

Alternative Approaches for the Design and Implementation of User Interface Style Guides

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PRESENTATION SUMMARY

Confirmation of ability to present:	<input checked="" type="checkbox"/> I will be able to present my poster at the opening reception. I will also choose two 15-minute timeslots on Thursday and Friday to discuss my poster
Interest in the Poster Revolution	<i>Provide a statement of your interest in appearing in the Poster Revolution, an optional activity for poster presenters</i>
Topic Category:	<input checked="" type="checkbox"/> Industrial Design and Usability <input type="checkbox"/> Cross-Cultural Design and Usability <input type="checkbox"/> Designing Mobile Usability <input type="checkbox"/> Usability & Creativity <input checked="" type="checkbox"/> Managing Design in the Organization
Presentation Type	<input type="checkbox"/> Business case study <input checked="" type="checkbox"/> How-to Discussion <input type="checkbox"/> Overview of a concept, philosophy or methodology <input checked="" type="checkbox"/> Presentation of design approach or guidelines <input type="checkbox"/> Other: _____
Intended Audience:	<input type="checkbox"/> Everyone <input type="checkbox"/> Individuals New to Usability <input checked="" type="checkbox"/> Experienced Practitioners <input checked="" type="checkbox"/> Technical/Professional Leadership
Audio Visual Requirements	A 4 feet high by 8 feet wide board will be provided to display your poster, and table will be available for handout or other materials. Please describe any additional AV needs (an electrical power connection is typically NOT provided in the poster area). If additional AV requirements are needed, a cost estimate will be provided.

ABSTRACT

Summarize your poster in 50 words or less. For accepted posters, this abstract will appear in the

Advance and Final Programs.

The poster describes the approaches we have taken for optimizing the organization and presentation of the contents of a user interface style guide in a medium sized software enterprise. We developed and adapted several design and implementation approaches, which are described and discussed in the poster.

GOALS FOR THE POSTER

List the goals and what you expect attendees to learn from your poster, including the “take aways” that they will be able to use immediately on their jobs?

Provide guidelines on how to structure and present information in a user interface style guide

Provide recommendations on what issues to take care of when developing a user interface style guide

PREVIOUS PUBLICATION OR USE OF THIS MATERIAL

Has this material been published or presented before? If so, list the conference or publication (without including author names) and describe what is new about the material you propose to present at this UPA conference.

The material in this poster was not published before.

YOUR BACKGROUND IN THIS MATERIAL

Describe your professional history of working with the material you will be presenting, but without using names or other clearly identifying information. We realize that this can be difficult, but this section is intended to help reviewers understand the depth and length of your work in the topic of this session.

The presenter is working as a usability professional and consultant for more than 8 years. Within this time span the presenter was strongly involved in the development of several style guides – in GUI as well as Web contexts - for four different organizations. The approaches described in this poster were developed in a still ongoing cooperation project between a medium sized highly specialized software company and the usability consulting enterprise the presenter works for. The project started about one year ago and is now nearing its finalization.

POSTER LAYOUT

Provide a sketch, picture or general layout of the poster. This will help poster reviewers get a general idea of how your content will be displayed.

DETAILED DESCRIPTION OF POSTER CONTENT

Provide a detailed description (at least two pages) of the content you intend to provide in the poster.

1 Introduction

In the poster we want to describe and discuss the approaches we have taken in the implementation of a user interface style guide in a medium sized software enterprise. The focus of our work was on optimizing the organization and presentation of the contents. We want to present several new design and implementation approaches for style guides in detail and provide empirical information regarding their impact.

The starting point for our work was the observation that existing style guides frequently are very cumbersome to handle, overcrowded with information not relevant to the task at hand, and therefore in practice do often not have the expected effects on the usability of the outputs. Our hypothesis was that uptake and impact of a style guide can be significantly improved by an optimized way of making the information accessible to its users i.e. user interface designers and user interface developers.

2 Style guides

Style guides have been used for decades in the graphical design world (mainly for paper based materials), and have been taken up by relevant GUI manufacturers in the late eighties and early nineties (e.g. IBM 1989[1], Microsoft 1992 [2]). Since then style guides have been widely adopted in the IT-business and the traditional GUI style guides have been modified for the web.

Given this widespread application of style guides it is surprising that only little research is available on how to design and implement style guides. Gale [3] provides a proposal on which information to include and how to structure it (i.e. the table of contents) and also stresses that a style guide is not just a document but that there is the need for additional materials such as check lists or interactive demonstrations. Unfortunately, he does not go into detail on these topics.

Wilson [4] analysed reasons why style guides fail. Of the 13 reasons he names, only three are related to the content, five describe problems in the (missing) accompanying organisational means, and five are related to the design and implementation of the style guide. In this latter category the problems are size, possibility to update materials, bad usability, a poor index and too many words. This shows clearly the need for a well-designed style guide presentation that is well adapted to the needs of its users.

Also the whitepaper on GUI Standards by Human Factors International [5] stresses the need for a usable and fast to understand information presentation.

3 Project context and development process

The style guide development is a cooperation project of our consulting enterprise and a medium sized software enterprise which is one of the leading suppliers of highly specialised simulation programmes in the context of automotive development and engine optimization. Many solutions are based on computational fluid dynamics, and applications are typically very complex and have specialized interaction requirements - especially the manipulation and display of mathematical functions and parameters has to be named here. The products are typically used by rather small and highly specialised user groups.

To better understand the problems and needs of the future users of the style guides a mix of typical field study methods (observations, interviews, analysis of existing materials) was done. Next the contents of the style guide were developed in a coordinated effort of all partners. At the same time we started to develop structural approaches to increase the uptake and usability were developed.

4 Principles and approaches to increase uptake and impact

Based on our experience, literature and the field work with the future users of the style guide we developed the following principles and approaches to increase the use and impact of the style guide within the company:

Visuals first

Designers and developers typically do not have the time to read through long documents. Our approach to solve this issue was to provide fast perceptible navigation structure and content presentations based on visual rather than textual information presentation style wherever possible. The figure below illustrates the principle with two examples. Please note that the image only depicts the concept drawing for the interface as the actual style guide is currently implemented but not finished yet.

Figure 1: Visual Navigation

The left part of the picture shows the visual navigation page of the style guide. Here a typical dialogue that contains all important interface elements on their characteristic positions is used as the main access route to the contents. When the user moves the mouse over an interface element the area is marked by a coloured frame and the name of the interface element is shown. When the user clicks onto it he is forwarded to the regarding description of the interface element. An example of how this is implemented is shown on the right. Here the most important information regarding the interface element is shown in speech bubbles that are linked to the described elements; detailed information is provided when the user selects one item in the bubble.

Examples, Examples, Examples

Related to our principle of visuals first is our approach to work with examples as much as possible. Best practice examples are linked to every interface element. These best practices are contrasted with bad examples. The selection of bad practices was based on a close investigation of existing interfaces produced by the company to anticipate probable problem areas and common mistakes. The figure below shows an example how this looks – please note that all bad examples are derived from existing applications.

Figure 2: Good and Bad examples for Placing of Buttons

Role-based content structuring

Most style guide contains lots and lots of information, which is important in very different situations. For example, a style guide typically contains information regarding a buttons exact visual behaviour on mouse over which is rarely important in the everyday work of a user interface designer. At the other side, a programmer needs to know the exact behaviour of each interface element to be able to implement it correctly. Our approach to solve this problem was to develop role-based content collections and summaries, with the three main roles designer (deciding which interface elements to use, how to structure them, etc.), programmer (implementing the design) and evaluator (checking both the designs and implementations with regard to the style guide, performing user and usability evaluations). The idea is to make all information required for one role accessible from a single starting point. In practice this led to specialised content sections based on role (not on the interface element as it is common now) and to the definition of several checklists, reference tables and flow charts that represent the different needs of the user roles.

Provision of Patterns

The style guides also provides patterns for typical interaction tasks and interface problems that can and should be reused by the designers. Provided these patterns are designed carefully two positive effects could be achieved: development time will be reduced, and the consistency of products will be improved. We have also foreseen a possibility to update and expand the pattern library based on best practice examples.

Extensive indexing

People use different terms and labels to refer to the same objects and things. A good index should take this into account and use all possibilities the user might look for. We recommend explicitly capturing and including all different labels and terms that might be used. At the same time we recommend to also promote one single term as the official one to foster consistency. For example, in our index the contents regarding input field (the official label) can also be found through the related terms text field, text box, input box, entry field, entry box.

Flexible access routes

People prefer different access routes to the contents based on the task at hand, the context of work and personal preferences. We think a useful style guide should reflect these different approaches and provide flexible access routes. In our example we provide the following main means of access:

- Table of contents
- Visual Navigation
- Search Function
- Fast access toolbar
- Index
- Extensive Interlinking

5 Evaluation and lessons learned

Currently the style guide is in its final implementation phase and scheduled to be rolled out in July. Starting then we will research the usage, access patterns and user satisfaction with the style guide. As the upa Europe conference will take place in December we will be able to include the results of these evaluation activities in the final poster.

References

1. IBM Corporation, Common User Access: Advanced Interface Design Guide. IBM, 1989. (Part no. SC26-4582).
2. Microsoft Corporation, The Windows Interface: An Application Design Guide. Microsoft Press, Redmond, WA.,. 1992
3. Gale, S. *A Collaborative Approach to Developing Style Guides*. Conference proceedings on Human factors in Computing Systems April 13 - 18, 1996, Vancouver Canada. ACM Press, (pp. 362-367).
4. Wilson C. E., *Guidance on Style Guides: Lessons Learned*. Usability Interface, Vol 7, No. 4, April 2001
5. www.humanfactors.com/downloads/guistandards.pdf