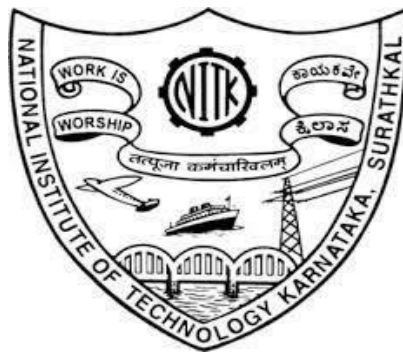# Hostel Management System

Course Project (Jan 2020 - May 2020)
CS254 Database Management Systems Lab
National Institute of Technology, Karnataka

TEAM

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OVERVIEW

This particular project aims to solve the problems with regard to managing a hostel and avoids the problems which occur when carried manually. Identification of the drawbacks of the existing system leads to the designing of computerized system that will be compatible to the existing system, which is more user friendly and more GUI oriented. This report describes the features and working of the Hostel management system in detail. The introduction enlists the existing system and the proposed system for the project. We continue to describe the database design with the help of an entity-relationship diagram, relation schema and a normalized form of the tables. We also present the various modules created in this website along with the references.

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INTRODUCTION

Hostels are establishments that provide students food and accommodation away from home for the duration of their study, allowing them to work and attend college far from homes. Hence, automatic hostel and mess allotment becomes an important process in order to take away the pain and labour of manually allocating the rooms and handling of the associated tasks that are encountered such as payment of fees, allotment of mess, etc. The concepts of DBMS allow us to achieve this with an addition of a web application.

EXISTING SYSTEM

Scope of the Project

● Hostel Management System is designed for Hostel (like schools, Universities).

● There will be predefined criteria for the Reservation to the hostels.

● He/she checks the attested application forms of the students obtained from the internet and verifies it with the student database.

● If the students are found eligible then they can pay the Hostel and Mess fee and proceed for the allotment of the Hostel Room and Mess.

Overview of Project

● Hostel Room Allocation System is a web application which aims at computerization of the current procedure of allocating hostel rooms and allocating Mess.

● This project is about creating a database for the hostel management system which facilitates the students to pay their fees online and apply for their desired rooms and messes, etc.

● The aim of the case study is to design and develop a database maintaining the records of different rooms, messes, students, and managers. The record of the room includes its number, block number, size, destination, and vacancy, whereas the record of mess includes mess card number, mess type, size, and vacancy.

● Students may only apply for rooms or messes after fee payment is complete. The student may apply for any room or mess which will be allotted based on its vacancy status and the decision of the respective hostel manager. For this, the student must provide authentication and

details of the desired room. Before allowing for the creation of a room or mess application, the status of the fee payment is checked.

● Once the fee payment is validated by the system, it is checked whether the room or mess is available. If yes, the application is sent to the respective hostel

manager.

● The room once allotted can be vacated or removed by the hostel manager. The hostel managers may be managed by the main administrator of the website.

● The details of the hostel manager are entered while appointing a new hostel manager for a particular hostel.

● Currently, the process involves students filling up the forms and submitting them in respective hostel offices which involves a lot of paperwork, hence less efficient.

PROPOSED SYSTEM

Purpose

● The main purpose of maintaining a database for the Hostel Management System is to reduce the manual errors involved in allocating and vacating rooms and make it convenient for the students and managers to maintain the data regarding personal information and available facilities.

● Due to automation many loopholes that exist in the manual registration and allotment of rooms can be removed.

● The speed of obtaining and processing the data will be fast.

Objective

● The hostel management system has been created to avoid the tedious process of physically paying, registering for and room and hostel allotment to college students. To deal with the Hostel Management System in an easy and efficient manner.

● The goal of this project is to manage the data of students and hostel facilities to provide a well-organized system for fees payment and hostel and room allotment.

● Create a strong and secret database that allows for any connection in a secret way, to prevent any outside or inside attacks.

ER DIAGRAM
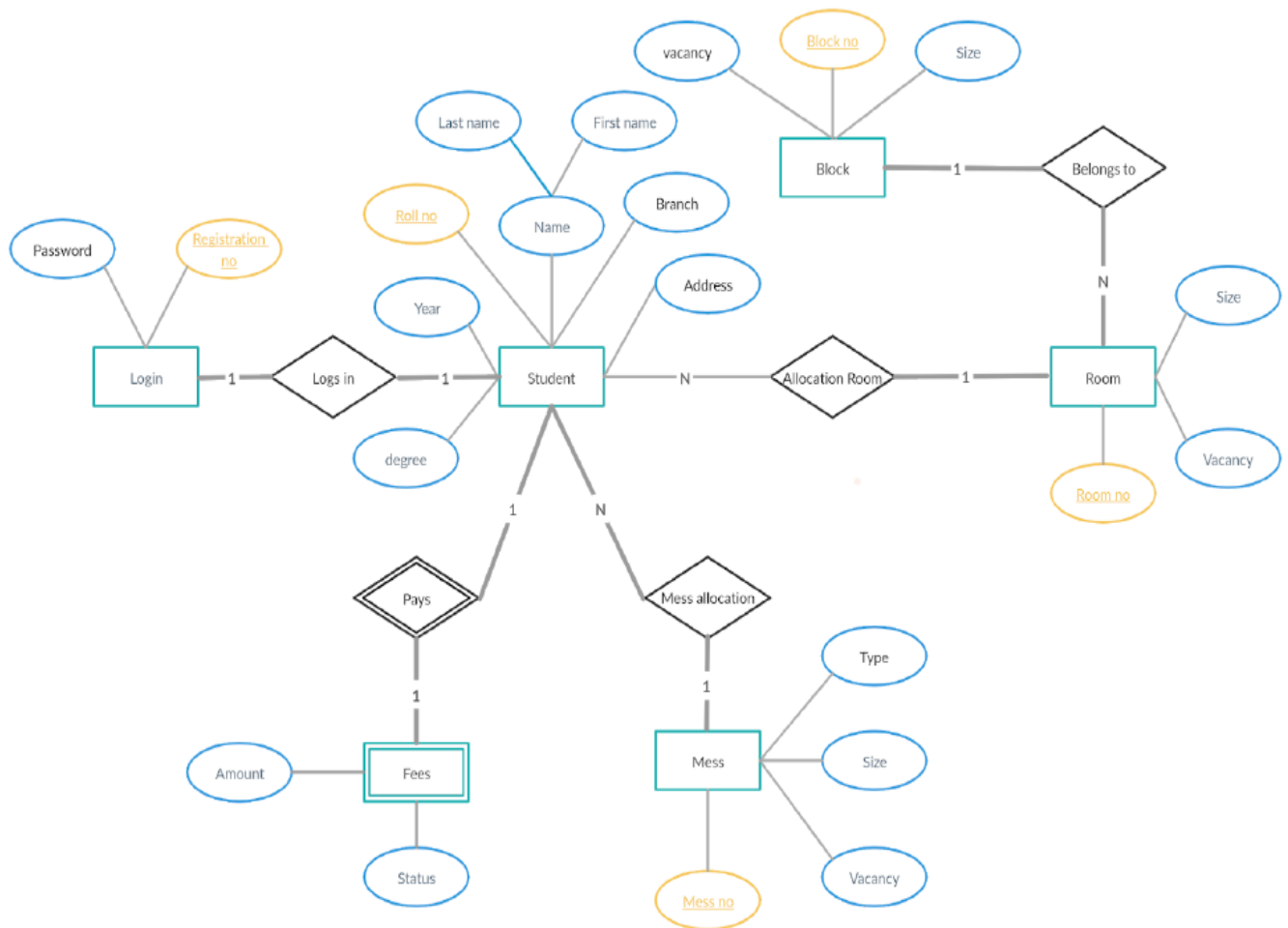
We have used Creately tool in which total participation is represented using double lines.

NORMALIZATION

3NF tables:

1. **Login table** [Attributes: StudentID (Key), Pwd]

StudentId	pwd

2. **Hostel Manager Info table** [Attributes: HM_id (Key), Fname, Lname, Mob No., Pwd, Hostel_id (Key), Mess_id (Key),IsAdmin]

HM_id	Username	Fname	Lname	Mob No.	Pwd	Hostel_id	Mess_id	IsAdmin

3. **Student Info table** [Attributes: Student_id (Key), Fname, Lname, Mob No., Dept, Year, Degree, Address, Pwd, Hostel_id (Key), Room_id (Key), Mess_id(Key), Mess_card_id (Key)]

S_id	Fname	Lname	Mob No.	Dept	Year	Degree	Address	Pwd	H_id	R_id	M_id	M.C.id

4. **Fees Info table** [Attributes: StudentID (Key), Amount, Status]

StudentId	Amount	Status

5. **Block info table** [Attributes: Hostel_id (Key), Size, Vacancy]

Hostel Id	Type	Vacancy

6. **Mess Info table** [Attributes: Mess_id(key), Type, Size, Vacancy]

Mess Id	Type	Size	Vacancy

7. **Room Application table** [Attributes: Application_id (key), Student_id (Key), Hostel_id (key), Application_Status, Room No]

Application_id	Student_i	Hostel_id	Application_Status	Room No

8. **Mess Application table** [Attributes: Application_id (Key), Student_id (Key), Mess_id (Key), Application_Status, Mess card No]

Application_id	Student_i	Mess_id	Application_Status	Mess card No

9. **Room Allocation table** [Attributes: Room_id (Key), Hostel_id (Key), Room No, AllocationStatus]

Room Id	Hostel_id	Room No	Application_Status

10. **Mess Allocation table** [Attributes: Mess_id (Key), Mess_card_id (Key), Mess card No, AllocationStatus]

Mess_Card_Id	Mess Id	Mess Card No	Allocation_Status

CONCLUSION

This online Attendance Management System has 3 modules for proper functioning:

1. **Admin**: Has the rights to create or remove a new entry for Hostel Manager. He can see the details of all the students registered such as their payment status, Room and Mess allocation status, Mobile Number etc.

2. **Student**: Can sign-up, pay their fees, Apply for Hostel and Mess, check their payment, Room Allocation and Mess allocation status through his/her portal. Can also see his/her Hostel Manager's Name and Mobile number.

3. **Hostel Manager**: Can allocate the Room and Mess to the students applied for their hostel or mess through his/her portal. They can also see the details of students registered for their Hostel or Mess.

The system is designed in such a way that only authorised people can access modules. Records of database are modified by the admin only. The User is always in control of the application and not vice versa. The user interface is consistent so that users can handle the application with ease and speed. The application is visually and conceptually clear.

REFERENCES

1. http://fadic001007.blogspot.com/p/project.html
2. https://github.com/pranaviinda1999/Hostel-Management-System