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SMART CAMPUS – An Academic Web Portal with Android Application

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Abstract - *The SMART CAMPUS is a mobile as well as web application. It uses smart phones of android platform and web services on computer systems. The main objective is to develop an application that provides a smart and easy way for the execution of several academic operations to provide students with information regarding complaints, any placement activities, general notices, and important notices regarding all departments. The application has four types of users: Student, Teachers, H.O.D., and Principal. Each type of user will have own application view respective to their type. They will have privileges according to their designation or their types and have rights to post things on application so that other users can view that if they are supposed to or have permission to view it. We also provide multiple features so that they can have all the academic things and information at one location. For H.O.D. and principal we will provide features to look overall the operations over the applications and have control on it.*

Key Words: **Android, Real Time, Filtering, Interaction, CMS, B-Crypt, Filtering, ASL**

1.INTRODUCTION

In the modern world of technology, the use of Internet and World Wide Web revolutionized the provision of information and the facility for the user to take action on the information obtained. And also computers and mobile devices are affecting our lives in more ways than we probably are aware of computerized management, maintaining information of an educational institutes, colleges, other the list is endless. If management want necessary information he checks the information about a student, staff, worker etc. It is difficult to prepare the manual work to store the information about the all students, teachers etc.

College management systems are a complete solution for managing a colleges online, in other words an enhanced tool that assists in organizing the day-to-day activities of colleges. In existing system for in majority of the college campus for maintaining the records and other information is annual process. Taking existing system keen on deliberation, it can be found that the student has to regularly interact with the office personally, concise on the necessities they anticipate and so on. All these require more employment and time. The information collected may be conflicting, superfluous and getting in touch with a remote student will become unfeasible.[3] There would be lack of follow-ups and co-ordination. As the system is manual, the chances of errors are more. There may be chance to happen selection process to occur at more than one place, with regard to the existing system it would be hilarious to maintain records on venue, batches etc. Students used to write their complaints on a cheat and were supposed to add to the complaints box. That may or may not be reviewed.

The limitation of existing system:

- Existing system contains Manual work.
- Requires many departments to handle variety of tasks and involves lot of paper work.
- Notices are circulated all over college class by class manually or they are displayed on notice board.
- There is no automation and centralization of records.
- Loss of records is likely to occur, as it is paperwork
- Staff communicates with HOD by meeting face to face.
- No provision for lost and found.
- Excessive use of paper and other resources.
- Maintenance is hard and Time consuming.
- Tracking record is tedious job.

The proposed system for Smart Campus is fully an automated one using Wireless Android. The Smart Campus is a mobile as well as web application. It uses smart phones of android platform and web services on computer systems. The main objective is to develop and to provide students with information regarding complaints, any placement activities, general notices, and important notices regarding all departments.

Main aim in developing Smart Campus is to provide an easy way not only to automate all functions of a college, but also to provide reports to higher authority of college with the finest of details about any aspect of college. Smart Campus provides one attractive environment where user can manipulate data and information about students and staff easily. So we can say the main purpose of designing "Smart Campus" is to manage the task related to the college students/teachers and to reduce time to searching of appropriate information related about college.

Smart Campus provides the complete structure of the college campus and its all departments. Smart Campus synchronizes

the working of all the departments. It checks on all aspects of a college, its students, faculties, Departments, news, facilities and other co – curricular activities.
Smart Campus is the easiest way to manage all functions of a college. It is a value-added service offered by Smart Campus, which facilitates colleges to maintain the functionality related to college, faculties and their students.
With the advancement of technology, paperwork is being reduced substantially in every single field. With the introduction of this application, an institution can operate efficiently without the use of a medium like paper. Hence, this will prove to be a very useful application for any institution. Also, as more and more students and teachers find out about the use of this application, other developers will be encouraged to make this Android application in other languages, which will improve education in different ways.

- Widening Participation: The key advantage for most regions was enabling wider access to digital learning for "any person, anytime, anywhere.
- Adaptable and flexible teaching/learning: The use of digital materials and methods allowed easy adaptation and updating of material for an increasingly diverse student base, incorporating an ever wider range of teaching tools e.g. the capacity to provide content in 2nd or minority languages for specific learner needs.
- Motivating teaching/learning environments: All regions reflected on the "transforming and inspiring" potential of eLearning for the teacher and teaching method.[5]
- Quality and Efficiency: A final consideration was the potential of eLearning to improve the efficiency and effectiveness of the learning process.

The main contribution of this idea is the design and development of an android based college management system. Collaborative learning seems to be a teaching and learning innovation whose time has come. It will make a student actively engage in building their own minds. Basically, the main objective of Smart Campus is to obtain learning advantages on hand-held devices particularly mobile devices which allow accessing and sharing of learning materials anywhere and anytime. The application will not only help the students to obtain notifications from the admin, but it will also help the staff by providing a convenient system to communicate with the students and inform them about upcoming submissions and events through web portals.

The proposed architecture of Smart Campus is a simple yet powerful one integrated platform that connects all the various departments of an institution like Administration, Attendance, Staff details and many more specialized modules.
The application has four types of users: Student, Teachers, H.O.D., and Principal. Each type of user will have own application view respective to their type. They will have privileges according to their designation or their types and have rights to post things on application so that other users can view that if they are supposed to or have permission to view it. We also provide multiple features so that they can have all the academic things and information at one location. For H.O.D. and principal we will provide features to look over all the operations over the applications and have control on it. Principally the system provides high security for all its data. There are few technique by which we are vacating the room after encryption.

2. LITERATURE SUREY

This project is mainly targeted at colleges and the synchronization of all the sparse and diverse information regarding regular college schedule. Generally students face problems in getting correct notifications at the correct time, some times important notices such as campus interview, training and placement events, holidays and special announcements. Smart Campus tries to bridge this gap between students, teachers and college administrators.
Therefore in the real world scenario, such as college campus, the information in the form of notices, oral communication, can be directly communicated through the android devices and can be made available for the students, teachers directly for their android devices and the maintenance of application will be easier in later future because of the use of architectural MVC which separates the major works in the development of an application such as data management, mobile user interface display and web service which will be the controller to make sure for fast and efficient maintenance of application.

3. SYSTEM DESIGN

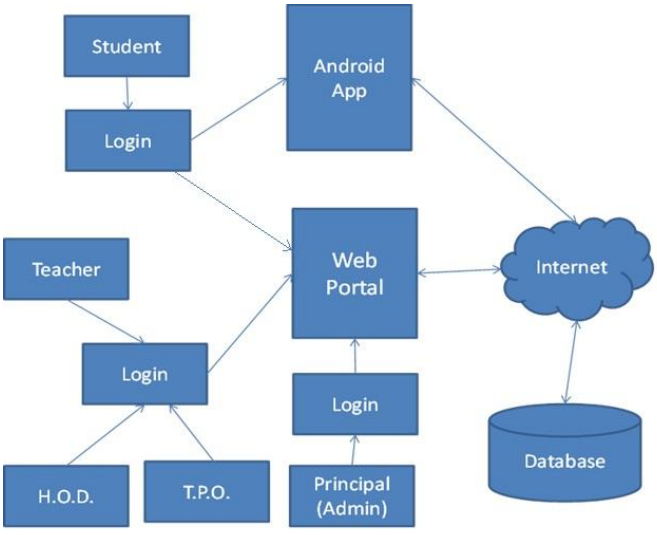

Figure 1: System Architecture

In this system, the student has access to both the android application as well as web portal. The other faculties and principal (Admin) can access only the web portal. All the

users need to login into the android application or web portal. The application and web portal have access to the shared database through the internet. Database is on Cloud.

- Student: The students can access both the android application and web portal. To do this the students have to login first. Student can access various features on the application like to view the notice , to read the blog posted by the principal as well as other staff. The another feature is question answer. In this the student can post the question on the question answer section and the staff or other student can answer to that question so the redundancy of question will be reduce. The application is to make the interaction between the student and staff.
- Teacher: The teachers can login into the web portal and can access the various features. Teachers can only view the notices sent by the principal or HOD. Teachers can have access to read the posts of student corner and they can give suggestions on it. Teachers can give the answers to the questions asked by the student on the question answer section. Teachers can write their own blog or post the notes on the blog and can view blogs of other staff.
- HOD: The HOD can login into the web portal and can access following features like he/she can issue the notice to the student or teachers. HOD can also view the notices sent by the principal. As teacher HOD have access to the student corner, question answer section, etc.
- TPO: The TPO can login into the web portal and can access the features. TPO can add events such as seminars, campus interviews, etc. The form will be filled by the students. Only students of B.E. have access to the TPO.
- Principal: The principal is the master admin of the system. He/She can add or remove the users i.e. students and teachers. All the privileges are with master admin. The principal can broadcast the notice to the staff and student. Principal have class wise and department wise view of the college like the departments are IT, MECH, CO and ENTC and the clasess are FE,SE,TE and BE. Principal can also have access to the student corner, question answer section etc.
- Android Application: The android application is used only by the students. No one else has the access to the android application. There are various features in the application such as feedback, student corner, etc. they are mentioned in work breakdown structure.
- Web Portal: All the users have access to the web portal including the students. The features include in the web portal are dependent upon the type of the user.
- Database: The database is stored on the cloud. All the data of android application and the web are stored in the shared database.

4. APPLICATION

In today's modern and digital age education is the key factor. Today most of the educational institutions in India are understaffed and do not have much interaction with latest technology and trends. As a result of which student faces lots of problems coping up with latest technology in market.
Android based and Web based college management systems are a small stepping stone. Users of the system would be students and Faculty.
The basic idea of this system is to provide a portable environment for the students and Faculty. We strongly want to replace the existing systems of many universities and colleges which are unidirectional i.e., from faculty to students to a bidirectional way i.e., also from student to faculty. The system aims to connect students, faculties and administrative staff of an institution.
The uses of the system will differ from user to user. Students will be able to connect and get updated with recent activities that are happening in the institute and that are relevant to their department or class.

5. RESULTS:

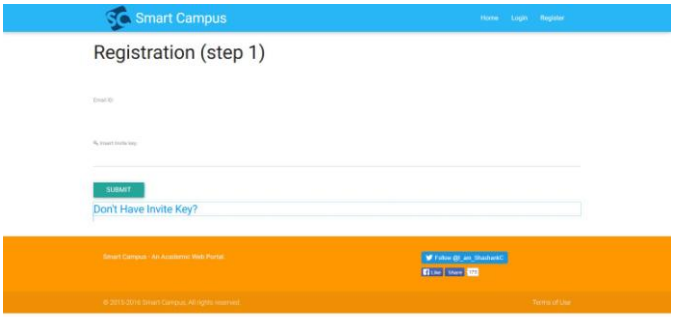

Figure 2: Registration Process for Students

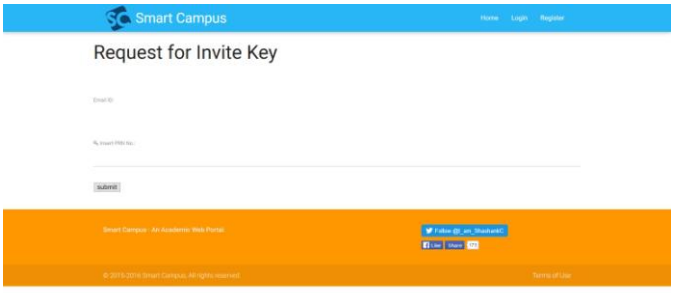

Figure 3: Request for Invite Key

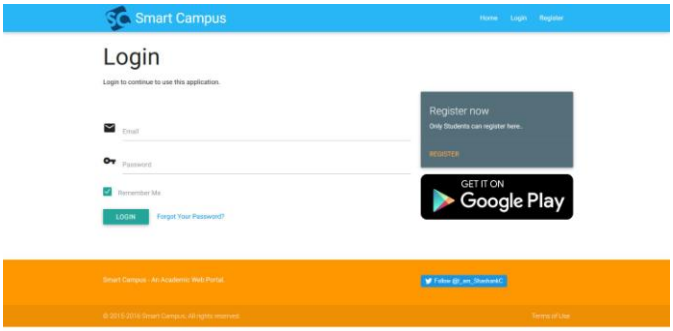

Figure 4: Login Form

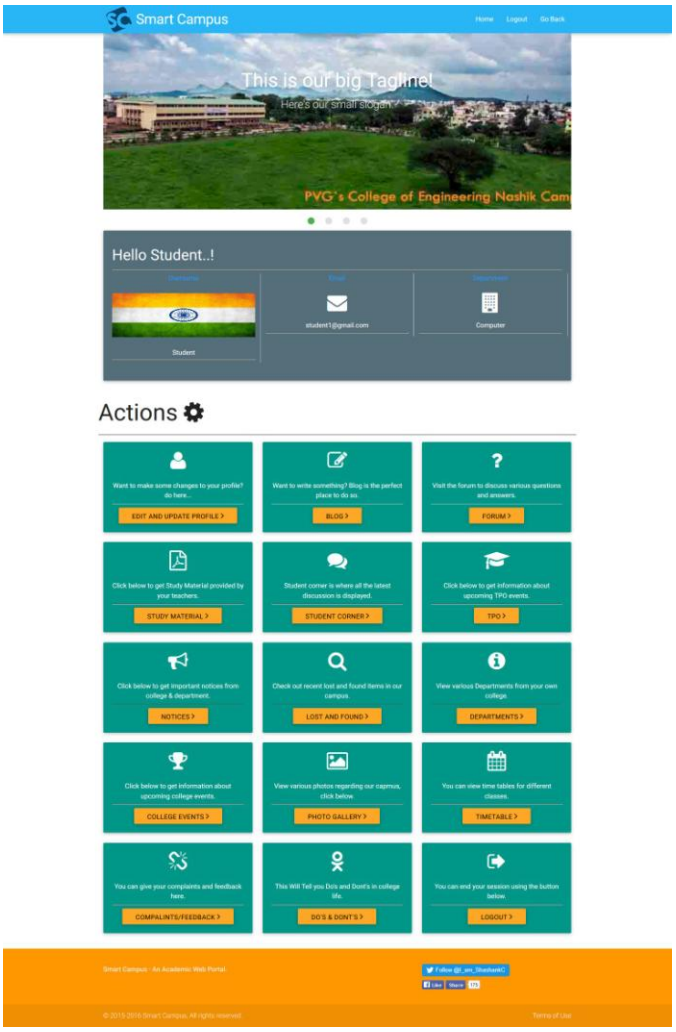

Figure 5: Student Profile

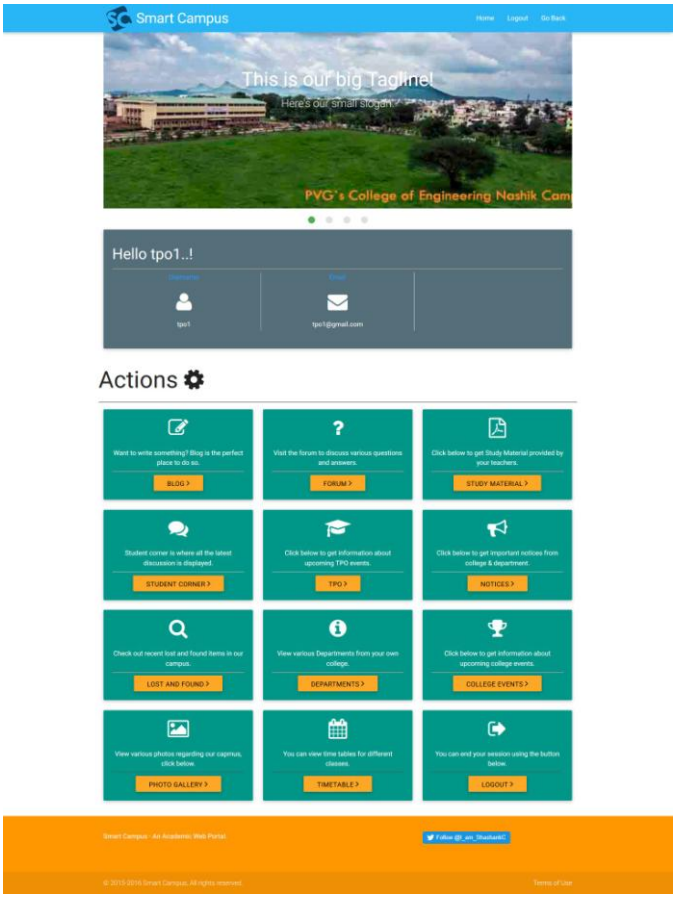

Figure 6: TPO Profile

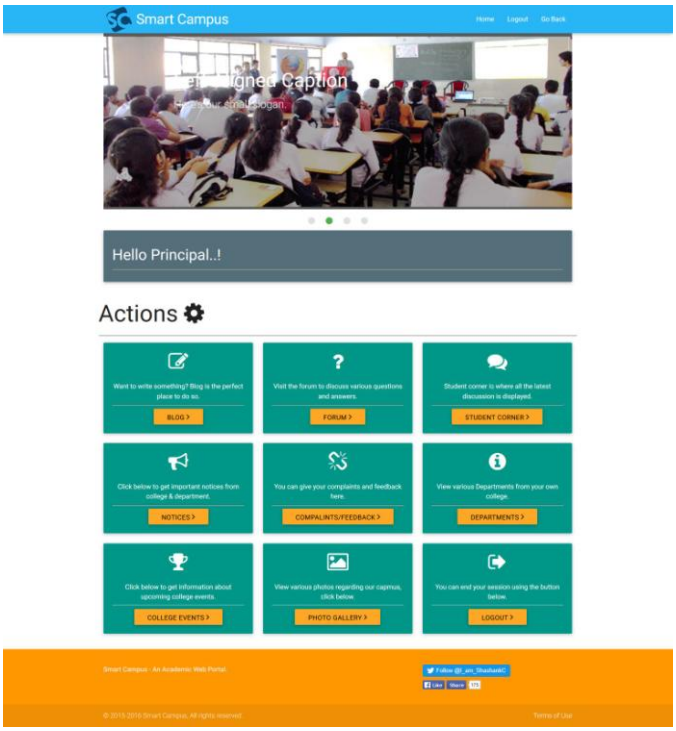

Figure 7: Principal Profile

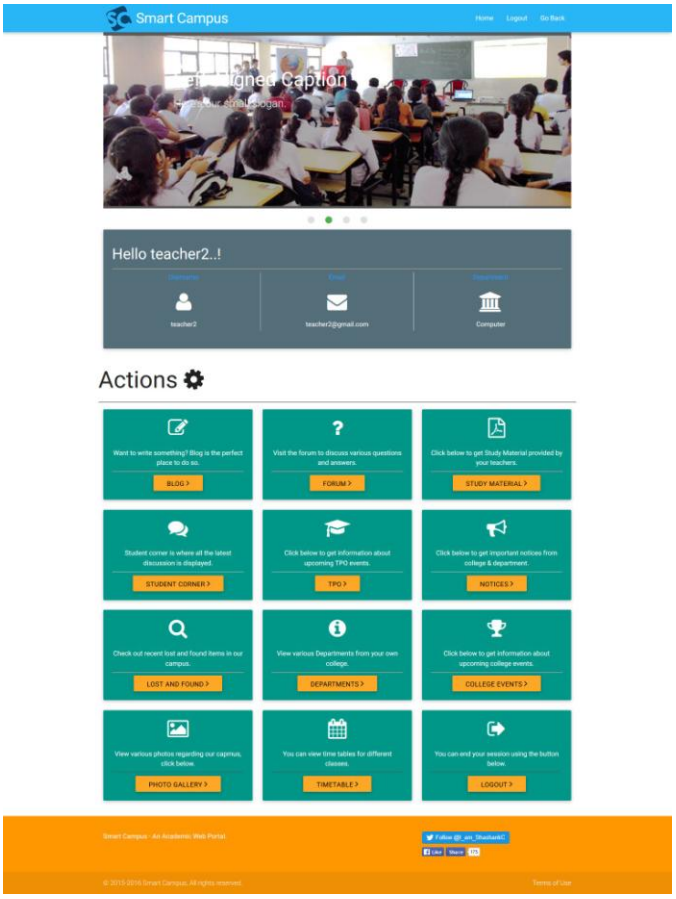

Figure 8: Teacher Profile

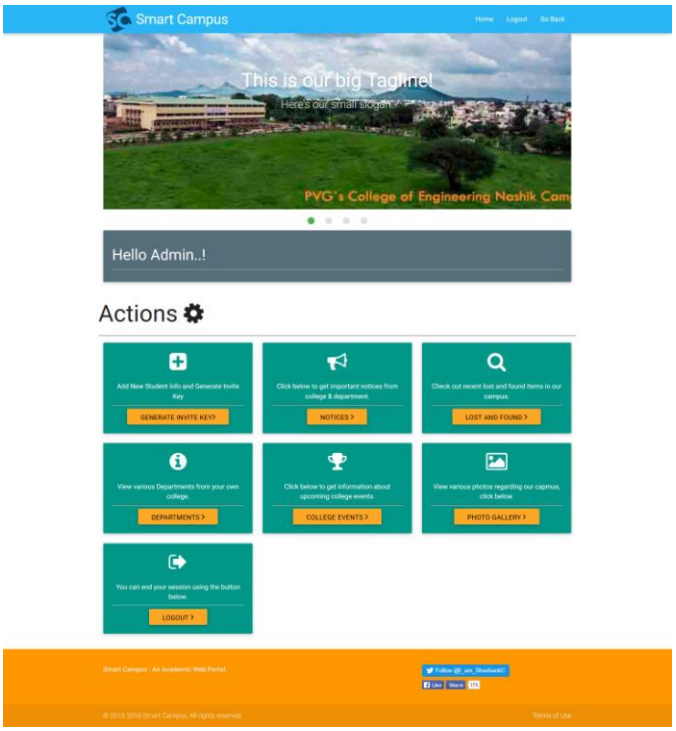

Figure 9: Admin Profile

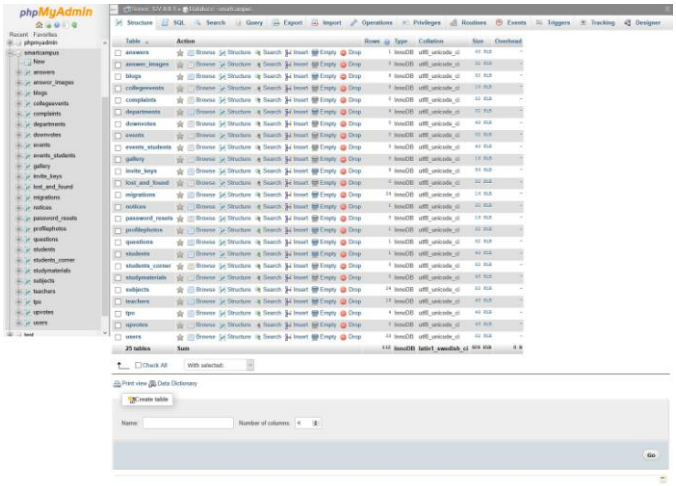

Figure 10: Database

6. CONCLUSIONS:

We learnt how proposed system is better than existing system. It is compatible to everyone; our system reduces the physical human efforts. Through proposed system the standard will maintain the particular security and also provides features those are not included in existing system. Proposed system provides a way to maintain records. It provides easy way for interaction between students and all college faculties. Student will improve their interaction skills by using our proposed system. Proposed system will also help the college to manage their records an save natural resources and job gets done in less time compared to existing system. All the users get the information without delays because of real time use of proposed system. It helps to reach to every student and faculties in the college in very less time. The data which is stored on database will helps the management to take major decisions on the suggestion and ideas. Proposed system will also help to students to get their queries solved by the answers of other users such as fellow students and respected faculties of the college. Since there will be many users on system we planned to make it secure and spam free using various algorithms.

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