

UNIVERSITY OF SALZBURG
INSTITUTE OF COMPUTER SCIENCE

PS Software Engineering Part I (InfoWarrior)

Online Information System for News Agencies

CHRISTIAN ZÖDL

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Chapter 1

Introduction (Task 1)

This chapter gives an overview about motivation for an online information system for news agencies.

1.1 Rough System Requirements

A News Agency (called "e-News") wants to redesign their information grabbing and information presentation processes with involvement of IT-Systems.

Potential users of the system are persons that collect news and other that retrieve that information. Beside them, also third party systems should be able to gather information out of InfoWarrior.

Therefore we can identify two possible scenarios:

- InfoWarrior will deliver the gathered information to other or proprietary systems by using XML-Technologies.
- Discrete persons will retrieve the gathered information from InfoWarrior. As a prerequisite for this task the information has to be prepared in an ergonomic manner.

Another special requirement is easy maintenance of InfoWarrior, which presumes that there will be no local system installations.

InfoWarrior should also be able to prepare information for the need of individual persons that are accessing the data.

Chapter 2

The CRC session

This chapter describes the fundamentals till the finished CRC session.

2.1 Fundamentals of the CRC Session

In effort to get the whole information from a problem the crc card system is a very good invention because information from a customer is mostly incomplete and not very precise.

The CRC session is in general like a "role game". A "player" (developer) represents a class. By stepping through predefined scenarios correlations between the different classes are quite simple found.

A customer joining this session sees the process of the program and is able to request some modifications.

2.2 Planning the CRC Session

The first task in a crc session is to prepare scenarios, which cover all possible steps of the problem.

By stepping through the scenarios possible classes are identified.

2.3 Scenarios

2.3.1 Information Grabbing Process

News Entry with Review

- Reporter Harry Hirsch was in New York when the terror attack happened. He wants to add a headline to InfoWarrior.
- Logging on.
- Input of the headline (plus category, priority and state). Then submit.
- Logging off.

- Hansl vom Dienst, the responsible editor, is logging on.
- He gets a message from InfoWarrior that Harry Hirsch added a headline that is ready for release.
- HvD reviews the headline and releases it.
- Logging off.

News Entry with Post Processing

- Reporter Harry Hirsch heard from an intelligencer that Miss Levinsky bought a cigar shop called "Big Bill".
- Input of the story (plus category, priority and state). Then submit.
- Hansl vom Dienst is logging on.
- He gets a message from InfoWarrior that Harry Hirsch added a story that is ready for release.
- HvD reviews the story and recognizes that there is not enough "sex and crime" in it. He decides that further information gathering is needed.
- Send story for post processing back to Harry.
- Harry gets a message to post process the story.
- After editing the story he sends it to HvD.
- When HvD gets the control message, he checks the story again and releases it.

News Entry with Cancellation

- Reporter Harry Hirsch is in Afghanistan and writes a report about shaved afghan women.
- Input of the report (plus category, priority and state). Then submit.
- HvD gets a message from InfoWarrior that Harry Hirsch added a report that is ready for release.
- HvD reviews the report and cancels it.
- A message is delivered to Harry.

News Entry split to two Reporters

- Reporter Harry Hirsch writes the following headline to InfoWarrior: "Boris Becker and Anna Kournikova in flagranti?"
- HvD gets a message from InfoWarrior that Harry Hirsch added a headline that is ready for release.
- HvD reviews the headline and decides that a report has to be written.
- He sends the headline to Detlef Hirseklaus with a comment that the report has highest priority.
- Detlef Hirseklaus gets HvDs message, writes the report and sends it for release.
- HvD is very happy about the report and releases it.

2.3.2 Information Presentation Process

News Retrieval by Unknown User

- Wilma Willig surfs to the E-News homepage and requests the latest sport news.
- InfoWarrior gathers the information and sends the result page to Wilma

News Retrieval by Registered User

- Richi Rich is a registered user of E-News and wants to personalize his stock reports.
- Logging on.
- Downloading the XSLT template.
- After modifying the template to meet his own requirements he's making an upload of this file.
- He's requesting the new stock reports.
- InfoWarrior does the customized visualization of the reports.

News Retrieval by Third Party System

- A third party software installed at ÖKM (Österreichisches Kraftfahrer Magazin) needs different news from e-news, so they send an XML request to InfoWarrior.
- The received XML file is processed by the program, and the gathered news are converted to XML format again.
- This results are sent back to ÖKM.

2.4 Identified Classes

When preparing the CRC session we identified the following classes.

- InfoWarrior Request Handler
- InfoWarrior Submit Handler
- InfoWarrior Third Party System Handler
- Database
- News
- Message
- User
- XML engine
- XSLT engine
- File

2.5 Role Allocation

Engl Thorsten Role: Project Leader, Sales representative

Classes: InfoWarrior - Request Handler, InfoWarrior - Submit Handler, InfoWarrior - Third Party System Handler

Eichberger Erich Role: Software Engineer, System Analyzer

Classes: Database, XML engine, XSLT engine

Zödl Christian Role: Software Engineer, Protocol

Classes: News, Message, File, User

Schwaiger Roland Role: Customer

2.6 Goals

- Full problem definition
- Requirement clarification
- Minimize risk for misunderstandings
- Class identification
- First approaches to Use Cases

2.7 Open Questions

- Multiple selection of default XSLT types or user specific?
- User hierarchy?
- How many different categories?
- Processing requests from third party system with only a simple XML interpreter, or various formats?

2.8 Report of the first CRC - Session of 31.10.2001

Our problem was that we planned the problem to technical. That is not good, because a normal user is not able to understand us, and so we are not able to get more information of the problem.

Our goal for the next meeting is to prepare a second CRC - Session, with the use of "Essential User Interface Prototyping".

Chapter 3

The Second CRC session (Task 3)

A second CRC session is of advantage to reach a higher state of clarification for the problem. Another point for a second session is to eliminate misapprehensions between the customer and the developers of the problem.

Another way to accomplish the elimination of such disaccordings is the usage of Essential User Interface Prototyping.

3.1 Essential User Interface Prototyping

3.1.1 First thoughts

An Essential User Interface Prototype for the information grabbing process may result in this:

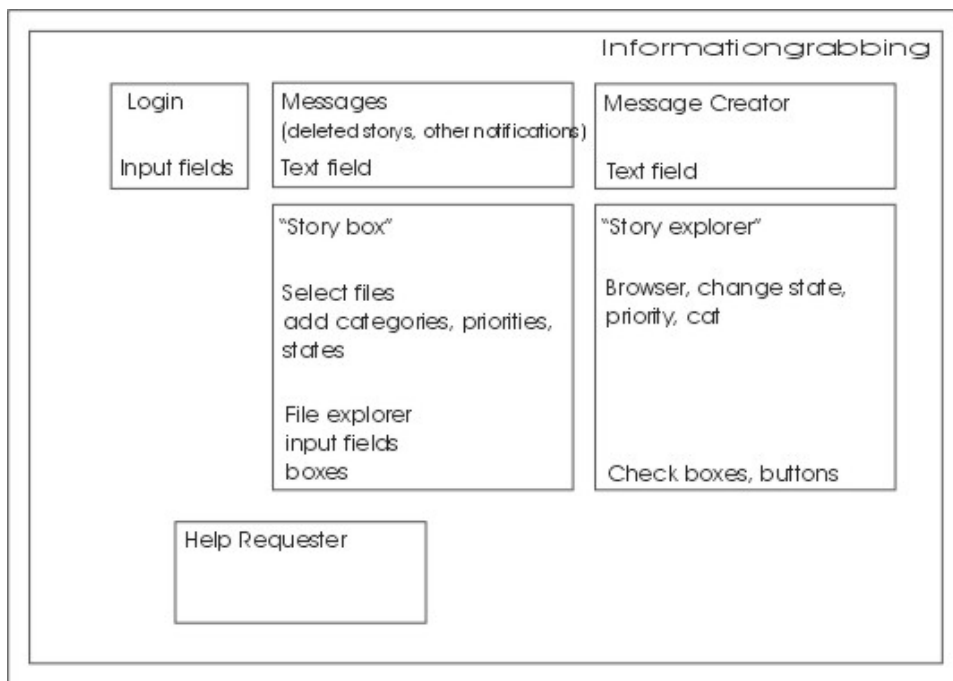


Figure 3.1: User Interface Prototype: Informationgrabber

Another prototype for the information request process may look like this:

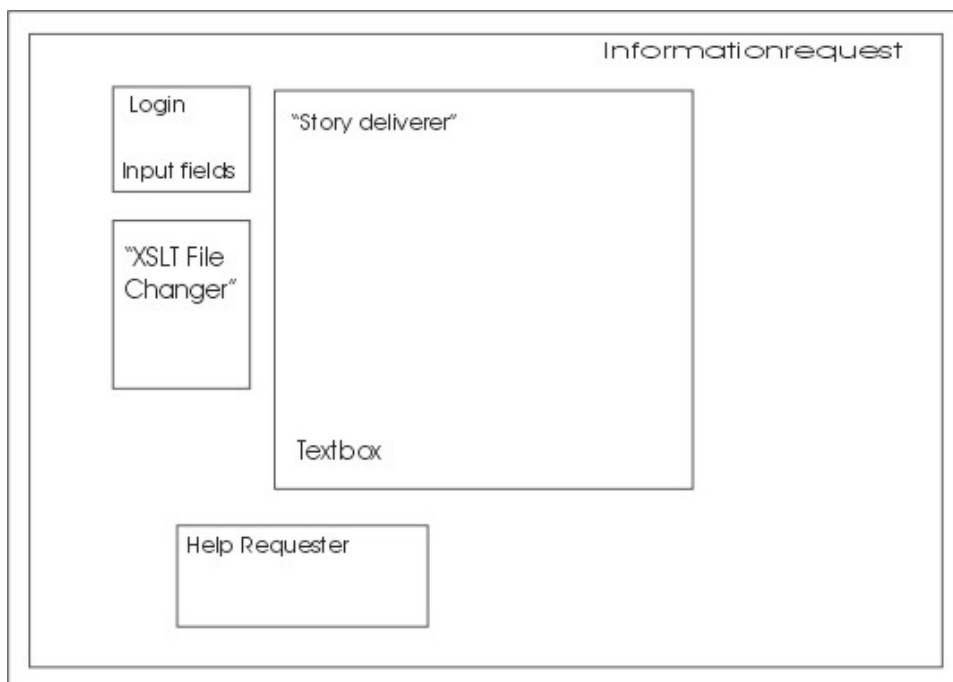


Figure 3.2: User Interface Prototype: Informationrequest

3.2 Use Case Modeling

3.2.1 Introduction

An important goal in requirements modeling is to come to an understanding of the business problem that your system is to address, in order to understand its behavioral requirements. With respect to object-oriented development, the fundamental artifact that you should develop to model behavioral requirements is a use case model. There are two basic flavors of use case models:

- Essential use case models
- System use case models

3.2.2 Essential Use Case Models

An essential use case model, often referred to as a business or abstract use case model, models a technology-independent view of your behavioral requirements.

3.2.3 System Use Case Models

System use case models, also known as concrete use case models or detailed use case models, model your analysis of your behavioral requirements, describing in detail how users will work with your system including references to its user-interface aspects.

3.2.4 Conclusion

A use case is a sequence of actions that provide a measurable value to an actor. Another way to look at it is that a use case describes a way in which a real-world actor interacts with the system.

An essential use-case is a simplified, abstract, generalized use case that captures the intentions of a user in a technology- and implementation-independent manner. It is complete, meaningful, and well designed from the point of view of users in some role or roles in relation to a system and that embodies the purpose or intentions underlying the interaction.

Appendix A

Reports