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Exploring the Possibilities for Mobile Insurance Services

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Abstract — **Due to the complex nature of insurance, customers often require the assistance of insurance officers when upgrading their insurance cover or managing other insurance related tasks. The current electronic services provided by the insurance companies are more or less product-oriented and therefore difficult to manage, or even understand by ordinary customers. As modern technology enables the development of graphical game-like approach on services and taking more benefit out of mobile device characteristics, it is more likely to persuade the customers to operate in the electronic environment in order to get themselves familiar with insurance related issues.**

In this article, we are the taking the future perspective on the topic by considering what kinds of electronic insurance services could be offered in mobile service environment. More precisely, we discuss how Web-based (already existing) insurance services could be applied in mobile service context, and what kinds of new features (e.g. location information and mobile identification) could be utilized in context of mobile services to enhance the overall service.

Keywords — **electronic services, mobile services, Web services, non-life insurance, consumer**

I. INTRODUCTION

Web is nowadays an essential channel for customer service functions as companies target their services to mass markets. Complex and only occasionally used services, such as insurance, also benefit from the electronic environment by providing the customer with the freedom of time and place. Independency of time and place makes it possible for the customers to gain information about insurance products and their features whenever it is necessary and most suitable. However, as the complexity of insurance matters does not fully support self-service, the main advantage of the electronic environment remains in the informational level for most insurance products. Therefore, the main focus of the insurance acquisition still relies in the face-to-face contact between the customer and the insurance company personnel or independent brokers. On the other hand, these informative services can be developed to be more visual, and thereby, easier to use for the customers.

According to a research made by Gartner in 2005 for non-life insurance companies, over 80% of the Web sites had included the ability of sending email to the insurer, but fewer than 25% had included the functionality of making policy changes or additions in their Web site [1]. Further, including advisory or demonstrative services (i.e. services which demonstrate the characteristics of different insurance products to customers by utilizing the strengths of the electronic service environment, such as combining voice, picture and movement) to the Web sites of insurance company is still generally remained as unused possibility in order to enhance the electronic service concept [1].

As to electronic service channels, Internet has been the only channel for offering electronic insurance services so far. Some early mobile service applications for insurance industry have already been launched as is discussed later in this article. However, the possibilities of other electronic channels, such as mobile phone, and digital TV, to either support Internet-based service or even function as an alternative electronic service channel to the Internet, and thereby complementing the overall electronic insurance service concept, are yet somewhat unclear.

In this article, we take a role of visionary by considering what kind of insurance services could be created in the mobile environment. In addition, we discuss how Web-based (already existing) insurance services could be applied in mobile service context, and what kinds of new features (e.g. location information and mobile identification) can be utilized in context of mobile services to enhance the overall service. We limit our viewpoint to consider non-life insurance products which are targeted to consumers. However, the presented models can possibly be applied also to life and health insurance in some degree.

We begin with a theoretical discussion based on literature and earlier research by defining what is meant by electronic services (especially mobile services), and describing the current state of mobile services with our focus within the non-life insurance sector. Further, we compare the Web and mobile environment in order to discover the service characteristics and technology innovations that attract customers to use the services and provide them with positive service experience in both environments. Based on the theoretical discussion and the previous research related to electronic insurance services [2], [3], we suggest a theoretical three phase model that can be used in developing and

transferring electronic (Web-based) insurance services to the mobile environment. Relating to the model, we present the preliminary results of the "eInsurance – Novel Electronic Insurance Services", an on-going research project within the insurance business area. The research project aims at developing Web–based insurance service concepts that support the customers in their online transaction process by demonstrating the characteristics of different insurance products, and thereby increasing the understanding of the customers, in the electronic service environment. Finally we conclude the paper by discussing how the proposed theoretical model can be used in practice. We suggest that the mobile dimension with its extended features is expected to enhance electronic customer service platform of insurance companies even more. Insurance companies are, thereby, able to provide the customer with more comprehensive electronic insurance services, and also more extensive selection of possibilities to fulfill insurance-related service needs.

II. THEORETICAL BACKGROUND

A. General characteristics of services

Services are usually characterized by intangibility, simultaneity (production and consumption at the same time), perishability (services cannot be stored), lack of ownership (services cannot be owned), and heterogeneity (service encounters are not alike) [4]-[6]. The above presented list on service characteristics is, by any means, exhaustive but due to their essential nature the content of services might, however, be more difficult for customers to comprehend than product characteristics.

Certain types of services are especially difficult to be understood by customers. These kinds of services are normally reflected by, for instance, high levels of intangibility, heterogeneity, and infrequency of use [7]. In service literature these kinds of services are referred as complex services [7]-[9]. Complex services are defined as "services that consist of many attribute values per attribute, which are often tailor-made, infrequently purchased, more difficult to comprehend, and require in general assistance during the decision-making process" [10].

Earlier literature on service research has suggested that certain branches can be perceived as complex. For example, financial services, especially insurance [8] and banking to some extent [7], [10], are considered as complex services due to their service characteristics, such as, complexity, abstract, heterogeneity, physical and mental intangibility, infrequency of use, and abstract nature.

In the focus of this study complex services are approached from the insurance perspective. In addition to the complexity of the service itself, the service environment, on the other hand, makes it even more challenging for the customer to comprehend and experience the service. In this study insurance services are considered to be in the electronic service environment, especially in mobile service environment. Electronic service environment, such as the Internet, is generally based on self-service principle [11] meaning that customers are using the services available in the electronic channel by themselves without any physical support by the service provider. Therefore, complex services which are transferred to the electronic service channel might be even more difficult for the customers to understand.

In order to summarize our view on the development of mobile insurance services, we are keeping the essential nature of services, especially complex services, in mind but also considering the challenges related to the electronic service environment. In addition to the discussion on the nature of services the essential nature of electronic services and also mobile services are discussed more thoroughly in the following section.

B. Electronic services

Due to the growth of Internet connections in the past decade, the need for services that make use of this medium has become obvious. Kalakota has suggested that the evolution of electronic services can be divided to three phases [12]. In the first phase Internet services were only informative; the users browsed through Web pages (addresses) that consisted of text-based information and figures related to different topics. This was followed by external documents and applications that could be stored to the Web page and downloaded or in other form used by viewers. In the next phase, the first interactive (or semi-interactive) services enabled the users to fill in a form, print the information on paper and send it to the service provider or other instance using regular mail. Finally, and due to the growth of both public and private information services on the Internet, the need of faster and easier communication channels enhanced the development of truly interactive electronic services. These services enabled real-time communication and transaction between different instances (B2B, B2C, C2B, etc.) first by email and later on the Internet.

Currently the trend is going towards multichannel services that enable easy accessibility for example by using mobile phones or PDA (personal digital assistant) devices. However, simply trying to remove the restrictions of time and place by developing an alternate graphical user interface to a service isn't necessarily enough for the customers. Instead, the service should make use of the alternate channel features therefore providing added value to the customers and persuading them to use the service.

Electronic services are defined to "comprise of all interactive services that are delivered on the Internet using advanced telecommunications, information, and multimedia technologies" [13]. In this context, the term "electronic service" defines a Web page that requires user interaction in terms of, for example selecting elements, filling in a form or in some other way providing the service with information that is either personal or relates to the person's own interest areas and therefore makes it possible to personalise the service to meet the user preferences. As a result of this interaction, the electronic service provides the user with information related to a certain topic. In terms of electronic insurance service, the information relates to insurance products or other personal security or risk manage-

ment related issues.

The benefit of the electronic channel varies depending on the business area. If we exclude certain limitations such as the ability to touch or test a product and the receiving of immediate gratification in the service, the electronic channel can be perceived as flexible and practical alternative for the customer to fulfil his service needs [14]. Book trade is an example of a business area where the electronic channel has been taken into full use as bookstores have developed electronic marketplaces to enhance their business (e.g. Amazon.com). On the other hand grocery stores have very little to offer in the electronic environment due to their product characteristics (use-by dates determined by legislative bodies, freshness and durability of certain products, etc.). In the financial sector banks have transferred majority of their daily services, but also services related to long term saving and/or investment activities, into the electronic environment. However, insurance services are still highly dependent on personal contact due to the complex nature of insurance.

In conclusion, the growing amount of Internet connections and technology development in the past decade has made it possible to develop truly interactive services that enable multichannel access and provide added value to the customers thus persuading them to use electronic services. In this context the electronic service consists of a Web page that displays personalised content to the users based on their selections or other kind of information entry. The benefit of the electronic channel varies depending on the business area, based on the characteristics of the products and service assortment.

C. Mobile services

The variety of services targeted to mobile customers has grown significantly in the 21st century. As novel technology innovations such as 3G (Third generation wireless broadband mobile communications) or AIPN (All-IP Mobile Network) provide customers with moderate or high-speed Internet connections, the mobile network has become an important channel for many service providers. Despite minor changes in the graphical interface, mobile services do not necessarily differ from the traditional Web services, but instead they extend the freedom of time and place by enabling service transactions during lunch hour or even a journey abroad. Further, as the mobile phone or other form of PDA (personal digital assistant) device is almost always at hand, the threshold of using it for service transactions is much smaller than a personal computer at home. In addition, the extended features of mobile devices, such as location information or mobile identification, can be utilized to provide novel service innovations to customers on the move. In insurance business this requires both technology utilization and business process development, but it might introduce a new area of services that make efficient use of the new technology, thus providing the insurance company with a service concept that enables competitive advantage in the worldwide scale.

Generally a mobile service consists of an application in a user terminal, wireless access networks and servers that provide chargeable content to the users. In the context of this paper, mobile service can be defined as an electronic insurance service used via mobile terminal in a wireless network. These can be regarded also as consumer mobile applications [15], because the users of these services are customers in contrast to corporate mobile applications where the service users are insurance agents, brokers and other intermediaries.

There are only a few mobile applications available for consumers. Harris-Ferrante et.al. [15] suggest in their study that there is very little demand for business-to consumer mobile applications in the insurance industry. In USA (2004) approximately 10 percent of life and health and 3 percent of non-life insurers enable customers to obtain information via a wireless device [15]. However, it can be expected that the use of mobile services for consumer transactions in insurance context will grow over time.

As an example of a successful mobile service is the "Pay As You Drive"™ insurance from Norwich Union, one of the biggest insurance groups in Great Britain [16]. In this service the monthly car insurance premiums are based on how often, when and where the customer drives. A telematic unit with a satellite position receiver and wireless communication is installed into the customer's car. The telematic unit monitors customer journeys, which allows real-time information to be relayed to the insurer's central computer. The customer's premiums are then calculated based on car usage. The telematic unit acts also as a stolen car locator that can be used for tracking the car in case of theft.

Other more common mobile services are information applications. One practical example about information applications can be found from the Finnish insurance sector. The largest non-life insurer of Finland, If P&C Insurance Company Ltd., launched "If 24h Mobiili" service for travel insurance customers in May 2006 [17]. It is a simple information application that can be used in several Nokia mobile phone models. It simply displays important phone numbers in case of an emergency.

In the future, the key issues of mobile insurance services will be the development of services that utilize both customer mobility and presence information. The successful mobile services will be those that can take benefit from both of these.

III. METHODOLOGY

The background of this article is in a public project, "eInsurance – Novel Electronic Insurance Services" funded by Tekes – Finnish Funding Agency for Technology and Innovation and managed by the School of Economics and Business Administration at University of Tampere and VTT Technical Research Centre of Finland. The other research partners in the project are Tampere University of Technology and National Consumer Research Centre. The industrial business partners are a Finnish insurance company Pohjola and two software companies Profit Software and Mermit Business Applications. The project is carried out during June 2005 and February 2007. The main objec-

tive of the project is to develop a comprehensive and visual electronic insurance service environment to the Internet in which the customership life cycle logic [18] is followed and applied in the insurance context.

The concept work mentioned above was already applied in a preceding project "eInsurance − Electronic insurance business and risk management" (2003-2004) that introduced a concept for selecting and evaluating the insurance cover of the customer. This was performed by mapping the customer profile in a game-based interface. The customers provided the required information on their housing, family and assets by using the mouse to select and move objects on the display. In return, the customers received suggestions on mandatory and optional insurance products that related to their profile together with short descriptions and additional risk data that was linked to the objects during the selection process. Finally the customers were directed to a phase where they could 1) find additional information from the insurance company Web pages, 2) buy insurance products and/or 3) send the profile to the insurance company together with the customer's contact information. The service was published in January 2005 and later exploited in a practical business context by the Finnish insurance company Pohjola. They developed their own "Insurance selector" service in July 2006 which was based on the service concept model developed in the first eInsurance research project.

The proposed theoretical model for developing successful mobile insurance services consists of three phases that are listed below.

1. *Design and development* of an electronic insurance service in the *Web environment*
2. *Evaluation* of the service in the *Web and mobile viewpoint* (business and technological characteristics, advantages, disadvantages, etc.)
3. *Design and development* of a *mobile insurance service* based on the existing electronic service

The practical focus of this article is in phases one and two due to the concrete examples from the two eInsurance projects. Phase three is handled from a visionary viewpoint, suggesting mobile services that could be developed based on the existing and future Web services as well as the capabilities of mobile technology.

Since our view on visioning mobile insurance services is rather realistic than utopistic, we are leaning on concrete and practical concepts that are already tested in the Internet environment, and that already are in real use or may have potential to become utilized in practice. Therefore we are following the above described three phase model in considering and visioning the development of mobile insurance services.

For mobile service, the availability and usability regardless of location or time is the essential advantage. However, there are some technical characteristics to be considered when Web-based services are transformed into the mobile environment.

Due to the fact that the user interfaces of mobile terminals are more limited than in PCs, the Human-Machine Interface (HMI) must be redesigned according to the following rules:

- avoid extensive textual information,
- prefer flat menu structures,
- prefer audio instead of text

Location-based services can be exploited for example in travel or car insurance applications by following the guidelines mentioned below:

- Because the speed of the wireless network is usually lower than that of a fixed broadband network, the amount of data transfer should be kept in minimum.
- The characteristics of client application software in mobile terminals are usually limited compared to the client application software in PCs.

Due to the above mentioned possibilities and limitations of mobile services, Web services have to be carefully analysed before transferring them into the mobile environment.

IV. RESULTS

In this chapter, we present the results according to the proposed theoretical model. We begin by describing two examples of a Web-based electronic service as defined in the theoretical model phase one; the first example is the eInsurance service for selecting and evaluating insurance cover as an existing and the second example is the eInsurance "safety advisor" service as a future service in the insurance business area. Then we evaluate the two previously described services as defined in the theoretical model phase two. In the evaluation, we are trying to discover the key elements of each service from the Web and mobile viewpoint. Based on this background information, we move on to the theoretical model phase three and present as concrete results the potential mobile services and technological characteristics that either enhance the Web-based services or replace them.

A. The eInsurance service

The eInsurance service for selecting and evaluating insurance cover is a browser-based Shockwave application that can be downloaded from the project Web site [19]. The service requires an Internet connection for downloading the Shockwave application, but also for certain features of the service such as

- sending customer profile information to the insurance company for contact purposes,
- obtaining additional information from the insurance company,
- buying insurance products from an on-line marketplace provided by the insurance company

The first phase of the service (selection phase) collects information on the user. The phase is divided into three parts in which the user provides the service with information related to the following areas;

- type of accommodation (apartment, row house, detached house)
- family members (myself, spouse and/or other family members, children, pets)
- assets (car, motorbike, motorboat, bicycle summer

cottage, valuables, etc.)

First the user is asked to select the type of accommodation by clicking on one of the three accommodation types shown in the display. Second, the user is required to drag and drop family members to the selected house based on the user profile.

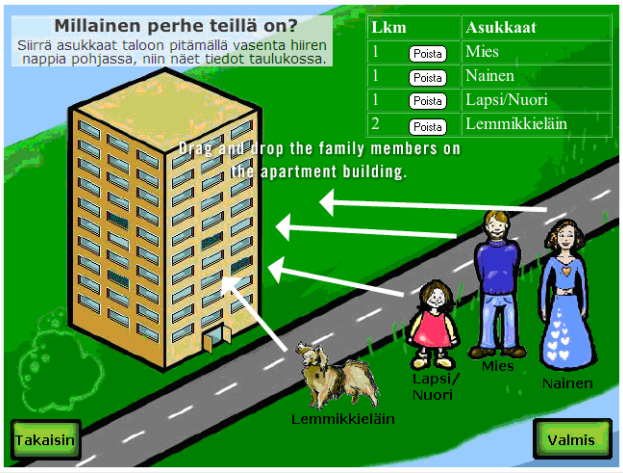

FIGURE 1. EINSURANCE SERVICE – SELECTING FAMILY MEMBERS

Third, the user is required to drag and drop different assets to a garage. Different assets such as vehicles, summer cottages or valuables are shown in the display.

After making the selections, the user is transferred into the summary and suggestion phase. The display is divided into two columns in which the left column consists of the objects that the user has chosen and the right column contains suggestions on insurance products that are mandatory or voluntary for that certain object (Figure 2). In addition to the actual insurance product, the column provides also detailed information on the product features such as additional services. The user is also able to open the summary in a separate browser window for saving or printing the information. Later in the service, the user has also an option to send the information to an email address specified by the user.

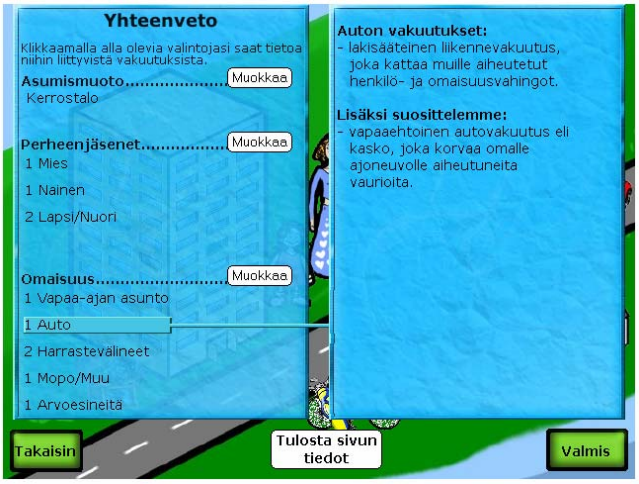

FIGURE 2. EINSURANCE SERVICE - SUMMARY OF THE SELECTIONS AND SUGGESTIONS ON SUITABLE INSURANCE PRODUCTS

The final phase of the service presents the user with different options on further actions (Figure 3). The window contains three buttons with the following options:

1. transfer to the insurance company's Web site to receive further information on the products
2. transfer to the insurance company's Web site for buying insurance products
3. send the information to the insurance company via email to receive an offer or to contact an officer

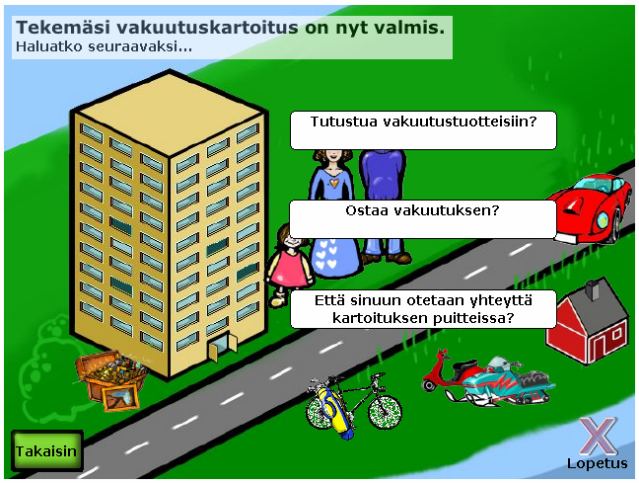

FIGURE 3. EINSURANCE SERVICE – FURTHER ACTIONS PHASE

The service provides also useful information related to the different risk factors in the user's life. The risk information is shown in balloons that are displayed whenever the user places the mouse cursor on top of any object in the selection phase. The balloon consists of either statistical information for instance on common accidents or basic information on insurance products concerning that object.

B. The eInsurance "safety advisor"

The objective of the future eInsurance "safety advisor" is to support customers during the insurance acquisition phase. After the customers have performed the insurance selection and evaluation phase, they are shown a display of a typical home based on the given profile information. In practice the family members as well as other assets are displayed in a graphical environment in which the customer can move and make observations. The purpose of the service is to visualise the different characteristics defined in insurance product descriptions that might not yet be known by the customer. In addition, the safety advisor displays also information on practical issues, for example measures in case of an accident, travel checklists or useful Weblinks. The development of the "safety advisor" service has begun in fall 2006 and the publication is scheduled in March 2007.

C. Evaluation of the Web-based insurance services

The key elements of the eInsurance service for selecting and evaluating insurance cover are the following:

1. customer-oriented viewpoint
2. game-based graphical interface

3. simplified structure of the service
4. common information on risks displayed in balloons during the service process

The customer-oriented viewpoint is adopted in the eInsurance service for selecting and evaluating insurance cover instead of the traditional product-based viewpoint commonly used by the insurance companies. This enables the customers to approach the complex insurance context by describing their own living environment first before receiving information about products and services provided by the insurance company.

The graphical interface of the service provides the user with game-like visual experience instead of matter-of-fact traditional insurance service encounter, thus giving the customer the feeling of a successful accomplishment in the service. At a general level, games also support learning, which makes the service perhaps easier to adopt.

The service was designed to be short and very simple in order to provide the users with a positive service experience. The results of the service are displayed after three phases that require little influence from the user. The results cover one phase after which the user is forwarded to the final phase, i.e. choosing whether to visit the insurance company Web pages in order to acquire more information, to buy insurance or send the collected information to the insurance company for contacting purposes. Due to the fact that the environment is usually characterized as complex and matter-of-fact, the simplified structure of the service also supports this viewpoint.

The useful risk information displayed in balloons during the service process can also be considered a key element of the service since displaying the potential risk factors in life might awaken the users and have an effect in their habits.

In addition to some of the key elements defined above, the future eInsurance "safety advisor" service is thought to contain the following key elements:

1. the content is targeted to support the understanding of insurance issues (i.e. avoid misunderstanding)
2. the graphical interface adopts to the user's selections
3. wider perspective to useful risk information

The objective of the "safety advisor" is to visualise the different characteristics defined in insurance product descriptions that might not yet be known by the customer and therefore avoid any misunderstanding related to them.

The graphical interface of safety advisor adapts to the user's selections, for example when the person has selected a certain accommodation type and the number of family members in the eInsurance selection and evaluation phase, the selected environment is displayed to the user in the "safety advisor" phase. This way the user becomes acquainted with the service which supports the acquirement of a positive user experience.

In addition to the previous service, the "safety advisor" is planned to display also information on practical issues related to risk management, for example measures in case of an accident, travel checklists or useful Web-links.

D. Visioning the mobile insurance services

The different possibilities for mobile insurance services development vary depending on the purpose and technological perspective. As mentioned already in the theoretical background chapter, information services as well as location-based services have already been implemented to the insurance business environment, but only in a narrow scale. Below we propose potential mobile services that could be implemented either to enhance, and support the use of already existing electronic (Web) insurance services (supporting role) or to function as independent option to Internet-based electronic service (alternative role).

TABLE 1. POTENTIAL MOBILE INSURANCE SERVICES

Mobile service name	Mobile service function	
	supporting	alternative
Service for selecting and evaluating insurance cover		x
Traveller's insurance initiator	x	(x)
Information directory service (in case of an accident)		x
Insurance cover verification reminder	x	
Service for determining risk and safety related issues	x	(x)
A safety application for the elderly		x

The "Service for selecting and evaluating insurance cover" consists of a mobile application that follows the current Web service concept developed in the eInsurance project and is targeted to private customers. Similarly as the corresponding service concept utilizes the graphical capabilities of Web environment, the proposed mobile application would exploit the graphical capabilities of mobile devices and therefore provide a customer with an equal alternative to the use of Web service.

The "Traveller's insurance initiator" is a mobile application that initiates the owner's travel insurance by SMS or directly through the Web whenever the mobile device is located over a certain distance from home or other specified location. The service supports a Web service for managing the travel insurance characteristics or replaces the previous when ordering and managing the service with the insurance company call center. The idea has been applied from the Norwich Union insurance service and the application would utilize of the location-based information of the mobile device [16].

The "Information directory service" resembles the "If 24h Mobiili" service [17], but provides more information related to for example to-do checklists in addition to phone numbers in case of an emergency. The application consists of an off-line directory database that can be browsed through depending on the case (accident, damage, etc) and the information requirement. The directory could be updated automatically via an on-line connection to the insurance company and therefore offer a corresponding option to existing Web service in mobile service channel.

The "Insurance cover verification reminder" is a supporting service that reminds the customer at a certain schedule to update the customer's personal insurance profile. The service could first be based on SMS messages sent by the insurance company, but later based on, for example the change of owner information in the mobile device (address

change results into a suggestion to contact the insurance company) or even location information (if the principal location of the phone changes for a longer time period, the application notifies the customer).

The "Service for determining risk and safety related issues" applies the characteristics defined in the future eInsurance "safety advisor" service. It is a supporting service that enables the user to visualize the potential risks related to home, traffic, travel, etc. environment by visualizing the information in a device that can be taken to the actual location. The service would utilize the graphical capabilities of the mobile device and due to the right location enhance the influence of the displayed safety messages.

Since insurance business is also safety business the last vision is targeted to increase safety among customers, in this case, elderly. The "Safety application for the elderly" is an application that makes use of the motion detection capabilities of certain mobile phones thus replacing other safety devices. In case of the target person falling down, for instance, the mobile phone would react to the sudden movements and make a ringing tone in order to check that the owner is ok. In case of the owner not answering the phone, the application would then contact a specified person (family member, home care, etc.) and play a pre-recorded message together with the current location information to notify the target person of the emergency.

V. DISCUSSION

Technological capabilities of mobile phones and other devices enable the use of mobile services targeted to ordinary users. However, there are some restrictions concerning the visualization and content of services for example due to their limited user interface and data transfer speed. In this perspective, the evaluated Internet-based insurance service concepts follow the given rules based on their short and very simple structure.

Based on the evaluation, both presented Web-based insurance services were considered to be fully or at least in some degree convertible into the mobile environment. The service for selecting and evaluating insurance cover was considered to offer an equal option to the Web-based service due to the simplicity and graphical requirements. However, and partly due to the incompleteness and the more complicated nature of the concept, the "safety advisor" was considered to be only a supporting service to the Web-based version.

The other proposed mobile services were based on examples from the insurance and other business areas. The "Traveller's insurance initiator" service and partly both the "Insurance cover verification reminder" and the "Safety application for the elderly" services were implemented from the location-based insurance services mentioned earlier in this article and developed based on the knowledge of current mobile device capabilities and new innovative navigation methods.

On the other hand, the "Information directory service" vision was further developed from the service published by If P&C Insurance Company Ltd in 2006 with the idea of an application that consists of the necessary and/or vital information that might be useful in case of traffic or other accident. This service idea requires further development related to search and context awareness methods, but in a few years time also these issues might have already been solved due to the automatic communication of mobile devices and vehicles.

Even though the above presented visions related to mobile insurance services might sound complex of their nature, the future of mobile services in the insurance business area might also consist of as simple elements as SMS or even a traditional call-service as an intermediate phase before full implementation to the mobile environment. The exploitation of the eInsurance service for selecting and evaluating insurance cover has been made by the Finnish insurance company Pohjola that was participating in the eInsurance project. Their "Insurance selector" service was published in July 2006, and the profile information sent from the service is processed by the call center that contacts the customer for maintaining or upgrading the customer's insurance cover. According to the first impressions, the visual Web-based insurance service might be a "killer application" even though combined with a telephone connection between the insurance company and the customer.

VI. CONCLUSION

When using complex services, such as insurance, customers often require the assistance of service officers in terms of understanding and managing the service as a whole. However, by fully exploiting the advanced possibilities of modern Web-technologies, successful electronic insurance services can be, and also have been, implemented.

Mobile insurance services are particularly advantageous when the benefits of mobility ─ the freedom of time and place and location dependence ─ are exploited. Having this in mind, the already available electronic services can be transformed to the mobile environment. During this process also the limitations of mobile terminals have to be taken into account.

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