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**DBMS PROJECT**

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CSE 2020-24

**HOSTEL ASSET MANAGEMENT SYSTEM**

ACKNOWLEDGEMENT   
  
  
On completion of this project on ‘**Hostel Asset Management System**’, we would like to express our heartfelt gratitude to **Dr. Shelly Sachdeva**, our course instructor for the course on **Database Management System**, for giving us this project as an opportunity to learn through first-hand work experience and providing her excellent guidance that has helped us throughout.   
We would also extend our thankfulness to our Teaching Assistants, **Ms. Kanika Soni and Mr. Anil** **Kumar**, for providing their valuable assistance and advice that have played a vital role in completing this project.  
This project has been extremely useful for us to learn a lot about Database Management Systems and related topics. Through this project, we learned a lot about the use and implementation of DBMS in our real world. It has not only helped in broadening our horizons but has also provided us exposure to real-life projects and their usefulness.   
We thank our course coordinator and faculties for giving us such an amazing and enriching experience.

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**CASE STUDY**In today’s time, there are many drawbacks of maintaining assets of any residential building, like hostels. Most hostels are run by a single warden, which makes the record of all the assets like table, chair, etc. tough to maintain. For any broken/non-working asset assigned to the student, the student physically goes and complains and fills the required forms to get the issues looked into. There’s also no record of the basic amenities like beds, tables, cupboards, etc. issued to each room.

With the advancement in technology, and given the current conditions of covid-19, it seems only reasonable that we take the next step in Hostel Management System, and add into it the feature of Asset Management, making it **HAMS**!

**INTRODUCTION**

We created this project on the Hostel Asset Management System (HAMS) using the concepts of Database Management System for Back-End, Flutter and Dart for Front-End, and PHP for DB Connection. We have tried to make a system that not only maintains the information about the hostelers and the assets provided in each room but also provides to the hostelers an efficient way to raise queries against the issues they are facing with concerned assets.

The wardens must be aware of the basic facilities and amenities provided to the hostelers in their respective rooms and the problems encountered. The warden acquaints with the status of rooms and the amenities provided in each room. This further increases the need for an efficient database.

There must be a system for students wherein they can register their

complaints while maintaining an organized structure. Thus, the database must include a complaint registering system for a systematic and organized solution of problems of all hostelers.

This case study aims to design and develop an efficient database for

the hostels to maintain the records of hostelers, rooms, and asset maintenance authorities. It also maintains the records of the amenities being provided to various rooms in various hostels as well as serves as a complaint registering portal for the students. Hence, getting rid of manual system and data redundancy which we face in the manual record, the main goal is ultimately the service provided to the hostelers and the staff.

System Requirements  
  
  
   
  
HARDWARE REQUIREMENTS   
• Operating System: Windows 7/8/8.1/10.   
• Memory (RAM): 1 GB or above.   
• Hard Disk Space: at least 200 MB  
• Processor: Intel Pentium 4 or later.   
  
  
SOFTWARE REQUIREMENTS   
• Flutter and Dart for developing front-end.   
• MySQL as a back-end query language.   
• PHP shall be used as a scripting language.   
• Web Browser (Chrome/Firefox, etc.)

ER DIAGRAM  
Diagram, schematic

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**Mapping from   
ER Model to R Model**Diagram

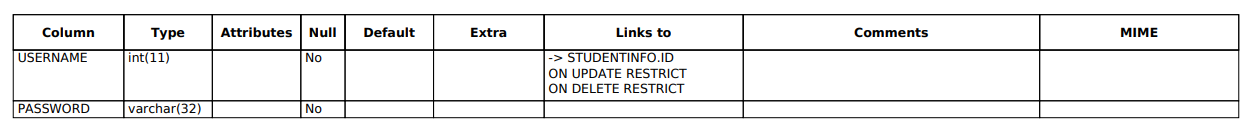
Description automatically generated with medium confidence

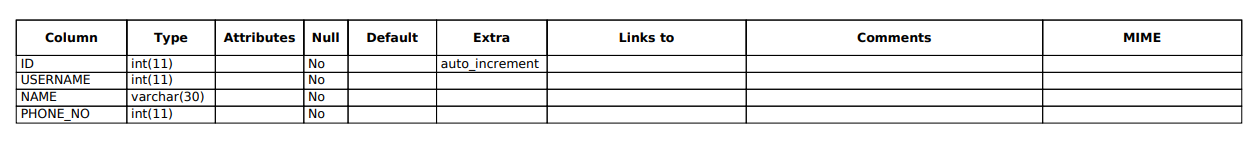
RELATIONAL SCHEMA

Diagram

Description automatically generated with medium confidence

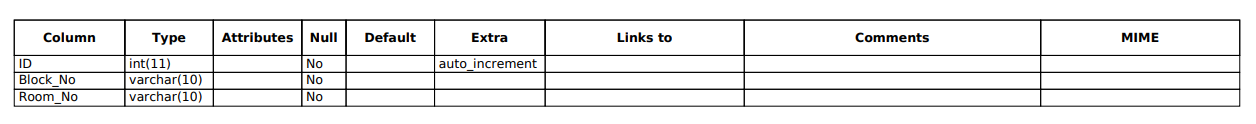
DATA DICTIONARY **STUDENTINFO  
Table

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STUDENTLOGIN  
**

**ADMIN**  


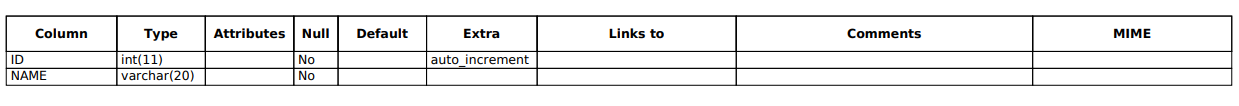
**ADMIN\_LOGIN**  
A picture containing application

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**Block**  


**ITEMS  
Table

Description automatically generated**

**ITEM\_TYPE  
**

**QUERY  
Table

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 SQL QUERIES

**--**

**-- Database: `id18008427\_hams`**

**--**

**-- --------------------------------------------------------**

**--**

**-- Table structure for table `ADMIN`**

**--**

**CREATE TABLE `ADMIN` (**

**`ID` int(11) NOT NULL,**

**`USERNAME` int(11) NOT NULL,**

**`NAME` varchar(30) COLLATE utf8\_unicode\_ci NOT NULL,**

**`PHONE\_NO` int(11) NOT NULL**

**) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_unicode\_ci;**

**-- --------------------------------------------------------**

**--**

**-- Table structure for table `ADMIN\_LOGIN`**

**--**

**CREATE TABLE `ADMIN\_LOGIN` (**

**`AdminID` int(11) DEFAULT NULL,**

**`Password` varchar(32) COLLATE utf8\_unicode\_ci NOT NULL**

**) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_unicode\_ci;**

**-- --------------------------------------------------------**

**--**

**-- Table structure for table `Block`**

**--**

**CREATE TABLE `Block` (**

**`ID` int(11) NOT NULL,**

**`Block\_No` varchar(10) COLLATE utf8\_unicode\_ci NOT NULL,**

**`Room\_No` varchar(10) COLLATE utf8\_unicode\_ci NOT NULL**

**) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_unicode\_ci;**

**--**

**-- Dumping data for table `Block`**

**--**

**INSERT INTO `Block` (`ID`, `Block\_No`, `Room\_No`) VALUES**

**(1, 'B1', '1'),**

**(2, 'B1', '2'),**

**(3, 'B1', '3'),**

**(4, 'B1', '4'),**

**(5, 'G1', '2'),**

**(6, 'G1', '5'),**

**(7, 'G1', '4'),**

**(8, 'G1', '3'),**

**(9, 'G1', '1'),**

**(10, 'B1', '5');**

**-- --------------------------------------------------------**

**--**

**-- Table structure for table `ITEMS`**

**--**

**CREATE TABLE `ITEMS` (**

**`ITEM\_CODE` int(11) NOT NULL,**

**`TYPE` int(11) NOT NULL,**

**`ROOM` int(11) NOT NULL DEFAULT -1,**

**`LAST\_SERVICE\_DATE` date DEFAULT NULL**

**) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_unicode\_ci;**

**--**

**-- Dumping data for table `ITEMS`**

**--**

**INSERT INTO `ITEMS` (`ITEM\_CODE`, `TYPE`, `ROOM`, `LAST\_SERVICE\_DATE`) VALUES**

**(10000, 1, 1, NULL),**

**(10001, 1, 1, NULL),**

**(10002, 2, 1, NULL),**

**(10003, 2, 1, NULL),**

**(10004, 3, 1, NULL),**

**(10005, 3, 1, NULL),**

**(10006, 4, 1, NULL),**

**(10007, 5, 1, NULL),**

**(10008, 5, 1, NULL),**

**(10009, 6, 1, NULL),**

**(10010, 6, 1, NULL),**

**(10011, 6, 1, NULL),**

**(10012, 9, 1, NULL),**

**(10013, 9, 1, NULL),**

**(10014, 1, 2, NULL),**

**(10015, 1, 2, NULL),**

**(10016, 2, 2, NULL),**

**(10017, 2, 2, NULL),**

**(10018, 3, 2, NULL),**

**(10019, 3, 2, NULL),**

**(10020, 4, 2, NULL),**

**(10021, 5, 2, NULL),**

**(10022, 5, 2, NULL),**

**(10023, 6, 2, NULL),**

**(10024, 6, 2, NULL),**

**(10025, 6, 2, NULL),**

**(10026, 9, 2, NULL),**

**(10027, 9, 2, NULL);**

**-- --------------------------------------------------------**

**--**

**-- Table structure for table `ITEM\_TYPE`**

**--**

**CREATE TABLE `ITEM\_TYPE` (**

**`ID` int(11) NOT NULL,**

**`NAME` varchar(20) COLLATE utf8\_unicode\_ci NOT NULL**

**) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_unicode\_ci;**

**--**

**-- Dumping data for table `ITEM\_TYPE`**

**--**

**INSERT INTO `ITEM\_TYPE` (`ID`, `NAME`) VALUES**

**(1, 'Chair'),**

**(2, 'Bed'),**

**(3, 'Cupboard'),**

**(4, 'Switch Board'),**

**(5, 'Table'),**

**(6, 'Lights'),**

**(7, 'Geyser'),**

**(8, 'Air Conditioner'),**

**(9, 'Water Taps');**

**-- --------------------------------------------------------**

**--**

**-- Table structure for table `QUERY`**

**--**

**CREATE TABLE `QUERY` (**

**`ID` int(11) NOT NULL,**

**`ITEM` int(11) NOT NULL,**

**`STUDENT` int(11) NOT NULL,**

**`QUERY` varchar(500) COLLATE utf8\_unicode\_ci NOT NULL**

**) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_unicode\_ci;**

**--**

**-- Dumping data for table `QUERY`**

**--**

**INSERT INTO `QUERY` (`ID`, `ITEM`, `STUDENT`, `QUERY`) VALUES**

**(3, 10000, 8, 'i have one complaint'),**

**(4, 10000, 8, 'i have one complaint'),**

**(5, 10000, 8, 'i have one complaint'),**

**(6, 10002, 7, 'no'),**

**(7, 10002, 7, 'no');**

**-- --------------------------------------------------------**

**--**

**-- Table structure for table `STUDENTINFO`**

**--**

**CREATE TABLE `STUDENTINFO` (**

**`ID` int(11) NOT NULL,**

**`NAME` varchar(50) COLLATE utf8\_unicode\_ci NOT NULL,**

**`EMAIL` varchar(100) COLLATE utf8\_unicode\_ci NOT NULL,**

**`REG\_NO` int(11) NOT NULL,**

**`BRANCH\_ALLOCATED` varchar(10) COLLATE utf8\_unicode\_ci DEFAULT NULL,**

**`TYPEOFROOM` varchar(20) COLLATE utf8\_unicode\_ci NOT NULL,**

**`CHECK\_IN` date NOT NULL,**

**`CHECK\_OUT` date NOT NULL,**

**`IS\_ACTIVE` tinyint(1) NOT NULL**

**) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_unicode\_ci;**

**--**

**-- Dumping data for table `STUDENTINFO`**

**--**

**INSERT INTO `STUDENTINFO` (`ID`, `NAME`, `EMAIL`, `REG\_NO`, `BRANCH\_ALLOCATED`, `TYPEOFROOM`, `CHECK\_IN`, `CHECK\_OUT`, `IS\_ACTIVE`) VALUES**

**(1, 'Vedant', 'vedant1@gmail.com', 1001, 'CSE', 'Double', '2021-01-01', '2021-04-01', 1),**

**(2, 'Arya', 'arya2@gmail.com', 1002, 'CSE', 'Single', '2021-10-07', '2021-11-07', 1),**

**(3, 'Arnav', 'arnav3@gmail.com', 1003, 'IT', 'Double', '2021-08-19', '2021-11-19', 1),**

**(4, 'Manishi', 'manishi@gmail.com', 1004, 'IT', 'Double', '2021-05-07', '2021-11-06', 0),**

**(5, 'Yash', 'yash@gmail.com', 1005, 'IT', 'Single', '2021-06-19', '2021-10-11', 1),**

**(6, 'Sakshi', 'sakshi@gmail.com', 1006, 'CCE', 'Single', '2021-09-14', '2021-11-20', 0),**

**(7, 'Preeti', 'preeti@gmail.com', 1007, 'DSE', 'Double', '2021-07-14', '2021-10-06', 1),**

**(8, 'Preeti', 'pk@gmail.com', 1111, 'CSE', 'Single', '2021-11-01', '2021-11-25', 1);**

**-- --------------------------------------------------------**

**--**

**-- Table structure for table `STUDENTLOGIN`**

**--**

**CREATE TABLE `STUDENTLOGIN` (**

**`USERNAME` int(11) NOT NULL,**

**`PASSWORD` varchar(32) COLLATE utf8\_unicode\_ci NOT NULL**

**) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_unicode\_ci;**

**--**

**-- Dumping data for table `STUDENTLOGIN`**

**--**

**INSERT INTO `STUDENTLOGIN` (`USERNAME`, `PASSWORD`) VALUES**

**(1, '99d69e8e7731a676e93972397d495b25'),**

**(2, '99d69e8e7731a676e93972397d495b25'),**

**(3, '99d69e8e7731a676e93972397d495b25'),**

**(4, '99d69e8e7731a676e93972397d495b25'),**

**(5, '99d69e8e7731a676e93972397d495b25'),**

**(6, '99d69e8e7731a676e93972397d495b25'),**

**(7, '99d69e8e7731a676e93972397d495b25'),**

**(8, '1cd3c693132f4c31b5b5e5f4c5eed6bd');**

**--**

**-- Indexes for dumped tables**

**--**

**--**

**-- Indexes for table `ADMIN`**

**--**

**ALTER TABLE `ADMIN`**

**ADD PRIMARY KEY (`ID`);**

**--**

**-- Indexes for table `ADMIN\_LOGIN`**

**--**

**ALTER TABLE `ADMIN\_LOGIN`**

**ADD KEY `Login\_ID` (`AdminID`);**

**--**

**-- Indexes for table `Block`**

**--**

**ALTER TABLE `Block`**

**ADD PRIMARY KEY (`ID`);**

**--**

**-- Indexes for table `ITEMS`**

**--**

**ALTER TABLE `ITEMS`**

**ADD PRIMARY KEY (`ITEM\_CODE`),**

**ADD KEY `Items\_RoomID` (`ROOM`),**

**ADD KEY `Items\_ItemID` (`TYPE`);**

**--**

**-- Indexes for table `ITEM\_TYPE`**

**--**

**ALTER TABLE `ITEM\_TYPE`**

**ADD PRIMARY KEY (`ID`);**

**--**

**-- Indexes for table `QUERY`**

**--**

**ALTER TABLE `QUERY`**

**ADD PRIMARY KEY (`ID`),**

**ADD KEY `ITEM\_ID\_FK` (`ITEM`),**

**ADD KEY `STUDENT\_ID\_FK` (`STUDENT`);**

**--**

**-- Indexes for table `STUDENTINFO`**

**--**

**ALTER TABLE `STUDENTINFO`**

**ADD PRIMARY KEY (`ID`);**

**--**

**-- Indexes for table `STUDENTLOGIN`**

**--**

**ALTER TABLE `STUDENTLOGIN`**

**ADD UNIQUE KEY `USERNAME\_UNIQUE` (`USERNAME`);**

**--**

**-- AUTO\_INCREMENT for dumped tables**

**--**

**--**

**-- AUTO\_INCREMENT for table `ADMIN`**

**--**

**ALTER TABLE `ADMIN`**

**MODIFY `ID` int(11) NOT NULL AUTO\_INCREMENT;**

**--**

**-- AUTO\_INCREMENT for table `Block`**

**--**

**ALTER TABLE `Block`**

**MODIFY `ID` int(11) NOT NULL AUTO\_INCREMENT, AUTO\_INCREMENT=11;**

**--**

**-- AUTO\_INCREMENT for table `ITEMS`**

**--**

**ALTER TABLE `ITEMS`**

**MODIFY `ITEM\_CODE` int(11) NOT NULL AUTO\_INCREMENT, AUTO\_INCREMENT=10028;**

**--**

**-- AUTO\_INCREMENT for table `ITEM\_TYPE`**

**--**

**ALTER TABLE `ITEM\_TYPE`**

**MODIFY `ID` int(11) NOT NULL AUTO\_INCREMENT, AUTO\_INCREMENT=10;**

**--**

**-- AUTO\_INCREMENT for table `QUERY`**

**--**

**ALTER TABLE `QUERY`**

**MODIFY `ID` int(11) NOT NULL AUTO\_INCREMENT, AUTO\_INCREMENT=8;**

**--**

**-- AUTO\_INCREMENT for table `STUDENTINFO`**

**--**

**ALTER TABLE `STUDENTINFO`**

**MODIFY `ID` int(11) NOT NULL AUTO\_INCREMENT, AUTO\_INCREMENT=9;**

**--**

**-- Constraints for dumped tables**

**--**

**--**

**-- Constraints for table `ADMIN\_LOGIN`**

**--**

**ALTER TABLE `ADMIN\_LOGIN`**

**ADD CONSTRAINT `Login\_ID` FOREIGN KEY (`AdminID`) REFERENCES `ADMIN` (`ID`);**

**--**

**-- Constraints for table `ITEMS`**

**--**

**ALTER TABLE `ITEMS`**

**ADD CONSTRAINT `Items\_ItemID` FOREIGN KEY (`TYPE`) REFERENCES `ITEM\_TYPE` (`ID`),**

**ADD CONSTRAINT `Items\_RoomID` FOREIGN KEY (`ROOM`) REFERENCES `Block` (`ID`);**

**--**

**-- Constraints for table `QUERY`**

**--**

**ALTER TABLE `QUERY`**

**ADD CONSTRAINT `ITEM\_ID\_FK` FOREIGN KEY (`ITEM`) REFERENCES `ITEMS` (`ITEM\_CODE`),**

**ADD CONSTRAINT `STUDENT\_ID\_FK` FOREIGN KEY (`STUDENT`) REFERENCES `STUDENTINFO` (`ID`);**

**--**

**-- Constraints for table `STUDENTLOGIN`**

**--**

**ALTER TABLE `STUDENTLOGIN`**

**ADD CONSTRAINT `Login\_username` FOREIGN KEY (`USERNAME`) REFERENCES `STUDENTINFO` (`ID`);**

**COMMIT;**

POPULATED TABLES  
  
**STUDENTINFO**  
Graphical user interface

Description automatically generated **STUDENTLOGIN  
Graphical user interface, application

Description automatically generated  
  
  
  
Block  
Graphical user interface

Description automatically generated  
  
  
ITEM\_TYPE  
Graphical user interface, text, application

Description automatically generated**

**ITEMS  
Table

Description automatically generated with low confidence**

**QUERY  
Graphical user interface, application

Description automatically generated**

DB CONNECTIVITY  
  
The database has been connected to the frontend user interface using PHP as the scripting language.

The code for establishing the connection is as follows:  
Graphical user interface, text, application, email

Description automatically generated  
The above code serves to establish the connection between the backend (database) and frontend (user interface).   
  
  
The PHP codes corresponding to each functionality being implemented are mentioned along with the respective functionality in the following pages.

**FUNCTIONALITIES**Following are the functionalities implemented in the project along with their respective backend PHP codes:  
  
**LOGIN PAGE**Graphical user interface, text, application, chat or text message

Description automatically generated **Graphical user interface

Description automatically generated with medium confidence**

**ASSET SEARCH PAGE**  
Here the hostelers enter the serial number of the asset they want to know details of.  
  
**Text

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Displays the information of the asset they entered:  
Graphical user interface, text, application, chat or text message

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The user can raise a Query too.  
Graphical user interface, text, application, email

Description automatically generated

Timeline

Description automatically generated  
  
 The query gets stored in the QUERY table and the Thank You page occurs.

Text

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