


Realizing an Integrated Electronic Commerce Portal System

Matthias Book, Volker Gruhn, Lothar Schöpe

Chair of Software Technology
Department of Computer Science
University of Dortmund, Germany




Americas Conference on Information Systems - August 11, 2000 1/15

A Portal for Insurance Agents

- combines and integrates
 - information and applications
 - which the agents need for their work
 - on a mobile platform

- to increase
 - productivity
 - company loyalty



Matthias Book: Realizing an Integrated Electronic Commerce Portal System 2/15

Software Process

- Requirement Analysis
- Subsystem Identification
- High-Level Architecture
- Cut-Through Prototypes
- GUI Design
- Object-Oriented Design
- Implementation
- System Test

Matthias Book: Realizing an Integrated Electronic Commerce Portal System 3/15

Requirement Analysis

- cooperation with insurance companies
- comprehensive tasks → singular actions
- prioritized and documented

Req ID	Requirement	Priority	Type	Rationale
EP-F/1.2.3	All shop items must be accessible via a product hierarchy.	1	MUST	Users are familiar with the concept of a hierarchy and can find items there easily.
EP-F/1.2.4	A full text search may be provided to find products.	3	MAY	The search facility serves as a backup in case the user can't find an item in the hierarchy.

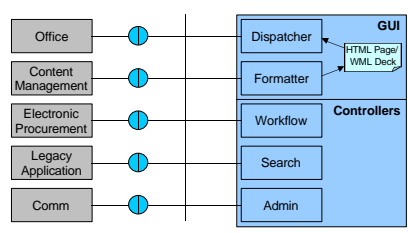
Matthias Book: Realizing an Integrated Electronic Commerce Portal System 4/15

Subsystem Identification

Office	Content Management	Electronic Procurement	Legacy Applications	Comm	Admin
e-Mail Folders	Product Portfolio	Office Material (Toner, ...)	Partner Database	Sending Reminders, Messages, etc.	User Management
Address Book	Company Handbook	Promotional Material (Flyers, ...)	Contracts Database	by Fax SMS e-Mail	Monitoring
Calendar	Marketing Information	Company Services (Courses, ...)	Premium Computer		Search
To-Do List	Best Practice Solutions				Portal-wide Full Text Searches
Outlook	pirobase	SmartStore	Partner DB	sendfax, yaps	

Matthias Book: Realizing an Integrated Electronic Commerce Portal System 5/15

High-Level Architecture



Matthias Book: Realizing an Integrated Electronic Commerce Portal System 6/15

Cut-Through Prototypes

- **Question:** Subsystem integration feasible?
- **Requirement:** Key features accessible via adaptors
- **"Proof":** "Quick & dirty" adaptor implementations

Matthias Book: Realizing an Integrated Electronic Commerce Portal System 7/15

GUI Design

- Extensible layout
- Formatters for different media
- Custom libraries of GUI elements
- Control flow charts
- Identification of controller/formatter classes

Matthias Book: Realizing an Integrated Electronic Commerce Portal System 8/15

Object-Oriented Design

- Goal: Simple subsystem integration
- UML use cases, class diagrams
- Boundary classes
 - encapsulate subsystem functionality
- Business objects (e.g. User, Task)
 - transported between subsystems

Matthias Book: Realizing an Integrated Electronic Commerce Portal System 9/15

Legacy Integration

Matthias Book: Realizing an Integrated Electronic Commerce Portal System 10/15

Implementation

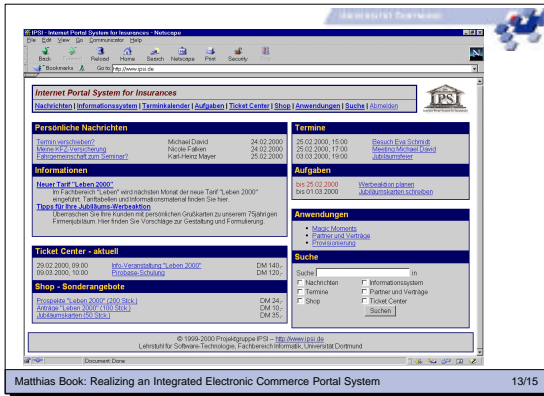
- Distributed implementation
 - Subsystems on separate machines
 - Middleware: CORBA
 - Code distribution: CVS
- Languages
 - Java
 - Visual C++

Matthias Book: Realizing an Integrated Electronic Commerce Portal System 11/15

System Test

- Class Test
 - Class functionality ok?
- Subsystem Test
 - Code review; subsystem boundary ok?
- Integration Test
 - Subsystems' interfaces ok?
- System Test
 - Workflow and GUI ok?

Matthias Book: Realizing an Integrated Electronic Commerce Portal System 12/15

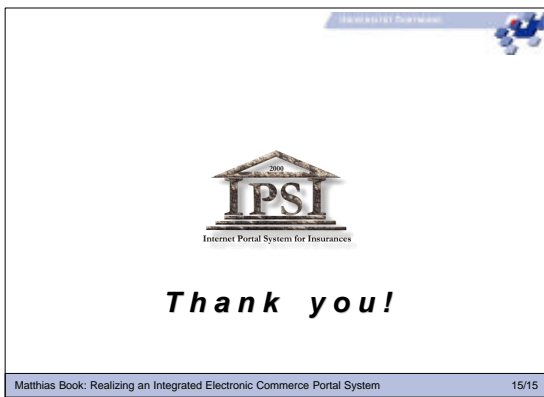


Matthias Book: Realizing an Integrated Electronic Commerce Portal System 13/15

Conclusion

- » Portal implementation = integration task
- „Glue“ code connecting subsystems
 - requires detailed design, careful testing
- Adaptor prototypes crucial
 - basis for feasibility/time/effort prognosis
- Open architecture pays off
 - allows simple modification of subsystems

Matthias Book: Realizing an Integrated Electronic Commerce Portal System 14/15



Matthias Book: Realizing an Integrated Electronic Commerce Portal System 15/15