P.E.S COLLEGE OF ENGINEERING, MANDYA

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SYNOPSIS ON

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ABSTRACT

Living in the modern world and still not using digitalization in a better way. The use of modern technology and internet for reducing work and increasing efficiency is a way to digital country. Using technology helps in having a smart work process and to implement it in the college an Online College Portal has been designed for the digitalization and reducing the work of the college staff/faculty which includes calculating percentage of attendance and marks, providing time-table, keeping records in files for years, can be reduced by making use of the system and to overcome the various problems caused by human error and wastage of time doing by all processes manually. The problem of registration because of the use of manual means of operation easily leads to misplacement or loss of student's information. The manual pre-assessment of student's registration system is very slow and consumes a lot of time which ultimately delays in the completion of the entire enrolment process. A lot of difficulties has to be faced by the faculty in maintaining records of all the students. Processes associated with undergraduate final year projects have always been a manual process which requires a lot of paperwork and could sometimes be a cumbersome and tiring task for the personnel in charge. The manual process sometimes leads to wasting of time, impeding of project work because the student carrying out the project work is not able to update the lecturer on the level of execution of the project. Also due to unavailability of a content management system or repository, duplicity of previously carried out final year projects is also experienced. All these problems and issues can be overcome by creating a portal which contains the solution for all the issues that are being faced by the students and faculty. The project work therefore, eliminates or reduces the error of allowing a student to carry out a project that has been done before as well as cutting down on the cost and time required by the student to produce a quality technical report. It also helps to prevent the forgery of signatures usually experienced during the final clearance stage of the students after the conclusion of the project work. The purpose of online or web based activities in particular online admissions is to provide convenience, save time, bring more objectivity, transparency and speedy transactions over the manual operations.

INTRODUCTION

PESCEglobe facilitates us to explore all the activities taking place in the college, different reports and queries are generated based on vast options related to students, batch, course, faculty, exams, semesters, certification and all the amenities required for the college.

College Portal provides a simple interface for maintenance of student–faculty information. It can be used by educational institutes or colleges to maintain the records of students and faculty easily. The creation and management of the update information regarding a student’s academic career is critically important in the university as well as colleges.

Student information system deals with all the details of a student from the day one to the end of the course which can be used for all reporting, tracking of attendance, progress in the course, completed semesters, upcoming semester year curriculum details, exam details, project or any other assignment details, final exam result, batch details, clubs and other resource related details too and all these will be available through a secure, online interface embedded in the college’s site.

This portal will also have faculty details which includes batch execution details, student’s details. It is supported to reduce the hardships faced by the faculty in managing sessions, lectures, student’s attendance and all the aspects related to them. Various academic notifications to the staff is updated by the college administration.

The aim is to automate its existing manual system by the help of computerized equipment’s and full-fledged computer software, fulfilling their requirements so that their valuable data or information can be stored for a longer period with easy accessing and manipulation of the same. Basically the project describes how to maintain good performance which is accessible by both the android and IOS users.

TECHNOLOGY USED

- .Net Framework

The .NET Framework is Microsoft's Managed Code programming model for building applications on Windows clients, servers, and mobile. Microsoft's .NET Framework is a software technology that is available with several Microsoft Windows operating systems. In the following section it describes, the basics of Microsoft .Net Frame work Technology and its related programming models.

- HTML

HTML is a hypertext mark-up language which is in reality a backbone of any website. Every website can't be structured without the knowledge of html. If we make our web page only with the help of html, than we can't add many of the effective features in a web page, for making a web page more effective we use various platforms such as CSS.

- CSS

CSS Stands for "Cascading Style Sheet." Cascading style sheets are used to format the layout of Web pages. They can be used to define text styles, table sizes, and other aspects of Web pages that previously could only be defined in a page's HTML. The basic purpose of CSS is to separate the content of a web document (written in any markup language) from its presentation (that is written using Cascading Style Sheets).It can control the layout of multiple pages at once. External stylesheet are stored in CSS files.

- SQL

SQL stands for Structured Query Language. SQL lets us access and manipulate databases. SQL is an ANSI (American National Standards Institute) standard. SQL can execute queries against a database, retrieve data from a database, insert records in a database, update records in a database, delete records from a database, create new databases, create new tables in a database, create stored procedures in a database, create views in a database, set permissions on tables.

- JAVASCRIPT

JavaScript often abbreviated as JS, is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It was originally going to be named LiveScript but was renamed. Unlike most programming languages, the JavaScript language has no concept of input or output.

- PHP

PHP is a recursive acronym for "Hypertext Preprocessor".It is a server side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites. It supports a large number of major protocols such as POP3, IMAP, and LDAP. PHP4 added support for Java and distributed object architectures (COM and CORBA), making n-tier development a possibility for the first time. PHP Syntax is C-Like.

PROBLEM STATEMENT

Today's education scenario is rapidly changing and demanding. The system demands greater levels of communication between college, student and faculty members to have optimum use of resources .Online College Portal is a system fulfilling these demands and enacting as a bridge of communication amongst students, faculties and colleges. The purpose of this study is aimed to solve the following problems:

- The registration problem due to some manual means of operations which easily lead to misplacement or loss of student information.
- The manual pre-assessment of student registration system is very slow and consumes a lot of time which causes the delay in completing the entire enrolment process.
- Consume time and human effort due to long queue in the process of paying money in the bank and registration processes
- A lot of difficulties had to be faced by the faculty in maintaining records of all the students.
- At the time of providing notes to Xerox centre a lot of difficulties had to be faced by students like students had to stand in long queues for a lot of time that too during their college hours.

LITERATURE SURVEY

1. **According to Robert Moskowitz of Matrix: The Magazine for Leaders in Education**,

When you hear the word "portal" you might immediately think of one of the many commercial Web sites, such as Yahoo or Excite, that populate the Internet today. But a college portal, on the other hand, is the entry point for a college or university. It provides a centralized source of information and services for students, prospective students, faculty, suppliers, administrators, alumni and friends. The term portal can mean anything from a relatively simple set of Web-based application and payment services, to a comprehensive online interface offering highly personalized and customizable access to nearly all the features and benefits of campus life and work. College portals can provide campus regalia, to Web access, student activity information, class resources, syllabi and assignment listings, and homework submission, as well as online class registration and fee payment.

2. **FEU-EAC Online Student registration Portal**

For the past few years, FEU-EAC has been continuously trying to find ways on how to improve its services for the students in terms of providing information, registration and other school transactions. College Student Portal was made to assist FEU-EAC students in providing basic information related to their academic records, registration and assessments. Likewise, this will also give privilege to the students to submit their requests and transactions via Internet Enrolled students will be given accounts, usernames and passwords, to access and login. Which will contain

- My profile
- Dashboard
- Student academic information, course enrolment
- Time table, faculty details, event dates.

3. **According to Gerald (2005)**,

A system is a set of detailed methods, procedures, and routines established or formulated to carry out a specific activity, perform a duty, or solve a problem and also could be defined as an organized, purposeful structure regarded as a whole and consisting of interrelated and interdependent elements (components, entities, factors, members, parts etc.). These elements continually influence one another (directly or indirectly) to maintain their activity and the existence of the system, in order to achieve the goal of the system.

4. **Olsen, F. (2002)**

Believed that a major reason for deploying portals is “to improve productivity by increasing the speed and customizing the content of information provided to internal and external constituencies.” They also suggest that portals serve a knowledge management function by “dealing with information glut in an organized fashion.” Web portals have been used to streamline and automate Administrative functions in higher education. The most recent application of portals in higher education has been to create a point of access for

administrative functions for students, such as registration, financial aid and academic records, or for staff, such as timesheets, leave balances and the like. (Olsen, 2002) In this way, use of portals maximizes efficient use of staff and students' time (Pickett, 2002).

5. **Design and implementation of an online portal registration: a case study of national Open University of Nigeria, damaturu study centre**

Electronic registration or e-registration, web based registration or even online registration is a secure website in which students enter to get indicated which classes they will register to and attend in the upcoming semester (Strauss, 2000). Students can access the e-registration site from anywhere with an internet connection. Mostly these sites are portals.

6. **Online College Portal by Tejaswini Chavan , Deb Dutta , Michelle Gomez and Alvino Vaz**

Enhancements and features such as calendars, to do lists, schedules, hours of operation, discussion groups and chat, announcements and alerts, job openings, career opportunities, reports and documents, search, emails, course schedules, grades, CPGAs (Cumulative Point Grade Average), campus and world news, links to reference materials, bookmarks, etc. The roles that a portal supports includes those of students, faculty, staff, managers, workers, academic departments, IT facilities, scholars, researchers, prospective students, alumni, visitors.

OBJECTIVES

1. To implement the Server by Apache server and build the basic database of the server and divide into different sections for different data's using MYSQL.
2. Developing a New Portal Site name to host the portal using github host.
3. Updating the Look and Feel of the Portal using coding implementation (HTML, CSS, JS)
4. Implementing front-end using HTML and CSS, with Java Script for client-side validation and back-end using PHP and SQL.
5. Building views for four end users which include the Administration, Faculty, Students and the outsiders.

METHODOLODY

REGISTRATION MECHANISM

The online course registration system is the central part of the educational administration system. We did research on registration mechanism before system design. Based on the analysis on some existing registration mechanism, we proposed two operative registration methods: point assignment and willingness. After collecting feedback and comments from all teachers and students, we decided to use the method of willingness.

After finalized registration mechanism, we separated the registration process into 3 phases which are same to previous ones: registration, adjustment and dropping. Detailed description could be found below:

In the registration phase we used the willingness method. Three willing levels are designed for compulsory courses founder graduate students, restriction courses, optional courses and physical courses, with exceptional high priority for optional courses. For graduate students, three willing levels are also designed for degree courses, non-degree courses and physical courses with exceptional high priority for degree courses and non-degree courses. For the overloaded courses, the system itself will draw lots randomly in the background according to the students' current training plan and willing level. In the adjustment phase the students can register via first-come-first-serve if the capacity of the courses allows. In the dropping phase the students could do nothing but drop courses.

TECHNICAL ARCHITECTURE

The online registration system is a periodic heavy load system especial in the registration phase: too many online users and concurrent operations, which are relatively minor in other phases. So it's very important to choose appropriate system architecture.

User model

First of all, we analysed the current system users. Registration activities involve all undergraduate students, graduate students, most of teachers, graduate schools, academic affairs office, and all related education administrators. Considering the large number of system users and wide coverage, the users are separated into three categories:

- **Student:** It refers to the undergraduate and graduate students who will inquire online courses and complete registration steps to generate personal registration table.
- **Teacher:** It refers to the users who will deliver courses, and check the status of online course registration.
- **Administrator:** It refers to the users who will control registration process, adjust detailed information of online courses according to the real-time registration status, and complete administration tasks in the background including drawing lots, willingness release, etc.

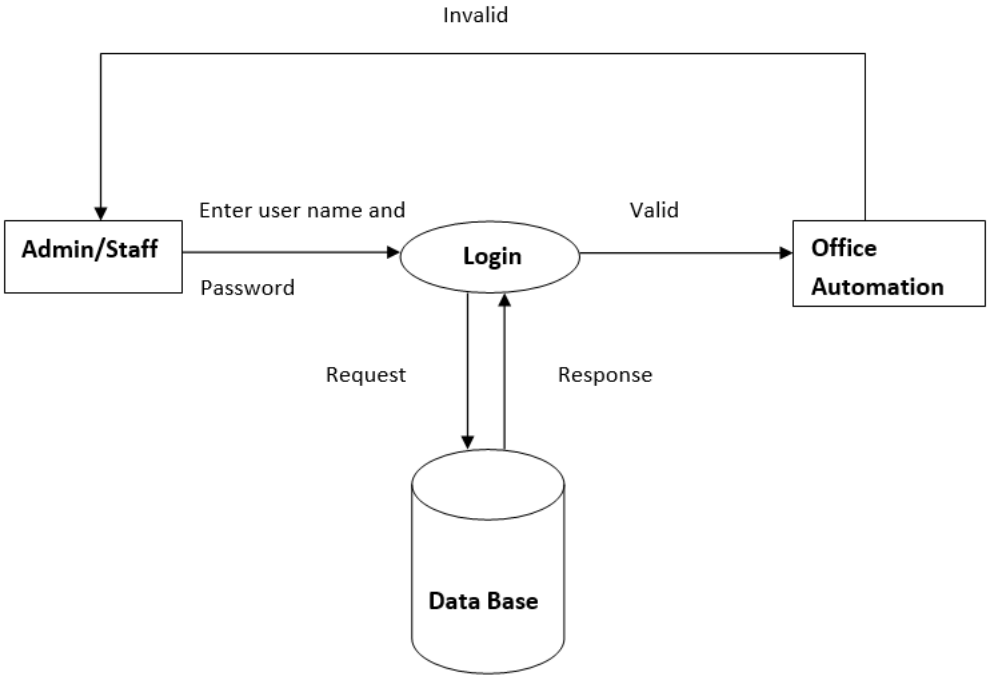

Fig.1: Storage to login framework

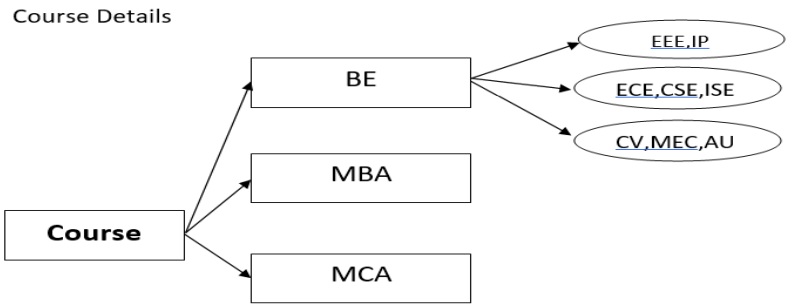

Fig.2: Course Branching

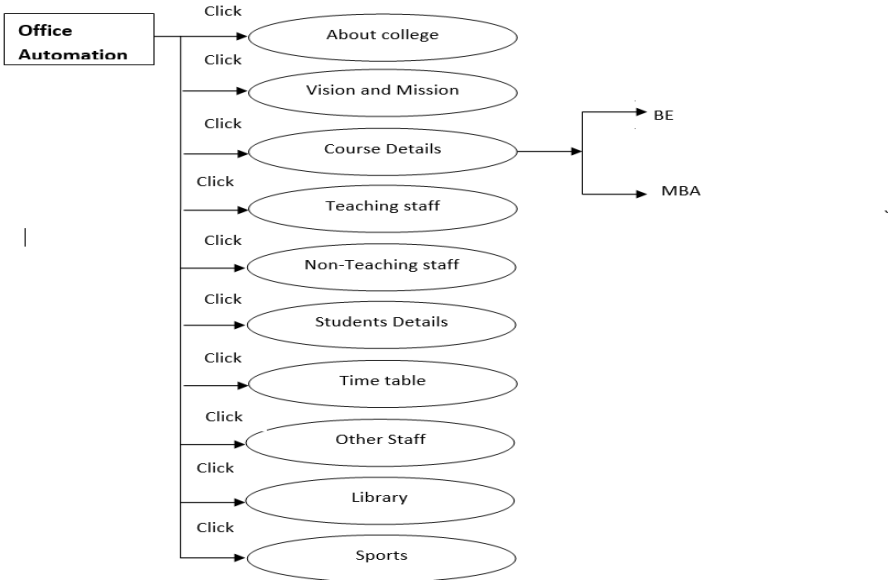

Fig.3: Navigation bar Flowchart

TECHNICAL ARCHITECTURE

The implementation of this project involved majorly coding/programming of the various interfaces. We have the project co-ordinator, supervisor, student and the clearance personnel interfaces. Each represented a particular module. In each of the modules, we have sub modules. Codes are written for each of the sub modules, there exist both a.html, a.css, a.js page and a.php page. These pages stand for a page written with HTML, CSS, JS, PHP, SQL and an asp.net page with a code behind language of there exist a master page which contains the features that are common to every module; this includes the various banners and side bars, which are seen on all of the pages. Codes were written for the master page too. Described below are the programming languages employed in this project and the various functions they carried out in the actualization of the project.

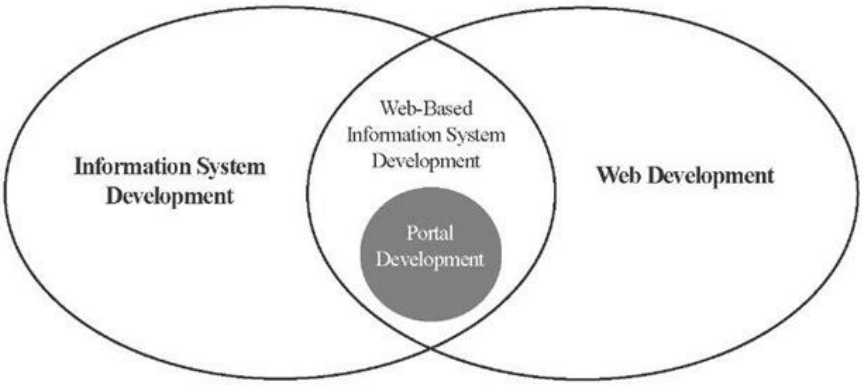

Fig.4: Web development information

Table No. 1: Webpage Description

Property	Description
Title	Name to define your portal. In the browser header and for bookmarks, the title appears as <Page Title> - <Portal Title>.
URL suffix	Value that appears appended to an instance URL when you access a portal. For example, if you use sp, the instance URL for that portal would be <instance name>.service-now.com/sp. Ensure that this value is unique and is not the same as any other portal. **Note:** Avoid using reserved words in your URL to prevent errors when navigating to your portal page. Avoid words such as portal and cms. Also avoid any JavaScript protected terms.
Homepage	Page that users see first after they sign in.
TE home page	Custom home page that faculty and administration see when they go in
Login page	Custom page to authenticate users.
Logo	Logo that appears in the page header. You can also configure the logo in the Branding Editor.
Icon	Icon that appears in the address bar for your portal. Each portal that you create can have a different icon.
Default	Portal to use as your main portal.
Application	Application scope of the portal. This field is noteditable and Global by default.
404 page	Default page that your users see whenever a page cannot load properly. You can also define a default 404 page using the glide.service_portal.default_404_page system property.
Catalogue home page	Custom page to represent the Service Catalogue.

Catalogue category home page	Page to display catalogue categories in the portal.
Main menu	Reference to the menu in the Instances with Menu [sp_instance_menu] table that appears in the header.
Theme	Refers to a theme in the Themes [sp_theme] table that defines the style and branding for the portal. The theme is the lowest level of style configuration. Any changes made in the Branding Editor or to specific portal components (such as widget or container CSS) override those styles.
Quick start config	Schema that defines configuration items in the Branding Editor. In JSON format, you can define the fields and records used to generate your branding options.
CSS variables	Portal-specific Sass variables. You can overwrite existing theme variables here. Note: Use the CSS variables field to define CSS variables only. Use CSS Includes to define CSS rules. As of the Madrid release, Sass and LESS can be used within CSS Includes.
Hide portal name	Option to hide the portal name in the page title.
Enable favourite	Option to enable the My favourites functionality in the portal.
AI Search	
Enable AIS	Option to enable AI Search in your portal. For more information, see AI Search in Service Portal.
Search Application	Defines the search experience settings for your portal, such as the search engine, search results limit, and suggestions limit. For more information on defining a search application configuration, see Defining search application configurations.
Search Results Configuration	Defines how search results are displayed in the portal. For more information on defining a search results configuration, see Define a composite dataset.

Software Requirement:

Server used for offline access:

- WAMP Server
- XAMPP Server (php version 5.5)
- MAMP Server
- LAMP Server

For database making and editing

- My SQL
- Postgresql

For coding environment

- Visual Studio(with required extension)

For testing environment

- Github

Process:

1. XAMMP:
   It's a simple and lightweight solution that allows you to create a local web server. So, you need to install XAMPP to run your code. Once the configuration is done, go to http://localhost/ in your web browser. Now, you have successfully installed your local server.
2. First, you will need a text editor to create and edit your program. There are many options on the internet, but I prefer to use notepadd++ because it is free and easy to use. Once you have installed the editor, you should go to the directory where you installed XAMPP. Then, go to htdocs folder.
3. Inside of your htdocs, you should create your folder.
   C:\Program Files\XAMPP\htdocs\my_folder
   Then, Open your Notepadd++ and create a new file inside the folder and name it index.php
   C:\Program Files\XAMPP\htdocs\my_folder\index.php
   Inside the file. Write the code and save.
   Now, test the link. You've successfully created your first page. http://localhost/my_folder/index.php
4. Second, we need to create a header, menu, and footer. We are using PHP Include to avoid save file being repetitive.
   Inside your folder, you should create those folders. I've attached screenshot.
   Next, Go to Notepadd++. Then, create a new file header.php, menu.php, and footer.php and save it inside the templates folder.
5. Now, open the file index.php. Write the code. Then, open your header.php and put this code and need to upload the logo.png into the "images" folder and write the image tag as required, now, test the link again. Go to http://localhost/my_folder/index.php in your web browser, and you can check the output.

6. Next, we need to set up a database. For this tutorial and I'm going to use phpMyAdmin to stored and managed data from the server. First, you need to go to http://localhost/phpmyadmin/.First, you should create a database. From the menu click Databases In the database field, type the name for your database. Then click Create Now, you have successfully created the database.

7. Create a new table and name it tbl_articles. Then, edit the number of columns to "2".Enter the following information for each field in the table. I've attached screenshot. Next, we need to insert data to the fields. From the menu click Insert Then click go.
8. Then, you have now data from your local server. Now, you can retrieve it from your main file index.phpNext, you need to create a file for database configuration then include it to the index.php file. Inside your folder, you should create the folder name "include"
9. Then, you have now data from your local server. Now, you can retrieve it from your main file index.phpNext, you need to create a file for database configuration then include it to the index.php file. Inside your folder, you should create the folder name "include"
10. Next, you should need to include the file config.php inside the index.phpNow, we are going to create PHP codes to retrieve the data from the database. Remove the content on the <h1> and <p> tags and put this new code inside the section.
11. Finally, you can now test the output. Go to your browser, then open the URL http://localhost/my_folder/index.php

SYSTEM DESIGN

External relationship: As the intermediate link in the teaching chain, course registration has relation to teaching planning, course arrangement, examination arrangement and scores management, which means course registration system has to cooperate with enrolment system, course system, teaching planning system, training system, examination arrangement system and scores management system. Based on the clarification of systems connections and relationship, the definition of system interface and message is described in the figure 1 below:

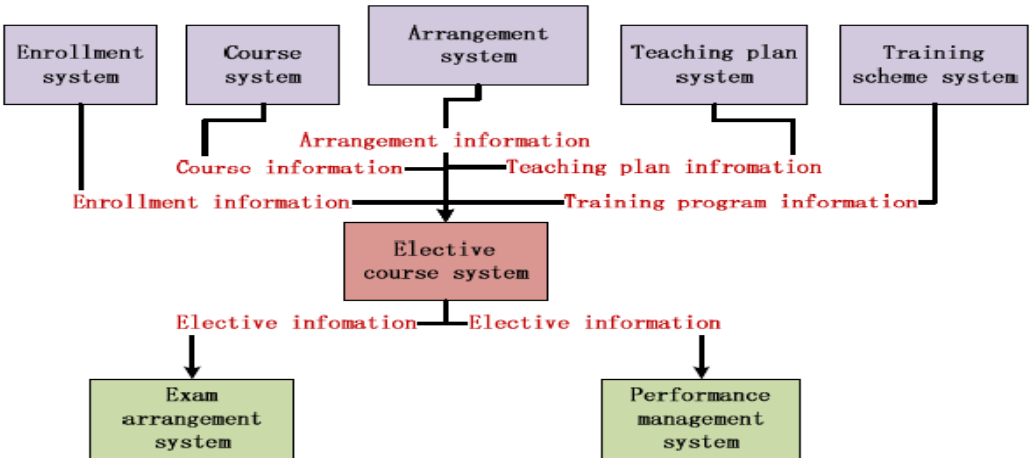

Fig.5 : Interfaces and messages between different systems

It can be seen that enrolment system, course system, teaching planning system, training system, are super stratum systems which provide basic data for course registration system. Examination arrangement system and scores management system are then substratum systems which will digest data provided by course registration system. The system interfaces are finalized:

- For super stratum systems, course registration system read all data initiatively. It will try to get a mass of basic data only once, and then save those data as the base for course registration. Later on, it will update accordingly if there's any new information. For other kinds of data, it will read them on demand and won't save them at all.
- For substratum systems, they can't access registration data directly but only wait the data pushed out by course registration system to ensure registration date revised unconsciously

Function structure

The course registration flow consists of data preparation, registration, adjustment, retaking and retesting, dropping in the middle phase which actually will be carried out by students, teachers and administrators. The system functionalities are designed based on the major flow and involved system users. Details could be found in figure 5:

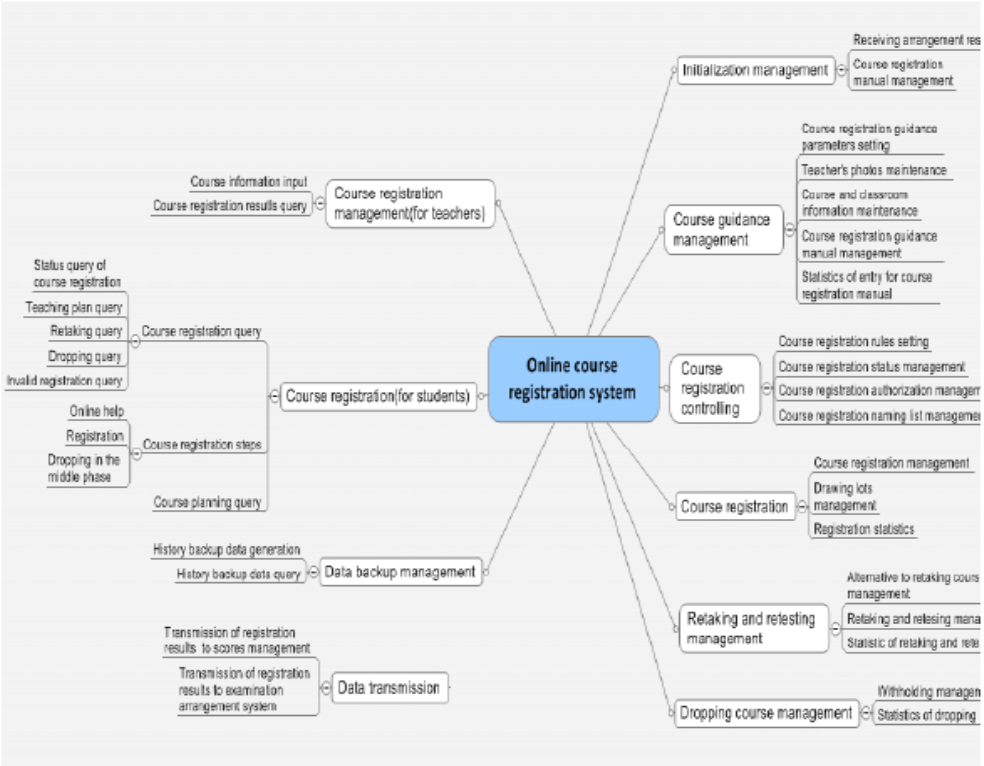

Fig.6 : **Structure of system functionalities**

CONCLUSION

The paper assists in automating the existing manual system. It is a paperless work. It can be monitored and controlled remotely. It reduces the man power required and provides accurate information. All years together gathered information can be saved and can be accessed at any time. Therefore the data stored in the repository helps in taking decision by management. So it is better to have a Web Based system. All the stakeholders, faculty and management can get the required information without delay. The system is essential in the colleges and universities.

The research is based on the implementation of a web portal in web development platform. It can be easily implemented in any institution without much modification. Some of the user requirements are user friendliness, data security and data maintainability.

The objective of online admissions is to provide a 24X7 facility to take admission to various educational programmes of the institute. It requires to develop a robust website, with all the information including a virtual tour of the institute showing all its infrastructure and facilities.

All these requirements are included in the project. The maintenance is done only by authorized person which called as admin user. Thus the application is more flexible and changes can be made without any difficulty. In future, the system can be extended to conduct various interacting sections for each and every person which comes under the college or institution. Also more discussion forums can be introduced in order to know each moment in college. The purpose of online or web based activities in particular online admissions is to provide convenience, save time, bring more objectivity, transparency and speedy transactions over the manual operations.

In the system, in addition to lessening the work load on the institute, it also fixes any false data about the users that the institution may have. It is a benefit for the users' whose important time and energy is preserved, for the affected educational college's authority whose workload is immensely reduced, whose services are secured from misuse, the development of portal is somewhat different because of the unique characteristics of the personalisation and customisation.

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