Radio on Demand

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Abstract. This paper describes a petri net inspired interaction specification formalism with an application to a radio on demand service: InfoRadio-on-Demand. A prototype of a Tele Commerce application with a hybrid architecture: www, e-mail and e-cash store.

1 Background

In our workgroup Interactive Information Systems we focus on the following topics: Internet goes Business, WWW Showcases for Newspapers, Banks, Research Institutes, Radio stations. Integration of MultiMedia TeleServices (MMTS) in WWW. One objective of our research activities is the integration of classical media in WWW. We design prototypes of converters, multimedia services and distribution schemes. These are offered to internet aware content providers.

We focus on transformations of old media into new media. We are interested in the implications of a transformational trial. Which dimensions are lost and which are new. Will the former content provider or distributor still be able to distribute the new product?

Since may the 12th 1995 we provide the service digiTaz in internet [SM95]. We cooperate with InfoRadio of SFB/ORB [IR]. An overview of the activities of our project is to obtain from our media page [WP].

2 Introduction

Designing multimedia services involves peoples with different roles in a communication between solution provider and content provider. They need a common base of communication. In this paper [RoD] an Interaction Specification Formalism is presented. It offers graphical elements to model an interactive information system with respect of the time dimension. This formalism is not automated. It is bound to notes on a sheet of paper.

InfoRadio-on-Demand is a service which is designed by a small group of developers. In the design phase the form sheets were applied. The documentation of the system contains digitized graphs of this formalism. It is shown how close

* The work discussed in this paper was performed in the context of BERKOM [DTB], where many of the ideas were born. We would like to acknowledge the discussions with our colleagues Stephan Frühauf and Dirk Kuhlmann.
structural elements of the formalism and the service constituting windows are correlated.

InfoRadio-on-Demand is a prototype of a Tele Commerce application. Its architecture is hybrid, i.e. it is composed of different internet services. WWW is used as the general platform to present the service. Billing and message handling are important building blocks of this Tele Commerce application.

3 Interaction Specification Formalism

We refer to diagrammatic schemes of structures which offer a representation of states, transitions and tokens as petri net oriented. We leave out the representation of tokens. So the formalism is just petri net inspired. We want to keep the alternating appearance of states and transitions. Any violation of this syntax should be referred to as a weak or inconsistent design.

3.1 Basic Elements and a Form

![Basic Graphic Elements of the Interaction Specification Formalism](image)

Fig. 1.: Basic Graphic Elements of the Interaction Specification Formalism

Figure 1 shows the basic graphical elements and a form of the interaction specification formalism. We have rectangles representing documents. We do not distinguish tokens and documents. Transitional processes are represented by circles. Gray circles represent modules of the information system under construction.

A state is a set of documents. In the most cases only one document. A transition is the sequence of one or more documents on the input side transformed