

**User Interface Terminology in Web Services:
View on User Experience**

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Tiivistelmä

Tutkielman tarkoitus on selvittää, voiko terminologian avulla parantaa Internetissä toimivan palvelusivuston positiivista käyttäjäkokemusta. Tarkoituksena on muodostaa suosituksia hyvää käyttäjäkokemusta edistävästä termeistä. Internetsivujen sekä erilaisten laitteiden, kuten PC:n ja kännykän, käyttöliittymät ovat tulkittavissa ja koettavissa pääasiassa kielen välityksellä, joten on perusteltua väittää, että kielellä ja termistöllä on suuri merkitys käyttäjäkokemuksen muodostumisessa.

Yleisenä viitekehyksenä esitellään terminologian perusteita: hyvän termin piirteet ja termien muodostamiskeinot. Näitä soveltaen esitellään käyttöliittymätermien peruspiirteet. Lisäksi esitellään erilaisia näkökulmia käyttäjäkokemuksen tutkimukseen ja Garrettin kehittämät käyttäjäkokemuksen elementit, joista sovelletaan käyttöliittymätermien käyttäjäkokemuksen tutkimukseen soveltuvat työkalut.

Tutkimuksessa tarkastellaan valittujen internetsivujen terminologiaa, ja arvioidaan niiden luomaa käyttäjäkokemusta vertailemalla niitä määriteltyihin käyttäjäkokemuksen perustekijöihin. Perustana käytetään myös yleissanakirjoja, sillä niistä löytyy viitteitä siihen, kuinka maallikot erilaiset termit ymmärtävät, mikä on termien yleismaailmallinen merkitys. Näiden avulla arvioidaan termien luomia mielikuvia ja täten syntyvää käyttäjäkokemusta.

Tutkimuksen tuloksena selvisi, että internetsivujen käyttöliittymissä on paljon vakiintuneita termejä, mutta niitä ei käytetä kovin johdonmukaisesti. Terminologian johdonmukainen käyttö nousikin keskeiseksi käyttäjäkokemukseen vaikuttavaksi tekijäksi. Myös termin soveltuminen asiayhteyteen on merkittävä syntyvien miellelyhtymien kannalta. Tuttuudentunne on myös kiinnostava tutkimuksen kohde terminologiassa, sillä sen tutkimuksessa tulee perehtyä termien taustalla oleviin metaforiin. Myös termien erottuvuus nousi esiin joidenkin termien osalta, joissa verbifraasit eivät ulkonäöltään eivätkä myöskään merkitykseltään erottuneet tarpeeksi huomattavasti toisistaan ollakseen selkeästi erilaiset ja ymmärrettävät käyttäjän kannalta.

Jatkotutkimuksen kohteiksi nousivat perehtyminen metaforiin termien takana, ja niiden vaikutus käyttäjäkokemukseen. Vankempaa todistusaineistoa käyttäjäkokemuksen tutkimukseen antaisivat käytettävyydestit, joissa keskitytään termien käytettävyyteen, ja niiden luomiin miellelyhtymiin sekä terminologian vaikutuksista käyttäjäkokemukseen.

Avainsanat: käyttäjäkokemus, käyttöliittymätermit, käytettävyys, terminologia, web-palvelut.

Table of contents

1	Introduction.....	1
1.1	The purpose of the study	1
1.2	What is Web 2.0?	3
1.3	Important concepts	5
1.4	The structure of the study	6
2	Principles of Terminology	7
2.1	The relation between object, concept, term and definition.....	8
2.2	The creation of a term.....	10
2.2.1	Characteristics of a well-formed term	10
2.2.2	Term formation.....	12
2.3	User interface terms.....	14
3	User Experience.....	20
3.1	What is user experience?.....	20
3.1.1	Nokia definitions	21
3.1.2	Attitude and emotional bonding	22
3.2	The elements of user experience	24
3.3	Usability and user experience.....	30
3.4	The elements of user experience in terminology.....	33
4	Analysis	36
4.1	Websites chosen for the study	36
4.2	Concepts and use cases.....	37
4.3	Findings.....	39
4.3.1	Getting started.....	39
4.3.1.1	Joining as a new member for the service.....	40
4.3.1.2	Entering the service	42
4.3.1.3	Exiting the service	44
4.3.1.4	Storing personal information	45
4.3.2	Service features.....	51
4.3.2.1	Shopping.....	52
4.3.2.2	Commands	58
4.3.2.3	Support-related terminology.....	60
4.3.3	Icons	62
4.4	Summary of recommended terms.....	65
5	Conclusion	68
	Works cited.....	
	Appendix 1: Concepts used in the study	
	Appendix 2: Use cases used in the study.....	

List of Figures

Figure 1: <i>Tetrahedron by Heidi Suonuuti</i>	9
Figure 2: <i>A generic concept system of trees</i>	11
Figure 3: <i>User experience planes</i>	25
Figure 4: <i>The relation between usability and user experience</i>	32
Figure 5: <i>Account names in Orange shop</i>	47
Figure 6 a) and b): <i>Different terms for shops in Sony Ericsson's website</i>	52
Figure 7: <i>Orange store locator</i>	53
Figure 8: <i>Shopping-related terminology in Ikea UK and US</i>	55
Figure 9: <i>Differences in the terminology of Orange shop</i>	56
Figure 10: <i>Icons in the Ovi service</i>	62
Figure 11: <i>Inconsistency between the icon and the term in Amazon online shop</i>	63

List of Tables

Table 1: <i>Terms related to getting started with the service and exiting the service</i>	39
Table 2: <i>Terminology related to creating a user profile</i>	45
Table 3: <i>Terms related to online shopping</i>	51
Table 4: <i>Commands in the web services</i>	58
Table 5: <i>Support-related terminology</i>	61
Table 6: <i>Summary of the recommended terms and term phrases</i>	65

1 INTRODUCTION

In this pro gradu thesis I will study user interface terminology in web services and the effect of terms on user experience. I was offered with the opportunity to study this topic when I was a trainee in the Language and Terminology Development unit (LTD) at Nokia Oyj in 2007. As I had gained some experience in terminology work during my traineeship, I took interest in the topic. The connection to web services made the topic especially interesting, as they are a topical phenomenon in IT business, and I was able to utilise my knowledge of hypermedia studies in the study.

1.1 The purpose of the study

The purpose of the study is to make recommendations on the choice of terminology for web services that are related to media and communication. By this I mean websites where you can, for example, buy music, store your photographs, or download content on your mobile device¹. I will study this by analysing the user experience created by the terminology. The concepts behind the terms will be chosen on the basis of use cases that define what kind of terms the user will come across when looking for a specific product or service. I assume that there are terms that are commonly used in user interfaces, and that based on the terms that I will gather I will be able to make recommendations.

There can be several ways in which the choice of words can hinder the development of the user's experience with a service. For example, if you live in the United Kingdom, you probably prefer British English words over US English words, and may feel alienated or even insulted if they are being imposed on you. Similarly, if you visit a site that is supposed to be an expert on a special field and it uses the wrong terminology, or over-simplifies the language, you

¹ "device, together with the software, applications, and content that are directly related to the device, that functions within and is supported by mobile infrastructure -- The term 'mobile device' is preferred when voice communication is not emphasised." (Nokia Termbank 2004)

probably feel irritated and do not want to visit the site again. In this study, I will investigate how terminology can create a feeling of familiarity and how these terms promote a positive user experience when visiting the site. Also, usability aspects of terminology will be included in this analysis because user experience and usability are closely linked together.

First, this study is important because, as J. J. Garrett (2003, 13) puts it: “providing a quality user experience is an essential sustainable competitive advantage for a company”. As the customer, Nokia will receive vital information from the study because the Internet is becoming more and more important for them. Nokia has just released the news about their new web service, Ovi, and they need this information to analyse the success factors in the Internet business. Ovi is a website that helps the user to synchronise content, services and communication in their mobile device, PC, and on the Internet. It enables, for example, sharing photos, downloading maps, and buying games for mobile devices. Along with Ovi, Nokia is entering a new field of business and it is important that the terminology enhances the appeal of their products and services. Furthermore, this study is important for all the companies working in the industry, as web services, and especially mobile web services, are a growing field of business. Today it is not enough that a user interface looks good on a 22-inch computer screen, because the same product should also be usable on a small screen of a mobile device.

Second, there has not been much research done on the usability of terms, and even less on the user experience of terms. By terminology-related user experience I mean the connotations and feelings that a term creates in the user. Words and specific terminology are often close to the heart of many people, no matter whether they are linguists, or engineers, or construction site workers. If they think something sounds funny, strange, or just plain wrong when using a device or a website, it will diminish the credibility of the product and/or the company in their mind. This study will provide more understanding on the meaning of language and terminology to the overall

experience on both web services and mobile devices. As Seija Suonuuti (2007c), manager of LTD points out, software and language are closely intertwined: software can only be experienced through the documentation and the user interface. Furthermore, she notes that both the documentation and user interface are mainly about the language. Far too often the importance of language is forgotten in user interface design. I also want to raise the level of recognition of terminology in user interface design. All in all, it will be interesting to see how terminology affects user experience, as positive user experience promotes emotional bonding to a product and, along with the product, also to the company.

1.2 What is Web 2.0?

As web services represent a growing business today and are the topic of this thesis, it is necessary to discuss the phenomenon behind it. The definition for Web 2.0 taken from Wikipedia (2007a) is an apt one, as Wikipedia itself is a product of the Web 2.0 phenomenon. The definition goes as follows: “a perceived second generation of web-based communities and hosted services — such as social-networking sites, wikis, and folksonomies — which aim to facilitate creativity, collaboration, and sharing between users.” This means that the Web has evolved from being merely a medium for publishing information to an interactive, virtual community where the users can communicate with each other in several ways and participate in the creation of the content themselves. Tim O’Reilly (O’Reilly, 2005), the founder of O’Reilly Media (formerly O’Reilly & Associates) and a supporter of the free software and open source standards, summarises the principles of Web 2.0. I will briefly describe these principles.

First, Web 2.0 companies provide services, not packaged software, with cost-effective scalability. This means that the user does not have to buy a special application and install it on their PC in order to be able to use a service, as for example to publish photographs on the Web, in order

for them to be available to other users to view and download. Second, the companies have control over unique, hard-to-recreate data sources that get richer as more people use them. An example of such sources is Napster, a peer-to-peer service that enabled the users to share, for example, music and video files. Napster was shut down on the grounds of copyright violation. Problems with copyrights have stigmatised the phenomenon of sharing and along with that the whole Web 2.0. There is a division between the corporate people and the web communities: the former deem peer-to-peer systems illegal, the latter see nothing wrong with them. The future will show if the law will ever favour the views of the users. Third, trusting users as co-developers and harnessing collective intelligence are an essential part of Web 2.0, because content development, sharing and communication between the users are the basic elements of Web 2.0. Fourth, leveraging the long tail through customer self-service refers to the fact that on the Web, 98 per cent of the markets consists of the sales of individual, not-so-popular items that Anderson (2006, 21-22) calls "non-hits". The term 'long tail' refers to the shape of the demand curve: at first there is a big hit that has been downloaded several times, but after that the curve descends rapidly. However, the curve never drops to zero: the demand never stops completely (ibid. 24.) For example, instead of buying the whole CD, Web 2.0 companies allow users to pick their favourite songs and only buy them. Fifth, O'Reilly (2005) talks about software that is above the level of a single device. This means that in addition to the PC, the same applications can be used with other devices too, like a mobile phone, or an mp3 player. Finally, Web 2.0 provides lightweight user interfaces, development models, and business models. According to O'Reilly, Web 2.0 services should be designed to be hacked and remixed. As an example of a simple web service, he mentions RSS and Google Maps' AJAX interface, which is used to create mashups². Along with the Internet business, Web 2.0 is such a powerful new phenomenon in the business world today that all industries should take it and

² "interactive Web applications that draw upon content retrieved from external data sources to create entirely new and innovative services" (Merrill, 2006)

everything related to it seriously. This study will concentrate on a very specific field, namely terminology, but its effect on the whole user experience of a website can be crucial to a business.

1.3 Important concepts

The following concepts need more clarification, as they will be used in the following chapters discussing the general theory of terminology.

Term phrase is a special type of a set phrase which is quite common in user interface terminology. It means that user interface terms very often are not just single-word terms, but they can consist of several parts, and can be even sentence-like, for example *message sent*, or *when available*.

LGP and *LSP* are central concepts in terminology. *LGP* means language for general purposes, and *LSP* language for special purposes. These terms are related to term formation, which will be discussed in chapter 2.2.2.

In order to provide usable products and positive user experiences, many user interfaces are translated into several languages so that the users can have the products in their native language. The Localization Industry Standards Association (LISA, 2008) defines localisation as “taking a product and making it linguistically and culturally appropriate to the target locale (country/region and language) where it will be used and sold.” LISA further clarifies the connection between localisation and translation: “Translation of textual components for target locales is an important part of globalization, and is often the most visible component. It is generally included with localization services in most globalization projects.” In this study, I prefer *localisation* to *translation* because in the field of IT business, at least at Nokia, translation is treated as a part of localisation. Localisation is the modification of a product to suit a specific cultural context.

Furthermore, I need to make a difference between *internationalisation* and *globalisation*, which LISA defines as follows:

Internationalization is the process of designing a product so that it can be easily localized without the need for redesign. In other words, it is the process of designing and implementing a product which is as culturally and technically “neutral” as possible, and which can therefore easily be localized for a specific culture or cultures. Globalization refers to all enterprise activities necessary to conduct international business and make an organization truly global. Globalization impacts all areas of an organization’s operations, including sales and marketing, product development, and customer support. At the technical level in product development, globalization includes internationalization and localization.

These terms are related to the formation of user interface terms, as they are important factors in the process of making the product usable for users in different countries and cultures. This will be discussed in chapter 2.3 where essential characteristics of a user interface term will be defined.

1.4 The structure of the study

This thesis will proceed as follows: first, in chapter 2, I will discuss the general theory of terminology, which is important for the understanding of the theory behind user interface terms.

After this, in chapter 3, I will define what user experience means generally, and also what it means for Nokia, the customer of this study. I will also discuss how usability and user experience are connected in chapter 3.3. I will move on to present the material in chapter 4, that is, the web services used in the study, and the use cases according to which the list of terms will be collected.

The aim is to define a set of terms or term phrases that are essential to a user visiting this kind of a website, for example *log in – sign in; log out – sign out; user name – user ID; shop – store* and so on. I am going to perform the analysis by comparing the terminology of well-known online stores, like Amazon, and the customer’s rival websites, like Sony Ericsson. As I analyse the material, I will also present my recommendations for the choice of terminology. Finally, I will conclude my study by summarising the study with suggestions on future research in this area.

2 PRINCIPLES OF TERMINOLOGY

In this chapter, I am going to discuss the general theory of terminology, and define the characteristics of user interface terms. The general theory is needed here in order to understand how user interface terms are being formed and, consequently, how the formation of user interface terms affects the eventual choice of terminology in user interfaces.

According to Heribert Picht (1985, 17), standardisation is a familiar and accepted phenomenon in terminology and it contributes to the elimination of ambiguity in communication. It is especially carried out by the industrial sector, as it has an important role in the economics and financial considerations of an organisation. Accordingly, in this study, ISO standards and the guidelines created by Finnish Terminology Centre (TSK) are used as a source of the theory of term formation because they are the most used sources, and experts on the Finnish terminology work.

According to TSK (1988, 22), terminology is the study of concepts and the terms that describe the concepts. General theory of terminology studies concepts, the relations between concepts, concept systems, definitions, terms and the selection criteria of terms. The terminology work in Finland is significantly concentrated on concepts, contrary to concentrating on terms (ibid. 25). Heidi Suonuuti (2001, 12) stresses that all terminology work should be based on the analysis and structuring of concepts and the relations between them, and thus this method is described in this study. On the other hand, Belinda Maia (2008) comments that today, as technology develops rapidly, standardisation of terms is becoming an old-fashioned way of recording terms. This is a result of the fact that the demand for new terms is constant. Maia says that standardisation comes from a time when terms were recorded in paper form, and today databases are a more progressive tool for storing terms. Maia argues that databases diminish the need for standardisation, because term databases make it possible to record several “ontologies” for a term so that there can be several

concepts and contexts recorded for a single term. Thus, instead of thinking of the concepts behind a term, Maia recommends to think about metaphors behind a term. This is one viewpoint that I am going to use in my analysis by considering how metaphors affect the user experience. However, as the view of standardisation is still strong in the Finnish terminology work and in the terminology work done at Nokia, I will use it as the basis for my study.

2.1 The relation between object, concept, term and definition

As mentioned above, the basic element of terminology is a concept (Suonuuti 2001, 12). Suonuuti (2008a) says that concept-based glossaries are easier to localise than glossaries that are based on terms. This is because, ideally, the concept should be the same in every country³. When marketing products internationally, as the case in Internet business often is, the concept must be the same to the extent possible because it decreases the number of misinterpretations in localisation. For example, in English the noun and the verb can look exactly the same (e.g. *call*). If the glossary is based on terms, and no context is provided, it is impossible to know which one is meant, the noun or the verb. But, as Suonuuti (2008a) notes, in order to produce a better quality of localisation, there must be definitions for the concepts in the glossary. Without definitions a glossary is quite useless. In order to understand concept-based terminology, one must understand the relations between the basic concepts of terminology: object, concept, term and definition, which are illustrated in Figure 1⁴. These will be described next.

³ Ideally and in theory; sometimes with “older” concepts, the concept might have evolved during time, so the content of the concept might vary in different countries (Suonuuti 2008a).

⁴ By Suonuuti (2001, 13).

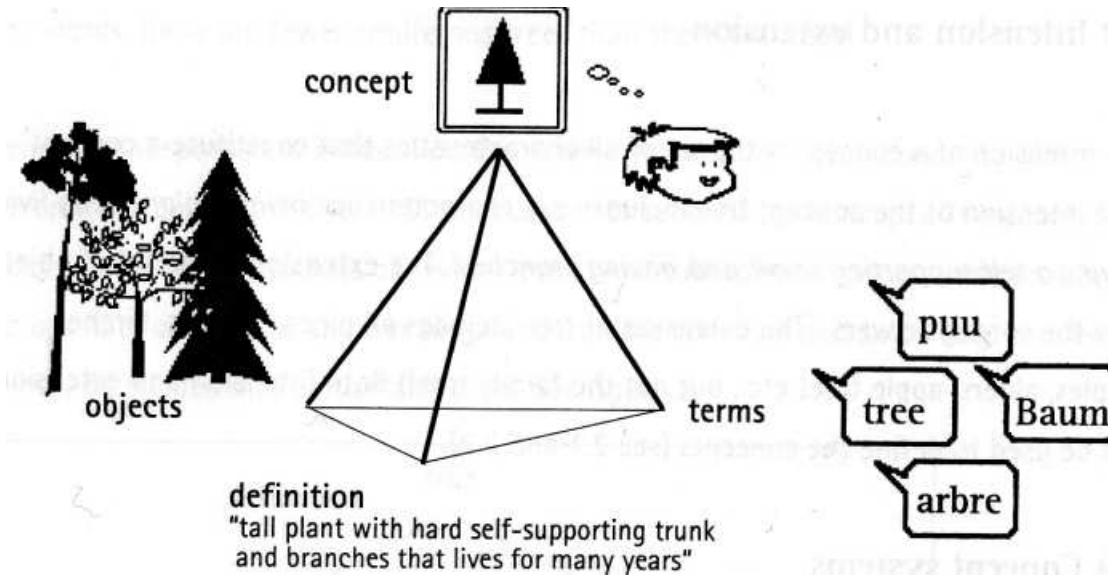


Figure 1: *Tetrahedron by Heidi Suonuuti.*

Suonuuti (2001, 12-13) defines the relations of terminological concepts as follows: *Object* in terminology means any object in real life, whether it is concrete (for example an item, a person or an animal) or abstract (for example a feeling, an occurrence or a process). For human nature it is natural and necessary to classify and analyse these objects. In our minds, we choose properties that best characterise a chosen object, thus forming *concepts* of these objects. A concept is a mental impression of an object. In order to communicate these concepts, we need to have names or symbols, i.e. *terms*, for them. A term is a conventional linguistic symbol for a concept. (TSK 1988, 24-25.) In terminology, in order for there to be a term, there must be a concept behind it (Suonuuti, 2008a). There are a number of characteristics to describe a concept, and we must select the characteristics that differentiate it from other concepts. These characteristics form the *definition* for the term. (Suonuuti 2001, 13.)

2.2 The creation of a term

This chapter concentrates on the theory of term formation. First, the characteristics of a good term will be defined, as also the methods of term formation. Second, user interface terms will be defined: the ways in which user interface terms differ from regular terms, and the elements of a good user interface term will be analysed.

2.2.1 Characteristics of a well-formed term

The most essential characteristics that TSK (1988, 73) names for a good term are that the term should give a good perception of the concept even to a layperson, and that it should fit its purpose. TSK (1988, 73-79) has written comprehensive instructions on the elements of a good term. These instructions are also applied in the formation of user interface terms, and are thus vital to this study when defining the elements of a good user interface term.

Transparency is an important characteristic for a term. This means that a term must describe the concept, that is, it contains the most important features of the concept. For example:

bicycle = a vehicle with two wheels

Here it is enough to indicate that this specific vehicle differs from others by the number of its wheels, which is the delimiting feature in this concept.

Consistency requires the term to form a clear concept system with other concepts. In practice, this means that, for example, in a hierarchical concept system, the subordinate concepts contain the basic element from the superordinate concept, as in Figure 2⁵:

⁵ Modified according to Suonuuti 2001, 15; Fig. 3b).

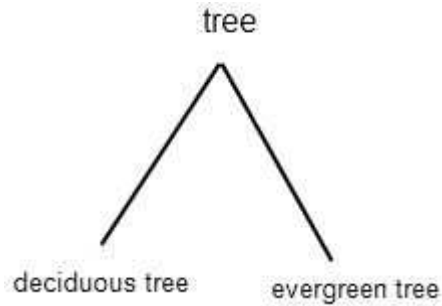


Figure 2: A generic concept system of trees.

Appropriateness of a term means that the term must not provoke inconvenient images in the readers' mind, or confuse them. For example, a salesperson in a paper shop would rather talk about the *smoothness* of paper than the *coarseness* (TSK 1988, 76).

Distinctiveness of a term means that a term must be easily distinguished from another. This means that a difference of one or even more letters is not enough to differentiate one term from another, that is, the terms are not transparent. For example:

economic - economical

Linguistic economy stands for a short term that facilitates speaking, comprehension and writing. The fact that many clippings have become the official term for a concept attests the preference for short forms, for example:

perambulator – pram, omnibus – bus, public house – pub (Norri, 2007)

Productivity means that a good term enables the formation of derivative forms. For example: *nation – national - nationalise – nationalisation*.

The ease of pronunciation, writing and inflection is pursued especially in a language like English, where it is not always so clear to a native speaker how a word is spelled. In contrast, in a language like Finnish where words are pronounced just as they are spelled, it is easy for a native speaker to write and pronounce the words.

Linguistic correctness means that the term must not deviate from the norms of standard language. For example, TSK (1988, 79) advises to avoid creating compound verbs and adjectives (such as *blackball*, *widespread*, *Anglo-American*, *socio-economic*) whenever possible.

Preference for native language means that the term should always be in the target language rather than a loan word. This encourages the terminology work in small languages, linguistic minorities, and the languages in developing countries.

2.2.2 Term formation

There are several different ways to make new terms, namely terminologisation, compounding, derivation, conversion, loanwords, abbreviation and artificial words (TSK 1988, 83). These methods of term formation are defined by TSK (1988, 83-98), and I will briefly summarise these methods because, in my opinion, in order to produce good user interface terms, to begin with it is important to understand how terms are created.

Terminologisation means adopting an LGP word into an LSP term. In professional language the meaning of the LGP word is replaced by the definition of the concept. The basic meaning of the word is preserved, and for professional use the meaning can be specified and clarified, or only one of several meanings of the concept can be chosen for the professional usage. When terminologisation is successful, the LGP words are transparent terms, helping a layperson to understand the factual content of the topic at hand. This way terminologisation bridges the gap between LGP and LSP. On the other hand, the usage of one word both as a general word and a term can cause confusion. This is why TSK (1988, 84-85) advises to use other methods for term formation whenever it is possible.

Compounding has been the easiest and the most usual way of making new terms since the Old English period (Norri, 2008). In professional language there are many terms that consist of

several elements, for example *Internet protocol base station*. TSK (1988, 88) advises to avoid creating compounds that consist of more than three or four components.

Derivation means the formation of new words by adding affixes to a stem word. It is a very productive way of forming new words, for example: *adore – adorable; appear – disappear*.

Conversion means that a word that has functioned as a member of one word class begins to function as a member of another as well, for example: the verb *whistle* is a conversion from the noun *whistle*. “True” cases of conversion should be distinguished from syntactic processes. (Norri, 2007.) In syntactic processes, words undergo a change within the word class, for example a countable noun becomes uncountable: *There were six frogs in the kitchen – Would you like some more frog?* (Bauer 1984, 227-8, quoted in Norri, 2007.)

Loan words are words adopted from another language. In ISO standard 704, loan words are categorised into three groups according to the degree of adaptation: a) a foreign term is adopted without modification; b) the spelling of a foreign term is modified; c) the elements are translated one by one (calque). According to Picht (1985, 112), loan words are typically adopted in response to a demand for an expression of a new concept. Usually the term acquires an equivalent in the target language, but the more international the special subject field is, and the smaller the group of the users, the more often loan words are used (TSK 1988, 94). According to ISO 704, when creating terminology, the term in target language should always be preferred to a loan word. However, this does not mean that old loan words should be translated. They are often so merged into the language that the speakers of the language perceive them as native words (TSK 1988, 95).

Abbreviations and acronyms are formed from the initial letters, syllables or parts of words in compound words, like *Unesco, Nato, BBC*. Abbreviations are usually formed from English terms, and they are never transparent. Thus they should be used with caution. (TSK 1988, 97.)

Finally, TSK (1988, 98) mentions *artificial words* which means the creation of new words that are not based on any earlier model. TSK (ibid.) notes that artificial words are usually very rare in any language.

Next, I will discuss the formation of user interface terms and how these principles can be applied in them, and present different types of user interface terms.

2.3 User interface terms

It may come as a surprise to the general public that the words and commands in a small device, like a mobile phone, for example, require an extensive amount of work. What they do not realise is that in order to achieve a smooth user experience with an interface, the language must be so obvious that the user does not have to think one second of what he or she should do. Thus, language is in a key role in order to make usable products. Helle et al. (2003, 64-65), who write from the viewpoint of Nokia, aptly summarise the elements that need to be taken into account in the terminology of mobile device user interfaces. As they note, some of these elements are contradictory: “everything must fit on screen, terms should be familiar to users, terms should be used consistently across the software and software manuals, abbreviations should be avoided, and the grammatical rules of each language should be scrupulously obeyed.” These aspects can be applied in the design of any user interface, like a website or a computer system.

As Heini Kaihu (1999, 31) states, a user interface term should follow the TSK guidelines whenever they are applicable in user interface design. This means that not all TSK guidelines are applicable in user interface terms, for example the demand for productivity, because it is not in the scope of the field of user interface terms. The scope of user interface terminology is, in my opinion, mainly in communicating interaction to the user, and linguistic aspirations are not the most dominating factors in the creation of user interface terms. Thus, productivity will not be

discussed here. I have adapted the guidelines to be applicable to the context of user interfaces, and I will present them in a slightly different order than in chapter 2.2.1, because I aim to present the interaction of the characteristics in the creation of user interface terms.

First of all, transparency is in a key role in user interface terminology, as websites, mobile devices and computers are in the use of all kinds of people, not only by those who are experts in handling the latest devices such as design engineers. As Kaihu (1999, 31) states, a good user interface term should give a proper notion of the concept even to a person who is not familiar with the topic. Furthermore, every term used in the user interface should fit its meaning and together with the other terms in the system form a functional and intelligible image of the whole system. Hackos and Redish (1998, 426) emphasise that in user interfaces, it has to be made sure that the tasks are expressed in the user's own words. Also in *Microsoft Manual for Technical Publications* (2004, 65) it is said that when writing for home users or information workers, the use of technical terms should be minimised. However, in situations where technical terms are necessary for precise communication, the Microsoft guidelines state that the meaning of the technical terms should be established in context and a glossary must be provided. The use of jargon is usually not acceptable, especially if a more familiar term exists. Jargon obscures rather than clarifies the meaning, particularly if the term is not specific to the field⁶. However, a technical term that *is* specific to a product must be defined and then used without apology (*Microsoft Manual for Technical Publications* 2004, 66). I think that in user interface terminology, transparency is especially important because it is a matter of usability⁷. This is a remarkable difference between user interface terms and LSP terms because user interface terms must be, in general, understandable to a variety of users, especially to “ordinary” people who are not experts on the latest technology. In

⁶ For example, marketing jargon is not acceptable in computer software documentation (*Microsoft Manual for Technical Publications* 2004, 66).

⁷ Usability will be further discussed in chapter 3.3.

contrast, LSP terms are special technical terms for a limited group of users with expertise in the special field.

In TSK's guidelines, consistency means the formation of a concept system with other concepts. It is also possible to form concept systems with user interface terms, and it is even recommendable when a topic is difficult to conceive and the relations between the concepts are ambiguous. However, Suonuuti (2008b) notes that usually the menu structure (for example on a mobile device) has a more crucial role over a concept system. On the other hand, she notes that it is possible to view the menu structure as a kind of a concept system. This means that usually it is enough to know where the term is used in the menu structure and/or the application. With a slightly different viewpoint on consistency, Hackos and Redish (1998, 459) emphasise its importance in style issues, such as font choices and capitalisation. For example, at Nokia, user interface terms are always written in lower case unless they are application names like *Calender*, for example. In addition, *Microsoft Manual for Technical Publications* (2004, 65) advises to keep in mind that the same terms should be used in both marketing material and the actual product. In this study, consistency means the consistent use of terminology throughout the user interface as concept systems are not in an essential role.

Appropriateness is an important issue with user interface terms. As Hackos and Redish (1998, 478) note, the choice of words in a user interface plays a significant role. For example, they state that error messages that the interface produces should suggest corrective actions and avoid the use of the word *error* to avoid blaming the user. I think this is an apposite example of TSK's guideline on the appropriateness of terms, that is, avoiding the creation of inconvenient connotations in the users' minds. I also argue that this aspect adds to the feeling of a smooth interaction with the interface, as inappropriate terms might take the user's attention away from the task at hand.

Linguistic economy, along with transparency, is the most limiting characteristic in the creation of user interface terms because the terms should not only look good on the screen of a table-top computer, but also fit on the small screen of a mobile device. Hackos and Redish (1998, 478) state that English text should be limited to about half of the available space in limited places (such as the screen of a mobile device), since it can be expected that some localisations increase text volume by 30 to 100 per cent. Additionally, they advise to avoid the use of text in icons if the application will be localised. Helle et al. (2003, 66) discuss the spatial problems in mobile devices: translating information can be very challenging, complicated by the fact that text length sets the rules for layout style. One-line menu items may be preferred in general, but if there is not enough space for just few of the languages supported, multiple lines will be added because the language of the users must be respected. This is related to TSK's recommendation of preference for native language.

Another detail related to linguistic economy is the use of abbreviations and acronyms. Helle et al. (ibid.) stress that "acronyms are not accepted, and technical terms are used only if there are no corresponding expressions in the parlance." This is one of the contradictions in user interface terminology: the use of short terms is recommended, but abbreviations are not allowed. Helle et al. also present the screen area challenge (ibid. 70):

When the length of the menu item becomes a problem, it will be even more of a problem for softkey⁸ labels. One short word has to be found in all languages for all softkey texts. Icons would save space, but the requirement for easy interpretation has been shown to favour text labels.

The comment validates the contradiction: icons are compact but not transparent enough, and thus a short term must be found.

⁸ a mobile phone "key that does not have a fixed function nor a function label printed on it" (Nokia Termbank 2002)

The demand for native language often results in the localisation of user interfaces, especially those of mobile devices, because localisation makes the device easier to use for the native speaker of a language. I argue that native language also adds to the transparency of the terms, making the product easier to understand. Thus, localisation improves the usability of the product substantially. However, localisation, just like space limitations, influences the creation of user interface terms notably: in order to make the user interface easier to localise, the use of colloquial sayings or verbal phrases is strictly forbidden in the source language, because there might not be an equivalent phrase in the target language. Making the language and terminology “culture-neutral” is the process of internationalising the user interface (for a more detailed definition, see chapter 1.3). Furthermore, localisation sets special requirements to the software used in the interface, as Helle et al. (2003, 66) note: in addition to Latin, the software must also support other characters, such as Chinese and Arabic.

Kaihu (1999, 33) found that not only should a user interface term be “technically functional and flawless [I interpret that this description means the guidelines set by TSK], but it should also support the idea of usability, the modularity and universality of a service including internationalisation and be as user friendly as possible.” I think this kind of usability aspect is what comes closest to TSK’s idea of the ease of pronunciation, writing and inflection. Usability will be more closely discussed in chapter 3.3.

Related to the technical terminology of user interfaces, Microsoft (2004, 157-163) presents an extensive set of practical guidelines for technical writing, which, in my opinion, are comparable with TSK’s requirement for linguistic correctness. There is a tendency for the use of verbs, which is not surprising, as most of the computer-related operation is represented in some form of action. This is analogical to mobile devices, so these rules can also be applied in this study. According to Microsoft, the following guidelines should be used with terms made of verbs and verb

forms: present tense, simple, one-word verbs, active voice, and imperative tone. There are several examples that illustrate these guidelines, taken from the terminology of Microsoft Windows: *install*, *cancel*, *save*, and so on. In addition to verbs, there can be different types of terms in user interface terminology that differ from the so-called “general” terms: concepts that acquire the status of a term can be, for example, a proper name, like *Nokia Maps*, or a verb phrase such as the command *create shortcut* in Microsoft Windows. At Nokia, user interface terms are separated in terms of hardware and application terminology, for example *handset* vs. *Calendar* and *calendar note*.

What I have learnt myself working with user interface terminology is that in addition to coming up with compact terms that fit on the screen, the aspect of localisation must constantly be borne in mind. When it comes to the guidelines that TSK has created, it is fairly simple to present the requirements for a good term as separate elements. However, in practice, it is not so straightforward to produce good terms, because the elements are overlapping and sometimes contradictory. With user interface terms this is especially problematic as space-limitations have such a visible role. Furthermore, I think it is important to understand that terms create reactions in a user, which affect the user’s attitude towards the product. In the following two chapters, I will discuss the concept of user experience and how it can be connected to terminology.

3 USER EXPERIENCE

As mentioned in the introduction, investing in user experience provides competitive advantage for a company (Garrett 2003, 13). According to Garrett (ibid.), user experience forms the customer's impression on what the company is offering, and differentiates the company from its competitors. A positive user experience determines whether the customers will visit the website again. In this chapter, I will discuss the concept of user experience: what it is, what kind of elements it consists of and how it can be related to terminology.

3.1 What is user experience?

There are several definitions for user experience, all of which bring interesting viewpoints to the study of the concept. There is no one full definition for user experience, and according to Pabini Gabriel-Petit (UXmatters, 2007), for example, user experience

[e]ncompasses all aspects of a digital product that users experience directly—and perceive, learn, and use—including its form, behavior, and content. Learnability, usability, usefulness, and aesthetic appeal are key factors in users' experience of a product.

The concept can be further analysed, for example, with the help of Marc Hassenzahl's (2007) descriptions: first, user experience is subjective. It is about people's feelings, opinions, values, and needs. Second, user experience is holistic, which, in Hassenzahl's words, means that it "addresses human needs beyond the instrumental". Third, and I think most importantly, Hassenzahl says that user experience is positive. It is about being excellent and outstanding, and about enjoyment and opportunities, not problems.

Jodi Forlizzi and Katja Battarbee (2004) present a more practical view of user experience. They argue that overall user experience is a sum of smaller user experiences, as in a mouse click or button press, which forms the user experience of a use case (for example, using the mobile device on a bus) which, in turn, forms the user experience of several years' usage. From this

viewpoint, it can be argued that terminology is one user experience in itself. These ideas can be complemented with more extensive definitions, namely the customer's (being Nokia's) definition, and some additional concepts that are closely related to user experience. These will be presented in the following chapters.

3.1.1 Nokia definitions

Nokia Termbank (2007) definition of user experience goes as follows: “sum of a person's perceptions, feelings, and memories that are related to using a company's products and services, and that are affected by the person's perceptions of the company, for example involving brand and company image”. In addition, there are certain concepts at Nokia that are related to the definition of user experience, namely *wow*, *flow* and *show* (Nokia press backgrounder, 2005). Virpi Roto from Nokia Research Centre has examined user experience in her doctoral dissertation (2006), and also discusses the concepts in question. *Wow* stands for the user's desire for the product because it is irresistible. In Roto's words (2006, 23), this is a visceral, instinctive level that entails the pleasure a product can offer to its user. *Flow* means the “right functionality and usability” of the product, the flow of use. *Show* means the match between the product and the image the users wants to portray of themselves to the outside world. According to Roto, *show* is the pride that the user takes in the product, and the self esteem that is the result of owning the product.

Roto (2006, 18) emphasises that user experience is “a mental state of the user”. She has produced a tentative definition for user experience: “Product user experience is an attitude and emotional bonding towards the product” (2007a). She gives an example of attitude and emotional bonding: “My phone is ugly and outdated (=attitude), but I want to keep it because it has lived with me the good and the bad times (=emotional bonding). I'm afraid new phones are too complicated for me (=judgment of other options, affects attitude)”. In the following chapter, I will further

explain the concepts of attitude and emotional bonding, as they are an important part of user experience and thus, as it seems, a part of the creation of a loyal clientele.

3.1.2 Attitude and emotional bonding

Roto (2007a) states that user experience forms not only during, but also outside, the interaction with the device or system. Brand image, friends' recommendations, reports and advertisements build the attitude, knowledge and expectations towards the device or system before the actual interaction with them. She notes that the user experience with the device or system, and the brand image and so on outside the user experience result in the overall user experience: the attitude towards the product and the company that has manufactured it, and emotional bonding to them.

Encyclopaedia Britannica (2008) defines *attitude* as follows:

in social psychology, [attitude is] a cognition, often with some degree of aversion or attraction (emotional valence), that reflects the classification and evaluation of objects and events. While attitudes logically are hypothetical constructs (i.e., they are inferred but not objectively observable), they are manifested in conscious experience, verbal reports, overt behaviour, and physiological indicators. The concept of attitude arises from attempts to account for observed regularities in the behaviour of individual persons. --- The quality of one's attitudes is judged from the observable, evaluative responses that are made.

In this definition, it is also mentioned that people acquire new attitudes. I interpret this so that the attitudes that people have are unstable: they can change, and what I think is important to note in the viewpoint of business: the attitudes can *be* changed.

According to Wikipedia (2007b) definition, which Roto has been using in her own material, *attitude* is

a hypothetical construct that represents an individual's like or dislike for an item. Attitudes are positive, negative or neutral views of an "attitude object": i.e. a person, behaviour or event. --- Attitudes come from judgments --- Unlike personality, attitudes are expected to change as a function of experience.

However, as Roto (2007a) points out, attitudes do not cover emotional bonding, for example in: “I love my brother, although he often acts like an idiot”. Here the person considers their brother imperfect, but this fact does not affect their commitment. Similarly, the same kind of emotional bonding can happen with a device, too, for example: “My phone is old and ugly, but I don’t want to lose it because we’ve been through so much together”. I think this is very important for a brand and/or a company, because emotional bonding is the factor that makes the customer come back for more: a new device, service and so on, even if it is not flawless.

Roto (2007a) lists elements that affect the formation of attitude towards a product: company or brand image, advertisements, other people’s opinions, reports in media (test results, news, etc.), one’s own experiences with similar products, use cases with this product (the whole life-cycle), and customer care at sales and service points. Furthermore, she lists the factors that affect the emotional bonding: living with the product, company or brand image, and personalisation. All these aspects affect the formation of attitude and emotional bonding towards a product and a company. Because positive user experience creates a positive attitude towards a product and/or a company, thus, ideally, a positive user experience results in emotional bonding to the company and its products. In the following chapter, I will discuss in detail the elements of user experience that Garrett has identified for user interface design. I will examine his theory from the viewpoint of terminology.

3.2 The elements of user experience

Garrett (2003, 21) talks about the user experience development process. He says that a user interface is all about ensuring that no aspect of the user's experience with the website should happen without the designers' conscious, explicit intent. Breaking the user experience into component elements helps us to understand the process. Garrett identifies five planes in the user experience process: *surface*, *skeleton*, *structure*, *scope*, and *strategy*. The elements are listed in this order because it is the order of the components shown to the user, the surface being the part that embodies the user experience, as it contains the images and the text. I argue that the surface is also the element where terminology belongs because it is one of the visual elements of the user interface. Garrett (ibid., 23-24) notes that on each plane, starting from the lowest plane, the issues dealt gradually shift from abstract to more concrete. Thus, to build a positive user experience, designers must start from the bottom, from the most basic elements of user experience, and move their way to the top. Accordingly, in my experience, terminology work must also be started as early as possible, the lower the level, the better. I will return to this topic shortly. In this chapter, I will present the central idea behind each element of user experience from bottom to top. Garrett deals with the elements from the viewpoint of user interface design, but I will point out the connection to terminology where it can be detected.

In addition to the division of the user experience process into the five planes, Garrett also divides the planes in half: web as a software interface and web as a hypertext system. This is due to the dual nature of the Web: first, when the Web started, it was nothing but hypertext, used only as a medium for publishing. As technology has advanced, the Web has become an Internet community, enabling the websites not only to distribute information but to collect and manipulate it as well. This is the Web 2.0 phenomenon. Due to this duality, two schools have sprung up that see the Web in different ways: as software (involves applications, traditional desktop and mainframe

problem-solving), and as hypertext (involves information distribution and retrieval, problem-solving approaches from publishing media, and information science). The software side is concerned with tasks, whereas the hypertext side is concerned with information (Garrett 2003, 27-31). At first sight, these two viewpoints may seem to have nothing in common, but as Figure 3⁹ shows, they are just two sides of the same thing. The elements in this image will be explained in the following.

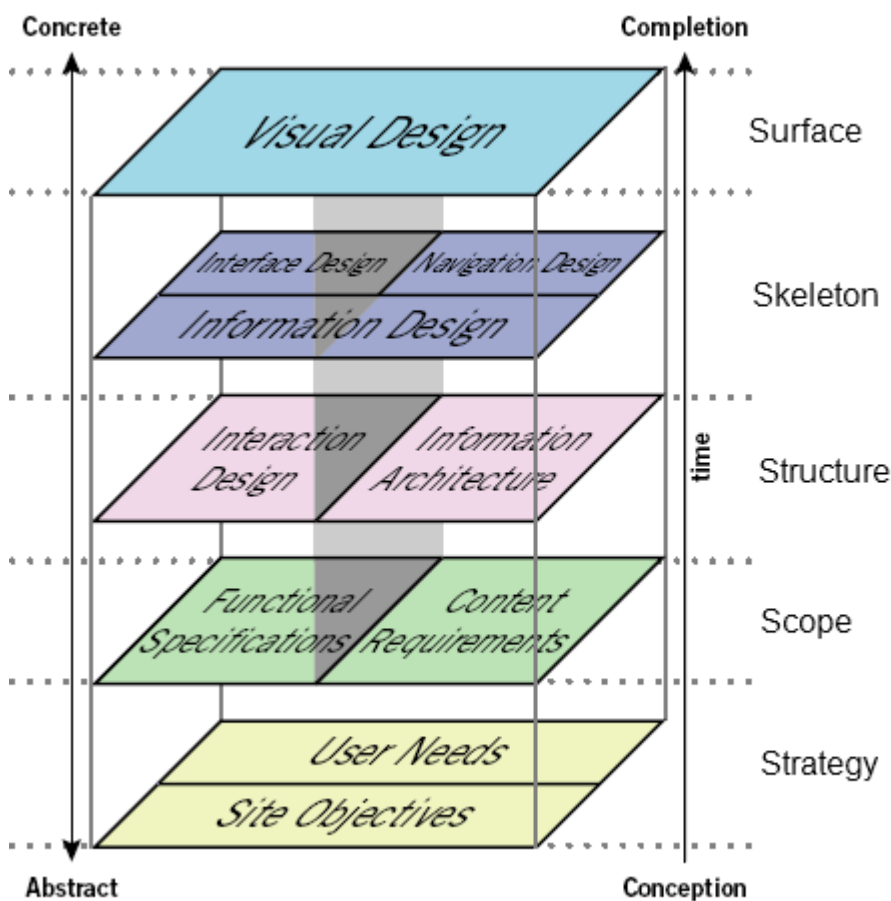


Figure 3: User experience planes.

⁹ Garrett 2003, 33. Names of the planes have been added.

The strategy plane

Strategy is the bottom-most plane in user experience design. It defines the site objectives, that is, what the people running the website want to achieve with it; and what the user needs, that is, how the user wants to benefit from it (Garrett 2003, 23). According to Garrett (ibid, 42-43), an important part of defining the site objectives is the creation of brand identity. Brand identity is often thought of being related to superficial elements such as logos, colour palettes, and typography. However, creating a brand image goes far beyond the surface. Garrett defines brand identity as “a set of conceptual associations or emotional reactions”. This means that in the minds of the users, an impression of the organisation is inevitably created by their interaction with the website. Thus, the organisation must choose whether that impression “happens by accident” or results from the conscious choices the organisation has made when designing the website. Recording the impression as an explicit objective will increase the organisation’s chances of creating a positive impression. As major issues like brand identity are being decided upon on such a fundamental level, I argue that the work on terminology should also be started at this level. This is because terminology is closely related to brand issues, for example brand names, and terminology work should be started in as early state as possible in order to result in a consistent and transparent terminology.

The scope plane

The *scope* plane contains the functional specifications, that is, the features of the product: what it should do and what it actually does and the content requirements, that is, the content elements of the product (Garrett 2003, 32). Garrett (ibid., 63-65) lists two simple reasons for documenting these requirements, first, “so you know what you’re building”, second, “so you know what you’re *not* building”. Scope plane contains the goals that have to be achieved in order to have a complete product. Without defining the scope, it is difficult to say when the project is finished, which leads to

missing deadlines and exceeding the budget (ibid. 65). In my experience, this is important in terminology work because companies often are reluctant to assign resources for terminology work since they do not recognise its importance to their business.

The structure plane

The *structure* plane covers interaction design and information architecture. These fields relate to understanding people, the way they work and think. Interaction design studies possible user behaviour and defines how the system will accommodate and respond to that behaviour. (Garrett 2003, 87.) Information architecture is more concrete as it deals with the arrangement of content elements within the hypertext system (ibid., 32). It is concerned with creating organisational and navigational schemes which allow the user to move efficiently and effectively through the content of the website (ibid. 94). At this point, Garrett (ibid., 103-104) draws attention to controlled vocabulary, which is an important factor in successful navigation through website content. The terminology in the user interface must be understandable to the user: Garrett stresses that the language of the user interface must reflect the language of the user, and that the organisation's internal jargon must not be used. These issues were also discussed in chapter 2.3, where both Helle et al from Nokia and the Microsoft Manual state that the use of jargon should be avoided. Garrett (ibid., 104) suggests that a thesaurus should be created for the website to provide access to alternative terms that are commonly used outside the website. However, I argue that a thesaurus does not present the different nuances there are to different words, and thus does not tell in what kind of context a certain term can be used. In my experience, a term database is a much more extensive tool for providing this kind of information. Creating and maintaining one requires quite a lot of resources, but it is worth it. A thesaurus provides so little information about the usage of a word that, in my view, it is not worth creating one at all.

The skeleton plane

The *skeleton* plane defines the structure further at the level of individual pages and their components. On the software side this means the interface design, that is, the buttons, fields and other interface elements. These are the things that enable interaction, whereas on the hypertext side the skeleton defines the navigation through the website. In addition to these, Garrett (2003, 114-115) presents a third component, which is information design. Information design is related both to the software and the hypertext system, and it is concerned with the communication of the information to the user, meaning the arrangement of the information and the creation of links. Garrett says that these three components are more closely bound than any of the other elements of user experience. However, he says, that even though the lines of the two systems sometimes “get blurry”, it is important to distinguish one from another. This helps the designers to tell the difference between the types of problems¹⁰ and find the right solution. At this level, Garrett (2003, 116) highlights the importance of consistency, which generates convention. Making interfaces consistent with each other is important, because it makes it easier for the user to learn to use a new interface. However, Garrett emphasises that it is even more important to make the interface consistent with itself, because it helps the user to adapt to the system and get to their goal faster. As an example, Garrett mentions terminology such as *start*, *finish*, *go back* and *save*, which are concepts that are familiar from several different user interfaces. Furthermore, Garrett (ibid., 119) advises not to use metaphors or icons in the user interface because they are often misunderstood. Even though some of the metaphors are provided with context, Garrett says that it is better to avoid the guesses and choose a transparent term or a term phrase instead of an icon. However, in my opinion, today metaphors are used in user interfaces to an extent that users may not even realise that

¹⁰ that is, is the problem about interface design or information design

they are metaphors, such as windows, folders and desktop, which are familiar from Microsoft's operating system. Maia's suggestion to study the metaphors behind terms, mentioned in chapter 2, supports my view that metaphors behind a term affect the user's experience of the user interface.

The surface plane

The *surface* plane deals with visual elements. However, it must be noted, as Garrett (2003, 143) points out, that instead of evaluating visual design only from an aesthetical point of view, the purpose here is to focus on the functionality of the visual elements, that is, how well they work in the user interface. Garrett lists features that a good visual design must have: it must support the objectives defined in the lower planes, maintain a clear and unambiguous look, and reinforce the structure, clarifying the options that are available to the user. Brand identity is, as already mentioned above, mostly communicated through visual design. It is communicated in several ways: in the language used in the interface, or in the interaction design. Garrett (ibid. 146-147) stresses the importance of visual design, which should remain consistent with the identity that the organisation wants to convey. He presents two tools which are used in visual design, and which, I think, can easily be applied in the choice of terminology: first, *contrast* to draw the user's attention to an object, and second, *uniformity* to ensure the effective communication and to prevent the user from feeling frustrated or overwhelmed. These can be paralleled to the use of linguistic conventions, such as the use of striking terminology to draw the user's attention, and the consistent use of terminology throughout the user interface to make the use of the product fluent.

Garrett (2003, 25-27) stresses that each plane is dependent on the planes below it, which means that the choices available to the designers on each plane are constrained by the decisions made on the lower planes. He also notes that every decision about the lower plane does not have to be made before the upper level can be addressed: sometimes decisions made on upper

planes require a re-evaluation of decisions on lower planes. This way the work on a lower and an upper level coincide. However, Garrett notes that work on an upper plane cannot finish before work on lower planes has finished. This way the work remains consistent, resulting in more coherent output. Even though Garrett examines the concept of user experience on a technical level and from the user interface design point of view, a link to terminology can be found: the most basic terminology must be defined on the bottom level, but most of the work is done on the surface level. This is because during the development, as the decisions may need to be re-evaluated, the interface can change so many times that it would require a lot of revision if the terminology was fixed before the product was ready. Thus it is easier to find suitable definitions and descriptive terms for concepts that are ready and fixed.

3.3 Usability and user experience

As this study deals with both user experience and usability of terminology, it is worth stating how these two concepts are connected with each other. ISO 9241-11 standard defines usability as referring to "the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use." There are many benefits for organisations in concentrating on usability: it increases productivity, decreases training and support costs, increases sales and revenues, reduces development time and costs, reduces maintenance costs and increases customer satisfaction (Usability Professional's Association, 2007). According to Garrett (2003, 18), any user experience effort aims to improve efficiency. The goal is to help people to work faster, and to make fewer mistakes. These aspects improve the overall productivity of the business and make people like their jobs more, because their tools are natural and easy to use, not frustrating and needlessly complex. In consequence, this improves job satisfaction. However, one must realise, as Jakob Nielsen (1993, 26) states, that usability is not a

single, one-dimensional property of a user interface. Usability has multiple components and is traditionally associated with these five usability attributes: learnability, efficiency, memorability, errors, and satisfaction. I think that the usability of a product affects user experience considerably. When the product is not usable, I argue that it will not provide an enjoyable user experience.

In the case of websites, they mainly offer two kinds of content for the user: information or tools. When a website consists mainly of information, the goal is to communicate the information as effectively as possible, that is, it has to be presented in a way that helps people to “absorb and understand it”. (Garrett 2003, 13-14.) Also, if the website mostly contains interactive tools that people can use to accomplish certain tasks, the key factor in the success of the product is effective communication (ibid.). As Garrett (ibid., 17) says, websites are complicated pieces of technology, and when people have problems in using them, they tend to blame themselves instead of poor user interface design. “Feeling stupid” obviously promotes negative user experience, and this should be avoided at all costs. The same problem is also present in documentation: when testing the usability of devices and manuals, Schriver (1997, 216) has noted that regardless of their age and sex, all participants were about equally likely to blame themselves for the problems they experienced.

Schrive (ibid. 220) notes:

in the majority of cases - - in which readers blamed themselves for troubles, the fault was not with the reader, but with the manual, the equipment or both - -.

Related to these issues, Figure 4¹¹ presents Roto’s idea of how usability and user experience are linked together:

¹¹ my modification according to Roto, 2007a.

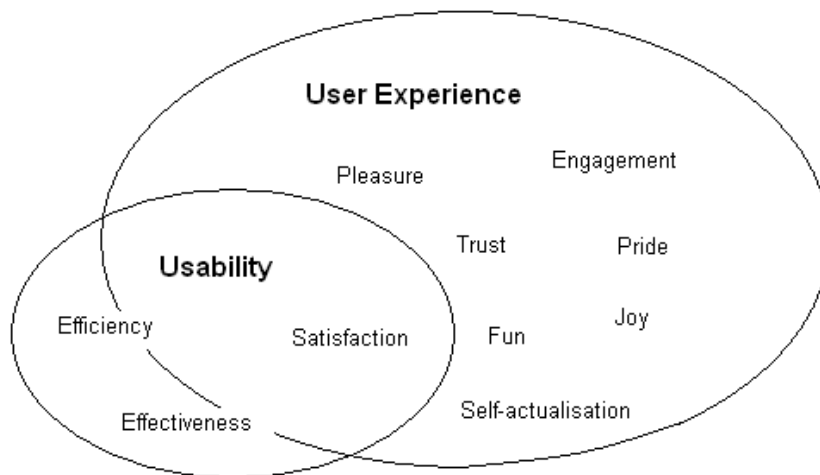


Figure 4: *The relation between usability and user experience.*

Roto (2007b) does not offer a predefined explanation for this figure, because these elements do not have fixed interrelationships. My interpretation of the figure goes as follows: efficiency and effectiveness are the key aspects in usability. When these aspects are present in a product, the product evokes satisfaction in the user. Satisfaction is an important element in a positive user experience: when the user is satisfied with the product, it generates pleasure, joy and pride towards the product. The user is proud to have the product and the attachment to the product generates also trust towards the company that has manufactured it. This strengthens the engagement with the product and the company. Ideally, the product also helps to communicate a positive image of the user, which contributes to the user's self-actualisation. However, this interpretation is probably too linear because the relations between the elements are not fixed, and in different use cases different elements are important.

In the user experience development process, the user is taken into account in every step. This should be borne in mind for the simple reason that if you do not provide a positive user experience, the users will not use your site. (Garrett, 2003, 19.) Thus, usability and user experience go very much hand in hand.

3.4 The elements of user experience in terminology

As stated in chapter 3.1, user experience can be viewed as consisting of separate smaller experiences. In order to evaluate the overall user experience of a product, it must be acknowledged that terminology plays a significant part in it because language is the main medium through which a user interface can be experienced, and is thus one user experience. It is invisible: people do not really pay attention to terms until they think they are somehow striking. Suonuuti (2007a) presents an idea that terms evoke feelings when they are perceived “eye-catching” or odd: when terminology of a device or a website feels familiar, it is often easier to learn to use the interface, but if you for some reason dislike a specific term, it might generate a feeling of antipathy towards the whole product. Similarly, Suonuuti continues, if you relate a specific term to a specific manufacturer, you might think that others who use the term are plagiarists. In my view this can decrease the emotional bonding to a product and a company.

In order to analyse the user experience related to terminology, I need to have a definition for user experience in this context. During my research, I have noted that most of the attempts to describe user experience are related to software or hardware and these definitions are not directly comparable to terminology. As Roto (2006, 29) notes, most definitions of user experience focus on “the process of designing systems that could then produce intended user experiences”, just like Garrett’s elements. For the purposes of this study, I need to define my own tools for examining user experience related to terminology, which has not been done before. I will utilise some of the building blocks that were presented in chapters 2.2.1 and 3.2: the characteristics of a well-formed term and the elements of user experience. These building blocks will form the tools with which I will analyse the terminology collected from the websites, that is, the elements of user experience in terminology.

The most essential components for analysing the user experience of terminology will consist of the characteristics of a well-formed term. First, *transparency* is, I think, the most crucial factor in the readability and comprehensibility, that is the *flow* of a product. Transparency is closely related to the structure plane, which entails the design of an efficient and effective information structure, and which is an important factor of usability. In order to communicate the user interface effectively to the user, and the user interface to be efficiently utilised, the terminology must be transparent so that the user knows without thinking what each command means or where a link in the user interface leads to. The second characteristic, *consistency*, is also important in my analysis. I argue that if several different terms are used for one concept within the user interface, the user will inevitably get confused and lost. Garrett (2003, 116) emphasises the importance of internal consistency of the interface in the *skeleton* plane. In my opinion, consistency in the use of terms is a very important factor in the creation of a positive user experience because it adds to the flow of use by preventing the user from getting confused and frustrated. The third characteristic, *appropriateness*, is very important in creating emotional responses in the user. If a term seems to come from a different context, at best it will create a positively surprised response, but if the choice has not been thought through, it may cause irritation and negative attitudes. At best, the appropriateness of terminology could add both to the *wow* and *show* of a product, because by conforming to the user's attitudes and style the product can become irresistible and result in the user taking pride of the product, wanting to show it to everyone. *Distinctiveness* is closely related to transparency, since when a term is clearly distinct from another term, it is less ambiguous and more transparent. *Linguistic economy* is usually always present in a user interface, because the labels for the buttons in a web user interface, or the commands on a small mobile device screen, for example, must be short to fit the surroundings.

In the elements of user experience, discussed in chapter 3.2, I detect congruity with terminology in the *strategy* plane, where the decision will be made on what kind of an approach will be taken in the creation of the product. By this I mean the intended image that the product is supposed to convey. The characteristics I described above (transparency, consistency, appropriateness, distinctiveness, and linguistic economy) are the tools with which the image is created. For example, with terminology, the company can either create an alienating, striking, or familiar feeling of the product. An alienating impression can be created through the use of jargon that is not familiar to the general public. This way the company can uphold the feeling of being above the user, something important and beyond the limits of the understanding of the general public. In my opinion, it should be obvious that this approach is not recommendable. A striking image could be achieved with an unconventional use of terminology, new metaphors, and new contexts, for example. A company might want to use exceptional conventions to draw attention, make the audience feel that they are experiencing something new and revolutionary. It requires careful consideration and planning to achieve the intended response from the audience. Finally, creating a sense of *familiarity* also demands a lot of consideration on what kind of terminology to use. A sense of familiarity is, I think, guaranteed to enhance the flow of usage, whereas alienating and striking feelings may interrupt it. This is why I choose familiarity as one element of the use experience of terms. The target audience needs to be carefully analysed in order to make the right choices in terminology. For example, it can be argued that smaller software-producing companies aim to use the same kind of terminology as Microsoft and Apple (Wahl, 2008), since these are the platforms that people are used to and their terminology is familiar. However, the pursuit for familiarity can be a double-edged sword. As mentioned above, if people relate a specific term to a specific company, others using the same terminology can be stigmatised as plagiarists. Thus, careful consideration is needed to choose the right terms.

In conclusion, the elements of user experience in terminology which I will use in the analysis of the websites are, in order of relevancy: transparency, consistency, appropriateness, familiarity and distinctiveness. I will also discuss linguistic economy when it is relevant.

4 ANALYSIS

In the following part of the study, I am going to examine selected websites and their terminology and make recommendations based on my findings. The gathered terms will be illustrated with the help of term tables and screenshots of the websites.

4.1 Websites chosen for the study

The websites were chosen for the study on the grounds of their content, popularity, and their status on the markets as Nokia's rival or as a partner in cooperation. Because Nokia's Ovi service is going to offer certain content, I chose websites on three different areas of the Internet business, namely sharing photos, downloading music, and shopping online in general.

First, as an example of a photo service, I chose Flickr because it is one of the most well-known photo service providers, and also because it is possible to send photos to Flickr from a Nokia mobile device via Internet. Second, to exemplify an online shop, I chose Sony Ericsson¹², which is one of Nokia's most prominent rivals in the field of making high-quality mobile devices. Third, Apple is also Nokia's competitor in the Internet business, and also in the mobile phone business, since Apple released the Apple iPhone in 2007. I will examine the terminology of Apple Store, and Apple iTunes music service, since both of these areas interest Nokia in the Internet business. Apple Store is an online store where consumers can buy Apple devices and related software. iTunes is downloadable software, which is connected to the Internet and through which

¹² I would have chosen Samsung, because they are second in competition. However, it turned out that Samsung do not have an online shop[0], so I chose Sony Ericsson instead because they seem to be the next in line.

the user can search for music, for example. Fourth, I chose Orange Shop, because it is one of Nokia's operator customers, and also provides online shopping and music services. It must be noted that the term tables are not complete for Orange Shop's part, because in order to create a user account and access the service, one needs an Orange subscription. Finally, I will also examine the general online shop Amazon, since it is one of the first online shops in the world, it is very popular, and thus it can be assumed that it sets a good example for newcomers in the business. In all these cases, I am going to examine the version for United Kingdom, since the source language of customer documentation at Nokia is British English. I will also discuss the terminology that I have found in the internal and confidential material about Ovi (that is, slide presentations and videos) and the Ovi.com website which is still under construction. I must note here that as the service is not fully functional and ready yet, there is quite a lot of incoherence and gaps in the term tables that I will present because the material that I have used are drafts or beta versions of the future user interface.

4.2 Concepts and use cases

To study the web services, I chose concepts that come from a confidential list of terms related to a terminology project involving Ovi (see appendix 1). These concepts are central in the everyday use of a number of websites, and thus are useful not only for the customer of this study, but to any company struggling with the terminology of their web service. Altogether, I examined the terms for 18 concepts.

The use cases used in this study (see appendix 2) are adapted from real use cases at Nokia. I have modelled the Nokia-specific cases into more generic use cases, so that they can be applied in any web service. I will study three different use cases: a music shop, a photo service, and an online shop. In each use case, the user is supposed to enter the service, do certain actions specific

to that service (like downloading music, sharing photos, buying games), and exit the service. I will study the terminology related to entering and exiting the service, shopping online, and some commands related to concepts that are fundamental for any web service such as search engine and accepting an action. In addition, one area of interest is the terminology related to getting support on the use of the service (frequently asked questions, help, and giving feedback to the service provider) because this was one area of interest for the customer of the study. Furthermore, I noticed some variation between the service providers in this area, and I think this is an issue worth discussing. I will also examine the use of icons, because as I studied the websites, icons emerged as an area where there is a lot of inconsistency and interesting issues to discuss.

The method that I chose for the analysis, discussed in chapter 3.4, is a combination of the characteristics of a well-formed term, and the elements of user experience that I think are relevant in terminology. Thus, I am going to be analysing the terms according to their transparency, consistency, appropriateness, familiarity and distinctiveness. I will proceed according to themes that are related to the progress of the use cases: getting started with the service, which involves tasks such as becoming a registered user for the service, and terminology related to the use of the service such as online shopping, commands, and support. Also icons will be discussed. This approach enables me to make comparisons, conclusions and recommendations on the terminology. My approach to studying the web services can also be partly described as auto-ethnographical, as I have myself acted as a new user to the service performing the tasks the use cases require. I have not had prior experience with most of the services (Amazon being the exception). I have noted down my reactions and feelings about the terminology, and will point to these when suitable.

4.3 Findings

In this chapter, I will present the most interesting findings in my analysis of the terminology in the aforementioned websites. Based on these findings, I will also make recommendations on terms that seem to be the best for providing a positive user experience. I will not discuss all the terms that occur in the user interfaces, I will only handle the terms that are relevant to the study, that is, cases that are the most central for the service provider, and also cases that are ambiguous or in some other way interesting and worth discussing.

4.3.1 Getting started

In this chapter, I will discuss the terminology that is related to getting started with the web service, that is, creating a new account, entering the service, and creating a user profile. There is some variation, as expected, between different web services, but there is also variation within a service, which perhaps could be anticipated, even though not desirable. I will also discuss the concept of exiting the service in this context, as the terms are closely related to entering the service. Table 1 illustrates the terminology discussed in the following three chapters:

Table 1: *Terms related to getting started with the service and exiting the service.*

Concept	Sony Ericsson	Apple Store	Amazon	Flickr	PC iTunes	Orange Shop	Ovi.com
To create an account, join as a member	<i>(sign up →) register</i>	<i>new account</i>	<i>registration</i>	<i>create your account</i>	<i>create (new) account</i>	<i>register</i>	<i>register, sign up, join now</i>
To access the service	<i>(sign up →) login</i>	<i>login, sign in, log-in</i>	<i>sign-in, sign in</i>	<i>sign in</i>	<i>sign in</i>	<i>sign in</i>	<i>sign in</i>
To leave the service and exit personalized content	<i>logout, log out</i>	n/a	<i>sign out</i>	<i>sign out</i>	<i>sign out</i>	-	<i>sign out</i>

4.3.1.1 Becoming a registered member for the service

As for creating a new account, becoming a member for the service, there are basically three different ways to indicate the link where the user can join: *create account* (with slight variation¹³), *sign up*, and *register* (see Table 1.). There is often also a mixture of these, for example, in Flickr main page, you must first click on *create your account*, which leads you to Yahoo.com where you must click on *sign up* to create a *Yahoo! ID*, because it is also used as a user identification in Flickr. Furthermore, in Sony Ericsson's website, you must first click on *sign up*, after which a page opens with a further link saying *register*. With Apple Store, it takes some effort for the user to find the place for registering. There is no obvious link on the main page indicating a place for becoming a new member. They must first go to *Account*, then click *Login*, where you can find a link saying *New Account*. Moreover, in the material concerning Ovi.com, I found three different expressions: *register*, *sign up*, and *join now*. In order to make the user's visit as fluent and effective as possible, and to prevent the user from getting frustrated, it is recommendable to avoid the use of too many links¹⁴. Additionally, the use of several terms for one concept is not recommendable, because that might confuse the user. For the sake of consistency, it is better to choose one of the aforementioned options and keep with that.

¹³ *create account, new account, create new account, create your account*

¹⁴ The "three click rule", an "unquestioned rule of web design has been around nearly as long as the web itself" (Porter 2003) means that if the user "can't find what they're looking for within three clicks, they're likely to get frustrated and leave the site." (ibid.)

When considering which of the three aforementioned options to recommend, one must also think of the transparency, distinctiveness and familiarity of the terms. As a non-native speaker of English, I do not want to recommend *sign up*, because it is not transparent enough, and not distinctive enough from *sign in*, which will be discussed in chapter 4.3.1.2. I presume that the difference might be clear enough for native speakers of English. According to Collins, however, the difference might not be as clear, after all:

sign up vb (adv) to enlist or cause to enlist, as for military service.

sign in vb (adv) **1** to sign or cause to sign a register, as at a hotel, club, etc. **2** to make or become a member, as of a club.

As these two dictionary entries show, there is not much difference between *sign up* and *sign in*. And as a general dictionary contains the definitions that are most commonly known by the general public, and the web services being aimed at the general public, I think *sign up* is not a recommendable term. Furthermore, the association to military service might also cause unpleasant connotations in a user, which, I argue, is not an appropriate function of the term. Additionally, in Ovi, I found *join now*. In my opinion the phrase is rather intrusive and imperative. If the verb *join* must be used, it would be preferable in a phrase *join as a member*, which is more neutral and also transparent, in a way that it more clearly states the purpose. However, the phrase is quite long and may not meet the requirements for length set for a mobile device user interface. Moreover, *join* may not be appropriate term for all contexts. It refers to becoming a part of a community, and not all web services promote themselves as communities. Services where content sharing is an essential role, the metaphor of community is suitable, but in online shops like Amazon, for example, the user is treated as an individual shopper, and no community is emphasised. In cases like this *join* might not be an appropriate term.

When it comes to *register*, it might not be transparent and familiar enough, because people might have a completely different connotation related to the term, that is, *register* as a noun,

like “an official or formal list recording names, events, or transactions” (Collins 2000). In this case a link that says *register* can provoke completely different connotations and the user might miss the opportunity to join as a member. Thus, I argue that *register* is not an appropriate term for this concept.

In the light of these results, I draw the conclusion that *create account* is the most recommendable term to be used for recruiting new users to the service. It clearly states what the intended action is, it is a fairly compact phrase, and it does not entail ambiguities. Thus it should also be easy to localise.

4.3.1.2 Entering the service

Related to the variety of choices in the registration, a similar phenomenon is present in the accessing of personalised content in the service, that is, the account. Most of the services use *sign in* (see Table 1), which might cause confusion when used with *sign up* since they are not that distinct from each other, as noted earlier on. Sony Ericsson and Apple Store also use *login*, found after a few mouse-clicks as described above. Furthermore, when logging into Apple Store, the button that needs to be clicked in order to proceed says *log-in*. Within the web services I examined, there are no instances of *log in* as a phrasal verb. With *sign in*, there is also variation in the spelling: there are occurrences of *sign in* and *sign-in*. There seems to be no logic why the term *sign in* is sometimes used as a verb, without the hyphen, and sometimes as a noun, with the hyphen. For example, in Amazon, *sign-in* is used in a welcome note on the main page: "Sign-in to get personalised recommendations", but *sign in* as a heading after the link. In fact, this is a grammatical mistake, as the word form should be a verb in the welcome note, encouraging the user to sign in. The hyphenated form can be used if the company's preferred style is to use one-word headings.

However, generally the instructions for technical writing recommend using verbs in headings, because they clearly state the content of the following text¹⁵ (Marsland 2004).

In this case, again, the lack of consistency in the use of terminology is notable. In fact, there is no consistency in the use of the hyphen, either, because Collins does not give any examples of these terms with a hyphen:

log in ('lɒgɪn) Computing. vb **1** Also: log on. to enter (an identification number, password, etc.) from a remote terminal to gain access to a multiaccess system. ■ n **2** Also: login. the process by which a computer user logs in.[0]

With *login* there is no need to use a hyphen to change it into a noun, because a noun already exists. However, with *sign-in* there is, because the word **signin* would look awkward, resembling too much the verb form *singing*. But as a general dictionary like Collins, for example, does not have a record of *sign in* as a noun, why should one be created? I argue that it is not appropriate to use a term that cannot be found in a general dictionary because it is contradictory to the TSK's rule about linguistic correctness. Furthermore, as the entry from Collins shows, the term *log in* only has a reference to computing, thus it should be familiar to the users. The term is also simple and distinct for other terms. However, *sign in* is a familiar word from the context of hotels, for example. It has perhaps been adapted to this new context in order to catch the user's eye, but as Table 1 shows, it has become widely used in web services. Thus, if the service provider wants to take the user's mind off from the context of computing, and create an image of a real-life service, *sign in* is an appropriate term. I think this approach is perhaps a more familiar and personal approach towards the user than maintaining an image of a professional IT company, because the Web 2.0 emphasises communities and social networking, altogether it brings the technology closer to the general public. This is an important viewpoint because, as mentioned in chapter 2.2.1, a term should fit its purpose,

¹⁵ For example: *Back up* vs. *Backing up a configuration file*

and that is why appropriate terms should be found for the context. This will further be discussed in the following.

4.3.1.3 Exiting the service

At this point it is fitting to discuss the concept of exiting the service, as the terms used for this concept are closely related to the ones for entering the service. I think it is important to retain consistency between the two terms, in a way that if *sign in* has been used, then *sign out* should be used, and correspondently *log in* – *log out*. The websites I studied can be credited for following this rule quite well, as can be seen in Table 1. Only Sony Ericsson has slight variation between different parts of the website, and with Apple Store, strangely enough, I could not find an option to exit at all. To decide on which one is more appropriate, *sign out* or *log out*, the entries from Collins shed light on the user's viewpoint:

log out ('lɒgaʊt) Computing. vb **1** Also: log off. to disconnect a remote terminal from a multiaccess system by entering (an identification number, password, etc.). ■ n **2** Also: logout. the process by which a computer user logs out.
sign out vb (adv) to sign (one's name) to indicate that one is leaving a place: he signed out for the evening.

Both of the terms clearly indicate exiting from a place, *log out* specifically in the context of computers. I think both options are transparent enough so that users will not confuse them with other terms. I think in this case, the decisive factor is appropriateness, in the sense of what kind of an image the service providers want to convey of themselves. *Log out* is obviously suitable for a web service, but as stated in the previous chapter, the term phrases *sign in* – *sign out* have a special reference to a concrete place, for example a hotel. I argue that these terms can be used to create a feeling of entering and exiting an actual place, something more familiar and perhaps also more pleasant than just some intangible thing on the computer screen. The choice between the two pairs

of term phrases depends on the intended audience and the purpose of the website and also the intended image the company want to convey of themselves.

4.3.1.4 Storing personal information

Creating a user profile for a web service contains the following actions I will analyse: creating a unique name for the user account and a public name for the profile, and entering an e-mail address for contact information. The terms found in the web services are recorded in Table 2:

Table 2: Terminology related to creating a user profile.

Concept	Sony Ericsson	Apple Store	Amazon	Flickr	PC iTunes	Orange Shop	Ovi.com
A place to enter and later review data about the user	<i>my account, profile</i>	<i>account</i>	<i>account, profile</i>	<i>account, profile</i>	<i>Apple account</i>	<i>your account mobile account, your (Orange) mobile account, your Internet account</i>	<i>my account, Nokia Account</i>
A unique identifier of the user to the service	<i>username</i>	<i>Apple ID / Apple I.D.</i>	<i>name</i>	<i>Yahoo! ID</i>	<i>Apple ID</i>	-	<i>username, User ID</i>
Unique public name for the account	n/a	n/a	<i>Pen Name</i>	<i>screen name</i>	<i>nickname</i>	-	-
electronic mail	<i>email</i>	<i>email</i>	<i>e-mail</i>	<i>email</i>	<i>email</i>	<i>email</i>	<i>email, mail</i>

First, one distinction needs to be made. In many services, there is a difference between an account and a profile. For example, in Flickr and Amazon, an account contains details that are relevant for the service, such as billing information and delivery address, purchases the user has

made, and privacy settings. In contrast, a profile contains personal information that other users can view, for example, place of residence, age, hobbies and interests, and so on. In this study, I am going to use the terminology as follows: *account* for the service-related information that only the user can see, and *profile* for the information about the user that he or she has chosen to show to the other users of the service.

Those services that did not have the account/profile distinction (i.e. Apple, Ovi and Orange) only used *account*. Some service providers want to stand out from the crowd by inventing a name for the account with an element that emphasises the account and perhaps its importance in a special way, for example Sony Ericsson's *My account*, Apple's *Apple account*, and Nokia's *Nokia Account*. I think using these kinds of distinct terms is a good way to draw the user's attention. *My account* can be used to create a more personal and familiar feeling to the website than, for example, the plain *account*, and especially the company's name in the term adds to transparency, making sure that the user knows what service they are using. In my view, the repetition of the familiar logos and trademarks can enhance the sense of trustworthiness and quality, which can strengthen the user's loyalty towards the company. I think it is a clever idea to try and stand out from the crowd, which might catch the user's attention in a positive way. However, if all Internet companies start creating terms with the company's name embedded in them, it might soon lose its speciality and start annoying the users. Furthermore, it might diminish the distinctiveness and significance of the trademark. Thus, it should be carefully considered where the trademark is used as a part of a term.

Additionally, I must make a remark on consistency. With Apple iTunes, the account is called *Apple account*. Instead, in Apple Store the heading states *Your Account*. I think this is peculiar, since the company is the same. If they have invented such an eye-catching term, why not use it in all the company's services? A similar phenomenon also exists in Orange Shop. Four different phrases are used to refer to the same concept: *your account*, *mobile account*, *your mobile*

account, your Orange mobile account and also your Internet account, illustrated in Figure 5. This is very confusing, because it seems like there are at least two different accounts: a personal account for the user and a mobile account. However, a quick look at what is behind the links shows that all these terms refer to the same concept, that is, a single account for the user.

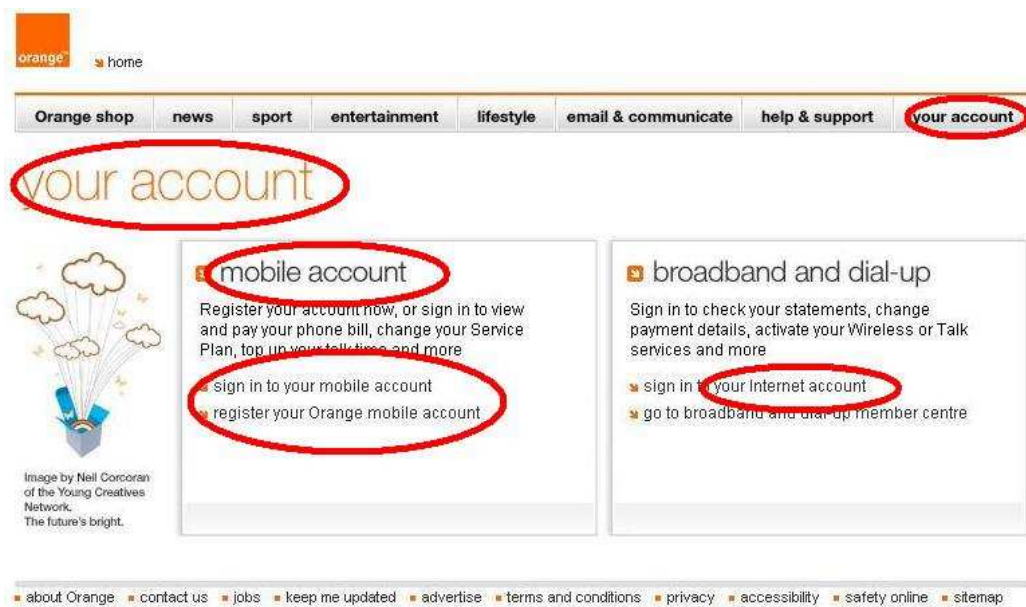


Figure 5: Account names in Orange shop.

The creation of a unique identifier for the user, commonly known as a user name, is yet another possibility to enhance the company's recognition. For example, Apple has *Apple ID* (sometimes spelled *Apple I.D.*), and Flickr uses *Yahoo! ID*. However, the use of another company's name in a term might confuse the user. This was my reaction when I was examining the Flickr site. When two service providers combine their services, I recommend creating shared, consistent terminology, as Nokia has used *Nokia Account* in Ovi. This saves the user from confusion and makes the visit in the service more fluent and pleasant. Furthermore, Sony Ericsson writes *username* as one word and Amazon does not have an actual user name at all, it uses simply *name*, which means the name that the user has given when he or she first registered for the service. Amazon also has an option for the user to show their *Real Name*, which is verified with credit card

information. All this variation shows that the terminology related to this specific area is not so well-established. My suggestion is to use terms that use the company's name, because those terms are eye-catching and transparent. If such an option is not possible, I recommend using *username*, because it clearly identifies what the user is supposed to enter in the field (contrary to *name*, for example), and is thus transparent. *User ID* is acceptable when the identification is not a name, but an e-mail address. In other cases I do not recommend it, because abbreviations are not transparent.

In many services, in addition to the username, it is possible to create another, public name for the profile. It can be an invented name if the user does not want others to see their real name. A variety of ideas is present, once again: Amazon offers *Pen Name*, Flickr has *screen name*, and iTunes has *nickname*. I think all of these terms are transparent and familiar; it is just a matter of what kind of an image a company wants to give of themselves. For example, it can be argued that *pen name* is old-fashioned as it refers to letter-writing, and it is a bit unclear why one should use a *pen name* in an online store. I think it would be more appropriate for a web log, for example. Also, *screen name* can be argued to be appropriate for the context, but, in my opinion, it might give a sense of distance: it is "just some name on the screen". In contrast, *nickname* conveys a sense of cosiness, a pet name by which the user is known and called by other people. On the other hand, as the entry in Collins shows, a nickname can also be derogatory, so the connotation can also be negative:

nickname ('nɪk,neɪm) n **1** a familiar, pet, or derisory name given to a person, animal, or place: his nickname was Lefty because he was left-handed. **2** a shortened or familiar form of a person's name: Joe is a nickname for Joseph. ■ vb **3** (tr) to call by a nickname; give a nickname to.

Nickname seems thus problematic in the sense that it is ambiguous: for some people it can be a positive term, and for others it can arouse negative feelings. To investigate further the appropriateness of the term, I checked the British National Corpus to see in what sense *nickname* is usually used. As the results of the 50 random hits for the query *nickname* show, it is quite difficult

to determine whether the term has been used in a positive or a negative sense. Out of the 50 hits, there were 12 positive connotations, for example, *He gave me that nickname because I'm small with curly hair like a candyfloss stick, and it's kind of cute*, 15 negative connotations, for example, *She could finally drop her hated nickname Bruiser!*, and 22 of which it was impossible to tell the difference because the context did not provide information about the origin of the nickname, that is, is the nickname meant to be offensive. For example, in the following excerpt it is unclear whether Smith is being laughed at or complimented because of his wavy hair:

Smith compiled his innings despite a cold picked up since his return to "work" on Monday, which forced him home prematurely in his new car, number plate JII DGE -- which from a distance appears to spell out his nickname of Judge, acquired because of his wavy hair.

In my opinion, it is often impossible to determine whether a nickname is intended to be affectionate or derogative. Even though a nickname sounds rude, it may stem from a humorous incident and may carry a positive connotation to the people involved. For example, "Psycho" in *Vinny "Psycho" Jones on his nickname* may be a joke among Vinny Jones and his friends. Thus, I suggest that *nickname* is an appropriate term for the context of web services, because when the users create a nickname for themselves, it is unlikely that they are going to be offended by it.

The term for electronic mail is one area of interest in this study because it seems that the commonly known truncated form *e-mail* is undergoing a change. It seems that the hyphen is being dropped off, since in the web service I have examined only Amazon uses *e-mail*, all the others have *email*. There is no indication why this is happening, but some dictionaries of computing have listed *email* as an alternative spelling¹⁶. I can only suggest that it is a same kind of a trend as

¹⁶ For example, Free On-Line Dictionary of Computing (2002) comments on the usage quite descriptively: "The form "email" is also common, but is less suggestive of the correct pronunciation and derivation than "e-mail".

using a lower-case letter at the beginning of a proper name, like eBay and iPod. On such weak grounds, I cannot recommend the use of the unhyphenated term, and suggest sticking with the more familiar hyphenated form. I also find interesting the plain *mail* that has been used in Ovi.com. Is the normal “snail mail” so extinct, that the first connotation is the electronic version? I think it is not. *Mail* can bring a sort of a cosy, familiar feeling that brings the user away from the context of computing, but I argue that the association is still firmly attached to the traditional form of posting messages¹⁷, and thus is not appropriate to be used in the meaning of an electronic message. However, *mail* might be in order if the target users have been analysed to be so computer-oriented that, for them, *mail* would unquestionably mean electronic mail.

¹⁷ Though Collins (2000) does give two definitions for *mail* as electronic mail: “**8** to contact (a person) by electronic mail. **9** to send (a message, document, etc.) by electronic mail.”

4.3.2 Service features

In this chapter, I will analyse terminology related to online shopping, and terms that are crucial for the functionality of the service, that is, a few commands that are closely related to the functions of the service, and terminology related to getting support from the service provider. The terms studied in this chapter are collected in Table 3:

Table 3: *Terms related to online shopping.*

Concept	Sony Ericsson	Apple Store	Amazon	PC iTunes	Orange Shop	Ovi.com (Nokia Music Store UK beta)
A location where goods can be bought	<i>shop, stores, Eshop, e-shop, se-store (=Sony Ericsson store)</i>	<i>store</i>	<i>store</i>	<i>store</i>	<i>shop (But: store locator)</i>	<i>store</i>
To choose an item to be bought	<i>buy</i>	<i>buy now (followed by add to order), add to order / cart / basket</i>	<i>add to (shopping) basket</i>	<i>buy</i>	<i>buy</i>	<i>buy</i>
To finish the buying process and pay	<i>checkout</i>	<i>checkout now</i>	<i>proceed to checkout, pay</i>	-	<i>checkout</i>	-
Where the selected items can be viewed	<i>basket</i>	<i>basket</i>	<i>basket</i>	-	<i>your / my basket</i>	n/a
To check what has been bought in the past	<i>order</i>	<i>order status</i>	<i>recent orders / purchases</i>	<i>purchased; purchase history</i>	-	<i>purchased music</i>

4.3.2.1 Shopping

First, I will examine the terminology related to online shopping. I need to analyse the terms used for the location where goods can be bought: which one to use, *shop* or *store*? In the material, there is an even split between the choice of terms. Sony Ericsson is an exception because seems to be quite inconsistent: in the main page heading there is a link saying *stores*, which opens into two further links: the official *Flagship Store* in London, and the official *Eshop*, also *e-shop* further in the description. These inconsistencies are illustrated in Figures 6 a) and b):

6 a)



6 b)



Figure 6 a) and b): Different terms for shops in Sony Ericsson's website.

On the main page of the online shop it is called *E-shop*. Furthermore, in the URL, the online shop is called *se-store* (Sony Ericsson store), but on the actual page it is referred to as *shop*. From a terminologist's point of view, the inconsistency is quite irritating, and I assume that such an amount of variation also catches the general public's attention. I suspect that it can confuse the users. In contrast, the Orange shop uses the term *shop* consistently, with the exception of *store locator* to "find your nearest Orange shop", as seen in Figure 7:

The screenshot shows the Orange website's store locator interface. At the top, there is a navigation bar with the following categories: Orange shop, news, sport, entertainment, lifestyle, email & communicate, help & support, and your account. Below the navigation bar, the main heading reads "find your nearest Orange shop", where the word "shop" is circled in red. To the left of the main content, there is a sidebar with a "deal of the day" banner and a list of services: mobile phones & plans, SIM only, mobile broadband, broadband & home phone, dial-up, special offers, Orange recommends, accessories shop, downloads shop, store locator (circled in red), and business shop. Below the sidebar, there is a promotional banner for "Orange recommends pay as you go" featuring an LG mobile phone. The main content area contains the following text: "Orange have over 300 shops in the UK offering mobile, broadband and business services. To find your nearest Orange shop, simply enter your postcode or select your nearest town." Below this text, there is a search form with two options: "your full postcode (i.e. NW11 7HW)" with a text input field, and "or your nearest town" with a dropdown menu showing "Please select" and a "search" button. At the bottom of the search form, there is a link that says "show me Orange Premier shops". At the very bottom of the page, there are links for "terms & conditions" and "privacy".

Figure 7: Orange store locator.

A quick Google search reveals that *store locator* is a common phrase in online shops. However, according to *Collins Cobuild for advanced learners*, *shop* is mainly used in British English, and *store* is an American English term. Thus, as my interest is to find the most appropriate terms for British English user interfaces, I recommend the consistent use of *shop* and finding a way to paraphrase *store locator*.

Second, I need to consider the act of buying which includes choosing items to be bought, and paying for the items. I am inclined to claim that service providers try to avoid the use of the brutal word *pay*, because the act of buying seems to be quite often paraphrased. I suppose that the companies try to avoid sounding too greedy. Only Amazon has used *pay*, but not in a very visible way, only in a scheme representing the buying process. The actual links say *add to (shopping) basket*¹⁸ and *proceed to checkout*. Apple Store, once again, has several different terms: *add to order*¹⁹ *add to cart*²⁰, *add to basket*²¹. Furthermore, *Buy now* was detected only on one occasion in Apple Store²², followed by *add to order*, and progress to payment is indicated by *checkout now*. Based on these examples, there is evidence that the word *pay* really is being avoided. I think this is reasonable, since the explicit meaning of the word is “give us your money”, and naturally any company wants to avoid the reputation of a greedy capitalistic corporation.

Sony Ericsson seems to prefer simple one-word terms: *buy* and *checkout*. In my opinion, *buy* is not a transparent term for the concept of choosing an object, because the user might get confused and think that clicking the link or button might immediately lead to paying for the item. That is why I argue that the term should indicate that the item is first stored in a location (like a *basket*) where the user can view all the items before deciding on whether to buy them. For this

¹⁸ The long form is used as a button that needs to be clicked to choose an item, the short form when showing several options, on "Customers who bought XXX also bought:..."

¹⁹ when shopping for Mac software or accessories, iPod accessories, iPhone accessories

²⁰ when shopping for iPod

²¹ when introducing what others bought, + shopping for Mac + iPhone

²² when buying software

reason, I find it important to have consistency in what to call the place where the items chosen to be bought are stored and where they can be viewed. In all the services examined, where this option was available the place was called *basket*. Apple also used *cart* and *order*. As *cart* is an American English term, I will not recommend its use. One could suggest using the British English equivalent *trolley*, but it is, in my opinion, also inappropriate. *Trolley* it refers to carrying heavy items²³, which is a bit out of context when shopping in a virtual environment. This seems to be well acknowledged since there are no instances of *trolley* in the web services I examined. However, I did find examples in Ikea's website variants for the United Kingdom and the United States, and I think these two clearly show how *cart* and *trolley* are appropriate for representing online shopping of heavy items, as shown in Figure 8²⁴.



Figure 8: Shopping-related terminology in Ikea UK and US.

I think that *add to (order/cart/basket)* is a transparent and appropriate term for this context, because it clearly states that the chosen item will be saved for later. However, if the service provider wants to maintain the metaphor of a real-life shop, then *basket* is a suitable metaphor. I argue that it is already become a quite familiar metaphor in online shops, and thus I recommend the use of *basket*.

²³ Collins (2000): **trolley** ('trɒlɪ) n **1** Brit. a small table on casters used for conveying food, drink, etc. **2** Brit. a wheeled cart or stand pushed by hand and used for moving heavy items, such as shopping in a supermarket or luggage at a railway station. **3** Brit. (in a hospital) a bed mounted on casters and used for moving patients who are unconscious, immobilized, etc.

²⁴ I must also note here the appropriate icons that have been designed to suit the context. Icons will be further discussed in chapter 4.3.3.

I must note, however, a few findings related to this topic. I noted some inconsistencies that are perhaps not so easy to spot, but may confuse the user. First, in Orange shop, the items that the user chooses are shown in a box in the upper right corner of the page with the title *your selection*. When the user proceeds in the buying process, he or she finally ends up in a view that states *your basket*, as shown in Figure 9. Second, the button at the bottom of the page says *save my basket*. The two terms, *selection* and *basket*, differ from each other notably, and the user may not recognise that they mean the same thing. I must, once again, emphasise the importance of maintaining the terminology consistent all over the website.

The screenshot shows the Orange shop website's shopping basket page. The page includes a navigation bar with categories like 'Orange shop', 'news', 'sport', 'entertainment', 'lifestyle', 'email & communicate', 'help & support', and 'your account'. Below the navigation bar, there is a 'your basket' header, a security badge, and a table of items. A red circle highlights the 'your basket' text, and another red circle highlights the 'save my basket' button.

	quantity	monthly cost	cost today	remove
<p>pay monthly</p> <p>your phone Nokia 6301 Unique Phone</p> <p>your plan Dolphin 25 18 months with your £5 web discount</p> <ul style="list-style-type: none"> 100 anytime minutes 300 texts 	1	£20.00	FREE	remove
<p>promotional code</p> <p>Enter your promotional code number here</p> <input type="text"/> <input type="button" value="get discount"/>				
<p>delivery</p>			£3.99	
<p>see mobile phones and plans</p> <input type="button" value="print"/> <input type="button" value="save my basket"/>	totals	£20.00 monthly	£3.99 today	<input type="button" value="checkout"/>

Figure 9: Differences in the terminology of Orange shop.

Making recommendations for the concepts of choosing and buying an item is challenging. One must keep in mind the possible connotations that *pay* may incur. Furthermore, *buy* may not be transparent enough. I suggest that in the web services where British English is used, *add to basket* should be used, and the icon should be chosen accordingly. For the actual process of payment I recommend the verb *check out* rather than the noun *checkout*, because verbs state more clearly what the following action is going to be. I argue that the verb will make easier (that is, transparent) for the user to understand that when he or she clicks the link or button, they will proceed to payment. On the other hand, if the service provider wants to maintain the metaphor of a concrete shop, the noun *checkout* is also appropriate. Furthermore, I recommend making a clear distinction between *basket* and the place where previously made orders can be viewed. I suggest this page be called *recent purchases*, like with Amazon, without ambiguous wordplay or metaphors. It clearly states the purpose of the service in question and separates it from the order that is being made at the moment. However, *purchase history* that is used in iTunes is, in my opinion, even more transparent, or should I say more neutral than *recent purchases* because it does not indicate any time frame for the purchases the user has made. *Recent purchases* implies that the purchases that will be shown are quite recent, maybe from the previous 30 days or so²⁵. In comparison, *purchase history* does not imply any particular time frame, and the users might be able to define the timeframe themselves. Thus, I recommend *purchase history* because it is the easiest term to apply regardless of the specific function of the concept.

²⁵ Cf. *all purchases*, which implies that the view will show all the purchases the user has ever made.

4.3.2.2 Commands

In this chapter, I will take a look at some commands that inevitably are needed in a user interface, for example to send inputted information for the service provider, to search for content, and to publish content in the service.

In most cases where there was a possibility to send input information to the service provider, the term for conducting the action was simply *send*, as shown in Table 4:

Table 4: *Commands in the web services.*

Concept	Sony Ericsson	Apple Store	Amazon	Flickr	PC iTunes	Orange Music	Ovi.com
To send input information to the solution provider	<i>send</i>	<i>send suggestion, continue</i>	<i>continue, go!, send (e-mail)</i>	<i>send</i>	<i>done, submit</i>	<i>send</i> (when sending an e-mail in contact us part) <i>submit</i> (when sending email in the contact the team part)	-
To search for content	-	<i>search</i>	<i>search / quicksearch</i>	<i>search</i>	<i>search iTunes Store, search (in player)</i>	<i>search</i>	<i>search</i> (Ovi.com), icon of a magnifier glass + tooltip <i>Go (Music Store)</i>
To move content from any storage and make it publicly available	n/a	n/a	n/a	<i>upload photos, post comment</i>	n/a	-	<i>post</i> (to Twango), <i>upload your photos to Twango, Post to Web</i>

In iTunes, the term was *submit* or *done*, depending on the context²⁶. *Send* is compact, transparent, and certainly familiar, but not appropriate for all contexts. For example, *send* is appropriate in the context of sending messages, but if the user completes filling a form, *submit* can also be used, as it entails the idea of yielding something to a superior authority²⁷. However, I do not recommend using *done*, because it does not indicate that by clicking it the message or form will be sent. It does not indicate what will happen after clicking it: will the item be saved, or will a new view be opened where the item can be viewed before the sending? The lack of a transparent term can cause confusion and uncertainty in a user.

I think a search engine within a service is a good place to strengthen the company's image with terminology. Most of the services I examined used *search*, which is, in its simplicity, a clear and an unambiguous term. In contrast, in iTunes store the term is *search iTunes Store*. This term is more transparent than the plain *search*, because it indicates the user where the search is limited. However, here too, it must be remembered that consistency in the use of terms is important. In Amazon and iTunes, there are two different search terms. At iTunes the difference is understandable, because there are two interfaces, the shop and the player. Since there is a specific term for search in iTunes Store, I recommend using a more specific term also in the music player, for example *search music library*. In comparison, there seems to be no logic why Amazon has *quicksearch*, because it only appears on the profile page. Furthermore, there is no difference in the actual feature, it is the same entry field, and only the term is different. From an auto-ethnographical viewpoint, I was confused when I saw this. How is a quicksearch different from the "normal" search?

²⁶ *submit* for sending information for the service provider, *done* for example completing editing personal details

²⁷ Collins: **submit** (səb'mɪt) vb -mits, -mitting, -mitted. **1** (often foll. by to) to yield (oneself), as to the will of another person, a superior force, etc. **2** (foll. by to) to subject or be voluntarily subjected (to analysis, treatment, etc.).

I also examined the terminology used when making content (such as photos, comments) publicly available. In Flickr, *upload* was used for photos, and *post* for comments. The division in the use of the terms is logical and appropriate, contrast to Ovi.com, where *post* was used both for photos and messages. However, I am not sure how familiar *upload* is for the general public. The term is not found in Collins, but in online dictionaries of computing, in which I searched for the term, a definition can be found²⁸. Thus, if the target audience has been analysed to be non-experts of computing, I recommend using *share*, because it is more familiar (that is, colloquial) and it can be inferred that by clicking it, the content will be transmitted to other people²⁹.

4.3.2.3 Support-related terminology

In this chapter, I will discuss the terminology related to getting help in problems that are related to the use of the service. The results are illustrated in Table 5. With some services, it was difficult to examine the terminology because the support pages were either very complex, or difficult to access in the first place. Especially with Apple Store I ended up going round in circles because the links were structured that way.

²⁸ Webopedia, 2008 : “To transmit data from a computer to a bulletin board service, mainframe, or network. For example, if you use a personal computer to log on to a network and you want to send files across the network, you must upload the files from your PC to the network.” Techdictionary (2008) even makes a clear distinction between *upload* and *download*: “To transfer files or data from one computer to another. To download means to receive; to upload means to transmit.”

²⁹ Collins, 2000: **share** *vb* **4** (*tr*; often foll. by *out*) to divide or apportion, esp. equally. **5** (when *intr*, often foll. by *in*) to receive or contribute a portion of: *we can share the cost of the petrol*; *six people shared in the inheritance*. **6** to join with another or others in the use of (something): *can I share your umbrella?*

Table 5: *Support-related terminology.*

Concept	Sony Ericsson	Apple Store	Amazon	Flickr	PC iTunes	Orange Music	Ovi.com
To list common questions and answers in order to allow the user to get through problems	<i>FAQ</i>	n/a	<i>FAQs</i>	<i>FAQ</i>	<i>FAQs</i>	<i>FAQs</i>	<i>FAQ (Ovi.com), troubleshooting (Music Store)</i>
To describe a problem to the service providers and expect a solution in return	<i>Contact, contact us</i>	<i>contact us</i>	<i>help pages → contact us → customer service</i>	<i>help by email</i>	see Apple Store	<i>contact us -> by email (heading)</i>	<i>support (Ovi.com), help (Music Store)</i>
To send comments about the solution to the solution providers	<i>Feedback on our sites</i>	<i>website feedback</i>	<i>contact Amazon</i>	<i>feedback for the team</i>	see Apple Store	<i>contact the team</i>	<i>feedback → contact our support team (Music Store)</i>

The top-most heading for customer help was in Amazon *help pages*, in Apple (both iTunes and Apple Store) and Sony Ericsson *support*, and in Flickr *help*. In the websites where frequently asked questions were available, they seemed to be called *FAQ* or *FAQs*. I argue that the ‘-s’ in *FAQs* is redundant, and that *FAQ* is so well-established in this context that people know what it means and know to look for it if they need help.

I also looked for a possibility for a user to send a question to the service provider and to expect a solution in return, which at Sony Ericsson and Apple was called *contact us*. Amazon also had a link called *contact us*, after which a page called *customer service* opened, and Flickr used *help by e-mail*. I argue that plain *contact* is not transparent enough and that *contact us* is clearer for the user. *Help by e-mail* also clearly states what the purpose of the link is, but the phrase is quite

long which may cause problems with space in mobile device user interfaces. In addition, I argue that the tone of voice is needlessly distant and impersonal, contrary to *contact us*, which uses a more personal tone. In order to produce a more familiar and sincere atmosphere, I recommend using *contact us*.

Furthermore, I looked for an opportunity to send comments about the service to the service provider. At Sony Ericsson, the term was very literal: *feedback on our sites*. Apple had *website feedback*, which also clearly states the purpose. At Amazon, there were tabs that showed the different possibilities for contacting the customer service: express³⁰, e-mail, and phone. Thus, with Amazon, there is no actual term for sending feedback. Flickr had *feedback for the team*. Based on these examples, I argue that the most common, familiar, and transparent term is *feedback*, and it does not necessarily need any attributes, since it would make the phrase needlessly long.

4.3.3 Icons

The use of icons, contrary to what a designer might assume, is not so straight forward, and they may cause confusion. Let me take the icons in Ovi as an example. Currently there are four icons that function as shortcuts to web services: to Share, Nokia Music, Nokia Maps and N-Gage games, shown in Figure 10:



Figure 10: *Icons in the Ovi service.*

There is some inconsistency there, which might confuse a first-time user. For example, the term for the photo service is plain *share*. Here the icon (a camera) shows that you can share your photos, and after clicking it, it opens a page where you are told that you can share your photos, videos, and more (whatever that might be). The slight inconsistency is confusing: why cannot the service be called for

³⁰ Quick answers about the order the user has made recently

example *Photo Share*, as the icon implies? The other services consist of two-part names, so why not this one? The Nokia Music link is almost as inconsistent. When clicking the *Music* logo, the page opens for *Nokia Music* service. However, the service is not available in Finland yet, but there is a link to UK service, to *Nokia Music Store UK*. This is very inconsistent, and makes me wonder which one is the actual name of the service: *Music*, *Nokia Music*, or *Nokia Music Store*? Next, the icon for *Nokia Maps* is quite unclear. It looks like a disc, like a CD, but after putting two and two together I reasoned that it must be a compass, as the service is about orienting from one place to another. I think this icon is not the most transparent and best choice for the context, and a map would perhaps be a more informative icon. Finally, I think the logo for N-Gage games is slightly inappropriate. The logo represents tic-tac-toe, which is quite comical as N-Gage is about modern high technology mobile device games. On one hand, users might interpret the icon in a way that the Nokia technology is simple and out-fated, but as this is Nokia's own service, surely that is not the intention. On the other hand, the icon is quite sympathetic, and probably recognisable for most of the users.

I noticed another inconsistency in the use of icons with Apple and Amazon. They use the term *basket*, but there is an icon of a shopping trolley next to the term as can be seen in Figure 11. Thus, the term and the icon do not match entirely. These kinds of details are easy to fix, and service providers should pay attention to them, because people's attitudes are susceptible to change and the slightest inconvenience can drastically affect the user experience with a product.



Figure 11: Inconsistency between the icon and the term in Amazon online shop.

This short discussion shows that trying to find a simple way to represent concepts is not always so clear-cut. Icons are not as clear to users as the designers who invented them might imagine (especially if they have invented the icons on impulse, and not analysed thoroughly the relationship between the concept, term and the icon). Icons can help in making the user interface more understandable and usable when the metaphor behind the icon and the term match. However, a picture is worth a thousand words, and thus an icon can be interpreted in numerous ways. Words are perhaps less ambiguous and thus, for the sake of transparency, my recommendation is to avoid the use of icons to the extent possible.

4.4 Summary of recommended terms

In this chapter, I will briefly summarise the recommendations I have made based on the findings I have made in the websites. Table 6 summarises the recommended terms:

Table 6: Summary of the recommended terms and term phrases.

Concept	Suggested term
To become a registered for the service	<i>create account</i>
To access the service	<i>sign in (log in)</i>
A record that contains data about the user	(company's name+) <i>account</i>
A unique identifier of the user to the service	company's name + <i>ID</i> , <i>username</i>
Unique public name for the user	<i>nickname</i>
Electronic mail	<i>e-mail</i>
A location where goods can be bought	<i>shop</i>
To choose an item to be bought	<i>add to basket</i>
To finish the buying process and pay	<i>check out</i>
Where the selected items can be viewed	<i>basket</i>
To check what has been bought in the past	<i>purchase history</i>
To send input information to the solution provider	<i>send</i>
To search for content	<i>search (+service's name)</i>
To move content from any storage and make it publicly available	<i>share</i>
To list common questions and answers in order to allow the user to get through problems	<i>FAQ</i>
To describe a problem to the service providers and expect a solution in return	<i>contact us</i>
To send comments about the solution to the solution providers	<i>feedback</i>
To leave the service and exit personalized content	<i>sign out (log out)</i>

First, I will summarise the concepts related to getting started with the service. For joining as a new member for the service I recommend *create account*. It is a transparent phrase, relatively short, and it should be fairly familiar to people, as it entails a reference to a written record, in this context the user's personal information. For accessing the service, I recommend *log in*, if the service provider wants to maintain the reference strictly to computing. However, if the

service provider wants to create a metaphor of a concrete place of service, like a hotel, then also *sign in* can be used. Accordingly, also *log out* and *sign out* should be used as pairs to the aforementioned terms.

Second, I will briefly discuss the recommendations I have made on using the service. For the location to enter personal data about the user, I recommend *account*, emphasised with the company's name. The company's name in a term catches the user's attention, and I argue that it creates a feeling of trustworthiness and quality. Repeating the company's name also brings consistency to the entire website, which, in my opinion, results in a harmonious entity. I argue that consistent and harmonious websites provide a positive user experience, as discussed in chapter 3.2, the elements of user experience: throughout the discussion, the consistency within the structure of a website is emphasised because it makes the use of the product more fluent. For the same reason also the terminology must be uniform. The term for a unique public name for the user is a more difficult concept to decide upon, because *nickname* can have both positive and negative connotation. Despite the possible negative association, I am inclined to recommend *nickname*, because even if a nickname sounds abusive, it might be given out of affection. Moreover, as in this case the users give themselves the nickname, it is safe to assume that it will have a positive connotation.

For *electronic mail*, I recommend to keep using the hyphenated form *e-mail*, because the unhyphenated form seems to have no grammatical explanation. It seems to be a fashionable trend, and is perhaps more familiar to users who have more experience on computing than the general public. If the service provider wants to maintain grammatical correctness in their language, I suggest keeping with the traditional form *e-mail*.

For the location where goods can be bought, I recommend *shop* to be used in user interfaces that use British English. For choosing an item to be bought, I recommend using *add to basket*, because *basket* is a transparent term as it clearly indicates (through a metaphor from real

life) that the item will be stored in a specific location before the actual process of buying. Consequently, for the process of buying I recommend using the verb *check out*. Verbs are usually preferred in technical writing, and should thus also be used in websites, because they clearly state the action that follows clicking a button, for example. For the possibility to view previous purchases I recommend *purchase history* because it contains no ambiguities and is thus transparent and understandable for the user.

Third, I will present the commands that are common functions in a web service. For sending input information for the service provider, I recommend simple *send*, because it is transparent and a familiar term. There is no need to use metaphors with this concept. For searching content or information from the website, I recommend using the service's name attached to *search*, because it would be more transparent for the user in the sense that it clearly indicates where the search is limited. For the concept of moving content to make it publicly available, I recommend using *share* as it is simple and transparent and familiar from everyday life.

Finally, I will discuss the terminology related to getting support in the use of the service. For listing common questions and answers in order to allow user to get through problems I suggest the common short form *FAQ*. I argue that this term is so well-known today that it can be used and people will know what they get, even though it is an abbreviation, which TSK and Helle et al do not recommend using, because they are not transparent (discussed in chapter 2.2.2 and 2.3). For describing a problem for the service providers and to expect an answer, I suggest using *contact us*. I argue that it communicates a sense of caring and closeness, a kind of familiarity which makes the user trust the service provider. For sending comments, I recommend using the term *feedback*, as it clearly indicates what the user is able to do, but it does not suggest that the service provider answers back.

5 CONCLUSION

The purpose of this study was to analyse the user experience of terminology used in a defined set of websites in order to make recommendations on terms that will create a positive user experience on a website. Positive user experience is argued to increase the user's attachment and loyalty to a company, which in turn increases the company's sales. I argue that in the case of user interfaces, it is very important to analyse the effect of terminology, because user interfaces are mainly experienced through language, and thus language affects the user experience notably.

As a method I studied the terminology of a set of websites that offered services from the areas of photography, music and online shopping. My aim was to find out if there are set terms and term phrases that are commonly used in web services. I created use cases according to which I proceeded through the websites as imitating a new user to the web service. I also defined a set of characteristics according to which I analysed the user experience of the terms that I collected from the websites: transparency, consistency, appropriateness, familiarity, and distinctiveness. Linguistic economy also played an important role, as space limitations are a dominant element in the terminology of mobile device user interfaces.

The findings that I made in the material are quite congruent with the expectations mentioned in the introduction, that is, there are terms that are commonly used in web services. There are a lot of terms or term phrases that are common to the websites that I studied, for example *sign in*, *sign out*, *create account*, *FAQ*. However, as consistency was one of the elements according to which I analysed the user experience of the terms, the inconsistency in the terminology within a website was a surprise. It seems that either there are several people constructing the different parts of the website and they do not communicate with each other the choices they have made in the terminology, or there is one person who has not listed the terminology anywhere and forgets what they have used before. In either case, the result is that a different term is used for one concept in

different places. The creation of a term database would solve the problem of inconsistency, as proposed in chapter 3.2 in the discussion about the structure of a website.

Transparency became the most important element in my analysis because, quite naturally, in order to the user to understand what, for example, a certain command means, they must understand what the term means. Thus, the term must be unambiguous and clearly describe the concept behind it, for example *add to basket* and *purchase history*. Sometimes a metaphor like a *basket* may make the concept easier to understand for the user, because they can relate the term to something they already know from real life. Transparent terms make the language of the user interface more understandable for the user and thus more usable. Usability, in turn, affects user experience notably, as stated in the discussion about the relationship of usability and user experience in chapter 3.3.

Appropriateness was an interesting element to study, because in order to evaluate the appropriateness of the terms, I needed to consider the intended audience of a website, the image the company wants to convey, and the possible metaphors behind the terms. The idea is to evoke positive associations in the users' minds towards the web service and the service provider. For example, I argue that in a case when the company wants to maintain their image as a computing service, that is, a company that is professionally oriented to IT-business instead of services as such, the pair of term phrases *log in – log out* is more appropriate because they are by definition related to computing. In comparison, *sign in – sign out* refer to entering and exiting a real-life location, such as a hotel. This term pair is appropriate for a company that wants to emphasise their services in a more human way, that is, concrete, real-life, and personal. As mentioned in chapter 2.2.1, a term should fit its purpose, and thus it is important to find appropriate terms for the context. A personal approach is characteristic to the Web 2.0, and it can also be seen in the terminology of the current web services, for example, *my account*, *my basket*.

As stated above, metaphors add to the familiarity of concepts. I argue that familiar words used as user interface terms contribute to a positive user experience, because the user can feel that they are operating in surroundings that are familiar and comfortable. Technical words and jargon that the user is not familiar with may make the user feel alienated and unwelcome. This idea was discussed in chapter 2.3 about the characteristics of good user interface term. Thus, I argue that everyday words like *basket*, *share* and *send* add to the flow of the use, resulting in an effective and pleasant user experience.

Finally, I studied the distinctiveness of terms to some extent, and found out that the difference of one or two letters between two terms is not enough, just as TSK's recommendations state. I examined the difference between the terms *sign up* and *sign in*, and noticed that the differentiation made with prepositions may not be enough even for native speakers of English. The entries of these two phrases in Collins showed that both can refer to enlisting, or becoming a member, both of which generally speaking mean the same thing, that is becoming a part of a community or the like. However, I noted that *sign up* should not be recommended because of its reference to military service, which might not bring pleasant associations for the user. This finding is related to the appropriateness of terms, which illustrates that all the elements that I have chosen for analysing the user experience of terms are closely related to each other. I also used linguistic economy as one tool for evaluating the user experience of the collected terms. I aimed to recommend terms that are short and simple, and ruled out long phrases such as *join as a new member*.

In my opinion, the tools chosen to study the user experience were quite successful, as they offer a good basis for further study of the user experience of terms. However, the method used in this study would have been more effective and informative if a usability test had been arranged. Then real users, who do not have experience on terminology, could have been interviewed, and

their opinions could have been compared to my expert evaluation. This way a more truthful general view could have been created on the user experience of the terms. My suggestion for further research is to arrange a usability test for a website, and ask the users to pay attention to the terms used in the user interface, and analyse their answers according to the elements that I have identified. Furthermore, I suggest that more attention should be paid on the metaphors behind the terms and the associations the metaphors create in the users' minds. This would be helpful in the study of how metaphors could be utilised in the creation of a positive user experience.

With these words, I conclude my study. It has been interesting and stimulating to work on a topic that has not been studied before, and I hope that my findings will be useful in future user interface design and that the importance of terminology work will be acknowledged in this area. I also hope that the tools that I created for evaluating the user experience of terminology will be utilised and further developed in terminology work.

WORKS CITED

Printed material and discussions

Anderson, C. 2006. *The long tail: why the future of business is selling less of more*. New York : Hyperion.

Collins Cobuild English Dictionary for Advanced Learners. 2001. Glasgow: Harper Collins Publishers.

Forlizzi, J. and Battarbee, K. 2004. *Understanding Experience in Interactive Systems*. New York: ACM.

Godenhjelm, Nina. 2007. *Instructions and Information on Collecting Term Entries and Creating Glossaries*. Nokia Language and Terminology Development.

Haarala, R. 1981. *Sanastotyön opas*. Helsinki: Kotimaisten kielten tutkimuskeskus.

Hackos, J. and Redish, J. 1998. *User and Task Analysis for Interface design*. New York: Wiley.

Helle, J. and Järnström J. and Koskinen, T. 2003. "Takeout Menu. The Elements of a Nokia Mobile User Interface". In *Mobile Usability: How Nokia Changed the Face of the Mobile Phone*, ed. Lindholm, C. and Keinonen, T. and Kiljander, H. 47-71. New York: McGraw-Hill Professional.

ISO 704:1987. 1987. *Principles and methods of terminology*. Geneva: International Organization for Standardization.

ISO 9241-11. 1998. Ergonomic requirements for office work with visual display terminals (VDTs) Part 11: Guidance on usability. Geneva: International Organization for Standardization.

Kaihu, Heini. 1999. Käyttöliittymämetaforat ja käytettävyys. Pro Gradu thesis, University of Tampere.

Krug, Steve. 2005. *Älä pakota minua ajattelemaan! Tervettä järkeä verkkosuunnitteluun*. Helsinki: Readme.fi

Maia, B. 2008. Discussion related to the Pro gradu. 2 April 2008.

Marsland, B. 2004. *Writing in English*. Nokia Language and Terminology Development.

Microsoft. 2004. *Manual of Style for Technical Publications*. Redmond, Washington: Microsoft Press.

Nielsen, J. 2000. *Designing Web Usability*. Indianapolis: New Riders Publishing.

Nielsen, J. 1993. *Usability Engineering*. Boston: Academic Press.

Norri, J. 2007. Lecture notes from the course Word Formation in English, University of Tampere 7 November 2007.

Norri, J. 2008. Lecture notes from the course History of English, University of Tampere 15 April 2008.

Roto, V. 2006. *Web browsing on mobile phones – characteristics of user experience*. Doctoral dissertation. Helsinki University of Technology.

Roto, V. 2007b. An e-mail response 13 December 2007.

Picht, H. and Draskau, J. 1985. *Terminology: An Introduction*. Guilford: University of Surrey.

Schriver, K. 1997. *Dynamics in Document Design*. New York: Wiley.

Suonuuti, H. 2001. *Guide to Terminology*. Helsinki: Tekniikan sanastokeskus.

Suonuuti, S. 2007a. An e-mail response 15 November 2007.

Suonuuti, S. 2007b. *Termien käytettävyys ja laatu. Haasteita ja kokemuksia yrityksen terminpankin ylläpidon näkökulmasta*. Lecture in Termit ja tekijät kohtaavat seminar, Helsinki 29 November 2007.

Suonuuti, S. 2007c. PPSO monthly info session by Language and Terminology Development 23 November 2007.

Suonuuti, S. 2008a. Discussion 18 January 2008.

Suonuuti, S. 2008b. An e-mail response 28 January 2008.

Tekniikan Sanastokeskus r.y. 1988. *Sanastotyön käsikirja*. Helsinki: Suomen standardoimisliitto.

Wahl, Heidi. 2008. Discussion in Ovi terminology meeting 15 February 2008.

Online material

Encyclopaedia Britannica. 2008. *Attitude*. URL: <http://www.britannica.co.uk> [Accessed 11 January 2008]

Free On-Line Dictionary of Computing. 2002. *Electronic mail*. URL: <http://foldoc.org/index.cgi?query=e-mail&action=Search> [Accessed 18 April 2008]

Gabriel-Petit, P. 2007. *What is user experience?* URL: <http://www.uxmatters.com> [Accessed 19 November 2007]

Hazzenzahl, M. 2007. *Measuring the User Experience*. A Powerpoint presentation in Nokia intranet. [Accessed 10 January 2008]

Inspired Human Technology. Press backgrounder. 2005. A PDF presentation in Nokia intranet. [Accessed 31 January 2008]

Merrill, D. 2006. *Mashups: The new breed of Web app*. <http://www.ibm.com/developerworks/xml/library/x-mashups.html> [Accessed 27 March 2008]

MOT Collins English Dictionary 1.0a. Harper Collins Publishers.

Nokia Mobile Devices UI Glossary. 2007. Nokia intranet.

Nokia Termbank. 2007. Nokia Intranet.

O'Reilly, T. 2005. *What is Web 2.0*. URL: <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html> [Accessed 23 October 2007]

Porter, J. 2003. *Testing the Three-Click Rule*. URL: http://www.uie.com/articles/three_click_rule/ [Accessed 23 April 2008]

Roto, V. 2007a. *User Experience – quo vadis*. A Powerpoint presentation in Nokia internal Wiki. [Accessed 8 October 2007]

Techdictionary. 2008. *Upload*. URL: http://techdictionary.com/search_action.lasso?-Database=db_A00534&-Table=Layout+%231&-ResponseAnyError=%2Fsearch_error.lasso&-OperatorLogical=OR&-Operator=eq&-Token=-Search&term=upload&-Nothing=Search [Accessed 7 April 2008]

The Localization Industry Standards Association (LISA) 2008. *Frequently asked questions*. URL: <http://www.lisa.org/info/faqs.html> [Accessed 9 January 2008]

Usability Professionals' Association. 2007. *Business Benefits of Usability*. URL: http://www.usabilityprofessionals.org/usability_resources/usability_in_the_real_world/benefits_of_usability.html [Accessed 4 December 2007]

Webopedia. 2008. *Upload*. URL: <http://www.webopedia.com/TERM/u/upload.html> [Accessed 7 April 2008]

Wikipedia. 2007a. *Web 2.0*. URL: http://en.wikipedia.org/wiki/Web_2.0 [Accessed 23 October 2007]

Wikipedia. 2007b. *Attitude*. URL: http://en.wikipedia.org/wiki/Attitude_%28psychology%29 [Accessed 19 November 2007]

Websites analysed

Amazon. 2007. <http://www.amazon.co.uk/>

Apple iTunes Store. 2007. <http://www.apple.com/itunes/store/>

Apple Store. 2007. <http://store.apple.com/Apple/WebObjects/ukstore>

Flickr. 2007. <http://www.flickr.com/>

Ikea United Kingdom. 2008. <http://www.ikea.com/gb/en/>

Ikea United States. 2008. <http://www.ikea.com/us/en/>

Sony Ericsson. 2007. <http://www.sonyericsson.com/cws/home?cc=gb&lc=en>

APPENDIX 1: CONCEPTS USED IN THE STUDY

Getting started with the service

To create an account, join as a member

To access the service

A place to enter and later review data about the user

A unique identifier of the user to the service

Unique public name for the account

Electronic mail

To leave the service and exit personalized content

Shopping

A location where goods can be bought

To choose an item to be bought

To finish the buying process and pay

Where the selected items can be viewed

To check what has been bought in the past

Commands

To send inputted information to the solution provider

To search for content

To move content from any storage and make it publicly available

Support-related terminology

To describe a problem to the service providers and expect a solution in return

To list common questions and answers in order to allow the user to get through problems

To send comments about the solution to the solution providers

APPENDIX 2: USE CASES USED IN THE STUDY

Music shop (Web pages to be compared: iTunes, Ovi.com)

- The user registers to the service and signs in.
- The user defines account settings and creates a profile.
- The user searches for music and selects or groups music items. How to find music, sample, rate, and bookmark items.
- The user purchases a song.
- The user shares and recommends music to their friends.
- The user exits the service.

Photo shop (Web pages to be compared: Flickr, Ovi.com)

- The user registers to the service and signs in.
- The user defines account settings and creates a profile.
- The user uploads a picture and shares it with their friends.
- The user comments on a picture, and reads the comments they have received.
- The user exits the service.

Online shop (Web pages to be compared: Sony Ericsson, Apple Store, Amazon)

- The user registers to the service and signs in.
- The user defines account settings and creates a profile.
- The user searches for items (e.g. for a book)
- The user marks some items that they want to buy later (or receive as a present?)
- The user wants to try out an item before buying.
- The user purchases an item.
- The user exits the service.