

Family Of Friends- A Hostel Utility System

Saniya Ponkshe¹, Mahima Badjate², Sneha Rohida³, Toral Patel⁴, Prajakta Deshpande⁵

¹UG Student, Department of Information Technology, Cummins College of Engineering for Women, Savitribai Phule University, India.

²UG Student, Department of Information Technology, Cummins College of Engineering for Women, Savitribai Phule University, India.

³UG Student, Department of Information Technology, Cummins College of Engineering for Women, Savitribai Phule University, India.

⁴UG Student, Department of Information Technology, Cummins College of Engineering for Women, Savitribai Phule University, India.

⁵Assistant Professor, Department of Information Technology, Cummins College of Engineering for Women, Savitribai Phule University, India

Abstract— The main objective and the driver force for building an Android Hostel Management System is to increase the efficiency of how a typical hostel works while taking care of factors such as security, administration and student portal. Parents who send their children to the hostels whether it is for education or for some different domestic reasons are concerned about their child's safety the most. Digitizing the whole process will make things easier to monitor. Being the students from Information Technology, we always have seen a lot of new applications being used in the college like the portal for result declaration etc. The hostels still work in an old-fashioned manner where there goes a lot of manual energy in keeping up with the whole administration. That is where Hostel Management systems will be useful.

Keywords—Android, Hostel Management

I. Introduction

The application is an android based mobile application. The Hostel Management App is designed keeping in mind the needs, functionalities for our respective college. The needs and the specifications may differ from hostel to hostel but we have tried to generalize the entire application for better scaling and usage. The application has many features from an already existing ERP System for hostel Management. Some of the features are; As of now the application is free of cost unlike other established Systems. One more additional module which is going to be added up from the admin point of view is the room allocation process. As this is a very tedious job for the administrator, so automating this process will not only make the job easier but faster too. As far as this module is concerned, the task will be treated as a mini project by the juniors and later will be collaborated with this project, again depicting the modularity of the project. As a team we have designed a logo and even named our application as Family.

II. Literature Survey

The literature survey is simply a comparison between few existing ERP systems which have hostel management as one of its sub systems. Following is the detailed survey which

gives a brief comparison based on very important parameters.

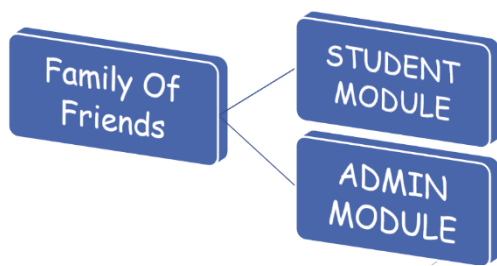
Features like 2 Step Attendance, Online night Out form, SMS Alert to Parent/Guardian is something which makes FOF stand out and bridges the gap with the existing ERP Systems. Most of the ERP Systems are not exclusively for Hostel Management and do not completely focus on the same.

	Family of Friends	Odoo OpenERP Hostel Management	C-ProGenial Hostel Management System	SabeeApp
NOTICE BOARD	Present	Absent	Absent	Present
PARENT SMS NOTIFICATION	Present	Absent	Absent	Absent
COMPLAINT CELL	Present	Absent	Present	Absent
MESS POLL	Present	Absent	Absent	Absent
2-STEP VERIFICATION FOR ATTENDANCE	Present	Absent	Present	Absent
NIGHT OUT INFORMATION	Present	Absent	Absent	Absent
VIEW ABSENTEES	Present	Absent	Absent	Absent

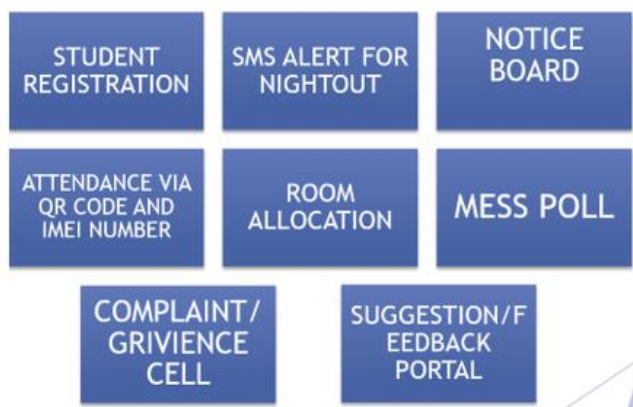
Table 1

III. Module Split-Up

The project is split into 2 sub modules namely, the student module and the admin module wherein all the functionalities of both modules interact amongst them and run the entire project as one module.



A. Student Module



Module-I: STUDENT REGISTRATION:

The Student will have to register to the application providing all sorts of details such as name, data of birth, address, blood group, medical history, allergies (if any), parent's details, Guardian's details etc. On successful registration, the student will be able to login with the username and password set.

Module-II: SMS ALERT FOR NIGHTOUT:

If at all a student wishes to be granted a night out, the student from her dashboard will have to place a request for night out providing the necessary details such as the day and time she will return back to the hostel the reason. The request will be granted by the admin and on successful permission a SMS will be sent on the parent's Mobile number which was registered during the registration process and the parents will get to know their child's whereabouts. This adds up to the safety of the student.

Module-III: NOTICE BOARD:

Every Student will have a dashboard like view on their respective accounts which will contain all sorts of important activities of the hostel. One such feature is the Notice board where all the important announcements, Notices, Circulars will be surfaced and each student will get a notification about the same and they can view it. If at all a notice has a deadline to be followed, it will also be mentioned for example, the payment of fees.

Module-IV: ATTENDANCE:

One of the most talked about things about the attendance in hostels is that there is a whole lot of chaos whilst taking the attendance. With this functionality, one can give the attendance from the ease of their rooms. A QR Code will be set up and the student will have to scan it, fill up the details such as the bed number room number and then the attendance will be marked. Additionally, it will also cross check with the device's IMEI number to check there is no malpractice performed while marking the attendance. Again, this adds up to additional safety.

Module-V: MESS POLL:

On a feast day at the hostel there are polls conducted manually to let the students choose what to eat. This too can be given with the ease of their mobile phones. The admin will put up the potential menu that could be prepared by the kitchen staff prior to the feast day and the students will have to poll for their dish, the one with maximum number of votes, wins!

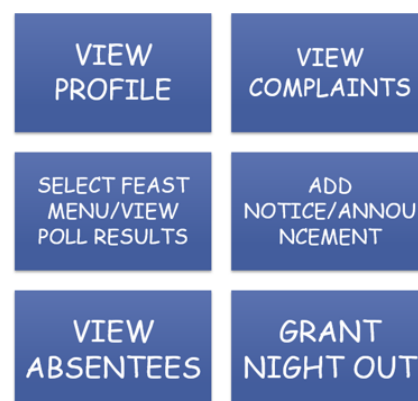
Module-VI: COMPLAINT AND GRIEVANCE CELL:

Complaints are to be heard and yet even today most of them are not yet acknowledge. There is a student complaint cell where she can put up a complaint based on various categories such as hygiene, food etc. and that will be directed to the concerned faculty and the staff.

Module-VII: FEEDBACK PORTAL:

For any organization to work properly feedback is very important, hence the dashboard will also give this feature for the students to give their valuable and honest feedback.

B. Admin Module



MODULE-I: VIEW PROFILE:

The admin should be able to view profiles of each student which will have all the details the student as filled during her registration and the admin can make changes in the same only if needed.

MODULE-II: VIEW COMPLAINTS:

The admin will get the complaints (category wise) and will mention it to the appropriate faculty.

MODULE-III: SELECT FEAST MENU:

The admin will talk to the kitchen staff and gather a list of food items that can be prepared by the kitchen on the feast day and she will upload the list onto the dashboard and students will receive a notification and they will poll for it. The admin will be able to see the food item with maximum votes and will convey it to the kitchen and announce on the dashboard.

MODULE-IV: ADD NOTICES:

The admin will be responsible to upload important announcements, notices onto the notice board.

MODULE-V: VIEW ABSENTEES:

While taking the attendance, the admin will be able to see the absentees and do the needful. She will also be seeing the students on night out. The students absent for 2 days will have a notification on both their mobile phones and their parent's mobile phones.

IV. Tools/Technologies Used

ANDROID SYSTEM

Android Studio is the official integrated development environment (IDE) for Google's Android operating system, built on JetBrains' IntelliJ IDEA software and designed specifically for Android development.

MySQL Database

SQL is Structured Query Language, which is a computer language for storing, manipulating and retrieving data stored in a relational database. SQL is the standard language for Relational Database System. All the Relational Database Management Systems (RDMS) like MySQL, MS Access, Oracle, Sybase, Informix, Postgres and SQL Server use SQL as their standard database language.

MySQL Workbench

MySQL Workbench is a GUI tool which helps us interact with MySQL server database. This is useful as actions can be directly carried out on tables. The Localhost of the computer will be used to host the application.

Bitrix24 tool for project management

Bitrix24 is a collaboration platform launched by Bitrix, Inc. in 2012. Bitrix24 provides a complete suite of social collaboration, communication and management tools for your team, including CRM, files sharing, time management, calendars, and more. Bitrix24 has been chosen by over one million organizations worldwide and is free for unlimited users in cloud. On-Premise version of the platform comes with source code access and can be installed on your server.

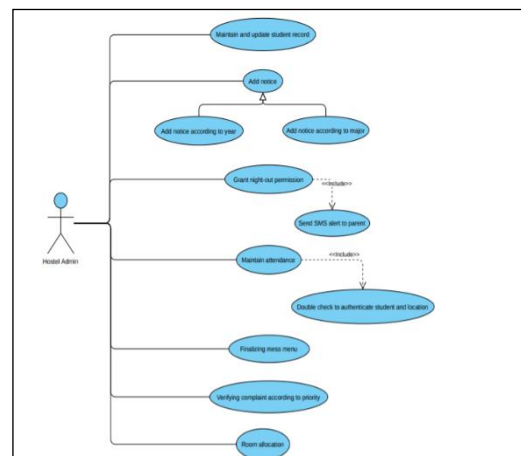
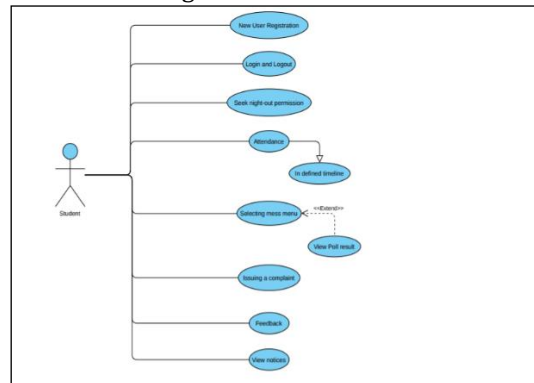
GitHub for Project Collaboration

GitHub, Inc. is a subsidiary of Microsoft which provides hosting for software development and version control using Git. It offers the distributed version control and

source code management functionality of GitHub, plus its own features

V. UML Diagrams

A. Use-Case Diagram



VI. Deployment of the System

As far as deliverables are concerned Most of the functionalities have been achieved. The Student Module is very well Ideated and Implemented with all the functionalities running. The Admin Module is Complete in terms of the required functionalities yet there is a scope to add a few features in the upcoming phase of the project. The App should be rendered via a Server in order to use the application by the Students. For this we have chosen the college's local server to render the entire application which can be downloaded via a link on mobile phones.

The data primarily being manageable, Use of Cloud is avoided but can be leveled up to cloud in future, if needed. The Application is designed keeping in mind all the requirements by a manual run or not automated hostel management system.

Safety and Security of the students is kept in mind as the top most priority.

The application is deliberately made interactive by making the User Interface Catchy and also easy to navigate within the application. Testing is a method by which we can see whether the software has reached the requirements fulfillment mark. This is very important for an application like this which will be used extensively by the students on daily basis. Hence, Testing is kept as a new Milestone for Phase-2.

Up till now, the only anomaly which we could think of is, this application is built in Android for Android, So, there is a scope to scale the application in other Operating Systems as well.

VII. Conclusion

The main motivation behind building this system is to automate the hostel management process. This system eases the load on the Management Team and simultaneously takes care about the security of the students. Key features which are added to support this are 2 Step Attendance, SMS Alert. They served to be one of the striking features to aid this motivation. Night Out Information to the Parents via SMS alerts the parents about the whereabouts of their ward. This system also take care about how easily the administrator is able to manage

the whole process right from selecting the feast menu to taking the attendance right from their devices.

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