INFO-1075 UDK: 631.397: 007:796.5
Primljeno/Received: 2008-03-14 Stručni rad / Professional Paper

THE PROCESS OF PLANNING AND MONITORING TV BROADCASTING

PROCESI PLANIRANJA I PRAĆENJA EMITIRANJA TV EMISIJA

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Sažetak

Velike medijske kuće, kao što je Hrvatska radiotelevizija (skraćeno HRT), čija je djelatnost proizvodnja i emitiranje radijskog i televizijskog programa, imaju složen sustav, te imaju i složen informacijski sustav. U radu je prikazan proces planiranja televizijskih emisija i proces praćenja emitiranja televizijskih emisija. Pored emitiranja važan proces vezan uz televiziju kao medij je proizvodnja TV emisija. Model procesa emitiranja je dobiven intervjuiranjem eksperata na tom polju te analizom kolanja dokumentacije u sustavu. Rezultat je model procesa prikazan metodom dijagrama toka podataka. Ovaj model je prva faza analize izgradnje informacijskog sustava. Sam postupak reinženjeringa, metode modeliranja procesa s ciljem promijene poslovanja nisu obuhvaćene ovim radom.

Abstract

Big broadcasting companies, like HRT - Croatian radio-television (croat. Hrvatska radiotelevizija), whose operation is the production and broadcast of radio and television program, have complex systems, including a complex information system. This paper shows the process of planning television broadcasts and the process of monitoring television broadcasts. Besides broadcasting, an important process connected to television as media is the production of TV broadcasts. The broadcasting process model was designed by interviewing experts on the field and by conducting an analysis of the documentation flow through the system. The result is a process model illustrated using the Data Flow Diagram method. This model is the first stage of the information system development analysis. The process of reengineering, process modeling method that aims to change business operations, is not shown in this paper.

1. INTRODUCTION

TV broadcasting and production is the basic television operation in which numerous employees are included. HRT system is complex and there are at least a thousand employees and a bit less subcontractors and various profiles. It uses a complex production technology in the work process. Annually, it produces a few tens of thousands of products, and even more broadcasted series (produced or bought). Besides that, the system is distributed all over the territory of the Republic of Croatia. For overcoming this complexity, a few projects were initiated: IRIS, PARTIS, SCENIS, KOMERC, SKLAD, PRIS, IPIS, where the first step is connected to the HRT business process analysis.

HRT is a public establishment whose owner is the Republic of Croatia. HRT is governed by management lead by the head, and the operations are controlled by the Croatian National Parliament. The operations organization on HRT is conducted through three subsidiaries, namely: Croatian Radio, Croatian Television (HTV), Music production and a business unit "General and common HRT jobs". Business units (and subsidiaries) are decomposed into smaller organizational parts, these being: work units, independent sections, sections, desks.

HRT business system supports business processes required for the production and product distribution, as well as auxiliary processes for funding, accounting, etc. /**1**/.

One of the information system development stages is the process model design. This paper will analyze only television processes (HTV). Basic HTV operation relates to business processes: planning, management and monitoring TV broadcast production and planning and monitoring broadcasting. The process model will be illustrated using the DFD method. The purpose of this

model is the operations analysis with the aim to collect information required to build an information system. This approach to modeling has no pretensions to change the existing operations or conduct business process reengineering. Other approaches are used to do that and a far more complex methodology, with other principles, which was applied at HRT on the IPIS project (croat. Integralni Poslovni Informacijski Sustav – The Integral Business Information System project). The shown method is assigned for modeling, designing and building and information system.

The systems process model can, with the help of other factors, eliminate a set of difficulties like: unrealistic broadcast expenses, slow working process because it is based on manual, instead of machine work, late expense information, complicated and long-term revisions and plan variants, the problem of search, insufficient data, better production management, optimization of outsourcing, a higher degree of utilization of expensive resources.

2. PROCESS MODEL

The analysis of business processes in the business organization – HRT is conducted following the MIRIS methodology.

As laid down by MIRIS methodology, the stage of information system life-cycle in which processes are being modeled is called the main project /**2**/.

First, in the context of the main project of designing an information system, a project task is defined. After that, current-state processes are modeled using the DFD method /**3**/ . A process model is the result of a set of analyses and interviews with employees performing the jobs which are being observed. Based on the obtained process model, executional projects are defined, as well as priorities for their development. At the end, the needed equipment for the future software is planned out.

During the process model design, all documents used in observed processes are assembled and described. Documents are described using a special form. Under the category of documents also fall the flows and data stores from the process model.

Out of the process model, a process decomposition diagram is created and is attached to the main project documentation.

Besides the process itself, important parts of the main project are flows and data stores, as well as their descriptions. Flows and data stores are gathered during the interviews with users. In an organization system these are mostly the system documents.

3. DECOMPOSITION OF THE PROCESS OF PLANNING AND PRODUCTION OF TV BROADCAST

For complex systems, like the system of planning and monitoring the production of TV BROADCAST /**4**/ on HTV (PARTIS in short), the DFD method has been applied to model processes /**5**/. These processes run at a business unit – HTV Production. HTV Production includes the following business functions: functions of planning, managing and monitoring the production of TV broadcasts and functions of planning and monitoring the TV broadcasting. This paper presents only the processes connected to broadcasting.

During the process model development, all documents used in observed processes have been assembled and analyzed. Business process decomposition determined twelve basic processes and their subprocesses. Some methodologies use the term activity instead of subprocess.

Based on the analysis of business processes from the project task, analysis of HTV operations, interviews with the users, team work and the synthesis of obtained results, processes were grouped into 10 groups which fall into a few hierarchy levels (see Table 1).

Table 1 Main business processes of PARTIS

1. DETERMINE HRT PROGRAM POLICY
2. PREPRODUCTION (research)
3. PLAN AND MONITOR BROADCAST
4. PLAN PRODUCTION
5. PREPARE SHOW PRODUCTION
6. OPERATIONAL PLANNING OF PRODUCTION AND SERVICE
7. MONITOR PRODUCTION
8. INTERNATIONAL OPEARATIONS
9. MAINTENANCE OF SYSTEM DATA
10. REPORTS

4. PLAN AND MONITOR TV BROADCASTING

A model of a system process, as well as of the process Plan and monitor broadcasting, is an illustration of operation from the viewpoint of information (documentation) flow through the system. Process model consists of functional process decomposition diagram and data flow diagram. Data flow diagram is a graphical illustration of the system which includes data flows (system documentation) and processes which use information from the flows and create new output data flows. Let us illustrate processes from Table 1 using the Data Flow Diagram method (DFD). DFDs use four different graphic symbols: an oval representing the process, a rectangle representing a source, a line with an arrow representing a set of information called data flow, and two parallel lines representing those data flows which are filed away and are called data stores. The basic aim of systems analysis based on processes is detecting processes by determining the logical data flow through the system. The processes from the DFD are concurrently performed in a real system. Such process grouping represents a decomposition of a process into subprocesses and will serve as a basis for further analysis of system parts. A detailed description of certain processes is almost impossible without a data model, and the data model is necessary for a complete understanding of future state processes. A detailed description of future state processes is provided in the stage of data modeling in executional projects. The decomposition of the 3rd process Plan and monitor broadcasting is shown in Figure 1. It is decomposed to processes 3.1.Plan TV broadcasting volume, 3.2.Plan broadcasting schedule, and 3.3.Monitor broadcasting.

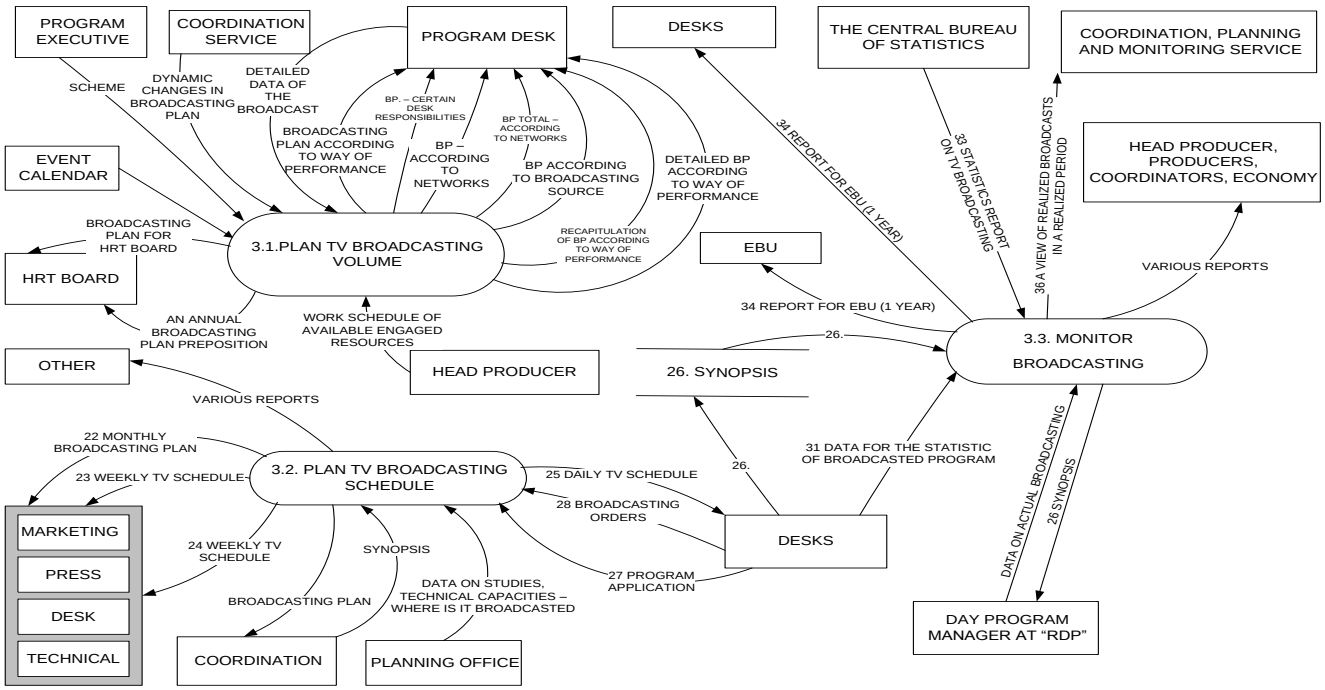

Fig. 1. Decomposition of business process 3. Plan and monitor broadcasting

All three subprocesses of process 3. are complex and are further decomposed and shown by separate figures using DFD method. Process 3.1.Plan TV broadcasting volume (see Fig.2) is the process of calculation and reporting on the quantity of broadcasting hours by various criteria (networks, way of performance, desks, source of broadcasting). The process of planning is performed for a single broadcast on the level of the broadcast. Process 3.2. Plan TV broadcasting schedule elaborates TV program scheme and precisely defines TV schedule.

One day, a week or a month can be printed out of the database. Process 3.3. Monitor broadcasting consists of subprocesses connected to the main production list (MPL). In order to make the system of monitoring broadcasting and monitoring product functional, the required data needs to be listed into the MPL at the very moment when the data is established. The decomposition of process 3.1. is shown in Figure 2. in the PARTIS project and in Figure 3. after the reengineering in IPIS process.

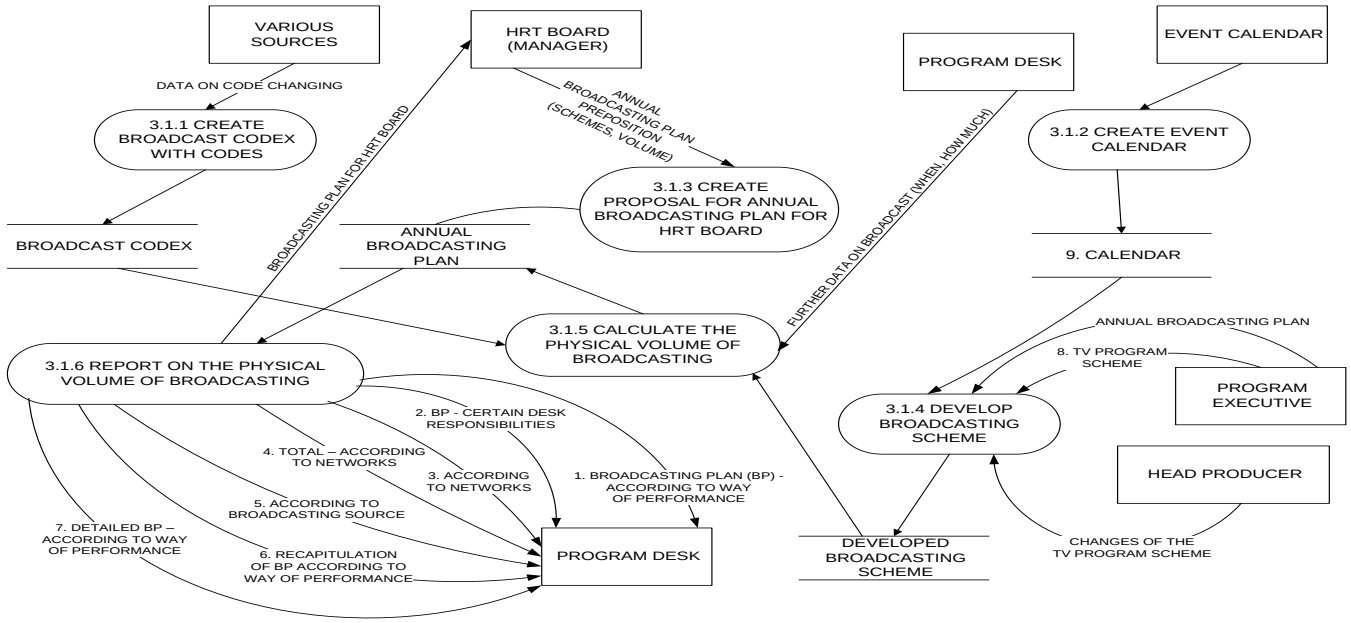

Fig. 2. Decomposition of business process 3.1. before reengineering

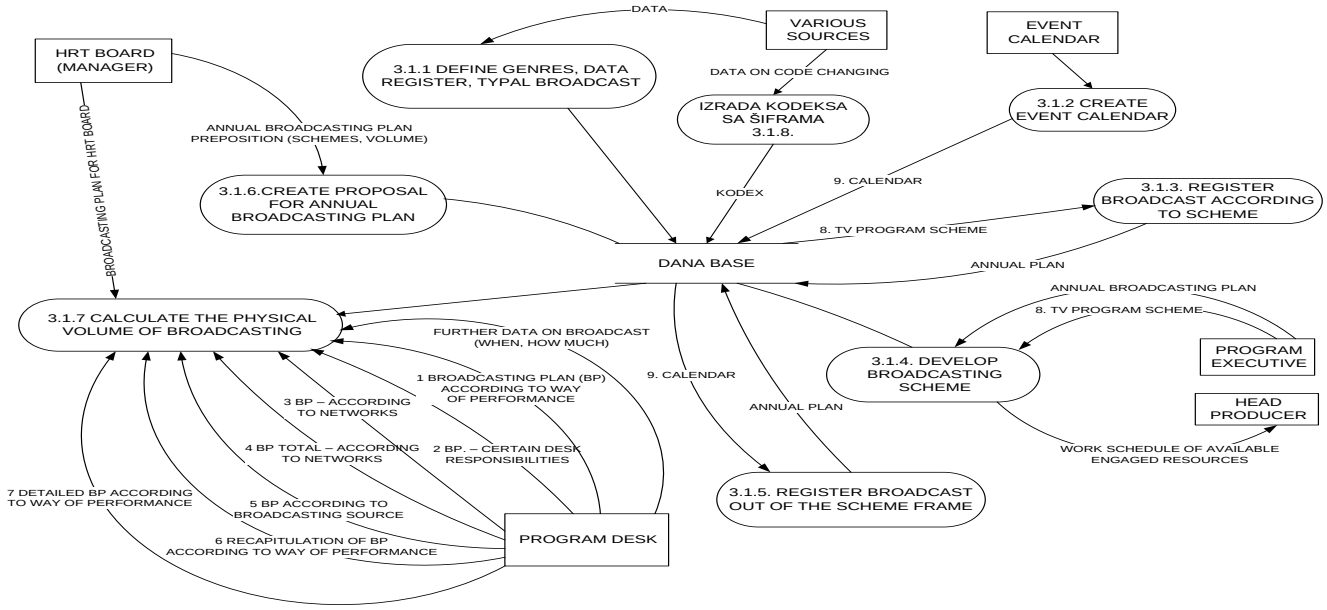

Fig. 3. Decomposition on process 3.1. Plan TV broadcasting volume

A functional process decomposition diagram is an illustration of total operations which decomposes work processes on an abstract level into detailed tasks. The process analysis determined which subprocesses constitute a business process. The result of the decomposition is shown in Table 2. The second column shows processes after reengineering. It is noticeable that the order in which the tasks are performed is changed. The model semantics is preserved, and the system still performs the function of planning and monitoring broadcasting.

Table 2. Decomposition of the business proces 3. Plan and monitor broadcasting

PARTIS process model	**IPIS – processes after reengineering**
3.1 Plan TV broadcasting volume	**3.1. Plan TV broadcasting volume**
3.1.1 Create broadcast codex with codes	3.1.1 Define genres, data register, typal broadcast
3.1.2 Create event calendar	3.1.2 Create event calendar
-	3.1.3. Register broadcast according to scheme

-	3.1.4. Develop broadcasting scheme
3.1.3 Create proposal for annual broadcasting plan for HRT board	3.1.5. Create proposal for annual broadcasting plan for HRT board
3.1.4 Develop broadcasting scheme	3.1.6. Register broadcast out of the scheme frame
3.1.5 Calculate the physical volume of broadcasting	3.1.7 Calculate the physical volume of broadcasting
3.1.6 Report on the physical volume of broadcasting	3.1.8 Create broadcast codex with codes
3.2 Plan broadcasting schedule	**3.2 Plan broadcasting schedule**
3.2.1 Create a monthly broadcasting plan	3.2.1 Create a monthly broadcasting plan
3.2.2 Create a „white“ weekly TV schedule	-
3.2.3 Create a „yellow“ weekly TV schedule (for 8 days)	-
3.2.4 Create a „red“ daily TV schedule	3.2.4 Create a daily TV schedule
3.2.5 create and change daily synopsis	3.2.5 Create and change daily synopsis
3.2.6 Plan program supplements	3.2.6 Plan program supplements
3.2.7 Plan broadcasting	3.2.7 Plan broadcasting
3.2.8 Create synopsis	3.2.8 Create synopsis
3.2.9 Annual report	-
3.3 Monitor broadcasting	**3.3 Monitor broadcasting**
3.3.1 Distribute synopsis	3.3.1 Distribute synopsis
3.3.2 Records of daily broadcasting synopsis realization	3.3.2 Records of daily broadcasting synopsis realization
3.3.3 Additional data entry for statistics	3.3.3 Additional data entry for statistics
3.3.4 Generate report	3.3.4 Generate report

Besides the process itself, important parts of the main project are flows and data stores, as well as their descriptions. There are 156 flows and data stores (documents). To process such a large quantity of documents was a different kind of a problem. All these documents are described on separate forms. For each document, its name and a short description is given, i.e. the meaning of this document. Then, each data from the document is described in detail by supplying the name of the data, description, data example, type and length. The description of documents marks the beginning of the stage of data modeling. Besides a large number of documents, the problem with its description also lies in the insufficiency of certain data on documents, i.e. all data on certain forms were not completely filled or named, so for each similar case it was necessary to additionally talk to users and demand their explanation. Certain data stores from DFD are an aggregation of a set of other documents and look like genuine little books.

5. CONCLUSION

A business system of every broadcasting company consists of numerous interconnected processes. Processes and the information system enable the management of resources (human, technical, financial) and therefore process modelling is an important prerequisite for the development of an information system. Complex business systems have a complex information system. One of the first tasks of designing an information system is to make a process model of the business system. The advantages of designing a process model are: a detailed reinforcement of the entire system, defining all tasks and documents, a preparation for data modelling, defining priorities at executional projects, planning needed resources, activating users in the project and creating new ideas of reorganization in team work. Besides the decomposition diagram, the paper has illustrated data flow diagram as well, which shows processes and documentation needed for conducting processes and also the result of a certain process. The paper has shown the decomposition of the process Plan and monitor broadcasting through three subprocesses, namely: Plan TV broadcasting volume, Plan broadcasting schedule and Monitor broadcasting. Each of these subprocesses is further decomposed. A process model is a good basis and an essential step for further stages of information system development.

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