

The good old Styleguide in a new light: enabling a user-oriented development process.

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Abstract: This paper gives an overview of the current situation and the experiences gained during the implementation of a user-oriented development process in a large Swiss financial services firm. Besides usability methods such as user and task analysis, early prototyping and usability testing in our in-house Usability Lab, we focus in particular on the support of a user-oriented process in the form of the introduction of a company-wide user interface styleguide. The related process contains early prototyping with a styleguide based prototyping tool, concrete suggestions for a consistent user interface design as well as pre-programmed components based on the styleguide. The styleguide and the defined and described interface elements serve as a common language for all the participants in a user-oriented process such as business representatives, users and IT developers.

Keywords: styleguide, user-orientation, development process, prototyping

1 Software development and Usability Engineering at UBS

UBS Wealth Management & Business Banking with about 30000 employees is a world leader in private banking financial services and is the leading Swiss retail banking company. A significant part of the banking software is produced in-house in the IT division of UBS WM & BB (approx. 4000 employees of which 2000 are developers). Our team of 7 usability engineers (with a background in psychology, electrical engineering, information engineering, and graphic design) is part of an IT unit. However, we support both IT and business teams with our services (i.e. task analysis, prototyping or usability testing in our Lab).

UBS development standards delineate an ideal phase-oriented process. User-oriented activities are explicitly part of the development phases. Furthermore the project role of the "Usability Engineer" was introduced to encourage the usability aspects of software development.

In spite of these efforts, various problems can be observed in everyday project life: User involvement is insufficient or ineffective, time and cost

restrictions undermine iterations, and validation of requirements and design issues takes place with the final product and not - as it should - in the prototype state of product development.

2 The user interface as a common language

It must be the aim of a user-oriented development process to bridge the gap between the IT world and the business world. The user interface forms the common language and central interface between the two worlds. GUI specifications or prototyping in an early project phase allow all participants to have the same understanding: this includes business representatives, clients and users as well as IT project managers and developers.

Like every language, our common GUI language needs to be supported by application rules, guidelines and products. In order to achieve this, we enhanced the idea of the 'good old design styleguide' with a consistent product range, consisting of standards, styleguide definitions, a prototyping tool, stylesheet and basic components.

3 The styleguide product range

Standards

The prerequisite for a company-wide user interface styleguide is the definition of general requirements in the form of standards. Belonging to that in particular are: a.) technological standards, i.e. technologies and platforms used to implement applications (at UBS it was decided to develop browser based applications), and b.) the definition of the look, i.e. design specifications like corporate identity guidelines, marketing aspects etc.

Styleguide definitions

The styleguide definitions make up the core of the styleguide product range. In a document the user interface elements are defined and exactly described (fig. 1). The description for each element covers both appearance (colors, sizes etc.) as well as behavior and application rules.

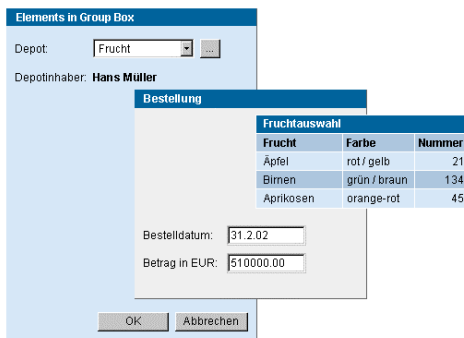


Figure 1: Styleguide definitions describe both appearance and behavior of interface elements.

Prototyping tool

Our prototyping tool allows fast design of screens for GUI prototypes or specifications complying with the styleguide specifications. The tool is based on a Visio library and can therefore be used company-wide.

Stylesheet

The use of a consistent CSS stylesheet allows the separation of design aspects from the actual implementation of browser-based solutions and simplifies the fast creation of HTML prototypes with consistent design.

Basic components

Defined user interface elements are made available as implemented basic components (fig. 2). GUI-developers can use these basic components to implement applications.

Depotauszug						
	Valor	Titel	Bestand	NW/HW	Kurs	Land
☉	107194	UBS(CHF)EF-EM MKTS	14	USD	917.61	CH
☉	111724	UBS(CHF)EF-MC SWITZ	20	CHF	848.97	CH
☉	278840	UBS(CHF)EF-USA	65	USD	743.76	CH
☉	278848	UBS(CHF)EF-JAPAN	70	JPY	15'096	CH
☉	278853	UBS(CHF)EF-USD	80	USD	144.36	CH
☉	278856	UBS(CHF)EF-CHF	2'850	CHF	106.69	CH
☉	278859	UBS(CHF)EF-EUR	520	EUR	110.74	CH

Figure 2: Selectable table as an example of a browser-based basic component.

4 Benefits

Besides the well-known advantages of deploying a styleguide, our approach of an enlarged styleguide product range has some key advantages:

The definition and description of interface elements and the use of consistent notation in all styleguide products allow a continuous process from specification to implementation and facilitate communication and understanding.

Requirements can be formulated consistently. Technical feasibility is already addressed in the specification stage and can also be understood by non-technical participants.

The simple visualization of design ideas improves communication between project participants and end users.

Comprehensive styleguide definitions allow participants to address and evaluate interaction and navigation design already in an early project phase.

5 Lessons learned

Neither a pure design styleguide, nor process specifications are sufficient to support a user-oriented development process. Interaction design must be considered as a central task of software development by all involved parties and must be supported by suitable means at all stages of the process.

The definition of a company-wide styleguide is highly political and requires the involvement of all relevant parties (IT development, business representatives, marketing etc.) as well as broad support by the management.

Consistent application of a styleguide is a difficult task. Like every set of tools, it requires knowledge and experience in order to create a good product. Therefore user interface experts are still necessary and the process is best supported by interface design education. The quality gained in this way is excellent.