Chapter 25
E-Learning Usability Testing Platform

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Abstract. E-learning is a constantly developing manner of distant courses distribution. With a technological progress its effectiveness and usability controlling abilities has increased and should be measured in order to provide more efficient web solutions. In this paper, multi-modal, user tracking, web usability testing platform is presented. Presented platform provides Afterwards selected Moodle based e-learning implementation usability testing was performed revealing its drawbacks and misfunctionality.

25.1 Introduction

Contemporary still more and more universities are providing additional resources and courses using e-learning platforms. One of the most popular is a Moodle\footnote{http://www.moodle.org} platform. At the same time distant learning solutions must catch up with prevailing technological trends. It results with constant web project layouts changes and functionality reorganization. However it still remains a question concerning modification correctness and their influence on usability. This paper tries to summarize web usability testing process. At the beginning selected organizational rules have been distinguished and adequate testing methods were presented. Provided analysis is necessary to determine which elements of interface may be challenging for users, while the tests show, where exactly the problem is, and if suggested changes improve the usability or not. Approach towards usability testing is a complex subject and may differ among scientists. However when testing group and method are selected carefully the test should show how an average user will perform while trying to achieve a sample task. The tasks are circumscribed in a way, that would represent a list of normally performed actions that a user might want to execute on a web
site, using problematic areas that were determined in analysis phase. During the years of research, new technologies and methods appeared to provide better analysis and testing possibilities. Some of them require usage of additional tools, that record user’s action with computer, so it is possible to analyze the interaction more deeply. Several of these solutions include special applications, that not only provide recording options (such as recording of visited websites, mouse movement, etc.), but also make the planning and execution of the tests easier. Unfortunately, the market for such software products is still very small, so the available solutions may not be suitable for all situations. That is why, in some cases, it may be better to develop a dedicated application that would provide all the necessary functions, and will be more suitable for selected e learning tasks.

25.2 Web Usability Testing

Throughout all types of websites, starting from simple HTML pages up to Reach Internet Applications (RIA), developers and designers tend to create pages that would succeed in delivering information. According to Jakob Nielsen, web analyst and one of the pioneers of web usability, users visit website for its content and everything else is just the backdrop [7]. The design is there to allow the people access the content. Unfortunately the point of view of developers and normal users has often been completely different, which led to creation of websites containing useful information but presented in such a way, that none of the users can get to it. Therefore, the need of a tool, that can measure easiness the user can get, what has been sought, was present for a long time. In order to measure user experience the information, the user receives from a web page, should be grouped into several areas of interaction: first impression of a web site (content recognition), navigating through the web structure (navigational system) and determining the area, where the specified piece of information can be found (organizational system). Content recognition describes whether the content of a page is clear to the user, basing on the first look of the page. Despite the belief of developers and designers [5], users do not always scan through all content on a web page before giving up in most cases, the first impression is enough for them to judge, if they arrived on a page they were looking for [4, 9].

The necessary features of a homepage and ways of presenting them are varied. Jeff Johnsons list [4] can be used as a general guide for homepage planning. Additional details regarding graphical approach to a web page first impression can be found in Stobinska paper [9]. Due to huge amount of data, presented on a page, they should be organized in a special organizational scheme corresponding to the nature of the information. It is a hard task, because normally every user has his own sorting or labeling habits [6]. However since most of people use parallelly some ordinary source of knowledge (i.e. phone book) some standards can be assumed, that visitors are used to, and these standards can be applied to website’s structure. Basing on [6] two main organizational groups can be distinguished: exact organizational scheme and ambiguous organizational scheme. First of them contains methods that are self-explanatory, based on data types being processed (e.g. alphabetical, chronological