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Dormitory: An Android Application for Hostel Management

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ABSTRACT: This paper presents a solution for managing hostel activities. For an organization to succeed in its work, good management is a key element. For an educational institute, communication between students and the faculties serves as an important factor to establish good management. Currently, the only way for the college faculties to relay updates to students is through the college website or physical noticeboards placed throughout the college campus. This is an extremely inefficient way to convey messages that might be important or time-sensitive, since there is no way to ensure that it reaches majority of the intended students. This leads to lack of order among faculties and students which, in the long run, might affect student's performances. The "Dormitory" is an Android application, developed for managing various activities in a college/university hostels.

KEYWORDS: Out-pass, Complaint box, Event management, Workers attendance, Gallery, Notices.

I. INTRODUCTION

To identify the issues of the existing hostel administration prompts the advancement of automated arrangement that will be good to the current administration with the arrangement which is more user friendly. Proposed system is designed to provide a computerized process that is stress free, reliable and quick through the use. This system manages the issues on dealing with hostel and avoid the issues which happen manually. The disadvantages of the existing prompts the improvement of modernized hostel administration framework. This project is in the favour of the hostel administration group which encourages them to spare the records of the students about their complaints, out-pass, upcoming events and personal settings with well-defined user interfaces for all Warden, Student, Watchmen, Maintenance modules.

II. RELATED WORK

[1] The students can apply for an out-pass. The students should give the information such as Name, USN, Hostel, Room number, move out date and time, move in date and time, Purpose of going out (either its academic or personal). After giving this information it will be sent to the warden for the approval.

[2] The student can type their room number, date and complaints in complaint box. The complaint will be sent to the warden. If the complaint is personal such as ragging then it will be handled by the warden, if its related to electricity, water problem or cleaning then it will be handled by the maintenance department.

[3] The students can get an information about the events that are going to be held at hostel premises.

[4] The out-pass lists of students will be sent to the watchmen by the warden. The watchmen will cross check when the students reach to them during move in/out of campus.

[5] Maintenance people can view the complaints raised by the students and can give updates for the complaints. They can also manage the worker's attendance.

III. METHODOLOGY

3.1 Modules

This application consists of four modules, They are:

- 1) WARDEN: He is the one who manages all the activities. Views list of complaints from students. Adds the events and notification to students. Approve/reject the list of out-pass request from students.
- 2) STUDENT: Allows to raise a new complaint to warden. Allows to request for an out-pass. Students can view the events that are going to be held at hostel and any notifications/circular regarding the same.
- 3) WATCHMEN: Views the lists students who are allowed to leave campus. Watchmen will update campus in and campus out time of students.
- 4) MAINTENANCE: Provides the list of worker's attendance. Allows the function to update the status of the complaint, once it is completed by the worker.

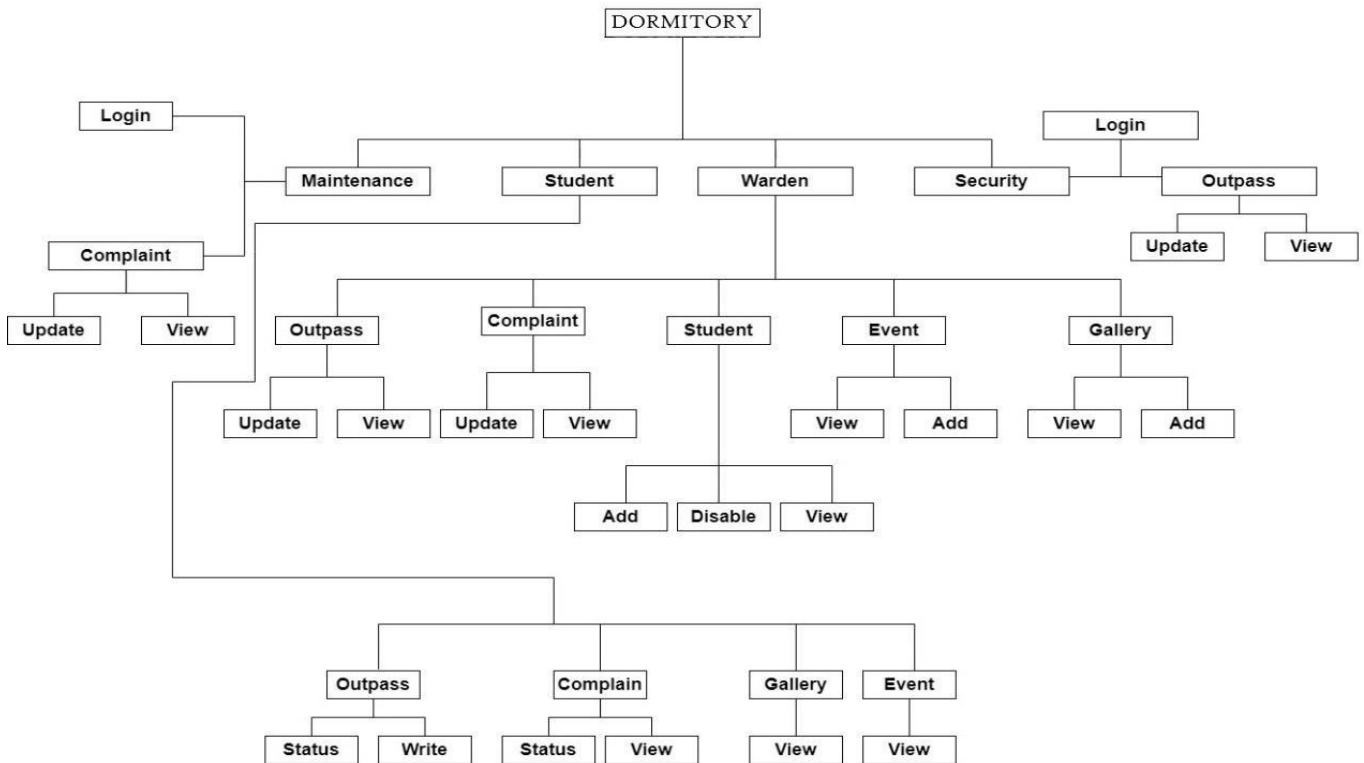


Figure1: Modular design

3.2 Pre-Requisites

HTML

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript, it forms a triad of cornerstone technologies for the World Wide Web. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.



HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets. Tags such as `` and `<input />` directly introduce content into the page. Other tags such as `<p>` surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page.

HTML can embed programs written in a scripting language such as JavaScript, which affects the behavior and content of web pages. Inclusion of CSS defines the look and layout of content. The World Wide Web Consortium (W3C), maintainer of both the HTML and the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997.

JavaScript

JavaScript often abbreviated as JS, is a high-level, interpreted programming language that conforms to the ECMAScript specification. It is a programming language that is characterized as dynamic, weakly typed, prototype-based and multi-paradigm. Alongside HTML and CSS, JavaScript is one of the core technologies of the World Wide Web. JavaScript enables interactive web pages and is an essential part of web applications. The vast majority of websites use it, and major web browsers have a dedicated JavaScript engine to execute it.

As a multi-paradigm language, JavaScript supports event-driven, functional, and imperative (including object-oriented and prototype-based) programming styles. It has APIs for working with text, arrays, dates, regular expressions, and the DOM, but the language itself does not include any I/O, such as networking, storage, or graphics facilities. It relies upon the host environment in which it is embedded to provide these features.

Back End: MY-SQL

MySQL officially, but also called ("My Sequel") is (as of July 2013) the world's second most widely used relational database management system (RDBMS) and most widely used open-source RDBMS. It is named after co-founder Michael Widenius's daughter, My. The SQL acronym stands for Structured Query Language.

The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now owned by Oracle Corporation. MySQL is a popular choice of database for use in web applications, and is a central component of the widely used LAMP open source web application software stack (and other 'AMP' stacks).

PHP

PHP is a popular general-purpose scripting language that is especially suited to web development. It was originally created by Rasmus Lerdorf in 1994. The PHP reference implementation is now produced by The PHP Group. PHP originally stood for Personal Home Page, but it now stands for the recursive initialism PHP: Hypertext Preprocessor. PHP code is usually processed on a web server by a PHP interpreter implemented as a module, a daemon or as a Common Gateway Interface (CGI) executable. On a web server, the result of the interpreted and executed PHP code — which may be any type of data, such as generated HTML or binary image data — would form the whole or part of a HTTP response. The standard PHP interpreter, powered by the Zend Engine, is free software released under the PHP License. PHP has been widely ported and can be deployed on most web servers on almost every operating system and platform, free of charge. During 2014 and 2015, a new major PHP version was developed, which was numbered PHP 7. The numbering of this version involved some debate. While the PHP 6 Unicode experiment had never been released, several articles and book titles referenced the PHP 6 name, which might have caused confusion if a new release were to reuse the name.

3.3 Proposed System

In this paper, it is proposed to simplify the procedures involved in acquiring an out-pass for the hostel students, while at the same time maintain paramount and for-sure security methodologies. We wish to do the above by means of a mobile application. This application will allow students to send out-pass requests with just a button click. Also, it simplifies all the processes of hostel management, including attendance maintenance at regular intervals. The pass is approved automatically by the system if the requested student has eligible number of pass credits of that current month. The system forwards the request to the warden. As the request gets approved, the parent of the ward will be intimated with the exit time of the

student at guard desk. A list containing the student's details and their out-pass status will be updated to the warden and the security guard at regular intervals. The student's entry and exit to and from the campus is monitored with security guard desk.

3.4 Architecture

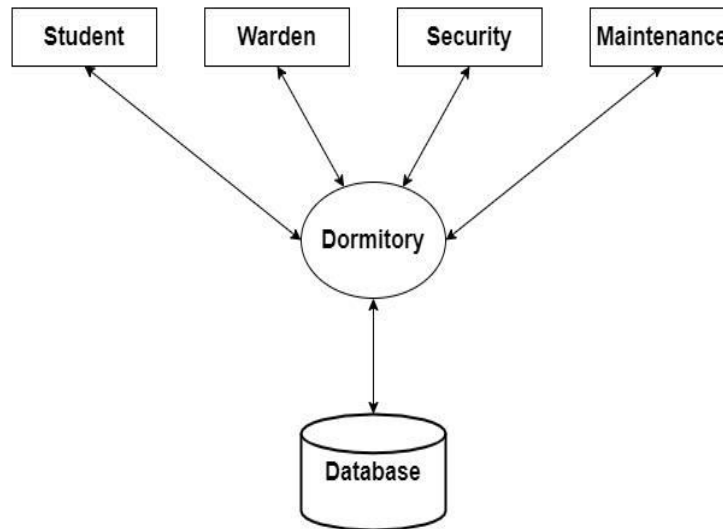


Figure 2: Architectural Diagram

Architectural design is a graphical representation of a set of concepts that are part of architecture including the principles, elements and components.

Dormitory app contains three sections -Student, Warden and Security/Watchmen, Maintenance. The data flow is shown in the above figure.

IV. RESULTS

Login page:Hostelites will be provided with the username and the password by the admin, only by which they will be able to login.If the students details are not registered by the warden then they will not be allowed to login.The students should remember their login credentials once they receive it from the warden.

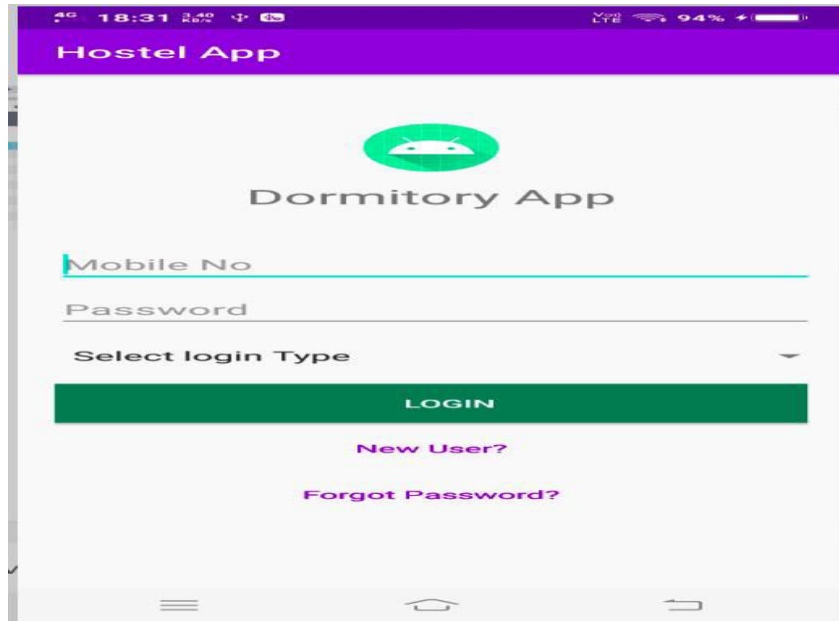


Figure3: Login page

Home page: This is the home page for students. It consists of gallery, complaints, upcoming events, change of password, logout.

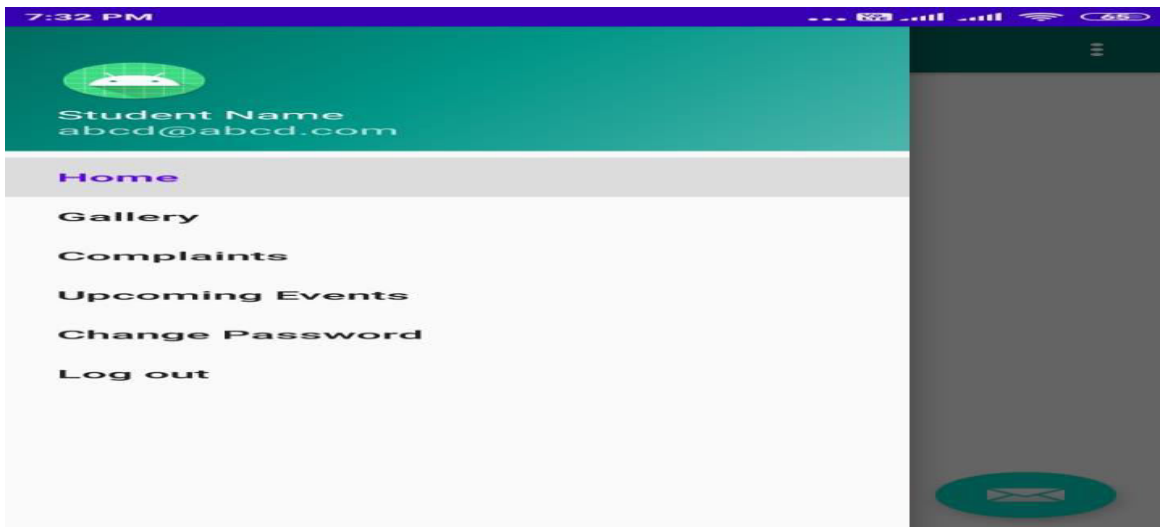


Figure 4: Home page for students

Out-pass page: Here students should provide the name, contact number, E-mail id, USN number, Caretaker Contact number, Address, password and confirm password.

A screenshot of a mobile application form titled 'Out-pass page'. The form is displayed on a white background with a dark grey header bar showing the time '7:32 PM' and various status icons. The form contains several text input fields with labels: 'Name', 'Contact No', 'EmailID', 'U.S.N', 'Caretaker Contact No', 'Address', 'Password', and 'Confirm Password'. Each field is a simple horizontal line. At the bottom of the form is a large, dark green button with the text 'Save' in white.

Figure 5: Out-pass page

Complaint Page: Here students can drop their complaints by giving title, description. Students can also drop the complaint by taking the photo.

A screenshot of a mobile application form titled 'Complaints'. The form is displayed on a white background with a purple header bar showing the time '18:44', battery level '96%', and other status icons. The form contains a dropdown menu labeled '--Select Complaint category--', followed by text input fields for 'Title' and 'Description'. Below these fields are two large, dark green buttons: 'TAKE PHOTO' and 'REGISTER COMPLAINT'. The bottom of the screen shows a standard Android navigation bar with icons for home, back, and search.

Figure 6: Complaint page



V. CONCLUSION

The purpose is to provide more secure, authenticated and authorized environment to hostel students regarding their out-in permission which reduce pen paper work, frauds and also saves time. The traditional approach uses manual process and may not be secure and most of the guardians using fax based approach which cannot provide best authorization. This application provides more secure way to hostel students to permit their ward to go out of college campus through a message from register login. It also helps the hostel warden to manage the outing record information. System also allows students to get the latest information about their hostel. This is an Android application which is created for managing different activities in the hostel. This system is expected to limit human works and make hostel allocation much easier for student and hostel administrators with the help of the web application to hostel.

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