

Centralized Management System Using PHP (E-Campus 2.0)

A Nalini¹, M Nadeesh², K Sanjaykumar³, P Nishanth⁴

¹HOD, Dept. of Computer Engg. Nachimuthu Polytechnic College, Tamil Nadu.

²Lecturer, Dept. of Computer Engg., Nachimuthu Polytechnic College, Tamil Nadu.

^{3,4}Student, Dept. of Computer Engg, Nachimuthu Polytechnic College, Tamil Nadu.

Abstract

E-Campus 2.0 is a highly efficient data management system designed to handle institutional information, student-related data, and various other data needs within our college. This system ensures that data is readily available in a format suitable for submission to professional boards such as the NBA (National Board Accreditation), AICTE, MHRD, and others. E-Campus 2.0 provides a centralized platform where students, faculty, and staff can access necessary information and resources, including class schedules, marks, fees, and events. The system maintains institutional data, department details, student information, and can generate reports based on specific requirements. By enhancing data accessibility and accuracy, E-Campus 2.0 significantly improves efficiency within the college community. Students can view their marks, events, and communicate with others, while faculty can manage courses, submit marks, and track attendance, thereby streamlining administrative and academic processes.

Keywords: E-Campus 2.0, data management system, institutional information, student data, professional boards, NBA, AICTE, MHRD, centralized platform, class schedules, academic efficiency, faculty management, student communication, data accessibility, report generation.

1.0 System Study

1.1 Problem Analysis

The paper-grounded system for managing pupil marks, once a foundation of education, now struggles to meet the demands of the 21st century. With advancements in educational technology similar as Learning Management Systems(LMS) and pupil information systems, offer openings to streamline grading, enhance data security, ameliorate availability, and give real- time analytics. By embracing these ultramodern results, educational institutions can more meet the evolving requirements of scholars and druggies, creating a more effective and effective literacy terrain.

One significant debit of paper- grounded grading is its reliance on homemade data entry, consuming precious educational time and adding the threat of crimes. These crimes can have cascading goods, leading to inaccurate grade reports, illegal pupil evaluations, and gratuitous stress for both scholars and preceptors. also, inaccuracies in grades can profoundly impact pupil provocation, tone- regard, and academic line, potentially affecting eligibility for academic programs and literacy, while also damaging schoolteacher credibility and creating disunion with parents.

The physical nature of paper records also poses challenges for information sharing and collaboration among preceptors, leading to detainments in feedback and hindering a holistic understanding of pupil

progress. likewise, paper records are susceptible to loss, damage, or loss, hindering literal analysis and long- term shadowing of pupil progress. also, the lack of robust data analysis capabilities makes it delicate for preceptors to identify trends or track the effectiveness of educational strategies.

1.2 Proposed system

The E-campus2.0 can induce a more accurate and effective information system. This system substantially concentrates on managing pupil attendance system, keeps track of the internal and other assignment and test scores through a database and allows staffs to manage pupil- related data needs in council and universities.

E-campus2.0 is stoner friendly because the reclamation and storing of data is fast and data is maintained efficiently. also, the graphical stoner interface is handed in the proposed system. This system allows the scholars, staffs and admins to login and can have their boons according to their places. The pupil can view only their marks, but this system allows the staff to view all of their scholars marks and alter. also the admins can give and drop the operation warrants form other places similar as the staffs and scholars.

This system can calculate the scholars internal according to the data like assignment & test marks, attendance etc. The staffs are suitable to post and edit or alter their pupil's data. It also displays the data in a report format. This system provides a discussion forum, it enables to the staffs and scholars to communicate in a form of a comment with other scholars and faculties. The scholars and staffs can set visibilities of their comment on the forum. The flexibilities of the comment settings are depending on their login access mode. The admins are also allowed to remove others commentary.

2.0 System Design

2.1 Input Design

Input Design plays a vital part in the life cycle of software development. It requires veritably careful attention of inventor. The input design is to feed data to the operation as accurate as possible. So inputs are supported to be designed effectively so that the crimes being while feeding are minimized. According to Software engineering generalities, the input forms or defenses are designed to give to have a confirmation control over the input limit, range and other affiliated attestations.

The important features are

1. The input screen isn't crowded, as the stoner can understand the information from the screen.
2. The input confirmation is being done at program position to check crimes & help dispatches are to be handed.
3. The following Input are
4. Login Process
5. proposition
6. Events

2.2 Database Design

Student(Table)

Stud_rno	Stud_name	Stud_dept	Stud_batch	Stud_pwd	Stud_year	Stud_counslor
----------	-----------	-----------	------------	----------	-----------	---------------

Figure 2.1Table: Student

Staff(Table)

Staff_no	Staff_name	department	batch	counselor
----------	------------	------------	-------	-----------

Figure 2.2 Table: Staff

Practical (TABLE)

no	Stud_rno	C_code	mark	1	2	3	4	5	6	7	8	9	10	11	average
----	----------	--------	------	---	---	---	---	---	---	---	---	---	----	----	---------

Figure 2.3 Table: Staff

Event(TABLE)

Event_id	Event_name	Dept_id	description	Event_date
----------	------------	---------	-------------	------------

Figure 2.4 Table: Event

2.3 Flow Diagram

1. Login

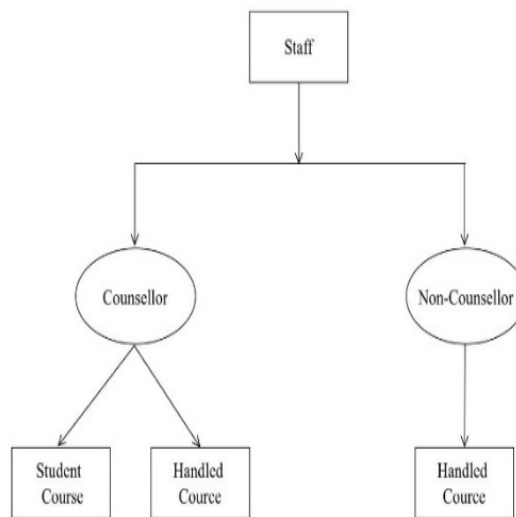


Figure 2.3.1 Login

2. Theory

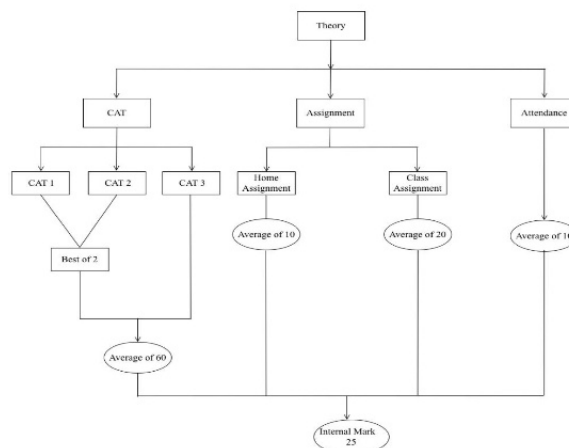


Figure 2.3.2 Theory

3. Practical

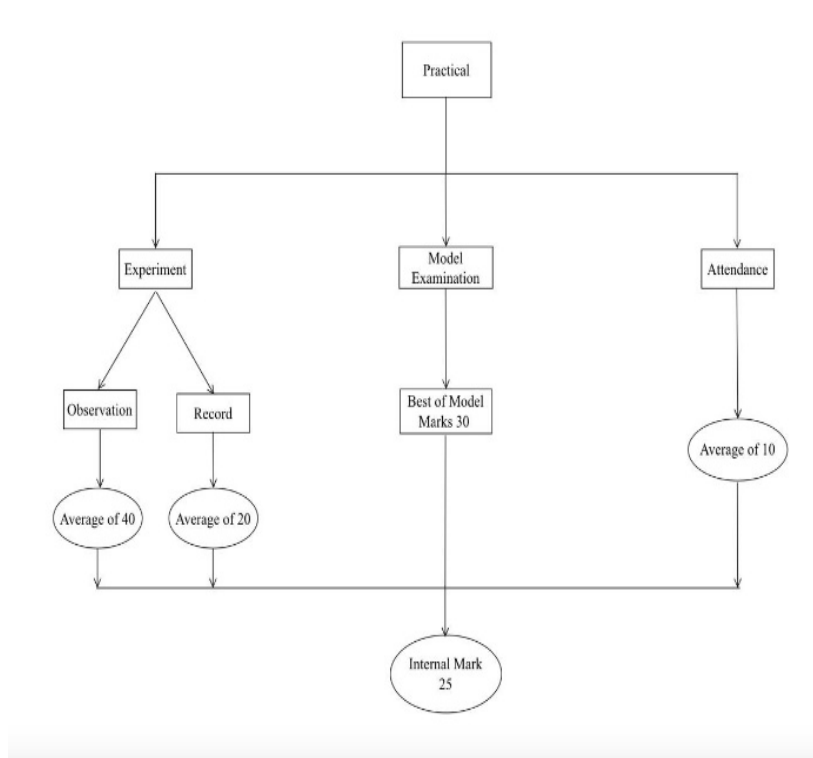


Figure 2.3.3 Practical

4. Events

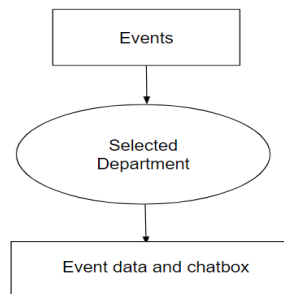


Figure 2.3.4 Events

2.4 Output Design

The report generation module serves as a dynamic platform within the system. The user can take report in the modules of assignment marks, observation and record marks, attendance, internal marks and etc. The report automatically generates from the database. These reports are accessible from anywhere with an internet connection, providing flexibility and convenience. Users can customize reports to focus on specific areas and share them easily with colleagues or students. The users can evaluate student data and thereby provide improved support for their students' academic performance.

1. Dynamic reporting: Users can access reports on various aspects like assignments, attendance, and internal marks.

2. Automated generation: Reports are automatically pulled from the database, saving time and effort.
3. Accessibility: Reports can be accessed from anywhere with an internet connection.
4. Customization: Users can tailor reports to focus on specific areas of interest.
5. Collaboration: Reports can be easily shared with colleagues or students.
6. Improved student support: Educators can leverage data to provide targeted support for student performance.

The user can import the data while clicking the import button in the module, the import function allows users to upload large amounts of student data efficiently using a common file format (CSV) and the imported data's are stored in the table. If the data is in the table, it does not import the duplicate entries by checking for existing data. This ensures data accuracy and avoids confusion caused by multiple records for the same student.

1. Efficient data upload: Large amounts of student data can be uploaded using a common CSV format.
2. Data accuracy: The system checks for existing data to prevent duplicate entries.

The user can export the data while clicking the export button in the module, the export function allows users to download data from reports into CSV files and the downloaded file store in the user system. This creates a portable format that can be easily analyzed using popular spreadsheet software. The export functionalities enable users to effectively handle student data, analyze it in more detail, and foster better communication regarding student performance.

Portable data: Users can download reports as CSV files for further analysis in spreadsheet software.

Detailed analysis: Exporting data allows for deeper analysis of student performance.

Enhanced communication: Sharing exported data facilitates better communication about student progress.

3.0 Modules

3.1 Login:

The system's login module permits clients to pick up get to with distinctive highlights concurring to the parts they have been allotted, such as staff, understudy, or admin. This module acts as the to begin with interface through which clients enter their login accreditations, such as their username and watchword, beginning a grouping of activities that inevitably decide their get to rights and functionalities.

For staff individuals, their parts are encouraging partitioned into two particular categories: counselors and non-counselors. Counselors appreciate broader get to benefits inside the framework. They have the capability to see and connected with all courses accessible to their understudies, as well as those courses straightforwardly beneath their supervision. This sweeping get to permits councilors to direct and oversee a differing cluster of scholarly offerings, empowering a total approach to scholastic organization and understudy support.

Conversely, non-counselor staff individuals work inside a more restricted scope. Their get to is limited to courses that drop beneath their coordinate domain. Whereas their get to may be more obliged, non-counselor staff individuals still use noteworthy specialist inside their assigned courses. They are engaged to perform different assignments, such as uploading information, seeing understudy marks, and creating reports custom-made to their particular authoritative needs.

Students, as a particular client bunch inside the framework, have get to benefits comparable to their one of a kind parts. Their interaction inside the framework fundamentally spins around getting to and investigating them possess scholastic execution. Through the framework interface, understudies can see their individual grades and track their advance over different courses and assignments.

3.2 Theory

3.2.1 Assignment

The E-Campus 2.0 framework gives a centralized stage for overseeing understudy information and creating reports of lesson assignments and domestic assignments based on client benefits. Clients can get to a task module to see and alter the task marks for all courses advertised to understudies. This usefulness permits for effective administration of understudy advance over different subjects. Clients can channel marks based on particular assignments and course codes.

The framework offers purport and trade functionalities in a common CSV (comma-separated values) arrange. This empowers clients to transfer huge sums of understudy information effectively. The framework intellectuals check for existing information to avoid copy passages, guaranteeing information exactness and dodging disarray caused by different records for the same student.

3.2.2 CAT

The E-Campus 2.0 system provides a centralized platform for managing student data and generating reports of CAT marks based on user privileges. Users can access a dedicated module for viewing and editing student marks across various courses and categories of CAT. This allows for efficient monitoring of student progress in different subject areas. Filtering options by year and category further enhances this functionality.

The system empowers users with comprehensive reporting capabilities. They can generate reports encompassing student performance, course engagement, and other relevant metrics. These reports can be tailored to specific needs by selecting categories and years. It allows users to gain valuable insights into student learning.

Data import and export functionalities further enrich the user experience. Users can upload large datasets of student information in a common CSV format (comma-separated values). This eliminates manual entry and saves significant time. The system safeguards data integrity by preventing duplicate entries during import, ensuring only new information is added.

3.3 Practical

3.3.1 Experiments

The E-Campus 2.0 system provides a platform to meet the specific needs of users. The system offers different privileges based on user roles. Users can access a dedicated module to view and edit student marks across various courses. This functionality allows for efficient management of student progress in different subjects. Additionally, users can filter marks based on specific criteria, such as course code or experiment type (e.g., observation, record), enabling them to provide granular details of student performance.

The system offers a powerful reporting engine that leverages data from the database to generate comprehensive reports. Users can tailor these reports to their specific needs by filtering them based on relevant metrics such as experiment type and course code. This empowers them to gain valuable insights into student performance, course engagement, and other educational trends.

The system facilitates the efficient import and export of student data using a common CSV (comma-separated values) format. This allows users to upload large amounts of student information in bulk, significantly reducing manual data entry and streamlining record management. The system safeguards data integrity by intelligently checking for existing entries within the chosen table. This ensures that only new information is imported, preventing duplicate records.

3.3.2 Model

The E-Campus 2.0 system provides a different user experience based on assigned roles. Users with access to the model module can view and edit marks for all courses offered to students. This functionality allows for efficient management of student progress across various subjects. Additionally, these users possess full authority over reports generated from the database. This empowers them to create detailed reports on student performance, course engagement, and other relevant metrics.

3.3.3 Import

The import module system offers a powerful set of tools for counselors and faculty to manage student data efficiently and effectively. These tools revolve around the concept of uploading information in a common format called CSV (comma-separated values). This format essentially organizes data into a table where each row represents a student record, and each column contains a specific piece of information. Counselors can import function to upload student information for all available categories in bulk. This eliminates the manual data entry for large groups of students, saving significant time and effort.

The system acts intelligently by checking for existing data within the chosen table. This ensures that only new information is imported, preventing the creation of duplicate records. Similar to counselors, faculty can import data related to the courses they manage using CSV files. This proves particularly beneficial for uploading student information specific to their assigned subjects.

3.3.4 Export

The export module system offers a powerful set of tools for counselors and faculty to manage student data efficiently and effectively. These tools revolve around the concept of downloading information in a common format called CSV (comma-separated values). This format essentially organizes data into a table where each row represents a student record, and each column contains a specific piece of information. The counselors can export the data displayed in generated reports into downloadable CSV files.

3.3.5 Event

The events module serves as a dynamic platform within the system, fostering collaboration and engagement among users through the organization and participation in various events. Staff members and admins are empowered to create new events, providing essential details such as event name, description, and date via the event.php interface.

Upon creation, these events are automatically integrated into the system, appearing alongside other listed events on the event.php page. This visibility ensures that all users, including admins, staff, and students, have access to the list of upcoming events within the system.

Clicking on any listed event redirects users to the event-cb.php page, where a tailored interface awaits. Divided into two distinct columns, event-cb.php presents users with essential event details, such as description and date, on the left side. This information serves as a comprehensive overview, offering insights into the nature and scope of the selected event.

In essence, the events module acts as a trigger interaction and collaboration within the system. By providing users with the tools to create and engage with events, the module fosters a vibrant ecosystem conducive to shared learning, networking, and collective achievement. The events module embraces the essence of collaboration through smooth integration and simple user interfaces, enabling users to connect, communicate, and work collaboratively towards common objectives.

4.0 System Implementation

System implementation is like making a new system design actually work. This involves training users,

getting the site ready, and converting files to install the new system. It's important that this process doesn't disrupt how the organization works. The main aim is to smoothly start using the tested system while keeping costs, risks, and personal irritation to a minimum. Before using a computer system, it's checked to see if it works well.

5.0 System Testing

Testing a arrangement of diverse tests that whose essential reason is to completely work out the computer-predicated framework. In spite of the fact that each test has a distinctive reason, all work ought to prove that all framework component has been appropriately coordinates and performed distributed work.

5.1 Unit Testing

Unit testing includes a arrangement of tests done some time recently combining a unit into greater frameworks. In unit testing, each portion is tried on its possess. In our plan we tried around completely of 5 person modules practically equivalent to as login, recommendation, Down to earth, Occasion and Inside Check. We check each portion of a module separately to make beyond any doubt the information flux is right and that it exits for the most part. This makes a difference us discover out if each piece is working accurately some time recently putting everything together.

5.2 Integration Testing

Integration testing is comparable to collecting perplexity pieces to make beyond any doubt they work well as a group. It includes continuously combining diverse modules inside the framework and testing to affirm that everything capacities appropriately when they are coordinates

5.3 Affair Testing

Affair testing is coming step after evidence testing, coming step is affair testing for proposed system. This involves checking how the system displays or creates affair, predicated the format asked by the user. The affair format is considered in two ways on- screen published. Affair testing is essential to make sure the system provides information in the right format, both on the screen and in print. This step ensures that stoners admit labors that are easy to understand, follow their conditions, and meet their prospects. It's a vital part of making sure the system delivers accurate and user-friendly results.

5.4 White box testing

White box testing, also known as Clear Box Testing or Structural Testing, is a system of testing software where the person doing the testing knows about the internal structure or design of what they are testing. It's also appertained to as Open Box Testing, Glass Box Testing, Transparent Box Testing, and law-predicated Testing

- White- box testing predicated on an analysis of the internal structure of the element or system.
- White- box test design fashion Procedure to decide and/ or handpick test cases predicated on an analysis of the internal structure of a element or system.

5.5 Black box testing

Black box testing, also called Behavioral Testing, is a way of testing software where the person testing does not know about the internal structure or design of what they're testing. It's like working with a sealed box, and the tester focuses on how the software behaves without demanding to understand how it works internally. This system helps insure that the software meets its willed conditions and workshop as anticipated from the stoner's perspective.

6.0 Conclusion

In conclusion, E-campus 2.0 signifies a noteworthy advancement in the domain of student information management and communication in academic establishments. E-campus 2.0 improves communication between faculties, students, and administrators by consolidating tasks like attendance monitoring, grading, and data reporting into one accessible interface. E-campus 2.0's advanced capabilities, which include customized reporting which can be derived from the data present on the database that are feeded into by the users to generate internal marks, role-based access restriction, and discussion forums, encourage openness, productivity, and successful communication to all of which contribute to the development of an environment that is favorable to learning and academic success. In addition to addressing the shortcomings of conventional paper-based systems, this comprehensive solution opens the door for upcoming improvements and developments in educational technology.

7.0 Book References

1. Jesus Castagnetto, Sascha Schumann, "Professional Php Programming", Addison wisely Publication, Fifth Edition.
2. Jay Greenspan, Brad Bulgar, "MySQL/Php Database Applications", Tata McGraw-Hill Publishing Company, Third Edition.
3. Joel murach, "Murach php and mysql", mike murach and associate Inc, Third Edition.
4. Kevin tatroe, "Programing php: creating dynamic wesites",o-reilly, Third Edition.
5. Abraham Silberschatz, Henry F. Korth and S. Sudarshan, Database System Concepts, McGraw-Hill Education (Asia), Fifth Edition, 2006

References Website

1. www.onlinetutorial.com
2. www.chatgpt.com
3. www.oreilly.com
4. www.databasesstar.com
5. www.webdesign.about.com
6. www.w3schools.com