

USABILITY EVALUATION OF A MAP-BASED MULTI-PUBLISHING SERVICE

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BACKGROUND AND OBJECTIVES

Guiding users in an unfamiliar environment is not a sufficient requirement for a map-based service anymore. A successful service should also be fun to use, engaging and aesthetically pleasing while serving many kinds of users. Therefore, identifying the possible users of the service as well as ensuring the usability and usefulness of it is highly important. The paper presents the usability evaluation of a map-based multi-publishing service for outdoor leisure activities. The service consists of several channels such as printed maps, a web map and a mobile map application and other interactive media (Fig. 1). These channels altogether constitute an interface to the geospatial information and provide a coherent map use experience. In a multi-publishing service users may use the channel or the combination of channels that is best suited for their current situation.



Fig. 1 In a map-based multi-publishing service, the channels may share resources such as the geospatial information.

The map-based multi-publishing service prototype evaluated in the paper is a part of the outcome of the MenoMaps project (2008-2013) carried out at the Finnish Geodetic Institute, Department of Geoinformatics and Cartography. The aim of the project is to explore new technologies and possibilities for map-based leisure services for outdoor activities within the context of hiking in nature. A map-based multi-publishing service prototype is being developed during the project and it will be exhibited in the new Nuuksio Nature Centre nearby the city of Helsinki in Finland at the end of 2012.

APPROACH AND METHODS

Conducting a usability evaluation for a multi-publishing service is a complex task. However, evaluating the whole multi-publishing service is essential, as the user experience is constituted across the channels. The different channels share resources, such as the same geospatial information and user interface (UI) design. The case study presented illustrates how the usability evaluation methods of thinking aloud and

questionnaires are used to gain concrete input for the iterative design process of the map-based multi-channel service. The usability evaluation was conducted for three channels: the applications for a web map and the mobile maps, and the printed maps.

RESULTS

Usability evaluation of the web map, the mobile map application and the printed maps resulted in several suggestions for the improvements in the map-based multi-publishing service as a whole. Suggestions for the web map included (1) new features, (2) improvements for the UI, (3) various options for adding individual content and personalising it, and (4) a number of comments on the background maps.

The results from the analysis of the mobile map application included (1) remarks on the device (iPhone) itself, (2) various observations pertaining to visualising the contents, as well as observations on the usefulness of the contents, and (3) findings concerning the UI.

The usability evaluation of the previous channels was conducted in a qualitative manner, while the printed maps were tested using a quantitative method. The questionnaire for the printed maps included questions on what kind of maps the users prefer to use and how often they use maps as well as questions that aimed to compare the four test maps. We analysed a total of 166 questionnaires. Results show that the printed map is still regarded the most popular, and that people use maps less than once a month. The comparison of the four maps led to several opinions. The answers were rather equal between the maps, but it could be noticed that the most traditional type of map was still favoured.

In general the participants adopted the idea of the multi-publishing service quickly and they expected the channels to look alike and work in the same manner.

CONCLUSION AND FUTURE PLANS

The MenoMaps multi-publishing service and its channels are being further developed. Key issues in multi-publishing services are to network the channels and to ensure a seamless experience across the channels of the service. From the usability studies it was noticeable that the users emphasised the importance of keeping all the information up-to-date.

Several usability evaluations will follow during the further development of the service, such as the evaluation of the mobile application during a hike in the forest. It is also necessary to ensure the usability of the multi-publishing service across the channels.

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