An Intranet Solution for Geographically Dispersed Educational Centres: PINCEL-NET

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Abstract. The Educational System in the Canary Islands has more than 650 centres and no less than 340,000 students. These are distributed in the scope of a community characterised by their fragmentation and insularity. The Autonomous Canary Government has created PINCEL through its Department of Education, Culture and Sport. P.I.N.C.E.L. stands for "Programa de Informatización de Centros Educativos según la LOGSE:" (Programme to Computerise Educational Centres in accordance with the Education Act.). PINCEL-NET is the natural technical evolution of the present software application. It makes use of Internet/Intranet technology and covers all the needs of both Teaching Centres and Central Administration, improving productivity of all the agents involved in the education system.

1 Introduction

We present an Innovative Technology Project dealing with the General Administration of Educational Centres in the Canaries. It is the result of teamwork involving two groups, one in the Autonomous Government Administration and the other in the University of La Laguna. The Department of Education, Culture and Sport and the Canary Institute for Research and Development contribute on behalf of the Autonomous Government Administration and the PINCEL-NET group represent the University of La Laguna. This group is made up of members of the Communication and Information Technologies Centre and the Parallelism Group of the Department of Statistics, Operation Research and Computation.

PINCEL-NET is the natural technological evolution of the existing software system known as PINCEL: The Programme to Computerise Educational Centres in accordance with the Education Act. This system has been developed in Microsoft FoxPro for the computer staff at the Department of Education, Culture and Sports and has been in use for several years with no particular problems. An isolated system is located in each centre: sharing data is a difficult issue. With the present structure to obtain statistical data about pupils, teachers and centres is difficult and consequently decision making and planning is hindered in both the long and the short term. When the Central Administration requires data from centres this is sent via e-mail, floppy disk or even via ordinary mail.
This system has many disadvantages: the centres take a long time to send information, disks can contain viruses, data sent may be incomplete, and so on. When PINCEL was being developed, some drawbacks appeared which prompted the development of a new version. The basic drawbacks can be summed up in three areas:

a) the need to bring usage up to date in accordance with recent legislation,
b) maintaining usage throughout all the educational centres in the Canaries,
c) bringing about and controlling modifications as asked for by users.

PINCEL-NET is an INTRANET application working with Windows-NT, the SQL Microsoft Server as the data base server and Internet Information Server as the Internet Server. Programming is based on Visual Basic Technology and Active Server Pages.

In the second section of this article we will be looking at the goals, scope, methodology and resources of the Project. The third section will deal with possible alternatives regarding databases, communication and security. In the fourth section the solution adopted for carrying out the Project will be laid out. Section five describes briefly the development and present state of the Project. We then finish with some proposals on how to expand PINCEL-NET.

2 PINCEL-NET: Goals, Scope, Methodology and Resources

All organisations need easy access to well-structured information in order to guarantee efficient management of resources, to improve the quality of service offered to users and to adapt appropriately to changes.

2.1 Goals

It is convenient to differentiate between the aims of the product and the aims of the development process. The main objective of the product is to create a computer system using Internet/Intranet technology, which carries out all the functions, required by both the Teaching Centres and Central Administration and Services. The most important of these include:

a) General administration of Nursery, Compulsory Primary and Secondary Schools, Vocational courses, Higher Secondary Education, Special Needs programmes, Correspondence and Open University programmes, Music schools, Modern Languages Institutes, Creative Arts courses and so on.
b) Global information to be immediately available concerning all the Educational Centres in the Canaries. Consequently, when decisions are taken, planning, following up, providing help and avoiding mishaps will be easier.
c) Reduction of unnecessary "red tape" within the Organisation in order to simplify bureaucracy for the end users: administrators, teachers, students and pupils and the Educational Community in general.
d) Improvement in productivity in the Central Administration and Services and in the Teaching Centres.