Improving the User Experience of Model-Based Web User Interfaces Using Explicit Form Models

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Overview

1. Introduction
2. Research questions
3. Solution approach
4. Form Model
5. Best practices for designing forms
6. Timeline
Interaction with data-based applications through **forms**

Forms allow user to view and modify entities of the application’s underlying data model

Crucial building block in business processes
Developing web forms using Model Based UI approaches

- Allow defining web forms at a very high level using models
- Automatic generation of the UI based on models [1]
- Less effort for creating forms
- Most of the existing approaches don’t use explicit Form Models
- Often produce low-quality forms

Introduction

- The design of forms is often poorly thought out
- Many forms don’t support
  - Internationalization
  - In-line validation

Bad user experience
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Research questions

- How is the term Model-Based Forms defined?
- What are the approaches for generating Model-Based Forms?
- How to design Form Model which includes the UI aspects: Structure, Information, Behavior and Style?
- How the proposed Form Model can be incorporated into SocioCortex platform?
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Solution approach

**Literature research**
- Review related work
- Analyze and compare form controls in HTML, XAML and FXML

**Identify best practices for designing forms**

**Design generic Form Model**

**Design and implement a prototype**
- Generate a Form Model based on a given Data Model
- Give recommendations how to improve an existing Form Model

**Evaluation**
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Form Model describes four aspects of the UI

- **Structure**
  Hierarchical structure of interaction elements

- **Style**
  Non-functional aspects (e.g. color, font, size)

- **Information**
  Content (e.g., text, sounds, images) used to communicate information to the end-user

- **Behavior**
  Actions that occur when an end-user interacts with a form
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Best practices for designing forms

Books for web form design

• Web Form Design: Filling in the Blanks – Luke Wroblewski
• Forms that work: designing forms for usability - Caroline Jarret
• Eyetracking web usability – Jakob Nielsen, Kara Pernice

Articles for web form design

• Designing Usable Web Forms – Empirical Evaluation of Web Form Improvement Guidelines - Mirjam Seckler
• Working towards usable forms on the worldwide web: optimizing multiple selection interface elements – B. Avila
• Simple but Crucial User Interfaces in the World Wide Web: Introducing 20 Guidelines for Usable Web Form Design – B. Avila
• Usable Forms for the Web – J. James
• Design Better Forms: Common mistakes designers make and how to fix them – A. Coyle
Best practices for designing forms

- One column instead of multiple columns

- Less fields
Best practices for designing forms

- Text field with autocomplete functionality instead of select menu when many options available

- Use radio buttons instead of dropdown list when few options available
Best practices for designing forms

- Vertical list of checkboxes

- Use inline validation
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Timeline

- June: Literature research, State-of-art solutions
- July: Identify best practices
- August: Design a form model
- September: Implementation of a prototype
- October: Finalizing implementation
- November: Evaluation, Writing master thesis

- Completed
- In progress
- Not started
Thank you for your attention!

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References


Developing web forms using Model Based UI approaches

Generated user interfaces are generally not as good as those that could be created with conventional programming techniques [1]