PAUAIS - An Academic Information System for Postgraduate Students of Punjab Agricultural University

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Abstract— *The Punjab Agricultural University Information System (PAUAIS) has been designed as per needs of the University. In this system, the effort has been made on providing all types of information about the various activities of the university in terms of academics and all other related disciplines. The PAUAIS has been designed and developed using Cold fusion and the database has been prepared with the Microsoft SQL Server using the ODBC connections. The online package has been developed, which is ready for the application within the university.*

Keywords— *Academics, Information System, Online system, PAUAIS*

I. INTRODUCTION

Virtually every sector of modern era is absolutely and irrevocably dependent on Information Systems (IS) which are main assisting technology in these areas such as commercial, industrial, medical, education, and government, to name just a few. This upward reliance brings renewed demands for further competent and judicious development of even further complex systems which must be accurate, comprehensive, and that must be able to meet the ever- changing necessities of users. In reply to these necessities, research and development in IS have been persistent to explore and appraise models that assure better usefulness in areas such as domain specific architectures and reusable technologies. Procedures and tools for IS development endure to use from this effort through integration of further efficient concepts, designs and competent processes for all development jobs. The IS are critical resources for modern enterprises. They integrate crucial information acquired throughout the life of an association such as an institute, bussines enterprise *etc.* [1] IS ranging over eclectic regions display features that must be judiciously analysed and tailored to meet the customer requirements. So, the development of such IS is to be led by software engineering techniques which addresses various complications like distribution of processes and data, communication techniques and error acceptance [1]. These distributed software systems needed to be evolved according to the ever-changing requirements on which they were built [2]. IS are briskly being swayed by internet and mobile technologies. These are motivated by their progress and proliferation to create next-level of IS based on Internet and Mobile technologies.

The internet is a platform for ISs such as dynamic document management systems which are easy to deploy and use for information suppliers and users. In this type of IS, many users can modify the shared information repositories simultaneously, and it may possibly affect the transactions for which other users are simultaneously engaged in. Internet has reduced the world into a global village. Vast amount of information is available on the computers connected to the Internet. The need of the hour is to harvest the information in an effective and efficient manner. This will enhance the development of the society as well as improve its functional efficiency. In this region of the world the potential of Internet technology is not yet fully exploded. Lot of information is disseminated through print media, which may not reach the needy person in time or may not be accessible in the remote areas. This useful information to be retrieved must be present in any type of database. The database can be accessed through the Open Data Base Connectivity (ODBC). The information available can now be accessed and the information can also be posted to the database using this ODBC. The two system are involved in this phase to get the piece of information

- Client System
- Server System

The Client is the process that sends a request to the server that it should perform the service of the user to display the information of his interest. The client-based processes are the front ends of the application that a user can see and interact with it. The responsibility of the client is to handle the user interface, send request to the server, wait for server response, translate the response to readable form to the user, & present the results to the user. The server process performs the client request, execute the database operations, and other operations that are required for the information passing to the client. The server process act as a software engine that manages shared resources such as databases, communication links etc. the server processes the back end task that are common to such applications. In database server the client passes a Structured Query language (SQL) request to the server and the results of the query are returned to the client over the network.

In this way information is passed to the user. The server's function mainly includes listening of the

client's query, processing that query, returning the results back to client. Internet connectivity allows the applications to communicate the information regardless of the location. The key element of the information retrieval is the network operating system and the ODBC. The network operating system provides the services like routing, distribution, messaging, file and print, and network management. The ODBC is standard to enable any application to communicate with any database manager. It is like an internal SQL controlled by a driver, which translate the commands from the program to the instructions that Data Base Management System (DBMS) understand.

Various methods and tools for IS development has been explained [3]. A system has been developed for offering a solution to the problem of ambulance management and emergency incident handling in the prefecture of Attica in Greece. This is based on a Geographic Information System (GIS) coupled with Global Positioning System (GPS) and Global System for Mobile Communication (GSM) technologies [4]. In Agriculture, the selection of a variety is an significant decision in crop production, but information about varieties to base the information upon is capricious and comes from numerous sources. A Danish information system has been described to improve the basis for these decisions. The web-based system is targeted towards two primary user groups, farmers and advisers. The necessities for information and technical abilities are generally dissimilar for these groups, and the system has been designed to reflect this information [5]. A management information system for crop improvement and Seed Production Technologies using the ASP Technology has been described [6].

IS application in education can help small and medium-sized organizations in their application of information technology [7]. Focus has been made on the holiday package facility as realized in TIScover [TISc98a], the largest Austrian Web-based tourism information system [8]. An e-learning initiative to support multimedia methods in Engineering Education has been started by Technical university of Graz. They provided all of their courses documents on the web. Interactive tools as well as monitoring features and tests were used. A major factor was internal transparency of their courses contents, which may result in a enhanced adaptation and demarcation of all courses. An improved level of interactions between instructors and students, especially during courses, was meant for. For this it has been decided to create an overall information management system, which can be used as the e-learning portal. So, a data-model from scratch has been designed that integrates all resources of the institution. As user-interface, a web-database application has been implemented that contains all features of a state-of-the-art intranet-portal [9]. The Internet sources of water- related information available from United States National Agricultural Library [10].

An online model of various modules of information package of academic atmosphere of Punjab Agricultural University (PAU), Ludhiana has been developed [11], and termed as PAUAIS. The proposed package includes information about various faculties & admission procedure, interaction with experts, job opportunities, library information and various facilities available therein. The objective of the present paper was to development of information retrieval system, development of relevant information packages, and retrieval of information for the postgraduate students of PAU.

II. METHODOLOGY

The present study was involved in the development of the university information system (UIS) for PAU using Internet technology. The information about the university is available in various forms. This crucial information was to be organised in proper way so that it can be presented to the user as and when required. At PAU, the information is transferred from one department to the other department by manual means. For example in an academic registration process, a student has to get registered himself for the semester has to move from one teacher to other teacher to get the course registered, to move to his advisor, Head of the department, nominee of Dean, Post Graduate Studies (PGS), dean PGS etc. but if all the information are made available on a single platform of an information system then one can get all the details at the mouse click and get his registration, the authorities can approve this changes at just a mouse click.

Whole of the PAU academic system (Fig 1) for PG students was studied and based on the information available within the system the PAUAIS was developed. Comparative study of various information retrieval systems was conducted and outline of the information retrieval system was done. Microsoft SQL Server was used as the database application. The Cold Fusion was used as the web application server on Windows platform. Cold fusion has been used as the scripting language using macromedia tools. Model information package was developed for the information retrieval system.

III. RESULTS

The PAUAIS model was designed tested in the department of Computer Science and Electrical Engineering. The output of the system is shown in Fig 2. It contains the complete details about the academics activities related with the postgraduate courses of PAU.

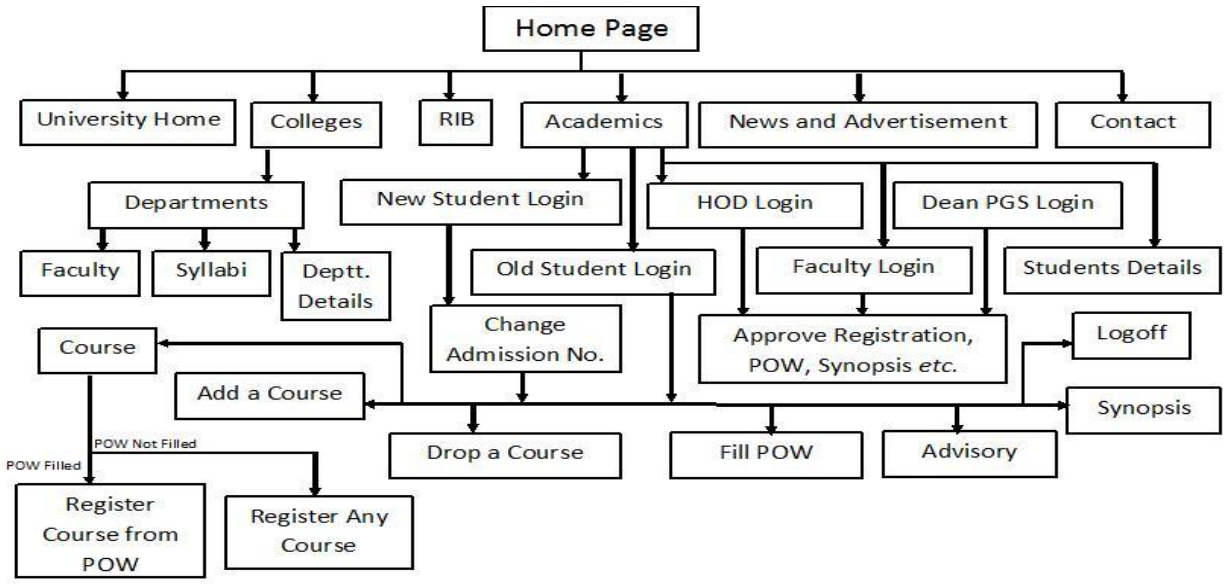

Figure1: Flow Chart of the PAU Academic system for PG courses

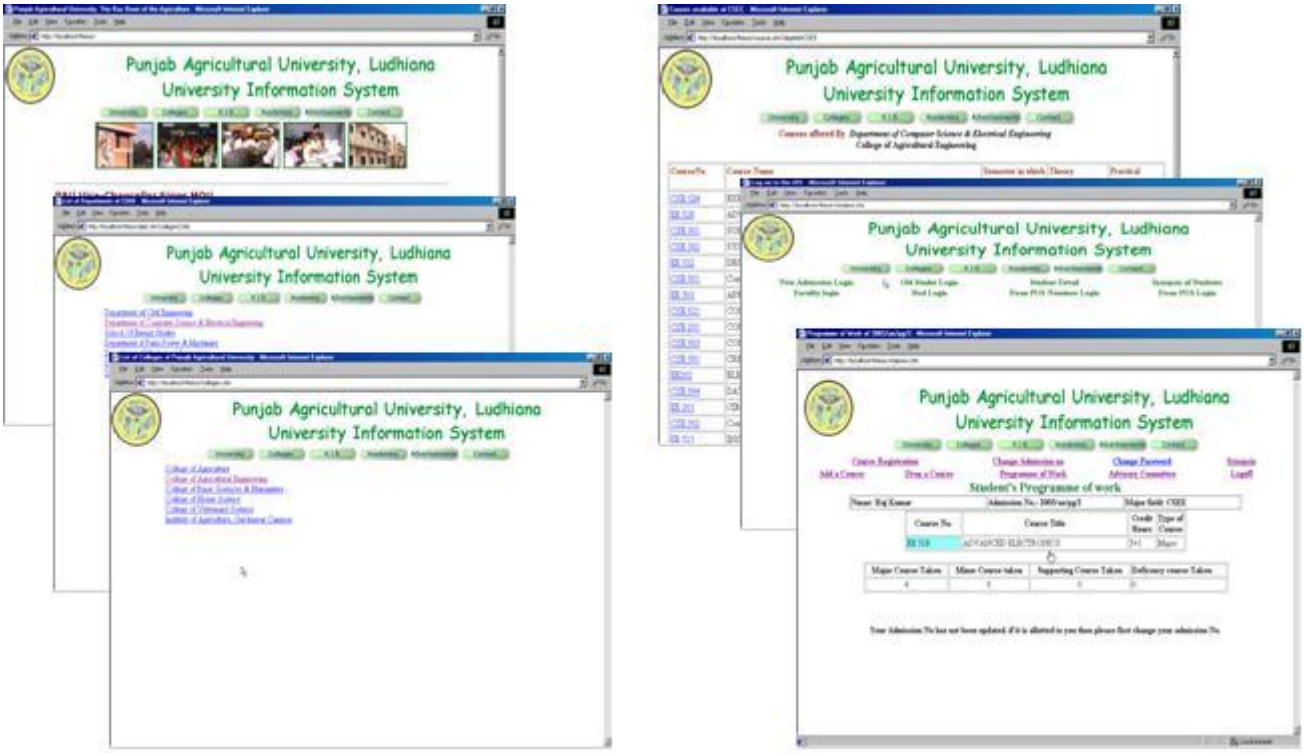

Fig. 1 PAUAIS System Output

IV. FUTURE SCOPE

The system developed can be helpful in eliminating the paper work of PAU. As this system is as per the requirement of the academic needs of the university, so, it can be further strengthened by providing other facilities in the system that is by adding the results, collection of admission forms etc. The system will be further developed to work out for the need of the undergraduate students. Mobile based system will developed to provide the information to the concerned stakeholders.

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