

# Usability, Sociability, and Accessibility of Web Portals

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## INTRODUCTION

The evaluation of a Web portal may apparently seem to increase the complexity of its design and development. However, an appropriately planned and systematically applied evaluation procedure can reduce the resources required in time and effort, and ensure user acceptance. This article discusses the systematic evaluation of a Web portal through various iterations, namely expert evaluation, user-based evaluation, online satisfaction questionnaires, and remote evaluation.

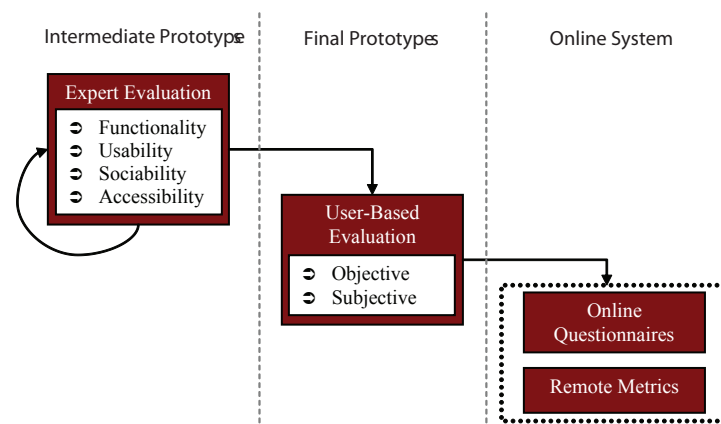
All the aforementioned methods are well known and widely used for the evaluation of software applications. This article focuses mainly on issues related to the employment of these methods to Web applications and how they can be

combined for the systematic evaluation of Web portals. An overview of such an evaluation procedure is presented in Figure 1.

## EXPERT EVALUATION

Expert evaluation involves a review of a product or a system, usually by a usability specialist or human factors specialist (Rubin, 1994). It is an iterative procedure that can be applied to interactive or non-interactive prototypes, and is effective and reasonably demanding in resources. Through such a preliminary evaluation it can be determined whether a selected “look and feel” will satisfy users’ needs and ensure effective, efficient, and pleasant interaction.

Figure 1. Evaluation procedure for Web portals



Before proceeding to the evaluation itself, certain preparation steps are required. These include the consideration of the portal objectives and the appropriate planning of the evaluation procedure in order to assess whether the identified objectives are accomplished or not (Myer, 2002). In addition, the targeted user groups should be defined, in order to gain insight into their main goals from the portal usage and focus the evaluation towards their major tasks. Furthermore, the number of evaluators should be determined. Nielsen and Landauer (1993) presented a model for determining the number of evaluators, according to which the use of at least five evaluators is recommended; however the exact number of evaluators to use would depend on a cost-benefit analysis. Finally, in case the portal is domain-specific, evaluators with domain expertise should be engaged. Apart from studying functionality issues, expert evaluation should take into account issues related to accessibility, usability, and sociability.

Issues of functionality and usability are highly intertwined and can be studied through a plethora of methods, which are referred to in literature as usability inspection methods (Nielsen & Mack, 1994, pp. 5-6). These methods are presented in Table 1, along with a short description. Apart from the well established rules and guidelines addressed by these methods, evaluators can consider:

- applying specialized rules for Web applications, such as the usability heuristics adapted for the Web (Instone, 1997); and
- studying general design issues, such as: portal interface, home page design, navigation, page design, page titles, content design, fonts and graphics, linking, search capabilities, documentation and help pages, multimedia, and language.

In online environments, the issue of sociability is related to the question of how interface and information design support the creation of online communities. The evolution of an online community is shaped, to a great extent, by the relations and interactions of its participants; therefore the aspect of sociability design can be critical for the success or failure of such an interactive online space (Preece, 2000). Consequently, depending on the portal objectives, it may be essential for the portal evaluation to assess whether the portal interface and content structure promote sociability, and help members to establish robust relationships. It is suggested that a detailed checklist is created referring to the issues that evaluators should check. The checklist creation process can be planned as a combination of focus groups, group discussions or series of interviews. However, in any approach it is important that experts from various fields are

*Table 1. Overview of usability inspection methods*

Method	Description
Cognitive Walkthrough	A detailed procedure is used to simulate a user's problem-solving process at each step in the human-computer dialogue, checking if the simulated user's goals and memory for actions can be assumed to lead to the next correct action.
Consistency Inspection	It is used to ensure the consistency of the <i>look and feel</i> of the products of the same company, or of different components of the same product.
Feature Inspection	This method focuses on the function delivered in a software system; for example, whether a function, as it is designed, meets the needs of intended end users.
Formal Usability Inspection	It is very similar to the code inspection methods. The various participants have well-defined responsibilities: a moderator manages both individual and focused inspections, and the full team inspection meeting; a design owner is responsible for designs and redesigns; the inspectors have the job of finding problems; and an observer records all defects and issues identified during the meeting.
Guideline Review	An interface is checked for conformance with a comprehensive list of usability guidelines.
Heuristic Evaluation	It is the most informal method and involves having usability specialists judge whether each dialogue element conforms to established usability principles, known as the heuristics.
Pluralistic Walkthrough	The method involves meetings where users, developers, and human factors people step through a scenario, discussing usability issues associated with dialogue elements involved in the scenario steps.
Standards Inspection	An expert on some interface standard assesses the compliance of an interface to the specific standard.

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