

E-LEARNING IN MILITARY EQUIPMENT AND TECHNOLOGIES RESEARCH AGENCY (METRA) - ROMANIA

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ABSTRACT

The paper shows the METRA's achievements in e-learning area. First part is a brief presentation about main METRA's activities and major R&D programs. Next part of paper is dedicated to main METRA's activities regarding e-learning (training courses in programming and networking, local computers network, how we manage the Internet access, METRA web site ...). In the third part we should like to present some computer applications made by me and one of my colleague, tailored with web tools (HTML, PHP, MySQL, Java): In the last we should present some of our future plans regarding the development of our software application for current activities and e-learning process (database applications, on-line questionnaires...).

KEYWORDS

E-Learning, library, management, databases, questionnaire, PHP, MySQL, scientific research, testing & evaluation

INTRODUCTION

Because METRA is the first time on CBLIS is opportune to start with a brief presentation about main METRA's activities and major Research & Development (R&D) programs.

Military Equipment and Technologies Research Agency is a structure with responsibilities in the management of scientific research area for military equipment and technologies and assures:

- The maintaining of the military scientific research component to constitute the MoD main scientific consultant source;
- A unitary and flexible structure in order to develop the scientific research to support major armed forces acquisition programs;
- The elimination of the parallelisms between the R&D composing units and create the possibility of approaching multi disciplinary programs;
- The increasing of the number of personnel for scientific research activities and the using of high qualified specialists to achieve the major programs;
- Testing and evaluation of new equipment, made in our country or purchased from abroad, to include into army endowment;
- Comparative analysis for military equipment performances offered by producers;
- Elaboration of studies and prognosis for new armament categories and military equipment development;
- Facilitation of the scientific information exchange between the national scientific research network and MoD;
- Simplifying and effectiveness of the coordination and administrative management.

Military Equipment and Technologies Research Agency is structured in Research & Development and Testing & Evaluation centers and these are:

- Information Systems And Communications Test & Evaluation and Scientific Research Center (ISCTESRC)
- Armaments Test & Evaluation and Scientific Research Center (ATESRC)
- NBC Defense and Ecology Scientific Research Center (NBS-DESRC)
- Naval Forces Scientific Research Center (NFSRC)
- In Flight Test and Research Center (IFTRC)

Among the most significant achievements of Military Equipment and Technologies Research Agency it must be mentioned the following: “START-1M Radar”, “TS-568 Bulk Encryption System”, “C802 Aircraft Control Point Automatic System”, “C601N Naval Information System”, “Radar Extractor”, “Radio Jamming Special Vehicle on U.S.3720A”, “ASOC Integration in SICTA”, “Marasesti Frigate Communication System”, “Aircraft Electronic Counter Measures System”, “SISOM Integrated Security System for Military Objective”, “Integrated Processing and Analyzing Complex Chemical Mixed Substances System for Military Interest”, “Filtro-ventilating NBC Protection Suit”, “Pyrotechnic personnel protection suit”, “Ship Magnetic Processing Computerized Equipment”, “Short Range Radar”, “Two Torpedo Launching System”, “Anti-torpedo Tracked System”, System integrator for “Permanent Telecommunication Network (PTN)” for Romanian Army.

All of this and also another information you can get from official METRA's web site on *www.acttm.ro*.

e-LEARNING PROGRAMS

I don't want to make any comment about e-learning. We know all of us it importance end the trend of e-learning.

In the next we will present METRA's achievements in e-learning process:

- Internet access and Intranet LAN
- Programming training courses
- Software applications for e-learning and CAD
- Web site on PTN lines
- Software application for library management

INTERNET ACCESS AND INTRANET LAN

Internet access is a major part in life-long and distance education process need for a specialist. I don't insist not even here in theoretical aspects because is a well know mater, too. In Figure 1 is shows the Intranet METRA's structure.

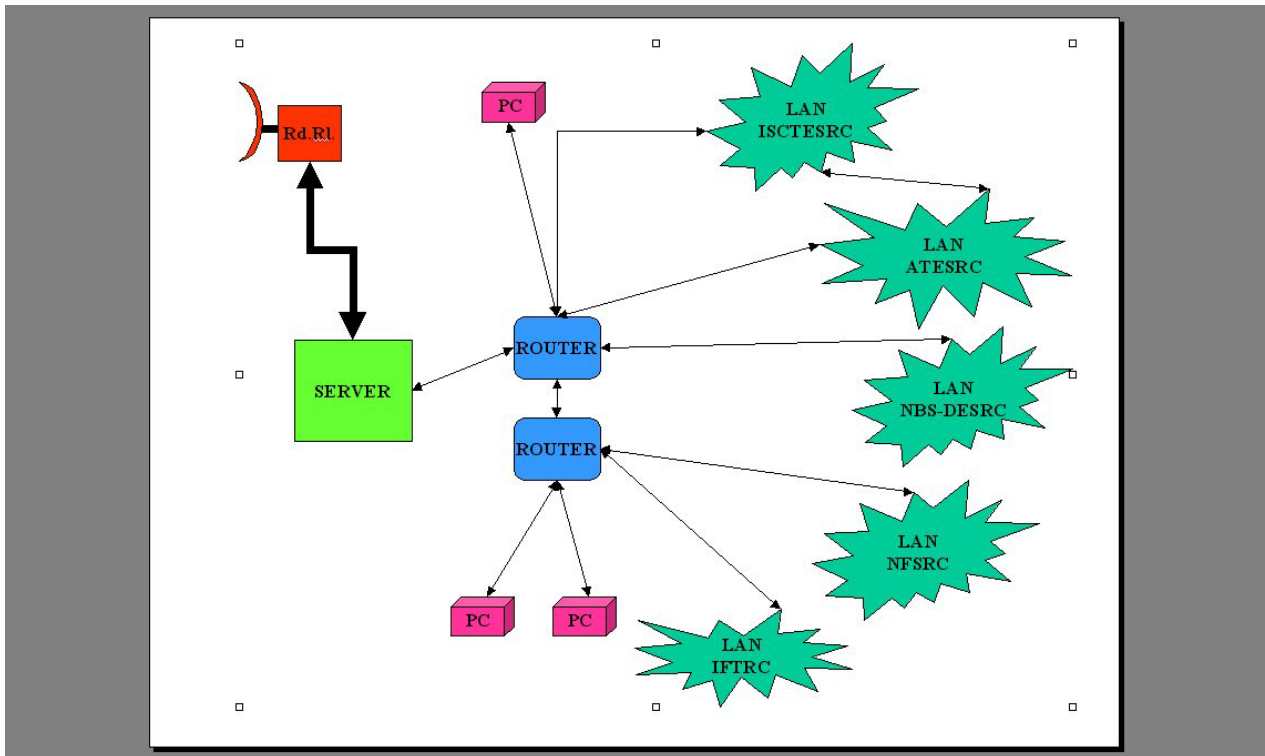


Figure 1. Intranet and Internet METRA's access

PROGRAMMING TRAINING COURSES

In order to increase the proficiency and efficiency of our scientist researchers, the leadership of METRA has organized, under the Informatic Training Center care, training courses in computer science: programming, computers network, operating systems.

Informatic Training Center (ITC) is recognized by National Education Ministry and Informatic & Communication National Board and is an authorized Microsoft Training Center. METRA is a regional ITC authorized Training Center.

The training courses have organized on levels of competence: training course in C, training course in C++, training course in Java, training course in UNIX (beginners and advanced).

On each course learners had assured the own computer and course support in electronic and classic format.

SOFTWARE APPLICATIONS FOR E-LEARNING

In the next is presented two software applications developed by PTN team. Together with one of my colleague we try to identify the area in witch some software applications can help us in our ordinaries activities and, in same time, to provide access at our databases to others. We talk with our collaborators and a lot of PTN subscribers. Thus, we identify several directions in witch we were action by development of this applications. The results are positive and we will continue to develop and to improve these applications.

WEB SITE ON PTN LINES

We have started with a simple application for radio relay path profile evidence and status.

After this we have developed a database in order to administrate the increased number of path profile and telecommunication sites data.

Because these information are desired also of our collaborators we have installed these databases on a Linux server machine, connected trough a modem to PTN lines. The access is conditioned by login process and by administrative measures, too. Even we use a private network, we taking in account the information security measures.

The next step was to develop an e-mail service and adding new facilities.

The last parts added are the document & tasks management and e-Learning facilities. The main page of our site is looking now like in Figure 2.

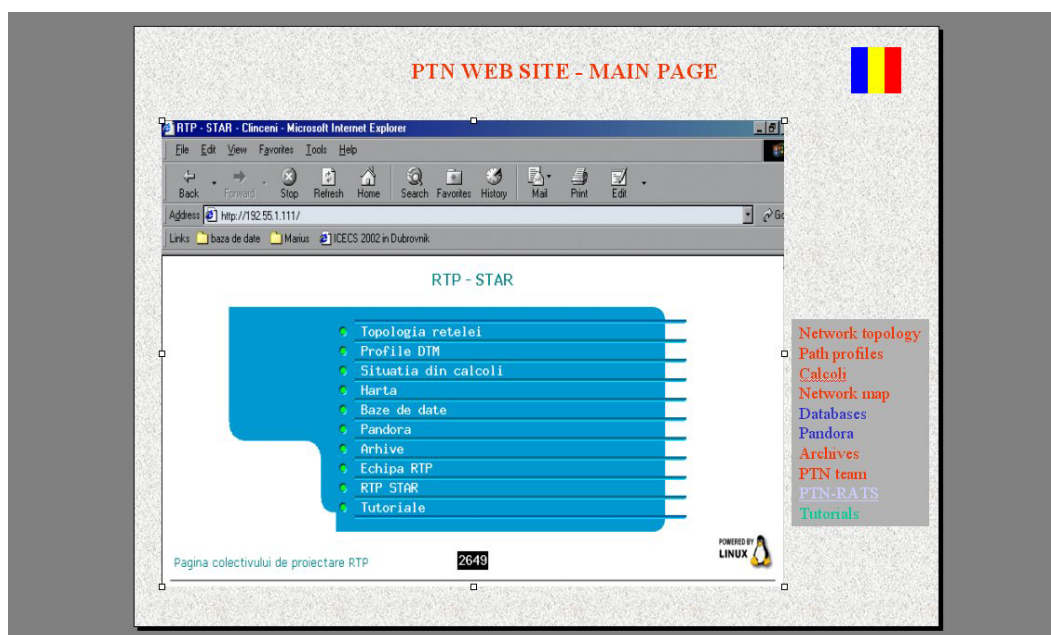


Figure 2. PTN web site. Main page

The last two links are dedicated to e-Learning process. The link *RTP-STAR* (PTN) goes to another site where, at teaching level, is described the Permanent Telecommunication Network (PTN). We have also here a IT&C dictionary and a news page. The link *Tutoriale* goes to a page where it can find another links to technical specifications, documentation and tutorials about: operating systems, programming languages, articles downloaded from Internet or others authorized sources: (Linux, Unix, C, C++, MySQL, Postgres, Informix, web design, telecommunication and computers networks).

SOFTWARE APPLICATION FOR LIBRARIES ADMINISTRATION

The idea was occurred as a result of many factors. One of days I was in our library and I spend more then one hours trying to find a book about reliability. I take part in the team who was nominated to carry out the feasibility study for "Informatic System for Military Archives".

So, I start to write the code using PHP, MySQL, HTML in order to install it on METRA's Intranet, to be available for all personnel.

The search is performed by many criteria:

- book's author name;
- book title;
- scientific domain;
- keywords;

In Figure 3 is presented the main page of this application. After debugging we will intend to install this application on Intranet and use it. All presented applications are written in Romanian because they are addressed for a private network.

FUTURE PLANS

In the future we'll intend to develop our software application to support e-learning process through on-line training courses, questionnaires and questionnaires generators.

We want also to develop new application based on customer requirements as technologies, way of working and mentality is changing.

We are also opened of any kind of collaboration in:

- new product Research&Development;
- software application and informatic systems development;
- specialists exchange;
- information exchange and mutual assistance.

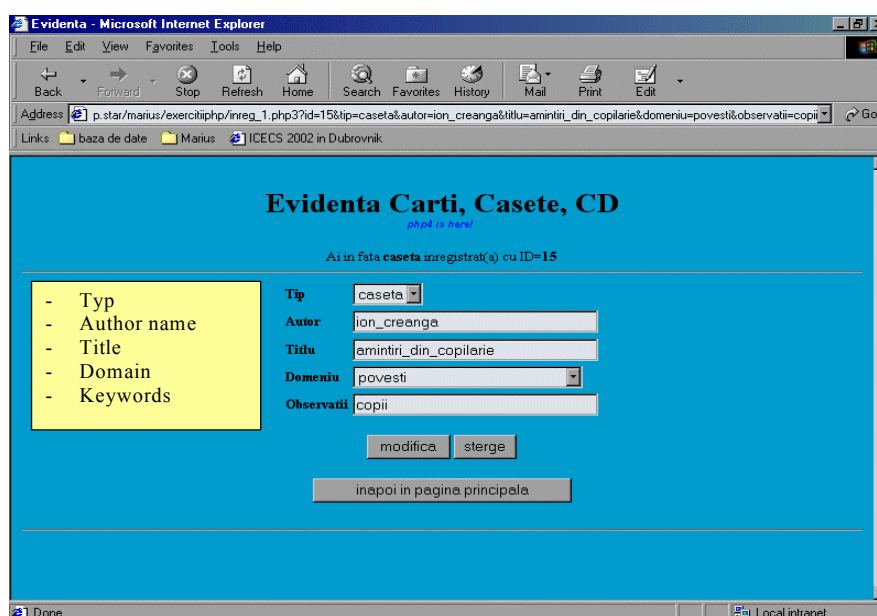


Figure 3. The main page of library application.

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