

# Information Intendance System on Cloud

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**Abstract** - In the modern world of technology, computers are affecting our lives in more ways than we are aware of – computerized management, maintaining information digitally, real time update of records, automated report generation, the list is endless. This paper aims to propose a community cloud service setup that will provide academic as well as non-academic institutes with a selection of services. All institutions involved will have a presence on a central platform to be used for publicity and customer interaction purposes where they can advertise themselves and be discovered by clients looking for their specific services. They will also be provided with a customized website as well as an android application. Finally, all institutions involved will be provided with a cloud based institute management system that is accessible from anywhere and to anyone with the proper access permissions.

**Key Words:** campus, cloud, institute, management, networking,

## 1. INTRODUCTION

Institute Management systems currently available in the market are extremely highly priced, as well as dependent on the institutes for maintenance of client-server or mainframe systems that are required to run them. They also do not provide services such as effective remote access via cloud, a web presence, customer interaction modules and so on, all in one package. Institutes today have to pay separately for web presence and management system to different proprietors.

Campus Cloud aims to provide a community cloud service which will act as a central platform for institutes, both academic and non academic, for publicity as well as management purposes which would substantially reduce human workload and resource utilization of the institutes in turn. The institutes once onboard with Campus Cloud would be given a web presence and a management system which shall be managed completely by Campus Cloud's developers along with a customized website and an Android application completely dedicated to the institute- all for a minimal cost.

The institutes onboard will get all the features that are required to run an institute such as maintaining student data, academic reports, a payment module, notifying parents about student's performance, notifying students about the academic work that needs to be fulfilled, etc to name a few along with web presence and a customized website. All the data of the institute will be stored remotely on a cloud, to be made accessible on demand. This will help the system in case of

hardware failure, power failure, etc. From students and parents perspective, Campus Cloud will act as a search engine to find institutes in their locality and of their interest without having to compromise on their time by physically visiting the institute to just get the basic details.

## 2. RELATED WORK

The following are a few pre-existing systems that are currently in use by institutes:

### 2.1 Online website for Institute

In this paper [1], the author proposes a website for the institute which would display information about the institute and the current events or activities happening in the institute. It will also display information about the students and staff of the institute. It would also help the institute to communicate with the students in a better and efficient way.

This system however, is extremely limited in scope and does not provide any functionality beyond a basic information delivery system. The students would have to check the website continuously to see if any updates regarding the events/activities are posted.

### 2.2 College Management System

In this paper [2], the author has proposed a College Management System (CMS) that acts as an Intranet based application that can be accessed throughout the institution or a specified department. This system may be used for monitoring attendance for the college. Students as well as staffs logging in may also access or can be search any of the information regarding college. Attendance of the staff and students as well as marks of the students will be updated by staff.

There are however a few drawbacks observed in this system:

1. This system requires the client to have some minimum configuration to use the system which might not be possible for the client or necessitates monetary expenditure to resolve the minimum requirements.
2. No provision for notifying the students about the activities in the college.

### 2.3 Cloud Based System

In this paper, the author has proposed to develop a system that aims at providing information to all the levels of management within an institution. This system can be used as an information management system for the college. [3] For a given student/staff (Technical / Non-technical) the Administrator provides access permissions, using which they can access the system to either upload or download some information from the database.

The major drawback is that the system mainly focuses on the management of teaching and non teaching staff and there is not much in the way of provisions for the students.

### 2.4 Android Application

In this paper [4], the author has proposed an android application for students to view results using Android phones. The data will be stored in the college server. The faculty can login into their college account through the app itself and update the academic result.

Other than the primary features of result display, the application has a few extra features. In case of natural calamities such as floods, etc. notification to students will be sent from admin office through app directly. Any new notice for a particular semester will be uploaded by professor through the application and directly made available to appropriate students.

It also serves to monitor student attendance. The application also serves as a platform for advertisement of the college, as well as a location where students interact via chat interface.

It does, however, lack support for other day to day workings of the college that do not involve the students.

### 2.5 ERP Systems

The above-mentioned systems, while being used for institute management, are extremely limited in scope. In a broader sense, Enterprise Resource Planning (ERP) systems perform many of these same tasks, albeit under a single banner. Enterprise Management is a very vast field, and products dealing with this are in high demand in the market due to their effectiveness and applicability in the day to day as well as long term operations of an institution. Enterprise Resource Planning software systems (ERP) cover a large range of software products that support day-to-day business operations and decision-making. ERP systems in general are used by a large number of industries in a variety of different areas for oversight.

An ERP system can also be configured to oversee various other enterprise level applications, thereby reducing run times a variety of processes. [5] This applies across the

board and can prove a major benefit to institutions when real time tasks are involved. ERP systems also centralize the overall auditing processes in an institution. [8] This serves to simplify report generation required by the management, allowing administrators to keep accurate track of the academic status of the institution.

A host of different ERP systems are currently available in the market, some of which are SAP, Oracle JD Edwards, Microsoft Dynamics, and so on. A majority of such commercially available software is geared so that the implementation can be customized by each client as required.

One of the most important steps in ERP implementation is the selection of a software package that is appropriate when considering the requirements of the institution. [6] Failure to implement the ERP properly could well result due to the selection of a package that turns out to be inefficient when it comes to day to day working of institution, or even outright incompatible. Also, ERP implementation involves a major commitment from the employees of the institution, [7] as it will lead to a major change in the day to day working. In many cases, this will also involve extensive re-education and training [6] for the employees that would interact with the ERP system.

The process of integrating the ERP system is also one that needs to take place over an extended time period. [7] This is due to the fact that the system will be in effect replacing some elements of the operational systems already in place, and such a complete overhaul of any system will need to be carefully monitored, especially critical systems such as CRM services and so on.

## 3. PROPOSED SYSTEM

This paper proposes the Campus Cloud system, which aims to create an Institute Management system aimed primarily at educational institutions of both the academic and non-academic variety. As such, in comparison to most major ERP systems available in the market, it would cater much more classified clientele, thereby providing a degree of specialization in the modules provided by the system.

Also, it would eliminate the risk of choosing an incorrect software package. As a service, the modules made available to a client institution can be dynamically modified as per the requirements of the client. In a similar manner, the client institution may decide it needs a higher degree of storage and processing capacity, which can be made available on demand due to nature of Campus Cloud being a cloud service.

The deployment of the system on cloud will eliminate the requirement of the organization restructuring its operational systems in a drastic manner. The most major operational change required would be the installation and maintenance

of a dedicated high speed Internet connection so as to prevent any failures in transactions being executed.

Another benefit of the Campus Cloud system is the overall simplicity of its use. The planned user interface aims to be intuitive and user friendly as possible, with the goal of minimizing the specialized training which employees of the organization would need to make effective use of the Campus Cloud software.

One major advantage would be the integration of a networking platform into the service provided to the organization, which would aid the organization with the task of customer service.

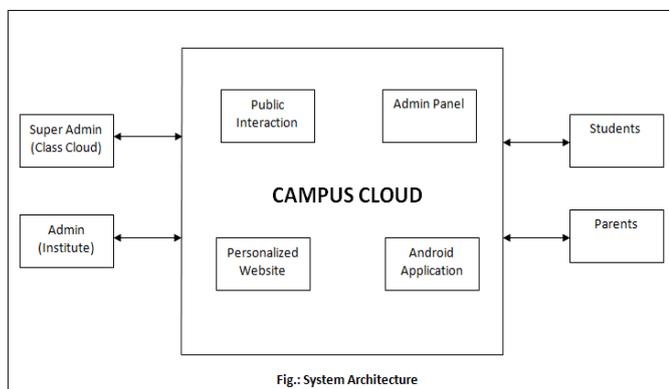


Fig.: System Architecture

### Modules:

#### 1. Public Interaction

This module is a central networking platform, that acts hub for letting institutions and prospective clients interact. Parents and students can selectively identify institutions that match their criteria, as well as gain an objective view of their target institutions.

#### 2. Admin Panel

The Admin Panel is a web application that acts as primary interface for the Institute Management system. It provides a variety of different services, ranging from administrative tasks such as adding details of new students and courses, updating student records, manipulating the timetable, generation of reports, creating notifications, tracking attendance, and so on.

#### 3. Personalized Website

This module is essentially a customized web application provided to the client institutions that will act as an access point to the admin panel, as well as a form of internet presence for the institution.

#### 4. Android Application

This module consists of a customized Android Application provided to every client institution. The concept behind this to improve and simplify communication between institutions and students, by providing simple services such as student

record tracking, attendance management, timetable updates, and notifications generated by administration and faculty.

### 3. CONCLUSION

This paper has identified several issues with systems intended for institute management and other similar systems that have been implemented in the real world. It is apparent that while successful implementation of such systems makes for consistently improved performance, institution face several obstacles while doing so, such as revenue issues, technological issues, implementation complexity, lack of technical knowledge, and so on. Campus Cloud will mostly focus on the educational institutes and thus there would be no need for the institute to substantially change its system/method of working and thus the risk would be minimal. The optimal level of integration would be defined as per the requirements of a given organization, with the modular and on-demand nature of the Campus Cloud service, providing the best possible advantages to end users.

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