches. It is also flexible in use and can be adapted to many new topics or areas without affecting neither the validity nor the reliability.

On its description of IMI questionnaire versions, The Intrinsic Motivation Inventory (2008) has identified basically four specific versions of the IMI that have been used in past studies where he displays 45 items in full that make up the 7 subscales, it also provides fair amount of information on constructing an IMI questionnaire and scoring it. This actually has helped provide for a basic model or some kind of guide lines on the different ways the IMI questionnaires have been used, which has helped in designing the version of the IMI questionnaire used in the current thesis. Though these examples seem to contain unequal numbers of items per subscale and they relate to a variety of different activities, they give a good picture of what exemplary sentences may be used for other studies that could be interested in using IMI questionnaires.

The first version The Intrinsic Motivation Inventory (2008) presents is a standard 22-item version of IMI questionnaire that has been used in a number of studies, with four subscales used, namely, "interest/enjoyment", "perceived competence", "perceived choice", and "pressure/tension". The second version is a short 9-item version of IMI questionnaire, which is suited to the activities of reading some text material. The Intrinsic Motivation Inventory (2008) mentions it has three subscales, namely, "interest/enjoyment", "perceived competence", and "pressure/tension". The third version is a 25-item version and has been used in internalization studies. It has three subscales, namely, "value/usefulness", "interest/enjoyment", and "perceived choice". Finally, there is a 29-item version of the interpersonal relatedness questionnaire which contains five subscales, namely, "relatedness", "interest/enjoyment", "perceived choice", "pressure/tension", and "effort" (The Intrinsic Motivation Inventory 2008).

McAuley, Duncan and Tammen (1989) checked the validity of the IMI and they strongly ague in the favour of the validity of the IMI. The previous research cases that have used IMI in several experiments related to intrinsic motivation and self-regulation include Ryan (1982), Ryan, Mims and Koestner (1983); Plant and Ryan (1985); Ryan, Connell and Plant (1990); Ryan, Koestner and Deci (1991); and finally Deci et al. (1994). The research cases that have also used IMI in internalization studies include Deci et al.(1994) for instance where the main premise is that individuals generally internalize and become self-regulating about the activities that they experience as being useful or valuable. In this concern, the "value / usefulness" subscale is practically suitable for achieving such research demands for instance (The Intrinsic Motivation Inventory 2008).

Another example on the use of IMI was in the study by Hassandra et al. (2003) that used the Intrinsic Motivation Inventory (IMI) as a tool to study and evaluate students' intrinsic motivation in physical education. This study used the IMI questionnaire as being made up of

only four subscales: "Enjoyment/Interest" (this subscale included only a number of four items such as "what we do in physical education is very interesting"); "Effort/Importance" (this subscale included only a number of four items such as, "I put a lot of effort into physical education class"); "Perceived Competence", and "Pressure/Tension" (this subscale included only a number of four items such as, "Sometimes I worry about making mistakes in physical education"). Students had to answer with a rating of their evaluation on a 5-point scale (1: strongly disagree and 5: strongly agree).

The study by Hassandra et al. (2003) also used interviews to complement the he shortcoming of only using questionnaires. It used purposeful sampling based on the students' scores on intrinsic motivation and perceived competence to make sure that all ages and genders were represented. It seems that combining both the interviews and the IMI questionnaires is a sound research technique that researchers have opted to do when using IMI questionnaire, which is one reason for the current thesis to decide on adopting. It helps guard against shortcomings of each technique if used separately and it adds a higher trustworthiness for the results and deeper insight into research phenomenon.

As far as results are concerned, Hassandra et al. (2003) used two groups for reporting. The first group was called "Individual differences" group, which focused on comparing the individual differences in perceived competence, perceived autonomy, goal orientation, perceived usefulness of the lesson, and physical appearance, all from the perspective of students' intrinsic motivation when participating in physical education lessons.
The second group was called "Perceived competence", which focused on the link between students' competence and intrinsic motivation-related concepts such as effort, willingness, interest in the lesson, and attention. The finding were obtained by way of simple analysis of the scores from the IMI surveys and propping questions in the interviews to get a clearer insight into respondents' subjective attitudes towards the PE lessons.

The results of the study generally focused on the relationship between students' IMI scores and between the felt self-determination (as for example: "students with high IMI scores felt self-determined"/ "Students with low scores in IMI attribute their nonparticipation in lessons to the content"). Looking at the simple correlations between the students' IMI scores and intrinsic motivation, the results showed a multitude of social, environmental, factors as well as other factors associated with individual differences or with intrinsic motivation.

The study conducted by Conner (2009) is a further good example that shows the same approach to using the IMI as applied in the present thesis. The surveys used by Conner (2009) simply repeatedly utilized measures related to students' engagement in their extended essays. All items of the surveys were adapted from the subscales contained in the Intrinsic

Motivation Inventory Instrument as proposed by McAuley, Duncan and Tammen, (1989). Conner (2009) gauged affective engagement by using the interest and enjoyment subscale consisting of 6 items. The behavioral engagement was measured through the effort subscale consisting of 7 items. The cognitive engagement was gauged through the use of the value and usefulness subscale consisting of 7 items.

Mean Scores on Three Dimensions of Engagement by Clusters

	Cluster 1: Strongly disaffected	Cluster 2: Mildly disaffected	Cluster 3: Purposefully engaged	Cluster 4: Fully engaged
	($n = 27$)	($n = 38$)	($n = 45$)	($n = 30$)
Affective Mean	2.27	3.70	3.20	5.25
Behavioral Mean	3.27	3.75	5.32	5.31
Cognitive Mean	2.38	4.33	5.10	6.06

Table 1: The subscales used by Conner (2009) after Using IMI questionnaire items

The results identified three subscales as shown in the Table 1. These three subscales performed as criterion variables to ultimately group students based on their overall engagement profiles. The table shows the preference of the study to use the Mean values for the scores collected in the surveys, which actually is done later in the current thesis when dealing with the IMI scores. Conner (2009) used the survey data, which utilized IMI survey items as well as interviews to provide an overview of student engagement in the extended essay and reach an overview of school-level structure and support mechanisms. This again has given the current thesis a guideline to follow in this respect, as will be pointed out later on in the research section. That is to say, the current thesis has decided to combine both the IMI and interviews to allow for a fairly deep look into the user experience.

Based on reviewing research literature on user experience, it seems there is a focus on either one or the other sides of user experience, that is, the technical aspects relating to usability and functionality on the one hand, or the non technical aspects relating to users emotions and other subjective aspects that shape the whole user experience on the other hand. So, a balanced focus and inclusion of both aspects seems to be lacking or not clearly present in the area of studying user experience. There has not been enough sizable research, if any, which tried to study and compare the user experience of any interactive system or social media platform in different study groups with different ages where the users are using the massidea.org for different tasks. This holds especially true when the methodology of conducting the research is considered, that is, there is a lack of focus on both sides on

experience as explained before, which gives this thesis an outstanding edge in its approach to the user experience.

Therefore, there seems to be a chance for a thesis that would help contribute something to the study of user experience to help add a new perspective to the understanding of user experience, which would combine both aspects. Though there have been a number of studies on usability and functionality or on user experience in general, as done by Jordan (2000), and Hassenzahl (2003) for instance, there has not been much research on this area of user experience without only focusing on either usability and functionality aspects or subjective aspects like empathy and emotions. There has not been any similar thesis in the area of user experience that deals with whether the user experience of different users for the same interactive system or social media platform in different study groups with different ages can shed some light on the different meanings and feelings user attribute to it as in this case will be exemplified by massidea.org.

3 Methodology

This chapter presents a review of some of the common methods for measuring and evaluating the user experience. It also presents the grounds for which the current thesis has made its choices regarding the methods thought best to suit the research objectives of the current thesis.

3.1 Review of the User experience evaluation methods

There exist a number of methods that are used to understand users and assess their experience in the early phases concept design, such as probes as shown by Gaver et al. (2004) or contextual inquiry as recommended by Beyer and Holtzblatt (1998). However, one thing to notice here is that there seems to be an apparent distance or gap between the understanding of the research community and the understanding of product developers regarding what user experience or user experience is and how it should be assessed, this is summarized by the following figure presented by Väänänen-Vainio-Mattilas et al. (2008).
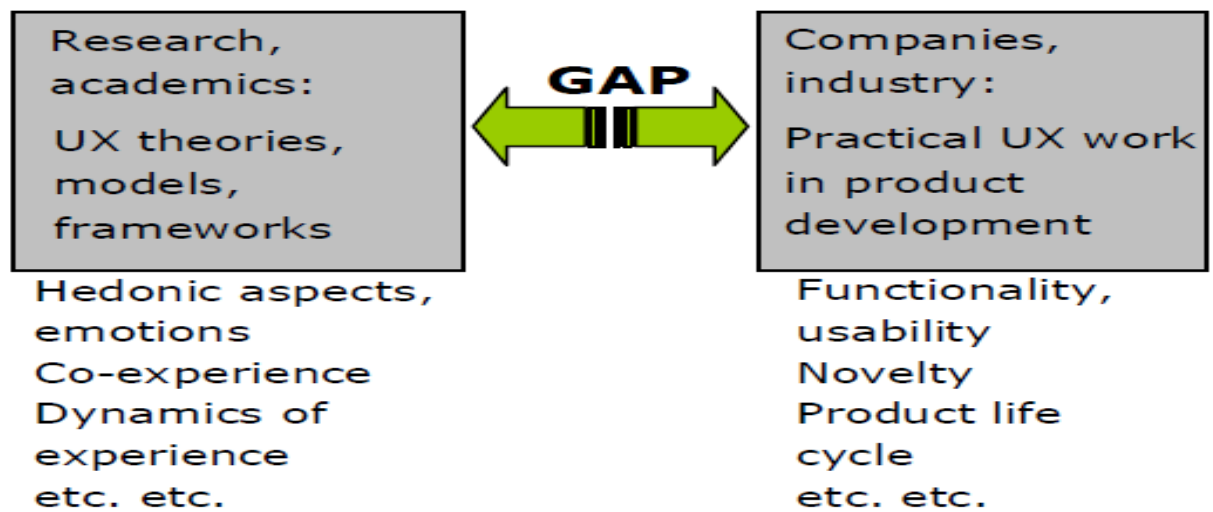
Figure 6: The situation of the user experience understanding in the research community and the product developers community Väänänen-Vainio-Mattilas et al. (2008)

With the "experimental pilots" that Isomursu (2008) proposed, the idea of user experience assessment in relation to the timing was suggested. So, Isomursu (2008) had to assess users' expectations before product use to test users' expectations, while during product use to test the users' actual experience and after product use to test users' judgement.
This method stresses the fact that that the user experience is by nature a dynamic and subjective concept because on the one hand, expectations impact experience, experience affect retrospective judgments, and on the other hand these judgments consequently lead for this cycle to be repeated over and over again. According to Isomursu (2008), user experience is highly situational; and this is the reason for the requirement of a strong focus on situational aspects when it comes to evaluating the user experience. This therefore calls for creating an evaluation setting, which is similar to an actual use setting.

Evaluating the aspects of effectiveness and efficiency, which in many cases has been synonymous to usability in the case of technology-oriented fields, has traditionally been about testing products against technical and usability requirements. However, with the internet becoming common and important in the area of communicating things like brand and image, the traditional technical and usability assessments of web sites could not be sufficient anymore, and therefore experiential goals have been proposed as an addition to be integrated with these as viewed by Kuniavsky (2003), Ellis and Ellis (2001); Roto et al. (2008) and Hoonhout (2008) emphasize the view that the user experience is basically influenced by positive emotional responses to the target products and emphasize the idea that the task effectiveness and efficiency may not be the sole possible source for positive emotions which in turn affects user experience and therefore can be one way for evaluating user experience.

Another evaluation method for user experience was presented by Hole and Williams (2008) is called "emotion sampling". This method entails repeatedly requesting users while using a product to express and evaluate their current emotional state by way of answering a set of predetermined questions. This approach focuses on the experience itself instead of the traditional focus on product, which gives another dimension to user experience evaluation methods. Therefore, this approach is concerned with researching the causal link between a positive experience and the product on the one hand and how it affects the measured experience on the other hand.

Among the methods for evaluating user experience that should also be reviewed here are the "Repertory Grid" and "Multiple Sorting" as presented by Al-Azzawi et al. (2008), and Karapanos and Martens (2008). Hassenzahl and Wessler (2000) believe that these methods make use of the theory of personal construct psychology and seem to provide a mechanism or a technique for evaluation and analysis. Basically, these are methods that focus mainly on the process of creating meaning of objects from the eyes of the individual. They are marked for their solid procedural structure, and they deal with either pragmatic or hedonistic meaning efficiently. The methods provide results that present an insight into what the usual themes, topics, and concerns people may have with a given set of products. These results can show people's positive and negative feelings and evaluations towards topics and products in question.

Another method for assessing and evaluating user experience is called "forced choice" as presented by Heimonen et al. (2008). This method is basically used to assess the desirability of a given product. One thing to notice about this method is that it may add an additional requirement for user experience evaluation methods in general, that is, it can display certain aspects or drivers of products appeal and choice that may not be obvious to the users themselves.

Tractinsky and Zmiri (2006) argued that symbolism, beauty for example could help predict of product choice of the users. Users reported overwhelmingly practical grounds for their product related choices. Tractinsky and Zmiri (2006) concluded that such hedonistic aspects are possibly at work most of the time and therefore most of these "experiential" methods presented so far basically depend on people's self-report. However, it is worth note that such experiential aspects are rather hard for users to justify or even to verbalize because users may not be fully or consciously aware of the criteria behind their choices.

As there have many other evaluation methods for user experience which could be reviewed here, for the purposes of this thesis, this section is going to shed light on some of them more closely to justify for the choice of the research methods selected in this thesis later on.

According to Tähti and Arhippainen (2004), 3E (Expressing Experiences and Emotions) can be suited for field studies where it is possible to use the 3E techniques for getting some insight into about users' experiences and emotions using templates that usually take the form of diary data where users may also draw and write their experiences and emotions about the a given product in a field study. While people may express their feelings rather a casual manner, the interpretation of the data regardless to the form it comes in (whether in verbal or non-verbal form, or in the form of drawings or writings) is demanding, time consuming and usually is not error-free.

Lavie and Tractinsky (2004) developed a measurement for the perceived aesthetics quality in web sites, where exploratory and confirmatory factor analyses are utilised. The main premise in this method the duality of users' perceptions, that is, users' perceptions can be understood through two perspectives or dimensions, namely, ''classical aesthetics'' and ''expressive aesthetics''. This measurement is praised as a reliable carefully developed instrument or aesthetics scale for users' perceived aesthetics quality, however, it is criticised for having some typical drawbacks associated with generally all subjective scales.

Attrak-Work questionnaire, as apparent from its name, is a questionnaire that has served as a tool for evaluating user experience in the case of mobile system usage aimed for mobile news journalism. This tool is based on AttrakDiff, which is another similar tool, however it is noted for being more elaborate and being context-oriented. The Attrak-Work questionnaire has a few pluses like giving an overall judgment, from all respondents' view about the topics involved in the questionnaire, and requiring no special equipment for conducting research using this tool, however, it is rather narrowly focused as it was not created for multi-purpose use, and therefore cannot be reliably used various work environments or target areas of user experience.

Looking into what users say in interviews and what the Attrak-Work questionnaire findings usually show, there could be some discrepancies and there seems to be a valid point in checking the findings or the responses with the users to safely consider the responses as being reliable. The Attrak-Work questionnaires may only be limited to what is asked in it, and therefore may not be suitable for testing or learning much about users themselves (Attrak-Work questionnaire 2011).

Audio narratives is another method for assessing user experience and it is noted for having the users verbally tell about their experiences with the product in a story telling free format and the whole story is audio recorded. While the method can present a record for the most important experiences that the users have with the product, some users may not be

comfortable telling about their experiences. Furthermore, not all the stories might be very of a convenient length, besides later analysis requires these stories to be transcribed, which is a very time-consuming task and may require some training (Audio-narrative 2011).

Co-discovery is another method here for user experience evaluation but it requires that two participants who are two friends (typically they have to friends and have an acquaintance of each other) explore the product together and discuss openly about it, possibly with or without a moderator. For the purpose of guiding the discussion, video recording can be utilised especially when there is moderator involved. The idea here is that sharing experience with a friend can usually or typically involve more experiential comments than otherwise when discussing with a moderator while this method may be marked for the authentic experiential data than a normal face-to-face interview, and whereas it might reveal interesting experiential aspects, yet it is hard to control the direction of the discussion and it may only more suited for exploring the initial responses to products (Co-discovery 2011).

According to Froehlich et al. (2007), Context-aware ESM is a method where users are requested to report information such as what they feel right now, what feelings they had in some previous interactions, or their entire assessment of the system as a whole. The information that users will produce can take various data formats like for example images, survey multiple choice answers, free text, audio recording or video. The data could be immediately received by researchers, or also stored in the system to be used and interpretation at a later stage, and can also be reported in written format and submitted to researchers after the experiment.

One good thing here about this method is that it makes it possible for researchers to access data about users' experience remotely without interfering with users to allow for more privacy and freedom of expression. The method is practically applicable for getting contextual information. However, some criticism against this method includes the view that the current situation could perhaps be some inconvenient timing for users to express their experience as they may not be quick enough or properly prompted when the system when the system ask them to, and consequently their experience may be interrupted by such system query and this too may lead to developing some negative feelings towards the whole situation (Intille et al. 2003).

Controlled observation is a method where respondents are placed in a controlled environment instead of a real context with the purpose of exploring design details such as colours or the sound of a given product with the assumption that this controlled situation would be better than the real context due to the possibility to control the physical conditions in it to ensure a full focus and control of the target test aspects.

Data collection can take different forms like videotaping users' facial expressions for instance. The advantage of this method is the possibility to collect experiential data on design aspects at no high costs that field studies may be known for (Jordan 2000).

ServUX questionnaire is another method that involves the use of questionnaire for the evaluation of Service User experience (Servux-questionnaire 2011).The questionnaire consists of a number of modules with each module focused on some specific aspects of ServUX. Examples of such modules include social communication and construction, dynamic content and functionality, contextual computing, and other ServUX-related issues such as trust and privacy for instance (Servux-questionnaire 2011).

ServUX questionnaire is given to user after trying out the target service. The advantages of this method in the area of user experience in the case of web services is that it can be used with a wide range of pragmatic-hedonic aspects. It does not consume long time in conducting. It is also rather conducive in the case of developing iterative services. Other advantages include its flexibility as it is possible to send it to target users to answer and then returned. However, it may be worth noting here that there may be a need to combine this questionnaire with other tools to gain some reliably deep insight into subjective experiences in the case of web service users (Servux-questionnaire 2011).

3.2   Research Methodology decisions

This section presents the decisions made in this thesis regarding the choice and design of the research tools used for the study research. This current thesis has chosen to use a combination of a questionnaire to assess the user experience and interviews for a sample of the users of the massidea.org. The use of thematic interviews in addition to the type of questionnaire selected aims at providing a complement to the questionnaire to provide further insight into what may be missing from the questionnaire. As a research tool in the current thesis, the questionnaire is intended to test both kinds of aspects that constitute the user experience as defined in this current thesis. These aspects of the user experience are the objective technical aspects of the user experience, referred to as "usability", and the subjective aspects related to the users.

The thematic interviews will probe further into aspects that have not been cleared well enough through the use of the selected questionnaire. It is hoped that this combination of these evaluation methods here will add more trustworthiness of the research methodology that will lead to conclusions and will possibly minimize the drawbacks of either one of them if

used alone on its own. The following sub sections present further details on the issues relating to the background, design and content of the research methods used in this thesis.

3.2.1 Questionnaire design decisions

Notably, many of the above suggested methods regarding user experience evaluation methods are generally demanding in terms of the skills and time required. In this thesis, however, one of the methods has been selected to evaluate the aspects of user experience, and it is a type of questionnaires called the Intrinsic Motivation Inventory (IMI) for a number of reasons.

Being flexible in use and adaptable to many new topics or areas without affecting neither the validity nor the reliability, the IMI type of questionnaire was decided to be the choice of this current thesis. The type of IMI questionnaire used in the current thesis contains items relating to both areas of the functionality aspects relating to the massidea.org as well as the subjective aspects relating to the user. For more details on which items in the questionnaire relate to which aspects, the Table 2 below can be rather useful.

1-I enjoyed doing this activity on massidea.org very much 13- This activity on massidea.org did not hold my attention at all 25- I thought this activity on massidea.org was boring	Interest/Enjoyment
4- This activity on massidea.org was an activity that I could not do very well 16- I was pretty skilled at this activity on massidea.org 28- I think I did pretty well at this activity on massidea.org, compared to other students	Perceived Competence
I did this activity because I wanted to 26- I didn't really have a choice about doing this task on massidea.org	Perceived Choice
5- I felt very tense while doing this activity on massidea.org 30- I felt pressured while doing the task on massidea.org. 14- I did this activity because I had to 17- I was very relaxed in doing the tasks on massidea.org	Pressure/Tension
I believe this activity on massidea.org could be of some value to me 15- I think doing this activity could be useful to me 27- I would be willing to do this task on massidea.org again because it has some value to me	Value/Usefulness
9- The site has a consistent, clearly recognizable "look-&-feel" 12- The website has a page length appropriate to its content 19- The website navigation tells the learner what to do on each page	Efficiency of use

20- The website pages are linked so that learners can easily return to their starting place	
21- Each page in a sequence clearly shows its place in the sequence	
22- Line length is short enough that readers do not have to turn their heads side-to-side to read complete lines of text	
22- I felt that I had to click too many times to complete typical tasks on the website	
32- I was able to complete the tasks given in reasonable amount of time	
8- It is easy to discover how to communicate with the author.	Ease of learning
11- The website is visually consistent even without graphics	
23- The organization of the menus seems quite logical	
10- The website makes effective use of repeating visual themes to unify the site	Effectiveness
24- I can effectively complete the tasks using this website	
31- The website has all the functions and capabilities I expect it to have	
29- I put a lot of effort into this task on massidea.org	Effort/Importance
6- I tried very hard on this activity on massidea.org	

Table 2: A summary of the subscales used by the IMI questionnaire in the current thesis and the items relating to each subscale

The questions relating to user-focused subjective aspects were modelled on the standard statements used in the above-mentioned versions of the IMI covering the subscales of "interest/enjoyment", "perceived competence", "perceived choice", "effort/importance" and "pressure/tension". These subscales are assumed in the current thesis to help probe into the subjective aspects of user experience in the case of users of the massidea.org. The other items on the functionality are also phrased in the same manner like other items to add some standardized format and consistency to the questions as a whole. One thing to notice in the format and ordering of the items in the questionnaire is that items are randomly ordered and not grouped together under each other according to one subscale at a time. The intention here is to also test the authenticity and factuality of users' answers through at least two or more items on each subscales lest respondents may answer differently on various items that belong to the same subscale or may encounter some problem with understanding one item in any subscale, besides this could also give an indication of whether there are discrepancies among the answers in same subscale or even if the respondents may not be taking the questions seriously. This is hoped to refine the insight of the thesis into the real feeling of the user regarding the underlying target subscale of the used items. One other thing to note is that some subscales have more items than others; these subscales are however assumed by

the survey to have higher significance on the overall experience of the user when interacting with the massidea.org. This is the reason why they are represented by more items for better assessment of the user experience. Supporters of the "Reliability" theory such as Anastasi and Urbina (1997) and McDonald (1999) stress the idea that there is a necessity for multiple items for each scale or subscales planned for assessment or evaluation. It is for this reason therefore that the current questionnaire used a minimum of two and three items per each subscales with many more item for certain subscales as shown in the above Table 2.

For the purpose of operationalizing the concepts that are tested in the questionnaire, it is valid and useful to review what has been written on the concept of usability and the subjective aspects related to the user, then it is easier to see the perspective of the current study or definition of these concepts in order to be clear about what is being tested.

As usability basically is a technical term and relates to the field of online knowledge, it has been useful to check some a few reliable online references (specially that the term is related to IT and online applications) to see what some common definitions for the usability term and for what to focus on when evaluating this concept in the framework of assessing the overall user experience in this thesis.

According to Usabilitybasics (2011), usability refers to how well users can learn and use a product to achieve their goals and how satisfied they are with that process. Usability measures the quality of a user's experience when interacting with a product or system-whether a Web site, a software application, mobile technology, or any user-operated device. Usabilitybasics (2011) views website usability as a combination of factors or properties for user interface including the following:

- Ease of learning: This refers to how fast a user, who has never seen the user interface before, can learn it sufficiently well to accomplish basic tasks.
- Efficiency of use: This refers to how fast a user can accomplish tasks once he or she has learned to use the system.
- Memorability: This refers to whether the user can remember enough to use the system or website effectively or whether he has to start over again learning everything provided that he or she has earlier used it.
- Error frequency and severity: This refers to how often users make errors while using the system, how serious are these errors are, and how users recover from these errors.
- Subjective satisfaction: This refers to how much the user likes using the system.

The concept of usability adopted by the current thesis here borrows some of what Godenhjelm (2009) presented as consisting of three dimensions: effectiveness, efficiency and

satisfaction in a specified context of use. The concept as such agrees with the ISO standard on usability which recognizes each of these dimensions. Godenhjelm (2009) argued that the user experience concept is related to usability, which in his view refers to feelings a person has in using an application in hand. However, while some see that this belongs to the concept of usability, others like Sinkkonen et al. (2009, 18) see that the usability concept represents one desirable feature which belongs to an application, while a user experience refers to a quality of experience user has.

According to Usabilitybasics (2011), the most common factors measured in usability testing include efficiency of use, memorability, subjective satisfaction, and error frequency and severity. Basic criteria to also include when measuring usability are effectiveness and efficiency. Effectiveness refers to a user's ability to successfully use a Web site to find information and accomplish tasks. Efficiency refers to a user's ability to quickly accomplish tasks with ease and without frustration.

Therefore, Usability in this thesis therefore is considered as a general umbrella for the aspects relating to usability like efficiency of use, the ease of use, learning and navigation as well as effectiveness in website design features as reflected by the questions mentioned in the Table 2.

According to Usabilitybasics (2011), there are two types of usability metrics that can be captured during a usability test. These metrics include either performance data (concerned with what actually happened) or preference data (concerned with what participants thought). For this thesis, preference metrics will be used in the questionnaire to capture what the users thought about their experience since the thesis primarily aims to assess the user experience as users feel it or consider it to be from their own perspective.

According to an example given by Usabilitybasics (2011) where subjective evaluations regarding ease of use and satisfaction were tested, data was collected via questionnaires as well as during a debriefing at the conclusion of the session. The questionnaires used free-form responses and rating scales, which is the same rating model that this thesis decided to also use in the IMI questionnaire. The response form in the questionnaire here includes a rating on a scale from 1 to 7 where "1" is where the respondent believes the given statement is completely untrue and "7" is where the respondent believes the given statement is completely true.

Relevant literature that dealt with usability includes an important model called SCANMIC Model by Shahizan and Feng (2003) as shown by Figure 7. The model presents a seven-factor model for usability which includes screen design, content, accessibility, navigation, media

use, interactivity, and consistency. Screen design includes space provision, choice of colour and readability.
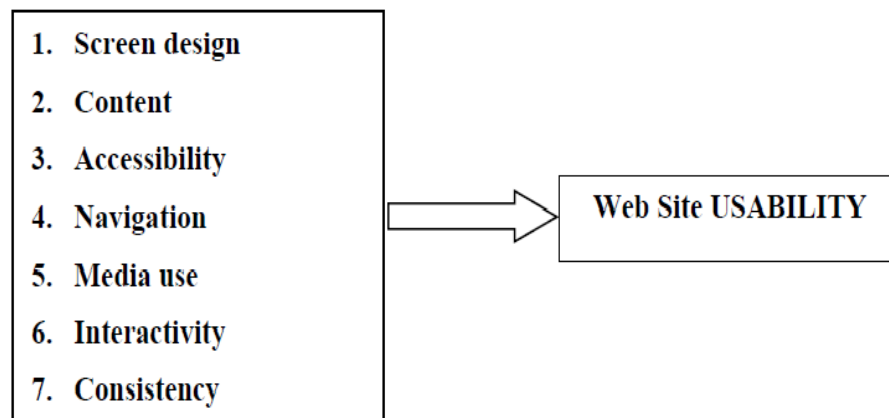

Figure 7: SCANMIC Model by Shahizan and Feng (2003)

Content in this model includes who, where, when aspects of the information on the website. Accessibility includes loading time, browser compatibility and search facility. Navigation includes logical structures, navigational links and menus. Media use includes graphics, animation and the use of video or audio. Interactivity includes features like online forms, net conferences, guest book and emails. Consistency includes design elements like layout and shared design interfaces among pages of the website, which all speed users' learning.

According to Usabilitynet (2011), potential requirements for usability include such factors like understandability, learnability, attractiveness, and operability. Understandability as mentioned there is explained as referring to how easy to understand interface elements like menus and the use or the purpose of the target system. Learnability is viewed as being inclusive of user documentation and help tools that explain how to achieve common tasks. Operability is presented as includes interface actions and elements, error or confirmation messages explaining how to recover from the error for example. Attractiveness includes the appeal of screen layout and colour.

Based on the above mentioned sources that presented some common criteria that are often measured in usability testing, the questionnaire in this thesis has had to consider these criteria when assessing the usability aspects. Thus it was decided to utilize questions that test the criteria of efficiency of use, learnability and effectiveness in the attempt to assess the usability aspects in the massidea.org.

 In so doing, it uses free-form responses and rating scales, which is a proven rating model used in other studies as shown in the literature here and is therefore using it in the IMI questionnaire form. Almost half the questions in the questionnaire focuses on the usability-

related criteria, and the rest of the questions is targeted at assessing the aspects related to subjective satisfaction of users- The aim is notably to attempt to assess the overall user experience. The whole questionnaire tries therefore to focus equally on both assessing the usability-related criteria and the criteria related to subjective satisfaction. The reason for this approach as previously stated is that this thesis considers user experience as the outcome of interaction among these aspects. One thing to notice is that the questionnaire uses the same wording and scaling measure for questions related to usability aspects and subjective satisfaction.

As far as criteria related to subjective satisfaction are concerned, the part of the questionnaire, which is going to handle these criteria, will focus on the subscales of value/usefulness, interest/enjoyment, and perceived choice, pressure/tension effort/importance perceived competence. It will use at least two or three items in the questionnaire to test each criterion and in different wording in the hope of using redundancy to add more reliability and validity to the questionnaire items. Items in the current IMI questionnaire are modeled on some of the previously used items in other IMI questionnaires as shown by University of Rochester (2011).

One thing to note about the wording of the questions used in the IMI here is that there is nothing difficult to understand about these items; they can be quite self explanatory and face-valid. In fact, they have usually been modified to suit any given topics or themes. It is pretty common for researchers to choose the relevant subscales to the issues they are experimenting with. Furthermore, it was important to have the questionnaire include subscales with multiple items to ensure better external validity as opposed to the case if subscales were to include single items.

3.2.2   Interviews decisions

The current thesis has decided to use the interviews to help gain a deeper insight into the user experience as expressed by the words of the users themselves and help compliment the results coming from the questionnaire by reaching a verbal support to what they reported in writing. This is intended to give more reliability for the conclusions gained in this thesis than otherwise if only using the IMI questionnaire.

The type of interview chosen by this thesis is the thematic interviews and it was designed to revolve around a number of selected themes whose probing is assumed to help get some deeper insight into the aspects shaping the actual user experience in the case of massidea.org than from the use of IMI questionnaire. The actual structure of the interview with each

interviewee depends on the covering of the themes in the agenda list. The interviewer leads the respondent into the preset topic areas, which are mainly the following:

- The interviewee's feelings while on the massidea.org
- The interviewee's opinion about his/her overall performance while on the massidea.org
- The interviewee's description of moments of feeling discomfort or uneasy
- The interviewee's feelings of being forced to while on the massidea.org
- The interviewee's view of whether or how the massidea.org can be useful or valuable
- The interviewee's view of how efficient the massidea.org is
- The interviewee's view of how easy to get familiar with the massidea.org
- The interviewee's view of whether or how effective the massidea.org is
- The interviewee's view of whether or how much effort needed while on the massidea.org

The interviewer can explain to the interviewee in whatever way or paraphrase the meaning of his questions and could help with summarizing what the interviewee seems to have said to make sure about what the interviewee means. This is especially important for the interviewee to answer with relevant information specially that the language of the interview is English, which is not the mother-tongue language of the respondents.

This reason for choosing this type of interview is that it gives a possibility for some more flexibility to deal with any unexpected topics that may come up in the conversation, which may add more valuable insight if this happens to be the case. It also is easier to manage communication problems caused by the use of a foreign language with the respondents when using thematic interviews than with using formalised structured interviews where the interviewer will only stick to the pre-decided content or structure that needs to be read out mechanically.

According to Tolich and Davidson (1999), the thematic interviews is a powerful research technique when the researcher does not have much data at the beginning regarding the in question or if the topic is being rather complex as in this case of the current thesis that tries to explore the user experience in the massidea.org.

Although in thematic interviews, the time length generally depends on the amount of available time of the respondents and their knowledge regarding the topic in question, the interviews in this thesis were planned and expected to last about 15 minutes each. The reason here for this time length is to avoid rejection of coming to the interview due to the fear of wasting the time of the respondents. Therefore, it is mainly to encourage as many

respondents to accept the request to come for the interview. The interviews were to be held at the school at a suitable timing when the respondents are anyway at the school for other errands. The current thesis has managed to get a number of 9 interviews in total.

Interviews were to be audio-recorded and then transcribed verbatim and to be interpreted from the written form. However, the current thesis has decided not to use any specific coding or template analysis of the kind outlined by traditional qualitative researchers like Tolich and Davidson (1999). Instead, the interviewees' observations and responses were to be grouped under the previously mentioned themes of the interview and irrelevant responses were to be discarded. This is better and easier done when the responses are in writing. For a full transcription of the interviews, the appendices have them all. It is intended that these responses when grouped together with the results from IMI questionnaire, a clear insight of the user experience in the case of massidea.org can be reached.

3.2.3   Subjects group characteristics

The subjects for the questionnaire picked for this thesis have been the students of Laurea who have done courses where one assignment using the massidea.org was a requirement. The total of the students in all the classes that were sent the link to the IMI survey and later were represented in the interviews was roughly 80 students. However, only 39 students actually participated in the research as a whole. The students involved in the questionnaire came from different courses and they used the massidea.org for different tasks in their respective courses. Some of these students were full time students, other were full time workers who only come to do further graduate studies. So, this has enriched the variety of input from participants or respondents in this research thesis. Figure 8 shows that they have been divided in this questionnaire based on their age groups, that is, five age groups, namely (18 - 22), (23 - 27), (28 – 32), (33 - 42), and (> 42) years old.
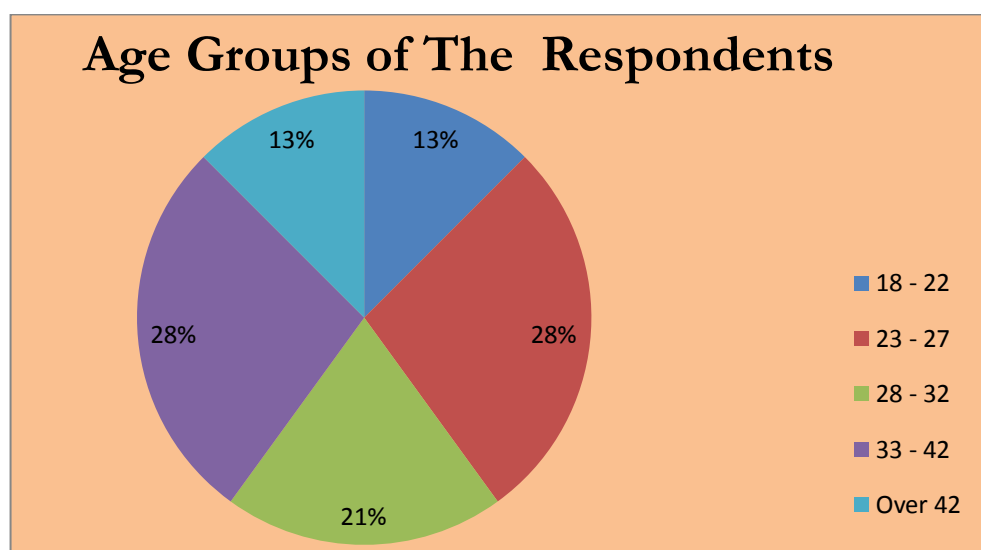
Figure 8: Chart for the percentages of each age group in the overall sample population

Figure 9 shows the percentage of participation of each gender in the IMI questionnaire. There was a reference to the gender of the respondents in the IMI questionnaire so as to also check whether the differences in the experience could also be seen in the light of the gender. The number of the (18 - 22) years old respondents in the present thesis is 5 respondents, in the (23 - 27) group it is 11, in the (28 - 32) group it is 8, in the (33 – 42) group it is 10, and in the (> 42) group it is 5.
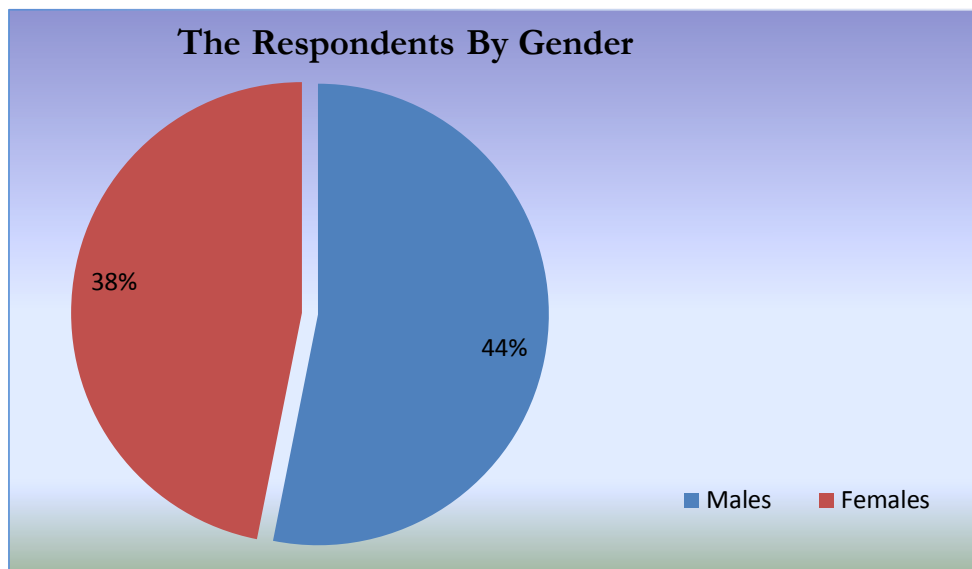
Figure 9: Chart for the percentages of gender in the overall sample population

One thing to notice here is that total of respondents of the questionnaire was 39 people and were divided as groups only during the process of interpretation of results and statistical treatment of the scores based on the age groups defined here. Figure 8 indicates a chart for the percentages of each age group in the overall sample population.

Some groups had more males or females than others. This was an operational challenge to have an even number of each gender inside each age group. This was due to the fact that there was only a limited number of students whose age corresponds to this age groups specified here and be in the same time doing courses using the massidea.org at the time of conducting the questionnaire, specially that they need to agree to participate in the thesis. In other words, they needed to be available or ready to answer the questionnaire and this proved to be operationally such a frustrating process. Thus, the gender-related glimpse will only be taken as one of other guidelines in the overall interpretation process. The same thing too will be applicable to the job situation of the respondents and their computer skills, which is represented by the chart in Figure 10.

The Job Situation of The Respondents

- Senior Manager — 10%
- Manager — 26%
- Executive — 18%
- Support — 44%
- No working experience at all — 5%

Figure 10:Chart for the job situation of the subjects in the overall sample population

As far as the subjects for the interviews are concerned, each age group was represented here with mainly two people of each gender except for the age group of (> 42) was represented by one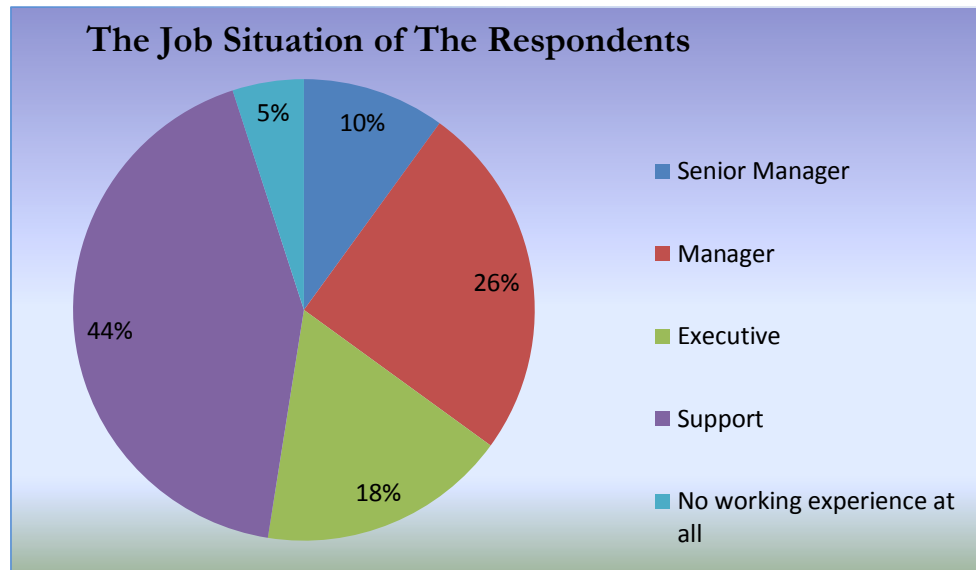 person only. The idea was to help support the objective interpretation of results from the questionnaire and allow a deeper insight into the user experience as expressed by the users or representatives of the user groups here.

As far as the sample size of the respondents, the whole number of respondents to the questionnaire was 49 people. Tullis and Albert (2008) believe that there is no specific rule for the number of subjects in a thesis for the data to be valid. The sample size can be mainly influenced by goals of the study and the error of margin accepted by the study. Tullis and Albert (2008) show that in an iterative design stage, a few numbers of participants, roughly three or four may help spot and reveal the major issues with a product, but not all issues though. However, in a case of evaluating more issues at a late stage of design, more participants for the research task may be needed to evaluate more issues. Tullis and Albert (2008) also presented a table as shown in Table 3 where they show some guiding exemplary values for confidence intervals changing based on the sample size as shown in Table 3, which has also helped the present thesis to consider the number of 39 subjects for the questionnaire used here as being a safe level for generalizing the results on the general population of users for the massidea.org. According to this table, the current thesis can consider that the results of the questionnaire will be applicable to between 62 % and 95 % of the general population of the users for massidea.org because over 24 of the respondents successfully answered the questionnaire out of the 39 respondents. In fact all the respondents reported successful completions of the questionnaire and even added some extra comments in the free spaces assigned for this purpose.

Number Successful	Number of participants	lower 95 % Confindence	Upper 95 % confidence
4	5	36 %	98
8	10	48 %	95
16	20	58 %	95
24	30	62 %	91
40	50	67 %	89
80	100	71 %	86

Table 3: Confidence Intervals in sample sizes (Tullis and Albert 2008)

3.3   Collection and analysis of empirical data

The questionnaire was sent to the subjects as an online link on the "e-lomake" section or the service of e-forms on the website of Laurea. It was passed to the respondents through the teachers of the courses where there was a task requiring the use of massidea.org. The respondents answered the questionnaire online to ensure a quick efficient process of completion of the questionnaire. The answers were then taken from the e-forms in the form of excel file to help process and treat the results scientifically using descriptive statistics measurements.

After the statistical analysis of the responses from the questionnaire, the interviews were held where data that was not clear enough was again directly investigated. Respondents were first contacted by email and telephone to arrange some suitable times. Other interviewees were also contacted through some of their colleagues who had agreed to help in the thesis and brought other people to be interviewed too. The nature of the thesis had been explained earlier in one of the lectures where they had been present and the contact information of the volunteers was collected for arranging time later on. It was also explained again on the day of the interview to help prepare the respondents to be focused on massidea.org itself, not the course where they had used it.

So, the interviewer explained the value that the interviewee's contribution could have in this thesis. The interviewer explained that all interviews were to be audio-recorded and that the recorded material would be considered confidential, so they were reassured to speak openly and express their emotions and views frankly without trying to be diplomatic. This seemed to reassure them and many of them talked very openly with their criticism which has given some valuable insight into their individual experiences as users for the massidea.org.
Later on, the interviews were audio-recorded and then transcribed verbatim to facilitate the interpretation process and document in written form the words of the respondents.

Throughout the interpretation process, the testimonies and observations expressed by the interviewees were grouped under each of the themes covered to help see the input of each age group regarding these themes. Irrelevant responses to the target themes were ignored to help focus on relevant matters though they were also transcribed for reference purposes. Some of the interviews proved to be more valuable than others due to the differences in the conversional level of the respondents and work experience as well as critical thinking level of each, which after all enriched the content of these nine interviews.

4   Results & Analysis of the data

This chapter presents the responses from the questionnaire analytically by using the descriptive statistics and also by using the input from the interviews to evaluate the user experience of the students who were included in the research conducted by this thesis.

4.1   The General Framework for the Experimental data Analysis

The present thesis has used the excel program to treat the results of the questionnaire statistically and calculate some equations and values that would help interpret and understand the results from the respondents. Tullis and Albert (2008) recommend descriptive statistics among other statistical procedures regression analysis and correlations as well as t-tests for interpreting interval data types such as likert scale data. As the IMI questionnaire used in this thesis is to be considered an interval data type, the present thesis has decided to use descriptive statistics to gain an insight into the behaviors and the experience of the respondents as expressed by their answers.

For the purpose of analyzing the results of the quantitative data, this section is going to present the results from two perspectives. The first perspective through which the results will be shown is the single subscale such as "Perceived Competence" or "Pressure/Tension" for example. These subscales or factors are considered in the current thesis to ultimately shape the user experience as shown in the table 2 of the subscales under which the questions of the questionnaire are classified. Therefore, this section will check each subscale separately throughout all the responses made by the respondents in the aim of having an overall look at collective user experience on the level of each subscale.

The second perspective through which the results will be shown is the age group perspective where each age group will be presented separately to help gain insight into user experience of members at this age group on the level of all subscales covered in the questionnaire. Sorting out the results of the questionnaire through these two perspectives is theorized by the

thesis to possibly efficiently dissect the responses in a systematic way that leads to a an insight into the user experience as reflected by the responses to the IMI questionnaire.

As descriptive statistics in this thesis is intended to help gain an insight into the group level user experience on the level of each subscale, typical measures or criteria used by descriptive statistics such as the mean, mode, range, variance, standard deviation, and confidence level factor were all calculated using Excel per each subscale for all the respondents. One thing to notice about the scores quoted here and used for the statistical analysis in each of these nine subscales of the questionnaire is that each score is actually the average for the scores reported by the respondents when answering the questions relating to this subscale in the questionnaire. In other words, the higher a score for any given subscale here, the higher tendency the respondents show towards having much of this particular criterion or subscale influencing their experience when interacting with the massidea.org. The same way is applicable vice versa too as the lower a score on any given subscale here is, the lower the respondents' tendency is towards showing the influence of this particular criterion or subscale on their experience with the massidea.org. This will be explained below as the results of the questionnaire are presented.

In trying to look at the variability of the data of each subscale or in other words how spread the values of the responses are, some measures such as variance, range, standard deviation have to be calculated to check how confident we can be regarding the given data. Tullis and Albert (2008) explains that the higher the variability of some given data is, the less reliable the data can be, and the less spread the data may be, the more confident we can possibly be regarding the application of the findings to a larger population.

As far as issues of validity and reliability in the IMI questionnaires here are concerned, a summary of these issues is needed here to make things in the regard as clear as possible. This is explained in the following paragraphs below.

The IMI questionnaire used here has the privilege that both the validity and reliability have been tested already in other researches, which add credibility and safety to researches using it. McAuley, Duncan and Tammen (1989) checked the validity of the IMI and they strongly ague in the favour of the validity of the IMI. Examples of other studies that have used the IMI as a valid and reliable tool hae been reviewed earlier in the research literature section (review 2.3.3 section). This therefore means that it is flexible and adaptable to basically any

research areas without affecting neither the validity nor the reliability. This is achieved by way of editing the subscales of the IMI to match different topics without affecting the validity and reliability of the questionnaire as an instrument in itself. All the questions included in the IMI questionnaire here were modeled on some of the previously used items in other IMI questionnaires as shown by University of Rochester (2011).

The validity and the reliability aspects of the questionnaire used by the current thesis are supported by the use of redundancy through providing a minimum of two or three items per each criterion tested in the questionnaire. Furthermore, the use of multiple items as opposed to single items for each criterion shown in the 2 has helped achieve a high level of external validity.

So, the following section will present by each subscale, which the current thesis assumes to make up the overall user experience, the values of the mean, median, mode, range, variance, standard deviation, and confidence levels. It will also present some other calculations that have been developed or viewed to be relevant to add some further insight into the distribution of the data values. These calculations include the percentage of the standard deviation of the mean value per each subscale. This is referred to in the tables below as SD/MEAN. Another calculation is the percentage of the standard deviation to the range distance of the overall scale used by the IMI questionnaire, which is 7. The values in the tables are based on an average score per each subscale calculated for each respondent based on the grades or scores he/she has given for the items in the questionnaire that relate to the subscale in question. At this level, the thesis aims to have an overview of the general distribution of values and the possibility to generalize the results for other bigger populations based on confidence levels and standard deviation calculated by descriptive statistics tools here, namely, the Excel. It also aims to spot the general level features for the collective user experience at the level of each subscale or aspects for the whole group of respondents.

4.2   Results by Subscales

In the IMI questionnaire given to the respondents, they had to rate their answer on a scale from 1 to 7. In the scale, 1 would mean "Completely untrue" and 7 would mean "Completely true". The answers to the different questions, which relate to the different subscales measured here, were mathematically treated to give a one average score for each subscale per each submission made by each respondent. The maximum and minimum scores contained in the following tables are the maximum and minimum values of averages for the actual scores reported by individual respondents of the IMI questionnaire. Each table of the following green tables, using the descriptive statistics, presents the results of the reported averages for questions or items that represent the relevant subscale. So, the table 4, for

example presents the numbers based on the responses to 3 items or questions representing the subscale of Interest / Enjoyment shown in Table 2.

As shown by the table 4 for the subscale of "Interest/Enjoyment", the values of the mean, mode are almost the same on a scale of 7 points. This technically means that most of the respondents report a slightly fair level of interest in the massidea.org, which seems reasonable enough. It simply shows a general tendency for the respondents to be fairly interested in the use of the massidea.org.

The Statistics for the Subscale of Interest / Enjoyment	
MODE	4
MEAN	3,975128205
MEDIAN	4
RANGE	2,7
VARIANCE	0,495125641
SD	0,703651647
MAX	5,3
MIN	2,6
CONFIDENCE LEVEL	0,075997754
SD/MEAN	18 %
SD/Distance	10 %

Table 4: The Statistics for the Subscale of Interest/Enjoyment

The median value is another method assessing the central tendency in the given data set. It represents a middle point for a set of given data whose values were reordered. The difference between the mean and median, which is why both of them are reported per each subscale, is that whereas the mean scores are influenced by outliers, or simply values on both lower and higher extremes of the data set. But, the median does not factor these values in and does remain unchanged regardless to how many or how high or low the values in a given set of data can be. Thus, sometimes the median can more efficiently indicate the central tendencies without being affected by the values that fall out of the data range. This is the reason for quoting both the values of the mean and median here to compare the central tendencies of the score per each subscale through either method. However, the median value in the subscale of interest/enjoyment is almost the same like the mean; it is reported using the Excel as being 3.97 which is almost the same like the value of the median, which is 4.

As the maximum average score reported for this subscale is 5.3, while the minimum is 2.6, it is possible to see that the range, another important criterion in descriptive statistics, which is

the difference between the minimum and the maximum scores reported by the respondents, is 2.7. This technically means that the difference between the extreme points on either side of the assessment of user experience on this subscale is only 2,7 points on a scale of 7, which in the particular case of this subscale reflects a rather decent amount of interest in the use of massidea.org, specially when combined with the results from mean, mode and median, all centering on the value of 4. It also shows a reasonable interest in the whole experience, yet it is not outstanding. This is yet only one among other subscales influencing the whole user experience in this thesis.

In looking at variance of this subscale to see the data spread, it was calculated to be 0,495. Generally, the higher the standard deviation value is, the higher data dispersion is and the more spread apart the data is. The smaller the standard deviation is, the more closely clustered the data is around the mean. Thus, as in the particular case of this subscale, the standard deviation came out as 0,7036, which is only 10 % of the whole scale of 7 points used in rating the presence of each subscale. Thus, it is possible to see that it suggest the same conclusions by the previous measures of the mode, median, mean and variance.

In other words, in this particular case of "Interest/Enjoyment" subscale, the data values are closely clustered around the mean as the standard deviation is only 18 % of the mean and is only 10 % far from the mean since the whole distance of scale is made up of 7 points only. This indicates that the normal distribution bell curve here is rather steep as shown by a low value of standard deviation that is only 10 % distance of the mean. As such, it is possible to conclude that the respondents are relatively scoring more to the direction of being fairly interested in the masssidea.org and relatively enjoy its concept as indicated by their scores.

The average or the mean for the sample may be different from the mean of the actual population; furthermore, the thesis has sample size and standard deviation readily available using descriptive statistics. Therefore, it has been possible to use the confidence interval or a confidence level of 95 % to estimate the probability that the sample mean in this subscale or similarly estimated in the other subscales can be the same like the actual population mean. Using the Excel, a confidence interval value of ± 0,0759 has been realized, which means that one can be at least 95 % certain that the value of the mean for the actual population of users outside of the used sample here is ± 0,0759 (plus or minus relative to the sample mean here) the sample mean in this subscale. This means that with the number of 39 respondents in this questionnaire, and the standard deviation of 0,6429, it is possible to be 95 % safely certain that the mean in the actual population will be between the values of 3,899 and 4,051. This suggests a valid inference that the mean of the actual population suggests a fair interest level in the masssidea.org and enjoying of the concept.

The Statistics for the Subscale of Perceived / Competence	
MODE	5
MEAN	4,645128205
MEDIAN	4,66
RANGE	2
VARIANCE	0,31774143
SD	0,563685578
MAX	5,6
MIN	3,6
CONFIDENCE LEVEL	0,060880747
SD/MEAN	12 %
SD/Distance	8 %

Table 5: The Statistics for the Subscale of Perceived/Competence

As shown by the table 5 for the subscale of "Perceived Competence", the reported mean of the scores by all the respondents for this subscale was 4,645 on a scale of 7 points. The mode value to this particular subscale was 5. However, the median value in the subscale of "Perceived Competence" is almost 8 % higher in value than the mean. It is reported using the Excel as being 4,64, thus possibly indicating that the difference here between the mean and median may be due to some responses on either side of the scale or having some considerable distance in between. As the maximum average score reported for this subscale is 5,6 while the minimum is 3,6, it is possible to see that the range is 2. This technically means that the difference between the extreme points on either side of the assessment of user experience on this subscale is only 2 points on a scale of 7. In this particular case of this subscale, such a range, which is not wide though, combined with a median and a mean of 4,64 suggests a slightly higher than decent amount of competence perceived by the respondents while dealing with massidea.org, as they score over slightly 4,5 in average.

In looking at variance of this subscale, it was calculated to be 0,3177. The standard deviation in this subscale came out as 0,5636. Both values generally indicate a level of closely clustered data dispersion around the mean. The small standard deviation is indicated by a value of only 12 % of the mean value and is only 8 % far from the mean. This indicates that the normal distribution bell curve here is rather steep as shown by a low value of standard deviation that is not even 10 % distance of the mean.
Thus, it is possible to conclude that the respondents are relatively scoring more to the direction of thinking that they are fairly higher than just roughly competent users when

dealing with massidea.org. The same conclusions are suggested by the previous measures of the mode, median, mean and variance in this subscale.

Looking into the mean of the actual population, as the values for the sample size and standard deviation are readily available, it has been possible to use the confidence interval or a confidence level of 95 % to estimate the probability that the sample mean in this subscale can be the same like the actual population mean. Using the Excel, a confidence interval value of ± 0,0608 has been realized, which means that one can be at least 95 % certain that the value of the mean for the actual population of users outside of the used sample here is ± 0,0608 (plus or minus relative to the sample mean here) the sample mean in this subscale. This means that with the number of 39 respondents in this questionnaire, and the standard deviation of 0,5636, it is possible to be 95 % safely certain that the mean in the actual population will be between the values of 4,584 and 4,706

The Statistics for the Subscale of Pressure / Tension	
MODE	4,25
MEAN	4,070512821
MEDIAN	4
RANGE	2,5
VARIANCE	0,358383941
SD	0,598651769
MAX	5,25
MIN	2,75
CONFIDENCE LEVEL	0,064657264
SD/MEAN	15 %
SD/Distance	9 %

Table 6: The Statistics for the Subscale of Pressure/Tension

Looking into the Table 6 of "Pressure/Tension" subscale, the reported mean of the scores by all the respondents for this subscale was 4,07 on a scale of 7 points. The mode value to this particular subscale was 4,25. However, the median value in the subscale of "Pressure/Tension" is almost the same like the mean. It is reported using the Excel as being 4, thus not indicating any substantially big differences between the mean and median. As the maximum average score reported for this subscale is 5,25 while the minimum is 2,75, it is possible to see that the range is 2,5. In looking at variance of this subscale, it was calculated to be 0,358. The standard deviation in this subscale came out as 0,598. Both values indicate generally a level of closely clustered data dispersion around the mean. The small standard deviation of is indicated by a value of only 15 % of the mean value and is only 9 % far from the

mean. This indicates that the normal distribution bell curve here is still a rather steep one as shown by a low value of standard deviation that is still under 10 % distance of the mean.

Thus, it is possible to conclude that the respondents are relatively scoring more towards suggesting that they were feeling rather uncomfortable dealing with the massidea.org and possibly feeling some pressure and tense while on the task with the massidea.org. These signs are suggested by the values from the measures of the mode, median, and mean whose values are 4 and slightly above in addition to the low variance too in this subscale. Thus, there is a tendency to believe that the users felt more than just slightly uncomfortable when dealing with massidea.org. The feelings may be about tension or uneasiness about the tasks given to them on the massidea.org. The interviews later on will focus further on this point to gain some further insight into it.

Using the mean of the actual population as the values for the sample size and standard deviation are readily available, it has been possible to use the confidence interval or a confidence level of 95 % to estimate the probability that the sample mean in this subscale can be the same like the actual population mean. Using the Excel, a confidence interval value of ± 0,0646 has been realized, which means that one can be at least 95 % certain that the value of the mean for the actual population of users outside of the used sample here is ± 0,0646 (plus or minus relative to the sample mean here) the sample mean in this subscale. This means that with the number of 30 respondents in this questionnaire, and the standard deviation of 0,598, it is possible to be 95 % safely certain that the mean in the actual population will be between the values of 4,005 and 3,135.

The Statistics for the Subscale of Perceived Choice	
MODE	5
MEAN	4,602564103
MEDIAN	4,5
RANGE	4
VARIANCE	0,831309042
SD	0,911761505
MAX	7
MIN	3
CONFIDENCE LEVEL	0,098474618
SD/MEAN	20 %
SD/Distance	13 %

Table 7: The Statistics for the Subscale of Perceived Choice

Looking into the subscale of "Perceived Choice", as shown by the result in Table 7, the reported mean of the scores by all the respondents for this subscale was 4,602 on a scale of 7 points. The mode value to this particular subscale was 5. Therefore, the difference in value between the median value and value of the mean in the subscale of "Perceived Choice" is not serious as it is still under 10 % which is caused by the fact that the range is slightly wider in this subscale. As the maximum average score reported for this subscale is 7 while the minimum is 3, it is possible to see that the range is 4. As this technically means that the difference between the extreme points on either side of the assessment of user experience on this subscale is 4 points on a scale of 7, which is over 50 % range of the whole scale. In this particular case of this subscale, such a wide range combined with a median and a mean of 4,6, all suggest a rather flat bell curve for the normal distribution here. This also seems to be also supported by a higher value of variance and standard deviation than in the rest of subscales so far. In this case, variance and standard deviation were calculated to be 0,8313 and 0,9117 respectively and it reflects a 13 % distance of the mean.

The high standard deviation amounts here to a value of 20 % of the mean value and is also 13 % far from the mean. This indicates that the normal distribution bell curve here is flatter than at the previous subscales so far. Therefore, in this particular case of "Perceived Choice", as the values are spread apart and apparently the bell curve is rather flat as shown so far, the results from this subscales will be only taken for reference and will only be seen in the light of the results from the other subscales.

Using the Excel, a confidence interval value of ± 0,0984 has been realized, which means that one can be at least 95 % certain that the value of the mean for the actual population of users outside of the used sample here is ± 0,0984 (plus or minus relative to the sample mean here) the sample mean in this subscale. This means that with the number of 39 respondents in this questionnaire, and the standard deviation of 0,911, it is possible to be 95 % safely certain that the mean in the actual population will be between the values of 4,504 and 4,701.

Looking at the actual responses of the users for this subscale, it is possible to see that averages around 4.6 are caused by the fact that the two questions used to check the influence of this subscale on the overall experience were opposite in directions, meaning one was affirmative and the other was negative (I did this activity because I wanted to/I didn't really have a choice about doing this task on massidea.org). Therefore, as the responses scattered on opposite extremes of the scale, it is possible to understand why the averages came out as such.

However, for the purpose of explaining the results, the users display some conscious knowledge regarding their lack or presence of choice in dealing with the massidea.org. The reason here could be the fact that they had to do it as a part of a given assignment in their respective courses. So, they would not have been likely to voluntarily opt for it like in social sites such as facebook or others. So, in a sense, they mostly had to use the massidea.org as requested by their course instructors. It is hoped however, that in the interviews, further insights can be reached through asking specifically on these issues.

The Statistics for the Subscale of value / Usefulness	
MODE	4
MEAN	4,743589744
MEDIAN	4,3
RANGE	4
VARIANCE	1,067260459
SD	1,033082987
MAX	7
MIN	3
CONFIDENCE LEVEL	0,11157792
SD/MEAN	22 %
SD/Distance	15 %

Table 8: The Statistics for the Subscale of Value/Usefulness

Looking into the subscale of "value/usefulness", as shown by the result in Table 8, the reported mean of the scores by all the respondents for this subscale was 4,74 on a scale of 7 points. The mode value to this particular subscale was 4. However, the median value is 4,3 suggesting no significantly big differences between the mean and the median, only roughly 10 %. As the maximum average score reported for this subscale is 7 while the minimum is 3, it is possible to see that the range is 4. As this technically means that the difference between the extreme points on either side of the assessment of user experience on this subscale is 3 points on a scale of 7, this is about 57 % range of the whole scale, which suggests some notable outliers in the data set here shown by the big range.

In looking at variance of this subscale, it was calculated to be 1,0672. The standard deviation in this subscale came out as 1,033. Therefore, in this particular case of "Value /usefulness", it is possible to detect a wide range of values combined by a relatively high standard deviation of about 22 % of the mean value and a distance of 15 % from the mean on the overall scale of 7. This all suggests a rather flat bell curve for the normal distribution here as supported by a higher value of variance and standard deviation than in the rest of subscales so far. Therefore, in this particular case of "Value/usefulness", as the values are spread apart and apparently the bell curve is rather flat as shown so far, the results from this subscales will be only taken for reference and will only be seen in the light of the results from the other subscales.

Using the Excel, a confidence interval value of ± 0,111 has been realized, which means that one can be at least 95 % certain that the value of the mean for the actual population is ± 0,111 (plus or minus relative to the sample mean here) the sample mean in this subscale. This means that with the number of 39 respondents in this questionnaire, and the standard deviation of 1,033, it is possible to be 95 % safely certain that the mean in the actual population will be between the values of 4,632 and 4,855.

Based on the above insights from the data scene here, it is possible to conclude that the respondents are relatively scoring more towards suggesting that they view that there is some decently fair level of usefulness or value from the massidea.org as suggested by the values from the measures of the mode, median, and mean whose values are 4 and slightly above. However as for the kind of this value, it is hoped that interviews will help get a better insight into this area. As there is a tendency to believe that there is some dispersion caused by higher variance and standard deviation in this subscale, definite conclusions about the amount of value seen by the users from this sample will be better supported by more direct questions in this respect to the interviewees as the interviews later on will focus further on these points to gain some further insight into these areas.

The Statistics for the Subscale of Efficiency of Use	
MODE	4
MEAN	4,207102564
MEDIAN	4
RANGE	4
VARIANCE	0,428864779
SD	0,654877682
MAX	6,6
MIN	2,6
CONFIDENCE LEVEL	0,070729932
SD/MEAN	16 %
SD/Distance	9 %

Table 9: The Statistics for the Subscale of Efficiency of Use

Looking into the subscale of "Efficiency of use", as shown by the result in Table 9, the reported mean of the scores by all the respondents for this subscale was 4, 20 on a scale of 7 points. The mode value to this particular subscale was 4 on a scale of 7 points. The median value is however almost the same like the mean indicating only a difference of roughly 5 % between the mean and the median. As the maximum average score reported for this subscale is 6,6 while the minimum is 2,6, it is possible to see that the range is 4. This technically means that the difference between the extreme points on either side of the assessment of user experience on this subscale is 4 points on a scale of 7; this is about 57 % range of the whole scale, which suggests some notable outliers in the data set here.

In looking at variance of this subscale, it was calculated to be 0,428. The standard deviation in this subscale came out as 0,654. Therefore, in this particular case of "Efficiency of Use", it is possible to detect a slightly wide range of values combined by a fair value of standard deviation of about 16 % of the mean value and a distance of 9 % from the mean on the overall scale of 7. This all suggests a rather fairly balanced bell curve for the normal distribution here as supported by a relatively fair value of variance and standard deviation than in the rest of subscales so far. Therefore, in this particular case of "Efficiency of Use", as the values are only slightly spread apart as shown by the wide range, yet the bell curve is apparently not flat as shown so far by the results of the variance and standard deviation values, which scored 0,428 and 0,654 respectively.

Using the Excel, a confidence interval value of ± 0,070 has been realized, which means that one can be at least 95 % certain that the value of the mean for the actual population is ± 0,070 the sample mean in this subscale (plus or minus relative to the sample mean here). This

means that with the number of 39 respondents in this questionnaire, and the standard deviation of 0,070, it is possible to be 95 % safely certain that the mean in the actual population will be between the values of 4,136 and 4,277.

The Data scene here suggests that the respondents are relatively scoring more to the direction of the view that the there is some decently fair level of efficiency of use in the massidea.org as suggested by the values from the measures of the mode, median, and mean whose values are 4 and slightly above. It is interesting, however, that respondents rated the efficiency slightly higher than some initial views suggested in the beginning of the thesis because the massidea.org is still in the introductory phase of development. However, the tendency to have wide outliers in the results as shown by the high range of 4, which is about 57 % range of the whole scale, reflects that there is a wide diversity in the views held by the respondents regarding the efficiency of the massidea.org as it currently is. Yet, there could be more to explain why they only rate it as having only an average efficiency level when some answers or comments come in the interviews later. Such further insight would be the outcome of the interviews after collecting the results of the questionnaire.

The Statistics for the Subscale of Ease of Learning	
MODE	4
MEAN	4,45974359
MEDIAN	4,3
RANGE	4
VARIANCE	0,595939406
SD	0,771971117
MAX	7
MIN	3
CONFIDENCE LEVEL	0,083376585
SD/MEAN	17 %
SD/Distance	11 %

Table 10: The Statistics for the Subscale of Ease of Learning

Looking into the subscale of "Ease of learning", as shown by the result in Table 10, the reported mean of the scores by all the respondents for this subscale was 4,45 on a scale of 7 points. The mode value to this particular subscale was 4 on a scale of 7 points. The median value is however 4,3, which does not indicate any big differences between the mean and the median since it is roughly 8 % in between. As the maximum average score reported for this subscale is 7 while the minimum is 3, it is possible to see that the range is 4. This technically refers to a range of 43 % of the whole scale, which suggests some remarkable outliers in data

set here. In other words, it means that there has been some wide disagreement in the views about the how easy it was to use the massidea.org, which is one factor in shaping the user experience in this case.

However, checking the variance of this subscale, it was calculated to be 0,595. The standard deviation in this subscale came out as 0,771. Therefore, in this particular case of "Ease of Learning", despite a possibly slightly wide range of values, the presence of a decent value of standard deviation of about 17 % of the mean value and a distance of 11 % from the mean on the overall scale of 7, all suggests a rather fairly balanced bell curve for the normal distribution here. This is due to relatively fair values of variance and standard deviation which do not lead to high dispersion of the data.

Using the Excel, a confidence interval value of ± 0,0833 has been realized, which means that one can be at least 95 % certain that the value of the mean for the actual population is ± 0,0833 the sample mean in this subscale (plus or minus relative to the sample mean here). This means that with the number of 39 respondents in this questionnaire, and the standard deviation of 0, 0771, it is possible to be 95 % safely certain that the mean in the actual population will be between the values of 4,543 and 4,376.

Analysing the number and the statistics here, it is possible to see that the respondents' scores seem to suggest that massidea.org as a platform is not difficult to learn and use after all despite some comments about technical issues that were expressed by some users verbally at the start of this research. They seem to grade this subscale slightly over the average level when it comes to consistency and easiness to deal with. This is suggested by the value of median and mean scoring slightly over 4 and a mode value of 4 as well. This is further supported by a moderate value of variance and standard deviation.

The Statistics for the Subscale of Effectiveness	
MODE	4
MEAN	4,246153846
MEDIAN	4
RANGE	5
VARIANCE	0,832550607
SD	0,912442112
MAX	7
MIN	2
CONFIDENCE LEVEL	0,098548126
SD/MEAN	21 %
SD/Distance	13 %

Table 11: The Statistics for the Subscale of Effectiveness

Looking into the subscale of "Effectiveness", as shown by the result in Table 11, the reported mean of the scores by all the respondents for this subscale was 4,24 on a scale of 7 points. The mode value to this particular subscale was 4. The median value is however 4, which does not indicate any big differences between the mean and the median as it only amounts to roughly 5 % difference. As the maximum average score reported for this subscale is while the minimum is 2, it is possible to see that the range is 5. This range actually represents a large distance of variation in the respondents amounting to about 71 % of the whole scale, which suggests that respondents had answers on the extremes of the outliers in data set here. This displays a lack of any near unanimous view regarding the effectiveness of the massidea.org as the range is rather large. It is therefore hoped that the results from the interview shed some more light on this area.

The variance of this subscale was calculated to be 0,835. The standard deviation in this subscale came out as 0,912. This therefore displays a normal distribution bell curve that is not very flat due to the presence of a decent value of standard deviation of about 20 % of the mean value and a distance of 12 % from the mean on the overall scale of 7, despite a possibly slightly wide range of values. This consequently justifies a rather fairly balanced bell curve for the normal distribution here. This is the outcome of the value of variance and standard deviation which are not very high and could have led to a wider dispersion of the data.

Using the Excel, a confidence interval value of ± 0,098 has been realized, which means that one can be at least 95 % certain that the value of the mean for the actual population is ± 0,098 the sample mean in this subscale (plus or minus relative to the sample mean here). This means that with the number of 39 respondents in this questionnaire, and the standard

deviation of 0,912 it is possible to be 95 % safely certain that the mean in the actual population will be between the values of 4,147 and 4,344.

Interpreting the data scene here seems to suggest that respondent's view that there is some fair level of effectiveness and functionality in the website of the massidea.org. This is inferred from the values of the mode, median, and mean which all scored 4 and slightly above.

Despite the fact that the values of variance and standard deviation in this subscale are relatively high when compared with the rest of the values for the variance and standard deviation in the other subscales, the dispersion is not high due to the clustering of all the scores in only 14 % of the scale distance from the mean. This is why the mode is still showing a tendency for the respondents to believe that the level of effectiveness is still slightly reasonable as they revolved around 4, which is a score of 57 % of how far the effectiveness should be if 7 should be the maximum level of efficiency expected from this scale.

The Statistics for the Subscale of Effort / Importance	
MODE	5
MEAN	4,666666667
MEDIAN	5
RANGE	3
VARIANCE	0,714912281
SD	0,845524855
MAX	6
MIN	3
CONFIDENCE LEVEL	0,091320742
SD/MEAN	15 %
SD/Distance	10 %

Table 12: The Statistics for the Subscale of Effort/Importance

Looking into the subscale of "Effort/Importance", as shown by the result in Table 12, the reported mean of the scores by all the respondents for this subscale was 4,66 on a scale of 7 points. The mode value to this particular subscale was 5. The median value is however 5, which does not indicate any big differences between the mean and the median since it is still under 10 %. As the maximum average score reported for this subscale is 6 while the minimum is 3, it is possible to see that the range is 3. As this range refers to a difference between the extreme points on either side of the assessment of user experience that amounts to 3 points

on a on this subscale is out of 7, this is about 43 % range of the whole scale, which suggests some possible outliers in the data set here.

The variance of this subscale was calculated to be 0,714. The standard deviation in this subscale came out as 0,845. This therefore displays a normal distribution bell curve that is not very flat due to the presence of a decent value of standard deviation of about 15 % of the mean value and a distance of 10 % from the mean on the overall scale of 7, despite a possibly slightly wide range of values. This therefore explains the fact that the bell curve for the normal distribution here is fairly balanced. This is the outcome of the value of variance and standard deviation which are not very large.

Using the Excel, a confidence interval value of ± 0,091 has been realized, which means that one can be at least 95 % certain that the value of the mean for the actual population is ± 0,091 the sample mean in this subscale (plus or minus relative to the sample mean here). This means that with the number of 39 respondents in this questionnaire, and the standard deviation of 0,845, it is possible to be 95 % safely certain that the mean in the actual population will be between the values of 4,575 and 4,757.

Interpreting the data scene here seems to suggest that respondents have a conscious awareness of a notable level of effort that they have had to exert while experiencing the massidea.org website. Again, this inference comes from the values of the mode, median, and mean which all scored 5 and slightly under.

As the values of variance and standard deviation in this subscale are relatively moderate compared with the rest of the values for the variance and standard deviation in the other subscales, the dispersion is not high due to the clustering of all the scores as it happens only within 10 % of the scale distance from the mean and represents 15 % of the value of the mean. This explains why the mode is still showing a tendency for the respondents to believe that the level of effort required is rather notable supported by a mood and a median revolving around 5, which is a score 67 % of how far the effort could at most be. This again seems to suggest the same conclusion on this subscale.

4.3   Results by age groups

This section is going to present the findings by dissecting the results based on the age. The results of the average grades for each age group are presented in a table that displays the actual average reported by the respondents of each age group per each subscales measured. Each average grade reported in the table is actually the average for the grades reported when answering the questions representing the measured subscales. In the interpretation, the

scores are reported in the form of percentages of the maximum overall scale possible for each measured criterion, which is grade 7. The point here is to make it easier to follow and understand the values of the mean (average) or median when the numbers are presented in the form of percentages than when presented in their raw form. This way should bring to the mind of the reader the relationships among the various values rather more quickly than when the reader has to think of what each number means on its own when given in the raw form.

4.3.1   The age group from 18 to 22

In each of the following tables in each age group section, the table indicates the gender of the respondents from this age group and the average grade of each respondent on each subscale. This average is the average of the grades the respondent gave on the questions pertaining to the subscale. As the gender from each group is not equally represented in the age group due to the operational difficulty of getting equal number from each gender in each age group, the tables have tried to indicate the actual averages reported by respondents and their gender in the same time. This is actually intended to show if there are any possibly large differences between both genders in each age group when the numbers allow for such a possibility.

The results from the age group of 18 to 22 show some fair level of interest in the massidea.org. This is suggested by the mean value of 3.96 on an overall scale of 7 for interest. In the table, the mean is expressed throughout this section as "average". In this particular age group, it is equivalent to 55 % of the scale. The reported median of 3,75 is very close to the reported average, which still suggests the fair level of interest of this age group in the their user experience of the massidea.org. The reported levels of the interest subscales in the user experience of this group still range from 3,3 to 5 on the scales of 7, or in other words, 47 % of interest scale and above to 71 % of the scale with a reported average of 55 % (which is 3,96). This percentage indicates that the respondents at this age group believe that the experience with massidea.org is only roughly interesting.

As the range between the maximum and the minimum averages reported for this subscale actually represents a short distance of variation, that is, 1,7 on a scale of 7, which amounts to about 24 % of the whole scale, this suggests that respondents had an almost near unanimous view regarding the level of enjoyment and interest in their user experience of the massidea.org.

	Female	Female	Female	Female	Female	Average	Median
Interest/Enjoyment	3,6	5	3,6	3,3	4,3	3,96	3,78
Perceived Competence	4	5	4	5,6	4,3	4,58	4,44
Pressure / Tension	4,25	3,5	3,5	3,5	2,75	3,5	3,5
Perceived Choice	4	6	4	5	4	4,6	4,3
value/usefulness	4	6	4	6,3	4	4,86	4,43
Efficiency of use	3,5	4,6	4	4	3,5	3,92	3,96
Ease of learning	4,3	5	4,6	4,3	4	4,44	4,37
Effectiveness	4	5	4	5	3	4,2	4,1
Effort / Importance	5	5	5	5	3,5	4,7	5

Table 13: The age group from 18 to 22

This age group reported some good level of consciousness about their competence in using the massidea.org. This is again suggested by the close values of reported average and median, that is 4,58 and 4,44 as shown in the table 13.

The reported range of values for the levels of perceived competence starts from 4 to 5, 6 on the scales of 7, or in other words, 57 % of the perceived competence scale and above to 80 %, which suggests that the respondents in this age group are fully aware of their competence as indicated by the table 13. The group reported an average of 4,58 which is equivalent to 65 % of the scale. This percentage indicates that respondents at this age group believe that they only had a roughly satisfactory competence in using the massidea.org.

As the range between the maximum and the minimum averages reported for this subscale actually represents a short distance of variation, that is, 1,3 on a scale of 7, which amounts to about 18 % of the whole scale, this suggests that respondents had almost an agreement on their view of their the level of perceived competence in their user experience of the massidea.org.

 Looking at the results reported by this age group regarding the level of pressure and tension felt while using the massidea.org. The group seems to show some notably moderate level of tension that varies from 2,75 to 4,25 on the scale of 7 or 39 % to 60 % of the whole scale of tension given for them. The group reported an average of 3,5 which is the same like the median too, which is equivalent to 50 % of the whole scale of tension. This percentage indicates that respondents at this age group believe that they more or less had a feeling of pressure or tension while using the massidea.org.

As the range between the maximum and the minimum averages reported for this subscale actually represents a short distance of variation, that is, 1,75 on a scale of 7, which amounts to about 25 % of the whole scale, this suggests that respondents had almost an agreement on their view of their the level of pressure and tension in their user experience of the massidea.org.

Looking at the results reported by this age group regarding the level of ease of learning felt while using the massidea.org, the group seems to show some clear signals regarding the high level of easiness and learnability of the massidea.org. The levels range from 4 to 5 on the scale of 7 or 55 % to 71 % of the whole scale of possible easiness as shown in the Table 13.

The group reported an average of 4,44 on a scale of 7 which is almost the same like the median too that is 4,37. This is equivalent to 63 % of the whole scale of possible easiness. This percentage indicates that respondents at this age group believe that they only had a rather easy task to handle after all more or less while using the massidea.org. It is worth noting that the reason for the high average score here is the presence of some higher values reported by some respondents.

As the range between the maximum and the minimum averages reported for this subscale actually represents a short distance of variation, that is, 1,3 on a scale of 7, which amounts to about 18 % of the whole scale, this suggests that respondents had almost an agreement on their view of their the level of learnability in their user experience of the massidea.org. This reflects a near unanimous agreement about the relatively remarkable level of learnability felt while encountering the user experience with the massidea.org.

Looking at the results reported by this age group regarding the level of usability and efficiency of the massidea.org website felt while using the massidea.org, the group seems to show some clear signals regarding a fair level of possible website usability and efficiency of the massidea.org. The levels range from 3,5 to 4,6 on the scale of 7 or 50 % to 65 % of the whole scale of possible website usability and efficiency as shown in the table 13. The group reported an average of 3,92 on a scale of 7 which is almost the same like the median too that is 3,96. This is equivalent to 56 % of the whole scale of possible website usability and efficiency.

This percentage indicates that respondents at this age group believe that the level of efficiency in the massidea.org is only roughly moderate. This is also suggested by the general mode score of 3,5 which is equivalent to 50 % of the scale for possible website usability and efficiency.

As the range between the maximum and the minimum averages reported for this subscale actually represents a short distance of variation, that is, 1,1 on a scale of 7, which amounts to about 15 % of the whole scale, this confirms the above mentioned interpretation of the respondents' views about the level of website usability and efficiency in their user experience of the massidea.org.

Looking at the results reported by this age group regarding the level of effectiveness of the massidea.org website as a tool or a means to perform its purpose which respondents felt while on their use experience with the massidea.org, the group seems to show some tendency to feel it roughly does the intended purpose after all This tendency ranges from 3 to 5 on the scale of 7 or 42 % to 71 % of the whole scale of effectiveness of the massidea.org website as shown in the Table 13. The group reported an average of 4,2 on a scale of 7 which is almost the same like the median too that is 4,2. This is equivalent to 58 % of the whole scale for possible effectiveness of a website. This percentage indicates that respondents at this age group believe that the level of effectiveness in the massidea.org is only roughly moderate.

As the range between the maximum and the minimum averages reported for this subscale actually represents a short distance of variation, that is, 2 on a scale of 7, which amounts to about 28 % of the whole scale, this confirms the above mentioned interpretation of the respondents' views about the level of possible effectiveness of the website in their user experience of the massidea.org.

Looking at the results reported by this age group regarding the level of effort and hard work experienced at the massidea.org website by respondents, the group seems to show some tendency to report a notably felt level of effort while working on it. This tendency ranges from 3,5 to 5 on the scale of 7 or 50 % to 71 % of the whole scale of effort needed for the massidea.org website as shown in the table 13. The group reported an average of 4,7 on a scale of 7 which is very close to the median too that is 5. This is equivalent to 64 % of the whole scale for possible effort exerted on a website. This percentage indicates that respondents at this age group feel that the massidea.org requires a notable high degree of hard work and effort to accomplish tasks there.

As the range between the maximum and the minimum averages reported for this subscale actually represents a short distance of variation, that is, 1,5 on a scale of 7, which amounts to about 21 % of the whole scale, this confirms the above mentioned interpretation of the respondents' views about the rather high level of effort required in their user experience of the massidea.org.

Looking at the results reported by this age group regarding the level of value or usefulness they would attribute for the massidea.org website, the group seems to report some scores showing a tendency to view a that massidea.org has a notable value. This tendency ranges from 4 to 6,3 on the scale of 7 or 57 % to 90 % of the whole scale of value and usefulness felt by the respondents while experiencing the massidea.org website as shown in the Table 13. The group reported an average of 4,68 on a scale of 7 which is very close to the median too that is 4,43. This is equivalent to 66 % of the whole scale for possible effort exerted on a website. This percentage indicates that respondents at this age group feel that the value or usefulness of the massidea.org is fairly high.

As the range between the maximum and the minimum averages reported for this subscale actually represents a short distance of variation, that is, 2,3 on a scale of 7, which amounts to about 32 % of the whole scale, this confirms the above mentioned interpretation of the respondents' views about the rather high level of effort required in their user experience of the massidea.org.

4.3.2   The age group from 23 to 27

As far as the results from age group of 23 to 27 are concerned, they show some fair level of interest in the massidea.org. This is suggested by the mean value of 4,08 on an overall scale of 7 for interest. In this particular age group, it is equivalent to 58 % of the scale. The reported median of 4,00 is almost the same like the reported average, which still suggests the fairly remarkable level of interest of this age group in the their user experience of the massidea.org. The reported levels of the interest subscale in the user experience of this group range from 2,6 to 5 on the scales of 7, or in other words, 37 % of interest scale and above to 71 % of the overall scale of 7 with a reported average of 58 %. This percentage indicates that the respondents at this age group believe that the experience with massidea.org is only rather roughly interesting.

As the range between the maximum and the minimum averages reported for this subscale actually represents a fairly wide distance of variation, meaning 2,4 on a scale of 7, which amounts to about 34 % of the whole scale. This suggests that respondents had some slightly notable differences in their views regarding the level of enjoyment and interest in their user experience of the massidea.org.

The results shown in the Table below indicate some gender differences as men are generally more interested in the concept of the massidea.org and feel more enjoyment while using it than women. Males report higher averages ranging from 3,6 to 5 on a scale of 7 or 51 % to 71

% of the maximum scale whereas females reported averages ranging from 3,6 to 5 on a scale of 7 or 37 % to 57 % of the maximum scale for interest and enjoyment. This is suggested by females reporting a lower average of 3,4 on a scale of 7 which is 49 % of the maximum scale whereas males reported a higher average of 4,44 on a scale of 7, which is 63 % of the maximum scale for interest.

	Female	Female	Female	Female	Male	Male	Male	Male	Male	Male	Male	Average	Median
Interest/Enjoyment	2,6	4	3,6	3,6	5	4	5	3,6	4,3	4,6	4,6	4,082	4,000
Perceived Competence	4,6	5	4,6	5	3,6	5,3	3,6	4	4,6	4	5	4,482	4,600
Pressure / Tension	4	4	4,25	4,25	4,25	4,75	4,25	4,5	5,25	4,25	4	4,341	4,250
Perceived Choice	3,5	5	3	5	3,5	4,5	5	5	4	4,5	5	4,364	4,500
value/usefulness	5,3	5	4,3	5,6	3,6	5	3,3	4	5	5,6	5,6	4,755	5,000
Efficiency of use	4,25	4,652	4,25	4,37	2,6	4,12	3,5	4	4,5	3,75	4,25	4,022	4,185
Ease of learning	5	5	4	4,3	4	4,6	3,6	4	4,3	4	4	4,255	4,127
Effectiveness	4,6	5	4	3,6	3,3	4	2	3,6	4,3	4	4	3,855	4,000
Effort / Importance	6	5	6	5,5	3,5	4	3,5	4	4	4	4	4,500	4,000

Table 14: The age group from 23 to 27

This age group reported some good level of consciousness about their competence in using the massidea.org. This is suggested by the mean value of 4,48 on an overall scale of 7 for interest, which is equivalent to 64 % of the scale. The reported median of 4,60 is almost the same like the reported average, which still suggests that respondents from this age group are notably aware of their functional competence during their user experience with the massidea.org.

The reported levels of the perceived competence subscale in the user experience range from 3,6 to 5,3 on the scale of 7, or in other words, from 51 % of the competence scale and above to 75 % of the overall scale of 7 with a reported average of 4,8 on a scale of 7 or 58 % of the overall scale. This percentage indicates that the respondents are rather aware of their competence when encountering their experience with massidea.org.

As the range between the maximum and the minimum averages reported for this subscale actually represents a slightly wide distance of variation, that is, 1,3 on a scale of 7, which amounts to about 18 % of the whole scale, this suggests that respondents can still be generally viewed as having close estimates or views regarding the level of perceived competence in their user experience of the massidea.org.

The results shown in the table 14 indicate some gender differences as men generally report lower average level of perceived competence during the use of the massidea.org and express less confidence about their performance than women when compared with women in the same age group. Males report an average of 4,3 on a scale of 7 or 61 % of the maximum scale whereas females reported an average of 4,8 on a scale of 7 or 68 % of the maximum scale for perceived competence.

This age group reported some remarkable level of pressure and tension felt while using the massidea.org. This is suggested by the mean value of 4,34 on an overall scale of 7 for interest, which is equivalent to 60 % of the scale. The reported median of 4,25 is almost the same like the reported average, which still suggests that respondents from this age group have some fairly clear level of tension or pressure during their user experience with the massidea.org.

The reported levels of pressure and tension subscale in the user experience of this group range from 4 to 5,25 on the scale of 7, or in other words, from 57 % of the pressure and tension scale and above to 60 % of the overall scale of 7 with a reported average of 4,3 on a scale of 7 or 62 % of the overall scale. This percentage indicates that the respondents remarkably feel and express this level of pressure and tension when encountering their experience with massidea.org. As the range between the maximum and the minimum averages reported for this subscale actually represents a slightly wide distance of variation, that is, 1,25 on a scale of 7, which amounts to about 17 % of the whole scale, this suggests that respondents can still be generally viewed as having close estimates or views regarding the level of pressure and tension in their user experience of the massidea.org.

The results shown in the Table 14 indicate some gender differences as men in this group generally report a higher average level of tension while on the massidea.org than women when compared with women in the same age group. This is suggested by males in this group reporting a higher average of 4,64 on a scale of 7 or 63 % of the maximum scale whereas females in the same group reported a lower average of 4,18 on a scale of 7 or 58 % of the whole maximum scale for pressure and tension.

Looking at the results reported by this age group regarding the level of ease of learning felt while using the massidea.org, the group seems to show some clear signals regarding the high level of easiness and learnability of the massidea.org.

This is suggested by the mean value of 4,25 on an overall scale of 7 for learnability, which is equivalent to 60 % of the scale. The reported median of 4,12 is very close to the reported average, which still suggests that respondents from this age group have viewed the level of

learnability in their experience as rather notable during their user experience with the massidea.org.

The reported levels of learnability or ease of learning subscale in the user experience of this group range from 3,6 to 5 on the scale of 7, or in other words, from 51 % of the learnability scale and above to 71 % of the overall scale a reported average of 4,25 on a scale of 7 or 60 % of the overall scale. This percentage indicates that the respondents notably realize the learnability aspect in their experience when encountering their user experience with massidea.org.

 As the range between the maximum and the minimum averages reported for this subscale actually represents a slightly wide distance of variation, that is, 1,25 on a scale of 7, which amounts to about 17 % of the whole scale, this suggests that respondents can still be generally viewed as having close estimates or views regarding the level of learnability in their user experience of the massidea.org.

The results shown in the Table 14 indicate some gender differences as men in this group generally report a lower average level of easiness of use and less learnability of the massidea.org than women when compared with women in the same age group. This is suggested by males in this group reporting a higher average of 4,07 on a scale of 7 or 58 % of the maximum scale whereas females in the same group reported a lower average of 4,32 on a scale of 7 or 61 % of the whole maximum scale for easiness of use and learnability.

Looking at the results reported by this age group regarding the level of usability and efficiency of the massidea.org website, the respondents of this age group seem to have a tendency to show some fair level of possible website usability and efficiency when using the massidea.org.

This is suggested by the mean value of 4 on an overall scale of 7 for usability and efficiency, which is equivalent to 59 % of the scale. The reported median of 4,18 is very close to the reported average, which still suggests that respondents from this age group have viewed a rather fair level of usability and efficiency in their user experience with the massidea.org.

The reported levels of usability and efficiency subscale in the user experience of this group range from 2,6 to 4,6 on the scale of 7, or in other words, from 37 % of the usability and efficiency scale and above to 66 % of the overall scale with a reported average of 4 on a scale of 7 or 59 % of the overall scale. This percentage indicates that the respondents rate the usability and efficiency aspect in their experience when encountering their user experience with massidea.org as fairly good despite the technical problems encountered.

As the range between the maximum and the minimum averages reported for this subscale actually represents a slightly wide distance of variation, that is, 2 on a scale of 7, which amounts to about 28 % of the whole scale, this suggests that respondents have generally viewed it with various estimates or views regarding the level of usability and efficiency in their user experience of the massidea.org.

The results shown in the Table 14 indicate some gender differences men in this group generally report a lower average level of usability and efficiency of the massidea.org than women when compared with women in the same age group. This is suggested by males in this group reporting a lower average of 3,81 on a scale of 7 or 54% of the maximum scale whereas females in the same group reported a higher average of 4,38 on a scale of 7 or 62 % of the whole maximum scale for easiness of use and learnability.

Looking at the results reported by this age group regarding the level of effectiveness of the massidea.org website, the respondents of this age group seem to have a tendency to view the massidea.org as more or less doing the intended purpose after all.

This is suggested by the mean value of 3,85 on an overall scale of 7 for effectiveness, which is equivalent to 55 % of the scale. The reported median of 4 is very close to the reported average, which still suggests that respondents from this age group have viewed a rather functional level of effectiveness in their user experience with the massidea.org.

The reported levels of effectiveness subscale in the user experience of this group range from 2 to 5 on the scale of 7, or in other words, from 28 % of the effectiveness scale and above to 71 % of the overall scale with a reported average of 4 on a scale of 7 or 57 % of the overall scale. This percentage indicates that the respondents rate the effectiveness aspect in their experience when encountering their user experience with massidea.org as fairly acceptable despite some technical problems encountered.

 As the range between the maximum and the minimum averages reported for this subscale actually represents a notably wide distance of variation, that is, 3 on a scale of 7, which amounts to about 42 % of the whole scale. This reflects a wide disagreement and lack of any pattern caused by contrasting values that make up such a wide range of results. It suggests that respondents have generally viewed effectiveness with various estimates or views and did not seem to have an agreement on this aspect of their user experience of the massidea.org.

The results shown in the Table 14 indicate some gender differences men in this group generally report a lower average level of effectiveness of the massidea.org than women when compared with women in the same age group. This is suggested by males in this group

reporting a lower average of 3,6 on a scale of 7 or 51% of the maximum scale whereas females in the same group reported a higher average of 4,3 on a scale of 7 or 61 % of the whole maximum scale for effectiveness.

Looking at the results reported by this age group regarding the level of effort and hard work experienced while at the massidea.org website, the group seems to report a tendency to for expressing a notable level of effort while working on it. This is suggested by the mean value of 4,5 on an overall scale of 7 for effort and hard work, which is equivalent to 64 % of the scale. The reported median of 4 is slightly close to the reported mean. This, however, suggests that some of the respondents from this age group have reported notably higher values of mean, which led to a 10 % difference between the mean and median values. In other words, this shows some notable differences in the ratings for the respondents for this aspect in their user experience.

The reported levels of effort and hard work subscale in the user experience of this group range from 3,5 to 6 on the scale of 7, or in other words, from 50 % to 85 % of the overall scale of the whole scale of possible effort that a website can at most require with a reported average of 4,5 on a scale of 7 or 64 % of the overall scale. This percentage indicates that the respondents rate the effort and hard work aspect in their experience when encountering their user experience with massidea.org as notably high and well felt. The respondents express a feeling that the massidea.org requires a high degree of hard work and effort to get done with tasks there.

 As the range between the maximum and the minimum averages reported for this subscale actually represents a notably wide distance of variation, that is, 2,5 on a scale of 7, which amounts to about 35 % of the whole scale. This reflects a wide disagreement and lack of any pattern caused by contrasting values that make up such a wide range of results. It suggests that respondents have generally got some clear disagreement with viewing effort and hard work aspects of their user experience. This is seen in the various far estimates and the lack of an approximate agreement on this aspect of their user experience of the massidea.org as was the case on other aspects earlier reviewed.

The results shown in the Table 14 indicate some gender differences men in this group generally report a lower average level of effort and hard work of the massidea.org website than women when compared with women in the same age group. This is suggested by males in this group reporting a lower average of 3,8 on a scale of 7 or 55 % of the maximum scale whereas females in the same group reported a higher average of 5,6 on a scale of 7 or 80 % of the whole maximum scale for effort and hard work.

Looking at the results reported by this age group regarding the level of value or usefulness they would attribute for the massidea.org website, this age group seems to report some scores showing a tendency to view a that massidea.org has a notable value.

This is suggested by the mean value of 4,7 on an overall scale of 7 for value or usefulness, which is equivalent to 68 % of the scale. The reported median of 5 is very close to the reported mean. This suggests that the respondents from this age group do not seem to have reported notable outliers on either extreme of the values, so the difference between the median and mean is very low.

The reported levels of value or usefulness subscale in the user experience of this group range from 3,3 to 5,6 on the scale of 7, or in other words, from 47 % to 80 % of the overall scale of the whole scale of possible value or usefulness that a website can at most have with a reported average of 4,7 on a scale of 7 or 67 % of the overall scale. This percentage indicates that the respondents rate the value or usefulness aspect in their experience when encountering their user experience with massidea.org as notably high and well felt. The respondents express a feeling that the massidea.org has a high value and usefulness.

 As the range between the maximum and the minimum averages reported for this subscale actually represents a notably wide distance of variation, that is, 2,3 on a scale of 7, which amounts to about 32 % of the whole scale. This reflects a wide disagreement and lack of any pattern caused by contrasting values tor outliers that make up such a wide range of results. It suggests that respondents have generally got some clear differences of rating this aspect of their user experience.

The results shown in the Table 14 indicate some gender differences men in this group generally report a lower average level of value or usefulness of the massidea.org website than women when compared with women in the same age group. This is suggested by males in this group reporting a lower average of 4,6 on a scale of 7 or 65% of the maximum scale whereas females in the same group reported a higher average of 5 on a scale of 7 or 72 % of the whole maximum scale for effort and hard work.

4.3.3   The age group from 28 to 32

As far as the results from age group of 28 to 32 are concerned, they show some fair level of interest in the massidea.org. This is suggested by the mean value of 3,6 on an overall scale of 7 for interest. In this particular age group, it is equivalent to 51 % of the scale. The reported median of 3,5 is almost the same like the reported average, which still suggests the fairly modest level of interest of this age group in the their user experience of the massidea.org.

The reported levels of the interest subscale in the user experience of this group range from 3 to 5 on the scales of 7, or in other words, 42 % of interest scale and above to 71 % of the overall scale of 7 with a reported average of 51 %. This percentage indicates that the respondents at this age group believe that the experience with massidea.org is only roughly interesting.

The range between the maximum and the minimum averages reported for this subscale actually represents a fairly wide distance of variation, that is, 2 on a scale of 7, which amounts to about 28 % of the whole scale. This suggests that respondents had some slightly notable differences in their views regarding the level of enjoyment and interest in their user experience of the massidea.org.

The results shown in the table below indicate some gender differences as men are generally more interested in the concept of the massidea.org and feel more enjoyment while using it than women. Males in this group report higher averages ranging from 3 to 5 on a scale of 7 or 42 % to 71 % of the maximum scale whereas females in the same group reported averages ranging from 3 to 4 on a scale of 7 or 42 % to 57 % of the maximum scale for interest and enjoyment. This is suggested by females in this group reporting a lower average of 3,5 on a scale of 7 which is 50 % of the maximum scale whereas males in the same group reported a higher average of 3,6 on a scale of 7, which is 51 % of the maximum scale for interest. However, that the higher average of 52 % is caused by the presence of higher values in the sample.

	Male	Male	Male	Male	Male	Male	Female	Female	Average	Median
Interest/Enjoyment	4	4	5	3	3	3	4	3	3,625	3,500
Perceived Competence	5	4	4	5	5	5	5	4	4,625	5,000
Pressure / Tension	4	4	4	4	3	5	4	4	4,000	4,000
Perceived Choice	4	4	5	5	5	6	4	5	4,750	5,000
value/usefulness	7	4	4	4	5	4	4	5	4,625	4,000
Efficiency of use	5	4	4	5	4	5	5	4	4,500	4,500
Ease of learning	7	4	4	4	3	5	5	4	4,500	4,000
Effectiveness	5	4	4	5	3	4	5	5	4,375	4,500
Effort / Importance	4	6	5	4	4	6	3	5	4,625	4,500

Table 15: The age group from 28 to 32

This age group reported some good level of consciousness about their competence in using the massidea.org. This is suggested by the mean value of 4,32on an overall scale of 7 for interest, which is equivalent to 66 % of the scale. The reported median of 5 is almost the same like the reported average, which still suggests that respondents from this age group are

notably aware of their functional competence during their user experience with the massidea.org.

The reported levels of the perceived competence subscale in the user experience of this group range from 4 to 5 on the scale of 7, or in other words, from 57 % of the competence scale and above to 71 % of the overall scale of 7 with a reported average of 4,62 on a scale of 7 or 58 % of the overall scale. This percentage indicates that the respondents at this age group are rather aware of their competence when encountering their experience with massidea.org. This is also further suggested by the general mode score of 5 which is equivalent to 71 % of the competence scale.

The range between the maximum and the minimum averages reported for this subscale actually represents a slightly wide distance of variation, that is, 1 on a scale of 7, which amounts to about 14 % of the whole scale. This suggests that respondents can still be generally viewed as having close estimates or views regarding the level of perceived competence in their user experience of the massidea.org.

The results shown in the Table 15 indicate some gender differences as men in this group generally report a slightly higher average level of perceived competence during the use of the massidea.org and express more confidence about their performance than women when compared with women in the same age group. Males in this group report an average of 4,6 on a scale of 7 or 65 % of the maximum scale whereas females in the same group reported an average of 4,5 on a scale of 7 or 64 % of the maximum scale for perceived competence.

Looking at the results reported by this age group regarding the level of pressure and tension felt while using the massidea.org, the group seems to show some remarkable level of tension in using the massidea.org. This is suggested by the mean value of 4 on an overall scale of 7 for interest, which is equivalent to 57 % of the scale. The reported median of 4 is the same like the reported average, which still suggests that respondents from this age group do not have extreme values on either side of the overall scale or do not have outliers in their responses.

The reported levels of the pressure and tension subscale in the user experience of this group range from 3 to 5 on the scale of 7, or in other words, from 42 % of the competence scale and above to 71 % of the overall scale of 7 with a reported average of 4 on a scale of 7 or 57 % of the overall scale. This percentage indicates that the respondents at this age group have a clear level of pressure and tension when encountering their experience with massidea.org.

The range between the maximum and the minimum averages reported for this subscale actually represents a slightly wide distance of variation, that is, 2 on a scale of 7, which

amounts to about 28 % of the whole scale. This suggests that respondents can still be generally viewed as having close estimates or views regarding the level of pressure and tension in their user experience of the massidea.org.

The results shown in the Table 15 indicate no gender differences. It is clear that men in this group generally report the same average level of pressure and tension during the use of the massidea.org, they also express the same level of pressure and tension about their performance like women when compared with women in the same age group. The results of this age group regarding the level of ease of learning felt while using the massidea.org also clearly suggest a relatively high level of easiness and learnability of the massidea.org.

This is suggested by the mean value of 4,5 on an overall scale of 7 for learnability, which is equivalent to 64 % of the scale. The reported median of 4 is rather close to the reported average, which still suggests that respondents from this age group have close estimates or views regarding the level of learnability in their experience as rather notable during their user experience with the massidea.org.

The reported levels of learnability or ease of learning subscale in the user experience of this group range from 3 to 7on the scale of 7, or in other words, from 42 % of the learnability scale and above to 100 % of the overall scale a reported average of 4,5 on a scale of 7 or 64 % of the overall scale. This percentage indicates that the respondents notably realize the learnability aspect in their experience when encountering their user experience with massidea.org.

 The range between the maximum and the minimum averages reported for this subscale actually represents a wide distance of variation, that is, 4 on a scale of 7, which amounts to about 57 % of the whole scale. This suggests that respondents can still be generally viewed as having close estimates or views regarding the level of learnability in their user experience of the massidea.org.

The results shown in the Table 15 indicate no gender differences as men in this group generally report the same average level of pressure and tension during the use of the massidea.org. They also express the same level of pressure and tension about men's performance as of women in the same age group.

The results reported by this age group regarding the level of usability and efficiency of the massidea.org website reflect that the group believes in a fairly decent level of possible website usability and efficiency when using the massidea.org.

This is suggested by the mean value of 4,5 on an overall scale of 7 for usability and efficiency, which is equivalent to 64 % of the scale. The reported median of 4,5 is the same like the mean value here, which still suggests that respondents from this age group have viewed a rather decent level of usability and efficiency in their user experience with the massidea.org.

The reported levels of usability and efficiency subscale in the user experience of this group range from 4 to 5 on the scale of 7, or in other words, from 57 % of the usability and efficiency scale and above to 71 % of the overall scale with a reported average of 4,5 on a scale of 7 or 64 % of the overall scale. This percentage indicates that the respondents rate the usability and efficiency aspect in their experience when encountering their user experience with massidea.org as fairly good despite the technical problems encountered.

 The range between the maximum and the minimum averages reported for this subscale actually represents a slightly wide distance of variation, that is, 1 on a scale of 7, which amounts to about 14 % of the whole scale. This suggests that respondents have generally viewed it with rather close estimates or views regarding the level of usability and efficiency in their user experience of the massidea.org.

 The results shown in the Table 15 indicate no gender differences as men in this group generally report the same average level of pressure and tension during the use of the massidea.org. They also express the same level of pressure and tension about men's performance as of women in the same age group.

Looking at the results reported by this age group regarding the level of effectiveness of the massidea.org website as a tool or a means to perform its purpose, the group seems to report some scores showing a tendency to view the massidea.org as being rather effective in doing the intended purpose after all. As shown in the table 15, the respondents in this group view it as varying from range from 3 to 5 on the scale of 7, or in other words, 42 % to 71 % of the whole scale of possible effectiveness of a website. This reflects a general tendency to highly rate the effectiveness of the massidea.org from the point of view of this age group. The results shown in the table 15 also indicate that men in this group generally report a slightly lower average level than women regarding effectiveness for the massidea.org website when compared with women in this age group. This is suggested by males in this group reporting a lower average of 4,1 on the scale of 7, or in other words, 59 % coupled with a wider range from range from 3 to 5 on the scale of 7, or in other words, 42 % to 71 % of the maximum scale whereas females in the same group reported a higher average of 5 on a scale of 7, that is, 71 % despite the shorter range partly caused by the small number of females involved in this group.

Looking at the results reported by this age group regarding the level of effort and hard work experienced while at the massidea.org website, the reported scores of the group seem to suggest that the group members here report a felt a tendency to exert a notably high level of effort while working on it. As shown in the table 15, the respondents in this group view it as varying from 3 to 6 on the scale of 7, or in other words, 42 % to 85 % of the whole scale of possible effort that a website can at most require. This percentage suggests that such a result reflects a feeling on the part of respondents that the massidea.org requires a high degree of hard work and effort to get done with tasks there.

The results shown in the table 15 also indicate that men in this group generally report a higher average score of the level of effort and hard work of the massidea.org website than women when compared with women in the same age group. This is suggested by males in this group reporting an average of 4,8 on a scale of 7 or 69 % of the maximum scale for effort and hard work possible for the massidea.org coupled with a shorter range from 4 to 6 out of 7, that is, 57 % to 85 % of the maximum scale whereas females in the same group reported a lower average of 4 out of 7, that is, 80 % coupled with a wider range from 3 to 5 on the scale of 7, that is, 43 % to 71 % of the maximum scale for usability and efficiency of the massidea.org.

Looking at the results reported by this age group regarding the level of value or usefulness they would attribute for the massidea.org website, this age group seems to report some scores showing a tendency to view a that massidea.org has a relatively notable value. This is suggested by the range of average scores of respondents as varying from 4 to 7 on the scales of 7, that is, 57 % to 100 % of the whole scale of possible value for the massidea.org website. This percentage suggests that this group view that massidea.org has some decent value and they report a high level of appreciation for the concept of massidea.org and see the benefit of it as shown in the chart below.

The results shown in the table 15 also indicate that men in this group generally report a slightly higher average score for the value or usefulness of the massidea.org website than women when compared with women in the same age group. This is suggested by males in this group reporting a slightly higher average of 4,6 or 66 % coupled with a wide range from 4 to 7 or 57 % to 100% of the maximum scale whereas females in the same group reported a slightly lower average of 4,5 or 64 % coupled with a shorter range from 4 to 5 or 57 % to 71 % of the maximum scale for value or usefulness of the massidea.org.

4.3.4   The age group from 33 to 42

As far as the results from age group of 33 to 42 are concerned, they show some fair level of interest in the massidea.org as shown in the table 16 below. It starts from 3,3 to 5 on a scale of 7 or from 47 % of interest scale and above to roughly 71 % of the overall scale.

	Female	Female	Female	Female	Female	Female	Male	Male	Male	Male	Average	Median
Interest/Enjoyment	3,6	5	3,6	3,3	4,3	5	3,3	5	3,33	4	4,092	4
Perceived Competence	4	5	4	5,6	5	4,3	5,6	5,3	4,3	4,66	4,862	5
Pressure / Tension	4,25	3,5	3,5	3,5	4,75	2,75	3,5	5,25	3,5	4,25	3,833	3,5
Perceived Choice	4	6	4	5	4	5	7	4,5	3,5	3,5	4,722	4,5
value/usefulness	4	6	4	6,3	4	5,3	6,3	3	6	4,3	5,022	5,3
Efficiency of use	3,5	4,26	4	4	3,5	5	4,8	3,75	4,375	4	4,187	4
Ease of learning	4,3	5	4,6	4,3	4	5,6	4,3	3,33	5	5	4,57	4,6
Effectiveness	4	5	4	5	3	5	4	3	4	4	4,111	4
Effort / Importance	5	5	5	5	3,5	5	3,5	5,5	5	4	4,611	5

Table 16: The age group from 33 to 42

The results shown in the Table 16 indicate that men in this group are slightly less interested in the concept of the massidea.org and do not seem to enjoy it as much as expressed by women in the same group. Males in this group report a lower average of 3,9 out of 7 or 55 % of the maximum scale whereas females in the same group reported an average of 4,24 out of 7 or 59% of the maximum scale of interest and enjoyment despite having the same range like men, which is from 3,3 to 5 out of 7, that is, 47 % to 71 % of the maximum scale for interest and enjoyment. Yet, the lower average of 3,9 out of 7 or 55 % is caused by the presence of lower values in the sample.

This age group reported some good level of consciousness about their competence in using the massidea.org as shown in the table 16. It starts from 4 to 5,6 out of a scale of 7 or in other words 57 % of the scale for perceived competence and above to 80 %, which suggests that they are fully aware of their functional competence as shown in the table 16. The results shown in the table 16 also indicate that men in this group generally report slightly higher average level of competence during the use of the massidea.org and feel more confidence about their performance than women when compared with women in the same age group. This is suggested by males in this group reporting a higher average of 4,9 out of 7 or 66 % coupled with a short range wider range from 4,3 to 5,6 out of 7 or from 61 % to 80 % of the maximum scale whereas females in the same group reported a slightly lower average of 4,6 out of 7 or 66 % despite a slightly wider range of 4,3 to 5,6 out of 7 or rather 57 % to 80 %.

Looking at the results reported by this age group regarding the level of pressure and tension felt while using the massidea.org, the group seems to show some fair level of tension that varies from 2,7 to 5,2 out of a scale of 7 or rather 39 % to 75 % of the whole scale of tension given for them shown in the table 16. The results according to the table 16 also indicate that men in this age group report a slightly higher average level of tension and pressure than women in the same group. The reported average level of tension for men in this group while on the massidea.org is 4,1 out of 7 or rather 58 % whereas for women it is 3,6 or 52 % of the maximum scale for pressure and tension despite a wider range from 2,7 to 4,7 out of 7, or rather 39 % to 67 % for females and a slightly shorter range for males from 3,5 to 5,2 out of 7 or 50 % to 75 %, apparently caused by the higher number of females in this age group.

Looking at the results reported by this age group regarding the level of ease of learning felt while using the massidea.org, the group seems to clearly report a relatively decent level of easiness and learnability of the massidea.org. This level varies from 3,3 to 5 out of 7, or 47 % to 80 % of the whole scale of possible easiness as shown in the table 16. The results shown in the table 16 also indicate that men tend to report slightly lower average score for easiness of use and learnability of the massidea.org than women in this group. Men reported an average level of 4,4 out of 7 or 63 % of scale of easiness of use and learnability of the massidea.org on a range from 4,4 or 3,3 to 5 out of 7 or rather 47 % to 71 % of the maximum scale as opposed to women reporting 4,7 or 66 % of the same scale on a range from 4,3 to 5,6 out of 7 or 57 % to 80 % of the maximum scale for easiness of learning.

Looking at the results reported by these age groups regarding the level of usability and efficiency of the massidea.org website, the group seems to indicate a fairly moderate level of possible website usability and efficiency. As shown in the table 16, the respondents in this group view it as varying from 3,5 to 5 out of 7 or 50 % to 71 % of the whole scale of possible usability and efficiency of a website.

The results shown in the Table 16 also indicate that men tend to report slightly higher average score for of possible usability and efficiency of the website of the massidea.org than women in this group. Men reported an average level of 4,2 out of 7 or 60 % of scale of usability and website efficiency of the massidea.org on a range from 4 to 4,8 out of 7 or rather 53 % to 68 % of the maximum scale as opposed to women reporting 4,1 or 57 % of the same scale on a range from 3,5 to 5 or 50 % to 71 % of the maximum scale for usability and website efficiency.

Looking at the results reported by this age group regarding the level of effectiveness of the massidea.org website as a tool or a means to perform its purpose, the group seems to report some scores indicating only a basic level of effectiveness of the massidea.org in doing the intended purpose after all. As shown in the table 16, there is a general tendency in this group to rate the effectiveness of the massidea.org as being only basic or fair.

The results shown in the table 16 also indicate that men in this group generally report a slightly lower average level of effectiveness for the massidea.org website than women when compared with women in the same age group. This is suggested by males in this group reporting a lower average of 3,7 out of 7 or rather 53 % coupled with a short range from 3 to 4 out of 7 or rather 43 % to 57 % of the maximum scale whereas females in the same group reported a higher average of 4,3 out of 7 or rather 61 % coupled with a wider range from 3 to 5 out of 7 or 42 % to 71 % of possible effectiveness of a website.

Looking at the results reported by this age group regarding the level of effort and hard work experienced while at the massidea.org website, the reported scores of the group seem to suggest that the group members here report a felt a tendency to exert a notably high level of effort while working on it. As shown in the table 16, the respondents in this group view it as varying from 3,5 to 5,5 out of 7 or 50 % to 78 % of the whole scale of possible effort that a website can at most require. This percentage suggests that such a result reflects a feeling on the part of respondents that the massidea.org requires a high degree of hard work and effort to get done with tasks there.

The results shown in the table 16 also indicate that men in this group report a slightly higher average score of the level of effort and hard work of the massidea.org website than women when compared with women in the same age group. This is suggested by males in this group reporting an average of 4,6 out of 7 or rather 64 % of the maximum scale for effort and hard work possible for the massidea.org coupled with a range from 3,5 to 5,5 out of 7 or rather 50% to 78 % of the maximum scale whereas females in the same group reported a lower average of 4,7 out of 7 or 67 % coupled with a slightly shorter range from 3,5 to 5 or rather 50% to 71 % of the maximum scale for effort and hard work possible for the massidea.org.

Looking at the results reported by this age group regarding the level of value or usefulness they would attribute for the massidea.org website, this age group seems to report some scores showing a tendency to view a that massidea.org has a relatively notable value. This is suggested by the range of average scores of respondents as varying from 3 to 6,3 out of 7 or rather 42 % to 90 % of the whole scale of possible value for the massidea.org website. This percentage suggests that this group view that massidea.org has some high value and they

report a high level of appreciation for the concept of massidea.org and see the benefit of it as shown in the table 16.

The results shown in the table 16 also indicate that both men and women in this age group generally report the same average score for the value or usefulness of the massidea.org website. This is suggested by males and females in this group reporting an average of 4,9 out of 7 or rather 70 % of the scale of possible value and usefulness for the massidea.org website despite different ranges for either gender. For men, the range is wide and goes from 3 to 6.3 out of 7 or rather 42 % to 90 % of the maximum scale whereas for women, the range is shorter and goes from 4 to 6.3 or rather 57 % to 90 % of the maximum scale for value or usefulness of the massidea.org.

4.3.5   The age group of > 42

In this age group gender differences are not going to be given any major focus due to the lack of decent representation of females that can help draw any reliable results based on gender. This is due to the presence of only one female in this age group. Therefore, one average score will be used for the whole group on each subscale.

As far as the results from age group of > 42 are concerned, the group reported some fair level of interest in the massidea.org as shown in the Table 17. It starts from 3,6 to 5,3 or rather close to 51 % of interest scale and above till roughly 76 % of the overall scale. The results shown in the Table 17 indicate that the group reported an average score of 4,4 or rather 60 % of the possible maximum interest and enjoyment scale. This indicates some fair level of interest though not high in the concept of the massidea.org.

	Male	Male	Male	Female	Male	Average	Median
Interest/Enjoyment	5,3	4	4	4	3,6	4,18	4
Perceived Competence	4,3	5,3	5	4,6	5	4,84	4,92
Pressure / Tension	4,5	4,25	4,5	4,75	4,75	4,55	4,525
Perceived Choice	7	4,5	4,5	4,5	3,5	4,8	4,5
value/usefulness	4,3	5	6,3	3,3	3,3	4,44	4,37
Efficiency of use	6,6	4,1	4,75	3,8	3,8	4,61	4,355
Ease of learning	6,6	5	3,6	4,3	4	4,7	4,5
Effectiveness	7	4	6,3	4,3	4,6	5,24	4,92
Effort / Importance	5,5	6	5,5	4	4,5	5,1	5,3

Table 17: The age group of > 42

This age group reported some good level of consciousness about their competence in using the massidea.org as shown in the Table 17. It starts from 4,3 to 5,3 or rather 61 % of the scale

for perceived competence and above to 75 % with an average score of 4,8 or 69 % of the maximum scale of possible perceived competence. It also reflects a relatively good level of perceived competence that respondents feel.

Looking at the results reported by this age group regarding the level of pressure and tension felt while using the massidea.org, the group seems to show some moderately high level of tension that varies from 4,2 to 4,7 or rather 60 % to 67 % of the whole given scale of tension with an average of 4,5 or rather 65% as shown in the Table 17. It is therefore clear that respondents in this age group have a notably felt sense of tension.

Looking at the results reported by this age group regarding the level of ease of learning felt while using the massidea.org, the group seems to clearly report a remarkably decent level of easiness and learnability of the massidea.org. This level varies from 3,6 o 6,6 or rather 51 % to 94 % of the whole scale of possible easiness as shown in the chart below. They also reported an average score of 4,7 or 67 % of the scale of easiness of use and learnability of the massidea.org.

Looking at the results reported by this age group regarding the level of usability and efficiency of the massidea.org website, the group seems to indicate a remarkably moderate level of possible website usability and efficiency. As shown in the Table 17, the respondents in this group view it as varying from 3,8 to 6,6 or 54 % to 94 % of the whole scale of possible usability and efficiency of a website. They also report an average score of 4,6 or 66 % of the maximum scale of possible usability and website efficiency. The higher average score here is apparently caused by the presence of some high values that users reported while rating the usability and efficiency of the massidea.org website.

Looking at the results reported by this age group regarding the level of effectiveness of the massidea.org website as a tool or a means to perform its purpose, the group reported scores indicating a notably high level of effectiveness of the massidea.org in doing the intended purpose after all. As shown in the Table 17, the respondents in this age group view it as varying from 4 to 7 or rather 57 % to 100 % of the whole scale of possible effectiveness of a website, with an average score of 5,2 or 74 % which is relatively high for the whole group and reflects a general tendency in this group to rate the effectiveness of the massidea.org as being remarkably high specially given the situation that the massidea.org is in at the present, meaning it is still under development.

Looking at the results reported by this age group regarding the level of effort and hard work experienced while at the massidea.org website, the group reported scores indicating that the respondents believe the massidea.org requires them to exert a notably high level of effort

while working on it. As shown in the Table 17, the respondents in this group view it as varying from 4 to 6 or rather 57 % to 85 % of the whole scale of possible effort that a website can at most require with a reported average of 5,1 or 72 %. This percentage indicates that respondents at this age group believe that the experience with massidea.org requires a high level of effort and hard work to do tasks there.

Looking at the results reported by this age group regarding the level of value or usefulness they would attribute for the massidea.org website, this age group seems to report some scores leading to believe that they view the massidea.org as relatively valuable. This is suggested by the range of average scores of respondents as varying from 3,3 or 6,3 or 47 % to 90 % of the whole scale of possible value for the massidea.org website. The relatively high value and high level of appreciation for the concept of massidea.org plus benefit of it are all suggested too by an average of 4,4 or rather 63 % of the overall scale for value and usefulness.

5   Summary of the results: Differences by age groups

In this chapter, the summary is based on the findings from the IMI questionnaire and thematic interviews are going to be reviewed according to the age group of the users. This is intended to help provide some clear answers to the main research problem of whether there are differences in massidea.org user experience when users from different age groups and different courses in Laurea are involved. With each age group presented below, all the meanings and emotions investigated by the experiments which users have reported through their experience are to be reflected on. Possible recommendations for the massidea.org to better serve this age group. The reported conclusions here are coming from experiment and theory the current thesis has presented.

Based on the findings, it is has been shown that there are differences among the user experience of different age groups involved or represented in the current thesis. Each group seems to rate higher or lower than the rest of the groups in certain aspects of the experience with the massidea.org, or in other words, seems to have a more or less tolerance than others in certain respects as explained below.

5.1   The age group of 18 to 22

In the age group of 18 to 22, it is possible to see that their user experience was not a very positive one due to a number of factors and remarks mentioned whether orally in the interview or in writing in the questionnaire form.

The respondents were barely interested in use of the massidea.org as reported by an average of the interest and enjoyment measurements taking the form of direct and indirect questions, in writing and oral interviews. There seems to be some kind of disappointment that users encountered which has brought about some negative feelings their user experience. This is felt in the actual statements of users as in

> *"At first, it was interested, and may be after that a bit confused. And then after that at the end of the course, may be a bit bored."* or

> *"it looks quite interesting, but when you start like doing the idea, there is so many points that you have to answer and then it is a little boring"* or

> *"So, at first, it was interesting. It was interesting looking webpage. But as we got in the inside of it, I found it was a bit confusing."*

Looking at the experience from the beginning, this group seem to start motivated, apparently after a briefing on the concept of the massidea.org, but then they seem to lose their interest as they continue their experience due to hindering functionality issues of the website.

This seems to be the background for their belief about their level of performance or competence at the massidea.org. They believe it is rather basic or modest, which has been reflected by a relatively low average score for the group on the scale for perceived competence.

Though the user experience for this group has apparently been noted for some fairly remarkable level of tension or discomfort as expressed by the respondents, the level of pressure in user experience of this group is still relatively lower than other groups. This could possibly show that younger users, at least according to the results on research subject group in the current thesis, seem to be more at ease with as a challenging website as the massidea.org than older age groups users.

This is suggested by the lower reported average for tension of age group of 18 to 22 respondents than the averages reported by all other age groups. Interviews showed that respondents felt uncomfortable at the beginning but apparently were more prepared to go along with it more flexibly than other group members. This is seen in the statements from the interviewees of age group 18-23 like

> *"At the start, it was a bit uneasy" "yeah messy and confusing"* or

"Yes, at the beginning, when we stated to put the ideas and there was so many points that I was oh...you have to answer all this, but then it was a little bit uncomfortable because I was lost, But I got used to it and it the end".

Thus, a pattern in the type of user experience or the progression of is suggested here through the responses coming from the members in this age group. Despite the obstacles that added some negative feelings to the user experience of the age group of 18 to 22, the more outgoing attitude to try ahead with the massidea.org was even further shown by the group average ratings for the easiness and learnability of the massidea.org. The group reported a moderately high average for learnability and ease of use of the massidea.org.

Though respondents from this group rated the learnability aspect higher, they do not seem to think as positively about the usability aspect of their experience with the massidea.org. In fact, they gave the second lowest average for usability when compared with other groups. This could be loudly felt in one written comments in the questionnaire form such as

"I would reconsider the process of creating groups, campaigns and linking content to it. It would be much easier if one can add the content directly to a campaign."

or the comment by one of the interviewees saying

"Yeah, I had some difficulties like for example if we had our course group or campaign there; it was not so easy to find".

This reflects the fact that usability issues if taken care of, the user experience for this age group will be a lot more positive because it is a shared comment among different age group. The respondents at this group seem to have also felt beaten by the level of effort exerted and hard work needed to accomplish tasks during their interaction with the massidea.org. However, interestingly enough to know though is the fact that despite the disappointment at the usability aspects in their user experience, respondents rated the effectiveness of the massidea.org as slightly better. Apparently, after suffering for a while with the unfriendly usability of the site, this age group viewed it as more or less fit for doing its purpose of communicating with other members and exchanging ideas. This reflects the potential, from the point of view of respondents here, for the massidea.org user experience to easily become more engaging and interesting if technical issues are improved.

The attitude of this group seems after all not severely negative at the potential of the concept itself of massidea.org to be a success. This was expressed in suggesting where else they could the massidea.org be used. Suggestions included using massidea.org to collaborate

at work-related environment, or in a learning-environment or for developing ideas or even as social media site, only if the website format is improved.

Respondents have repeatedly referred to features from the facebook to help improve the experience of the massidea.org, which reflects anyway the direction of improvements needed for the massidea.org at this stage, like using more lively colours and proper notification and grouping system as used in the facebook for instance. However, the focus in this present thesis is on internalizing the users' experience rather than on the technical issues. Therefore, the technical issues are not the main focus here, but rather a one component of what forms the overall experience of users in the case of massidea.org.

5.2   The age group of 23 to 27

In the age group of 23 to 27, it is possible to see some differences in the user experiences from the gender perspective of due to the presence of females whose number is almost half the number of males in the same group. It is supposed to be looked at among other things relating to the whole group level conclusions.

The respondents do not seem to be highly motivated or interested in use of the massidea.org as reported by their averages of the interest and enjoyment measurements in the questionnaire or interviews. They seem to share the same kind of disappointment that users encountered in the first group which made them lose interest along the way with their user experience of the massidea.org. However, it is possible to see that men seem to score remarkably higher than women on the interest scale. Whereas women in this group are barely interested or have enjoyed their user experience, the men seem to have moderately enjoyed it and felt more interested in their user experience of the massidea.org. In fact, they show more interest than the members of the age group from 18 to 22 in the use of massidea.org and enjoying it. Yet again, the disappointment could still be felt in the actual statements of users as in

> *"I think it was mostly boredom because when you look at massidea.org webpage as a whole, it is all a bit messy or the whole page, so it is more boredom"* or

> *"First, I curious. I was interested because I had heard about the concept from Teemu, and I did not know what to expect but I was interested in the site and how it works and navigates, all this kind of stuff. So, at first I would say interested towards the site and how it works and all of this, but now i am not interested that much"* or

> *"in the end I felt I was forced to use it, so the interest in the beginning change into like avoidance"*

Despite the higher interest level shown by males in this age group, yet their reported self estimate of their level of performance or competence at the massidea.org was still lower on the average from the females' average. Yet again the group average for the overall perceived competence is almost slightly the same like the age group of 18 to 22.

It is possible to see that the user experience of age group of 23 to 27 has encountered a higher level of tension or discomfort than expressed by the respondents in age group of 18 to 22. Men however, seem to be more often feeling uncomfortable or tense while doing their tasks on the massidea.org than women. Even their reported ranges of answers are wider, which reflects the presence of several more levels of pressure, which in general are higher than those reported by women in the same group. This again suggests that females in this group were more relaxed than their male counterparts when dealing with the challenges posed by the massidea.org.

Again, interviews with members from this age group showed that respondents felt discomfort at more or less in the same stage of experience like the age group of 18 to 22 respondents. It is basically when they try to locate their groups and link their work to these groups as shown by some statements like:

> *"you cannot search there. if you are for example looking for something, you cannot find it easily"* or *"It was quite difficult. I could not find my own group as the search options did not really work; I could not find my group with the search information. It was a little confusing and hard to use it sometimes. It was easy to add new content but it was hard to link it to campaigns and groups and it was hard to find my own group"*

So, when this feeling of tension is coupled with a feeling that this task has to be done for the course to be passed, it is possible to understand the negative feeling in the experience as a whole. This seen in the statements from age group of 23 to 27 interviewees like

> *"it reflected on the massidea.org using it because it was part of the course and we have to use it during the course, so that is why I felt forced to use it"*
> Or *"So without my course, I did not know the massidea.org at all. so, yeah, they forced me too"*.

Thus, this represents another uniform element or a shared aspect in the user experience among the age groups, which is again suggested here by the members in age group of 23 to 27 echoing age group of 18 to 22.

This uniformity of pattern of user experience seems to be suggested again by the attitude of these respondents of age group of 23 to 27 to experimenting with learning through the use of massidea.org. They still believe in the concept despite negative feelings associated with usability-related aspects. The group reported average for learnability and ease of use of the massidea.org is the same like in age group of 18 to 22. However, it is possible to see that females in this group who earlier reported less tension levels in their experience still confirm this attitude with their responses showing higher learnability levels than males in the same group. This also seems to suggest that it was worth it to spread the questions relating to different subscales in the IMI questionnaire randomly to check the whether the responses would be harmonious during the data interpretation phase. Now, it seems that the answers on various subscales are starting to show a pattern and make sense of whole underlying user experience scene that this thesis wanted to uncover.

Again some degree of pattern uniformity in the views between age group of 18 to 22 and age group of 22 to 27 is suggested in the low usability levels reported by the group respondents of their experience with the massidea.org. In fact, the generally low average per the age group of 23 to 27 only compares to the low usability average given by the age group of 18-22. However, again female respondents in this group seem to feel at more ease with the usability level than males and report a higher usability level for the massidea.org experience than reported by males.

The respondents at this group seem to have reported the lowest level of effort exerted and hard work they needed to give to accomplish tasks during their interaction with the massidea.org compared with other respondents from other groups. Interestingly enough to notice here is the fact that males in this group have reported less amount of hard work exerted than females in the same group. It seems that tension levels seem to go in negative correlation with the amount of effort and hard work exerted in this case.

Women in this group have reported notably higher levels of effort exerted than men. Apparently, they felt the how much effort is needed later on at the end of the experience when they started already submitting the work. This justifies the relaxed attitude of females in this group on other subscales as opposed to the scale of effort in the research of the user experience here.

Comparing the user experience in the age group of 23-27 with other groups, respondents in this group seem to give the lowest rating for the effectiveness of the massidea.org. One possible explanation is that the apparent hard work exerted with the usability of the massidea.org as mentioned in one interview too as in

> *"really much effort, my effort so that I could be acquainted with how massidea.org works"*

may have led them to feel that the massidea.org only barely does the job intended from it. Lack of clarity is apparently behind this stand as shown in one interview when asked about the effectiveness of the massidea.org based on his experience.

> *"I did not really understand why they were all so similar?"*

However, there are some fairly positive responses to the opposite of this, which is the reason there is an average of scores to give some balanced view of the user experience of the group as a whole. This could be quoted as in

> *"It will connect people and from that point of view, it will be effective"*

The responses of this age group show a general belief in the concept and value of the massidea.org if technical issues are handled as in

> *"Yeah, the idea is good like getting people together and then developing the ideas and opportunities and I would see that if someone is really interested in like sharing their own ideas thoughts, then yes"*.

The view of the potential for the massidea.org experience to easily get more engaging and interesting, if technical issues are improved, is still a common motif in the experience of the respondents from the age group of 23 to 27 as in

> *"for international purposes like in schools that need to bring people together in projects"*.

This shows that this motive in the user experience of the value of the massidea.org and applicability is still a shared line among the user experiences through the different age groups.

5.3   The age group of 28 to 32

In the age group of 28 to 32, it is not easily possible to see any remarkable gender differences in the user experiences since the number of females in this group is very low. Therefore, these subtle differences are only quoted for reference. Therefore, it is to be quoted among other perspectives relating to the whole group level conclusions.

The respondents seem to be only barely motivated or interested in use of the massidea.org as reported by their averages of the interest and enjoyment measurements in the questionnaire or the personal interviews with them. The respondents seem to have a shared view about their level of enjoying their user experience since the range of the value of their responses is not wide nor are the value high. Yet again, the negative feeling about their experience is even echoed in an actual statement of users as in

> *"Interest and a bit of frustration as I did not enjoy the use of software". "Not bored, just frustrated because of the usability of the software"*

This negative feeling or generally low interest level again seems to be a shared aspect of user experience among the user age groups reviewed so far. There seems to be an apparent kind of disappointment or frustration that keeps users from feeling very positive about their enjoyment of the massidea.org experience. However, it is possible to see that pattern of men showing more interest than women in the use of massidea.org seems to generally be shared again with this group despite the low number of females that was available for the experiment in this age group. However, the difference between both genders is noted for reference only as mentioned earlier and is meant to show whether the pattern is still repeated here too.

Respondents seem to be relatively confident of their performance or competence. Women again seem to be lagging behind men and they show up as slightly less confident about their performance.

The aspect of tension or discomfort expressed by the respondents in age group of 28 to 32 is lower however than expressed in age group of 23 to 27 and slightly higher than in age group of 18 to 22. Men seem to be encountering the same levels of tension and uneasiness in their experience like women. Tension seems to be slightly over the average scale here, which reflects negative feelings of apparent discomfort and uneasiness in their experience caused by usability issues

> *"Both may be but I mean because of the frustration. I did not know what to do and where can I do this and where do I do this and what next? But as I did my idea and comments, it was discomfort and uneasiness."*

Thus, the lack of choice in whether or not to do the task to pass their respective courses together with feeling of tension while students or users were using the website led some to have doubts about the effectiveness of the website as expressed by one interviewee from the age group of 28 to 32

> *"Since it's been now used by students who are like play with all kinds of silly ideas. That is why I see or I don't know if there are real ideas and real comments and if there things growing up there"*

Thus, this dimension of negative feeling in the user experience of this group seems again to be a shared element in the user experience of the groups reviewed so far. However, there are other views by this age group too regarding the effectiveness aspects in the user experience of the massidea.org that see some hope of higher effectiveness conditional to recovering the efficiency as in

> *"Still the massidea.org as a concept when used seriously, I am sure it would be efficient".*

Yet, on the overall average of the group, respondents tend to generally believe that effectiveness is not the worst aspect of their user experience based on the results coming from both the questionnaire and the interviews.

Another shared element in the user experience between this group and other groups reviewed so far is appreciation of the concept of massidea.org, which represents another positive dimension in the user experience with the massidea.org. This is stated in the interviews with these age group representatives as in

> *"Using it in company intranet like any ideas or any proposals or any big practices, you would like want to get the new best practice or suitable instruction in a company and would everyone to comment it and approve it. For that kind of things, it could be useful."*

Respondents seem to have a relatively positive attitude towards the learnability aspect of their user experience of massidea.org. It is well over the average of the scale with both men and women showing the same level of appraisal of the ease of learning or learnability in the massidea.org experience.

A shared aspect in the user experiences encountered by all age groups so far is that respondents think that despite the frustrating usability-related aspects, the potential for the massidea.org value and use is high. This again provides a kind of uniformity of pattern of user experience with other groups included in this thesis that have also expressed similar stands towards this aspect in their user experience.

On the aspects of usability or efficiency of use, respondents do not believe the efficiency is any higher than just a mediocre level with both men and women showing the same level of appraisal of the usability aspect in the massidea.org user experience. The respondents still believe it to be higher than the rating given by groups (18-22) and (23-27) despite the criticism against the website technical issues.

The respondents seem to have reported the second highest rating for the effort exerted and hard work reported to accomplish tasks during their interaction with the massidea.org compared with other respondents from other groups. Interestingly enough to notice here is the fact that males have reported higher amounts of hard work exerted than females. However, the high level of effort the respondents believe they had to exert may be related to the already high levels of tension they earlier reported, which again could be traced to usability issues. This again is still a shared line among the user experiences through the different age groups in the current thesis.

5.4   The age group of 33 to 42

In the age group of 33 to 42, there is a possibility to see some differences in the user experiences from the gender perspective due to the presence of a relatively fair number of males and females in the same group.

The respondents seem to be only moderately motivated and interested while using the massidea.org. This is concluded from reported averages of the interest and enjoyment measurements in the questionnaire or interviews.

They seem to share the same kind of disappointment that users encountered in the other groups which made them lose interest along the way with their user experience of the massidea.org. However, it is possible to see that in this group, women seem to score notably higher than men on the interest scale. Whereas men in this group are only roughly interested or have barely enjoyed their user experience, women seem to have moderately enjoyed it and felt more interested in their user experience of the massidea.org. In fact, they show more interest in the use of massidea.org and enjoying it than the age group 18-23 members.

Yet again, the universally shared disappointment among the groups could still be felt in the actual statements of users as in

> *"and a bit of frustration as I did not enjoy the use of software, but interested in that exercise as I never saw anything like it before"* or *"Well, I think I was bored because just after I have described my idea, there was nothing to do with it. That is all. Then you just wait when someone gives you any comment or raises plus or minus. That is all."* or

> *"I would say it was not joy or something, but we just got a task and I had to obviously do this task. So, I'd say if I need to say positive or negative, it is more negative because it was difficult to use"*

The results of this group show again the same pattern that took place earlier on with age group 23-27 where the reported interest levels negatively correlated yet their reported self estimate of the level of performance or competence at the massidea.org. Males reported higher levels of performance or competence at the massidea.org in spite of their reported lower interest levels in this group.

Again this shows some repeated pattern here. Strange as it may be, it could be perhaps explained in the light of the relatively neutral attitude of respondents in this age group to the task as a part of the course that has to be done, which was shown in one male interviewee's statement

> *"We just got a task and I had to obviously do this task"*.

It can also be understood in the light of the apparent tension expressed by males in this group as in this statement

> *"Unhappy, I was when I tried to link my idea to our course. So, that was very difficult so it made me very angry because I did not find how to do that"*.

So, the feeling of insecurity caused by tension is possibly a big motive for the higher performance levels when interest rate is not as high. This is even further supported by higher levels of tension reported by males in this age group than females.

However, one thing to note about the tension aspect in the user experience of this group is that it is rather manageable; it is almost the lowest when compared with the same aspect of pressure and tension in the experience of the other groups. This could be possibly attributed

on the one hand to the maturity or the effect of life experiences that this age group may perhaps have since this is no young age group. On the other hand, it is the middle-aged group that has apparently managed to get catch up with social media and get updated with a good deal of internet experience while in the same time they have long working experience reflected in the fact that many of them are in managerial and executive positions.

Tension or discomfort seems to be more widespread at different levels among female respondents in this group than their male counterparts. This is reflected by the wider range of values and the other statistics like the standard deviation for females in this group. This again suggests that males in this group were more relaxed than their female counterparts when dealing with the challenges posed by the massidea.org.

Again, interviews with members from this age group showed that respondents felt tense and uncomfortable at more or less in the same point of the user experience like their counterparts in the groups. It is basically when they try to locate their groups and link their work to these groups as shown by some statements like:

> " *this method of working like creating an account, joining an account to a group, that was not as easy as I would like to or it need to be*" or "*unhappy, I was when I tried to link my idea to our course. So, that was very difficult so it made me very angry because I did not find how to do that.*"

However, it is possibly notable that the lack of choice for whether to do the task on the massidea.org did not really add much of a bother to the respondents of this group. The interviews show that it was a pretty minor aspect of their user experience and did not stand out clearly in their reflections of their user experience as was the case in some other age groups reviewed before.

One interesting remark to note about the views of the respondents from this group about the value or possible use for the massidea.org experience is that they are rather more realistic than the views of the other younger groups. This is reflected during the interviews with them as in

> *"When you have real idea, I think you will not put it there. I mean the real thing of your idea that would be something you would not put there because you would like to keep it for yourself, that information. Perhaps, you would try to get some answers around your idea, but not at your idea. Because you would like to make for example a patent, it would not be possible anymore because you have revealed your idea. So, you cannot have any patent for it anymore"*

> or at "*I would say this is an upgraded discussion forum, so I would say it is good for a purpose and what should be changed is the user experience should be taken in consideration in the interface,*"

The views show some concern about real issues such as privacy and patent rights which again show the depth about these views compared with the views from other younger age groups. They also view the massidea.org in more pragmatic framework in the light of what their own user experience with other forums are. This suggests again the effect of long life experiences on the user experiences of this group. It is possible to see that they would need more guidance on these issues when they are in encountering their user experience than with other respondents from other groups.

It is interesting to see that there is a repeated pattern of the user experience of females in the age group of 33 to 42 like in age group of 23 to 27 where the same females who earlier reported less tension levels in their user experience are the ones that reported higher average for learnability and ease of use of the massidea.org than males in the same group.

Again some kind of repeated pattern uniformity in the views between respondents of the age group of 33 to 42 the other groups is suggested in the generally low usability levels that respondents of the group reported of their experience with the massidea.org. In fact, the age group of 32 to 42 has given the lowest ratings for usability averages in the whole thesis with male respondents in this group seem to feel at more ease with the usability level than females.

Another repeated pattern of aspect uniformity here is to be seen with the respondents at the age group of 32 to 42 where like in age group of 23 to 27 too, males in this group have reported less amount of hard work exerted than females in the same group. In this case again, it is possible that women in this group like in age group of 23 to 27 felt how much effort is needed only at a later stage, possibly at the end of the experience when they started already submitting the work. This justifies the relaxed attitude of females in this group too on other subscales as opposed to the scale of effort in the research of the user experience here.

This again suggests some kind of similarities in the pattern of user experience in different groups.

5.5   The age group of > 42

In the age group of > 42, it is possible to see that no gender inferences are possible to make in the user experiences reported by this group due to the presence of only one female in this

group. Therefore, conclusions are going to be made regardless to the gender differences in this age group and on the whole group level.

The respondents in this age group seem to be moderately interested in use of the massidea.org and even their perceived competence is relatively higher than most other age groups as indicated by the questionnaire and oral interviews. However, there seems to be some kind of typical disappointment that users encountered which has as in other age groups brought about some negative feelings in their user experience. This is what earlier was referred to as a pattern uniformity of user experience as it is shared with other groups included in this thesis. This group like other groups has expressed the same stands towards this aspect in their user experience, namely usability. It is again the same point in their experience where then they try to add their contribution in the discussion and link it to their group as expressed in

"There was only one connecting to our course. It was difficult to find the right place where our group should go" or "everybody does not want to lose their time or looking in the search for where should I go now? What should I do now and things like that? I like everything to go smoothly"

However, it is worth noting here that the level of tension in the user experience of this age group is actually the highest among other groups. This is followed only by the level of tension in the use experience of (23-27) group. This is also paralleled by the highest reported level of effort and hard work exerted to do the tasks on the massidea.org. This group seems to apparently be the group where the highest tension and effort levels among all the groups in this thesis indicated so far. It is possible to see that the levels of effort exerted during the user experience here generally tend to go higher with the age levels. At least, as shown by the groups this research thesis, there seems to be some positive correlation between the averages reported by the groups for their exerted efforts while on the massidea.org experience and their age levels.

The similarity in the progression of the user experience between this group and other groups seems to suggest some kind of shared pattern in the user experience among the groups. This is shown in that users in (over 42) group start in the beginning with being motivated about the concept of the massidea.org, but as they go along with their experience, they seem to lose their interest in the same way like other groups due to frustrating functionality issues of the website.

Despite the rather positive attitude of the group regarding the potential of use for the massidea.org, they have echoed again the worries expressed by (33-42) group about privacy

and patent issues for their ideas on the website. This aspect of worry and tense feeling is apparently also affecting their user experience in a way that they cannot feel safe and trustful about their input. This is felt in such statements like "I was a little bit sceptical because we should make innovation and if you have innovation, you would not like to put it there"

The effect of life experience at this mature age group is again emphasized through such comments like it was expressed by the (23-27) group respondents, which provides again some shared element in the user experience of both groups in terms of the users' attitudes towards the massidea.org and the possibly suitable content for it. Perhaps there is a need for more guiding about these issues to help wade away these negative feelings from the user experience of this age group. The group still sees the potential of the massidea.org to be used for many applications despite these worries about patents and security of their intellectual input. This could be clearly seen in a comment by one of the interviewees saying

"Yeah, some campaign in health care would be good idea".

Despite some kind of negative comments about the ease of use, this group reported a moderately decent average for learnability and ease of use of the massidea.org. Even their attitude about the usability aspect of their experience with the massidea.org is rather positive in average after all. In fact, this group seems to be the most satisfied when compared with the rest of the groups regarding the usability issues.

6 Conclusions

The summary of results has apparently paved the way for the answer of the main problem in the research thesis, that is, whether different student age groups in Laurea have the same user experience when interacting massidea.org.

It has been shown that the user experience for different age groups here is slightly different from a group to another despite the presence of many similar patterns of user experiences shared among these age groups at different levels and on different aspects. Some groups seem to share certain sides of the experience when it comes to tension or interest as an example of a subjective emotional side of the experience. Others seem to share similar views about the levels of functional aspects of their user experience like effectiveness or usefulness. Furthermore, there are aspects like the technical aspects of the experience such as usability aspects that have represented a common ground or a similarly shared aspect of the user experience of all the research groups. Therefore, there seems to be some kind of uniformity of user experience at the different research groups as suggested by the fact that

the differences are not large when it comes to measuring the different aspects of the user experience defined in this thesis.

Some gender differences in the user experiences of different groups were also detected in this research. However, these differences were only quoted for the sake of reference only and should be further verified in possible further studies. The results are only relevant to the groups of respondents and interviewees included in this thesis.

This thesis has also shown that there is a high similarity in the meanings and emotions that users in the selected different age groups of the thesis attach to their user experience. However, each group seems to have a distinctive feature or higher or lower aspect of their user experience when compared with the other groups. Age and life experience too have been considered when interpreting the results of different groups, certain patterns of aspects of the user experiences seem to be suggested by the group responses based on comparing the results of reported averages of the groups with each other.

The use of the IMI questionnaire has proven to be rather effective in measuring the aspects assumed by the current thesis to form the user experience at the massidea.org. The IMI questionnaire here applied some way of randomizing the questions related to various aspects of the user experience to better collect the reliable real responses at different points and in different indirect ways that makes it unavoidable for respondents to give the real answers regarding the aspects in questions. The presence of repeated patterns of responses and the repeated correlations in certain aspects among the groups made it clear that the IMI questionnaire was an effective tool for evaluating the aspects of the user experience in the case of the massidea.org and that the results were not randomly nor illogically produced. The results made sense when analyzed as they revealed some similarities among the groups at different levels.

Thematic interviews helped add a new perspective to the understanding of user experience rather clearly in the case of the massidea.org in this thesis. A close insight into the user's world of inner feelings and reflections over his or her user experience was not as possibly open as was given by the thematic interviews. The disadvantage in the current thesis when using the thematic interviews, which only was discovered after conducting the interviews, was that users would have even talked more and opened up in their comments and reflections if they were given a chance to speak in their native language. However, as the thematic interviews in this thesis were conducted in English, the language barrier showed up despite the functional good English of most interviewees. Further studies should consider this challenge when using thematic interviews to study the user experience.

As for how the understanding of user experience as presented by the current thesis has improved the user experience for the massidea.org, this thesis has tried to present some deep insights into the internalized aspects of the user experience that have not been available before which are needed to help redesign the massidea.org experience on what users actually wish to have.

 The thesis was also intended to help enrich the domain of user experience studies especially that it tried to measure both kinds of aspects of the user experience, the technical and emotional, in other words, the objective aspects as well as the subjective aspects that shape up the user experience in the case of massidea.org. So, this thesis has tried to present some compromise that would combine both aspects in evaluating the user experience unlike previous research that mainly focused on only one kind of these two aspects in earlier studies of user experience.

Future studies may have to use more respondents to represent the age groups used in this thesis and have a an equal representation of each gender in every age group so to get higher certainty levels of their conclusions than has been available to this current thesis. Future studies could also use the mother-tongue language during the thematic interviews to help make the interviewees at ease and get more information from them regarding their user experience.

This thesis has only given a start to the method of investigating the user experience by having a balanced approach to both kinds of aspects in user experience, namely the technical and subjective aspects, and it is hoped that future studies may further continue this way when studying user experience.

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Appendix 1: IMI Questionnaire

Age

☐ 18 - 22

☐ 23 - 27

☐ 28 - 32

☐ 33 - 37

☐ 38 - 42

☐ Over 42

The Job level at the current work place or the last job placement you have had

☐ Senior Manager

☐ Manager

☐ Executive

☐ Support

☐ No working experience at all

How do you rate your computer skills and internet proficiency?

☐ Excellent

☐ Good

☐ Fair

☐ Beginner

For each of the following statements, please use a scale from 1 to 7 (where 1 is completely untrue and 7 is completely true) to refer to how true or untrue each statement is in your opinion

1- I enjoyed doing this activity on massidea.org very much

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

2- I did this activity because I wanted to

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

3- I believe this activity on massidea.org could be of some value to me

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

4- This activity on massidea.org was an activity that I could not do very well

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

5- I felt very tense while doing this activity on massidea.org

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

6- I tried very hard on this activity on massidea.org.

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

7- It is easy to discover how to communicate with the author or administrator

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

8- It is easy to discover how to communicate with the author

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

9- The site has a consistent, clearly recognizable "look-&-feel"

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

10- The website makes effective use of repeating visual themes to unify the site

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

11- The website is visually consistent even without graphics

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

12- The website has a page length appropriate to its content

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

13- This activity on massidea.org did not hold my attention at all

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

14- I did this activity because I had to

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

15- I think doing this activity could be useful to me

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

16- I was pretty skilled at this activity on massidea.org

☐ (1) Completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

17- I was very relaxed in doing the tasks on massidea.org

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

19- The website navigation tells the learner what to do on each page

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

20- The website pages are linked so that learners can easily return to their starting place

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

21- Each page in a sequence clearly shows its place in the sequence

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

22- Line length is short enough that readers do not have to turn their heads side-to-side to read complete lines of text

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

22- I felt that I had to click too many times to complete typical tasks on the website

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

23- The organization of the menus seems quite logical.

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

24- I can effectively complete the tasks using this website

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

25- I thought this activity on massidea.org was boring

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

26- I didn't really have a choice about doing this task on massidea.org

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

27- I would be willing to do this task on massidea.org again because it has some value to me

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

28- I think I did pretty well at this activity on massidea.org, compared to other students

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

29- I put a lot of effort into this task on massidea.org

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

30- I felt pressured while doing the task on massidea.org.

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

31- The website has all the functions and capabilities I expect it to have

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue
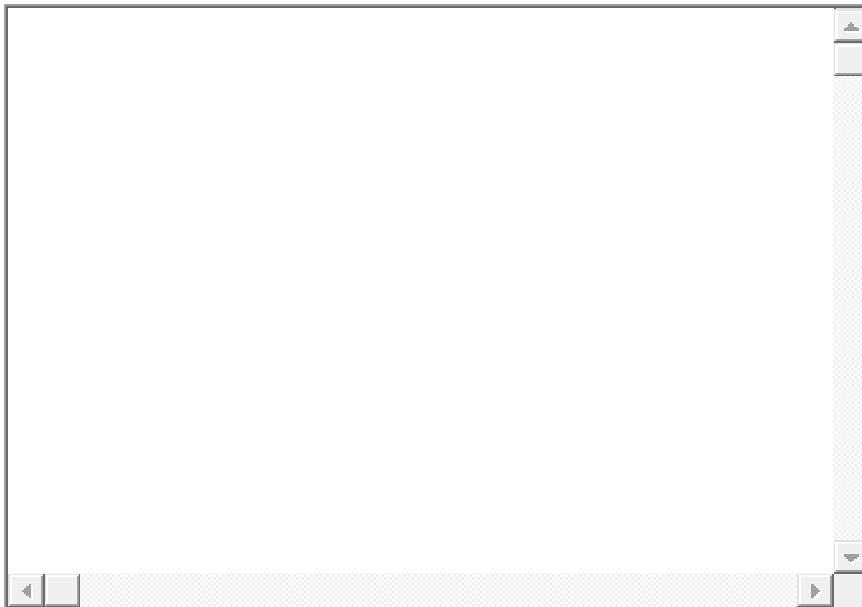
☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

32- I was able to complete the tasks given in reasonable amount of time

☐ (1) completely untrue

☐ (2) Very untrue

☐ (3) Somewhat untrue

☐ (4) True

☐ (5) Somewhat true

☐ (6) Very true

☐ (7) Completely true

• If you could make one significant change to this Web site, what change would you make?

• Would you return to this Web site on your own in the future? Why/why not?