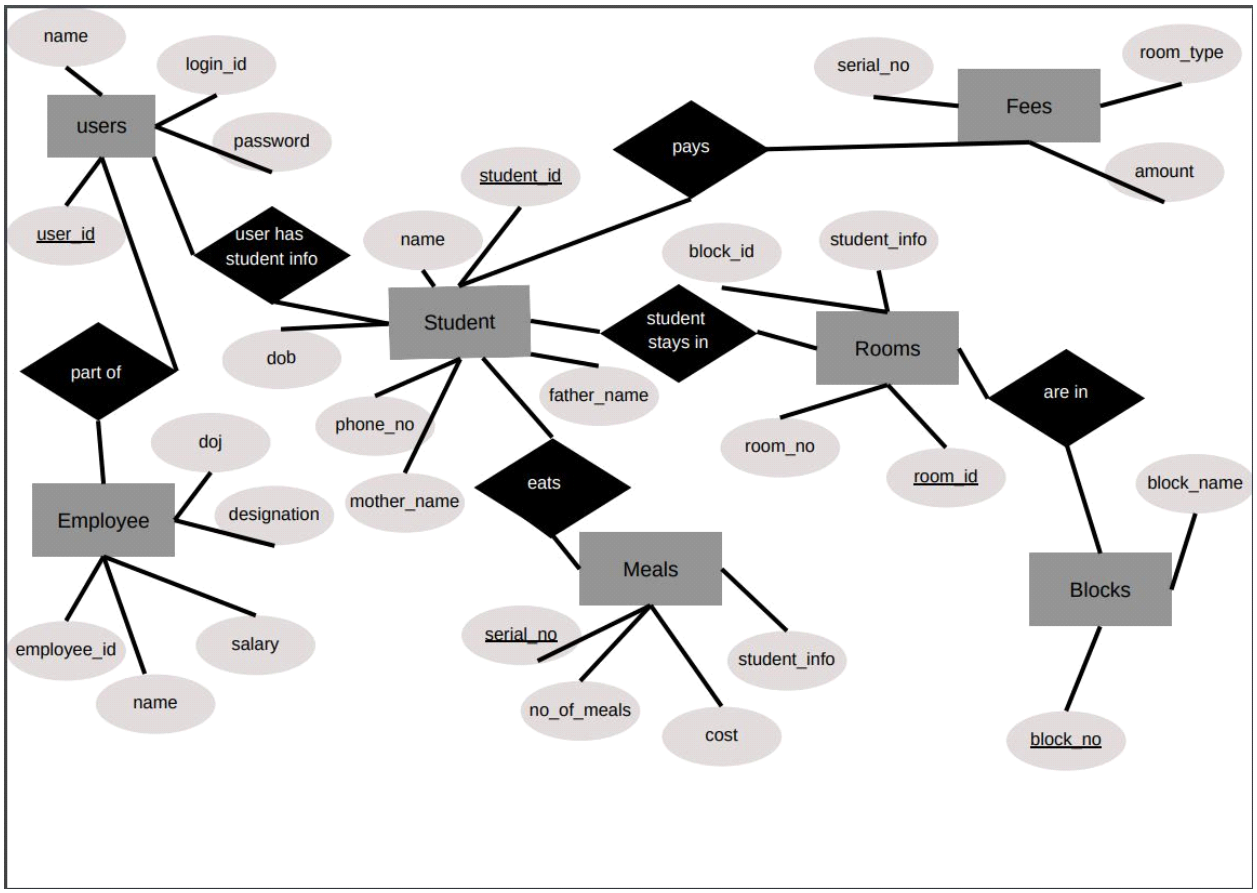
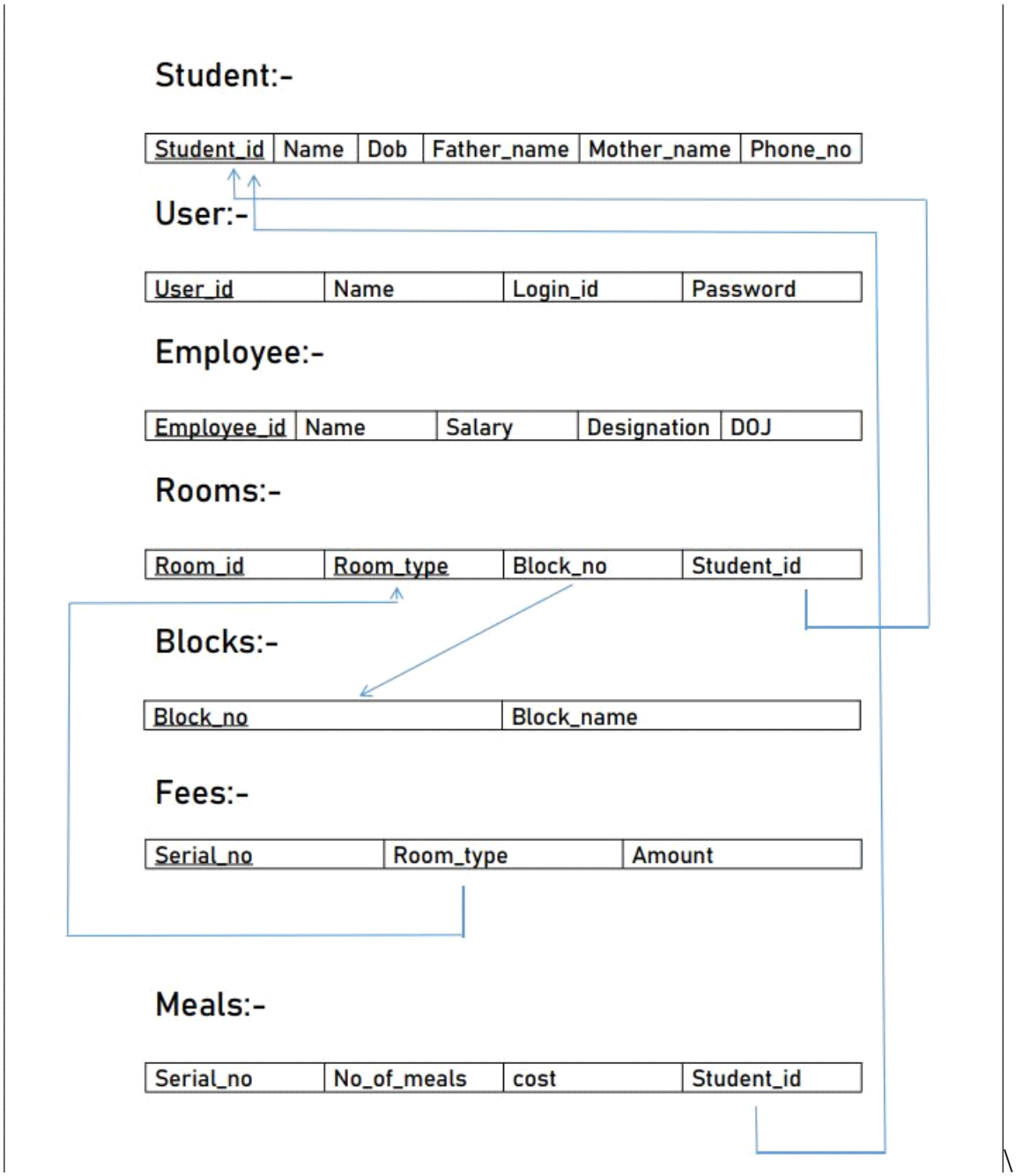
ABSTRACT

The Hostel Management System (HMS) is a comprehensive database management solution designed to streamline and automate the various aspects of hostel administration. This project aims to enhance the efficiency and effectiveness of managing hostel facilities, student accommodations, and related administrative tasks within an educational institution.

ER DIAGRAM



RELATIONAL SCHEMA



DDL SQL COMMANDS

```
SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
SET AUTOCOMMIT = 0;
START TRANSACTION;
SET time_zone = "+00:00";


/*!40101 SET
@OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET
@OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS
*/;
/*!40101 SET
@OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION
*/;
/*!40101 SET NAMES utf8mb4 */;


--
-- Database: `hostel`
--


-- --------------------------------------------------------


--
-- Table structure for table `admin`
--


CREATE TABLE `admin` (
```

```
  `id` int(11) NOT NULL,
  `username` varchar(255) NOT NULL,
  `email` varchar(255) NOT NULL,
  `password` varchar(300) NOT NULL,
  `reg_date` timestamp NOT NULL DEFAULT CURRENT_TIMESTAMP,
  `updation_date` date NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;


--
-- Dumping data for table `admin`
--


INSERT INTO `admin` (`id`, `username`, `email`, `password`, `reg_date`, `updation_date`) VALUES
(1, 'dbms', 'dbms@gmail.com', 'Test@1234', '2023-10-31 20:31:45', '2023-11-04');


-- --------------------------------------------------------


--SET SQL_SAFE_UPDATES = 0;
UPDATE admin
SET
  username = 'dbms',
  email = 'dbms@gmail.com',
  reg_date = '2023-11-04',
  updation_date = '2023-11-17';
-- Table structure for table `adminlog`
--
```

```
CREATE TABLE `adminlog` (
  `id` int(11) NOT NULL,
  `adminid` int(11) NOT NULL,
  `ip` varbinary(16) NOT NULL,
  `logintime` timestamp NOT NULL DEFAULT CURRENT_TIMESTAMP
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- --------------------------------------------------------

--
-- Table structure for table `courses`
--

CREATE TABLE `courses` (
  `id` int(11) NOT NULL,
  `course_code` varchar(255) DEFAULT NULL,
  `course_sn` varchar(255) DEFAULT NULL,
  `course_fn` varchar(255) DEFAULT NULL,
  `posting_date` timestamp NULL DEFAULT CURRENT_TIMESTAMP
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `courses`
--

INSERT INTO `courses` (`id`, `course_code`, `course_sn`, `course_fn`,
`posting_date`) VALUES
```

(1, 'UE21CS341A', 'SE', 'Software Engineering', '2023-01-01 01:01:42'),

(2, 'UE21CS351A', 'DBMS', 'Database Managment System', '2023-01-01 01:02:46'),

(3, 'UE21CS352A', 'MI', 'Machine Intelligence', '2023-01-01 01:03:23'),

(4, 'UE21CS342AA3', 'IOT', 'Internet Of Things', '2023-0-01 01:04:18'),

(5, 'UE21CS343AB3', 'GTA', 'Graph Theory and its applications', '2023-01-01 01:04:40'),

(6, 'UE21CS342AA2', 'DA', 'Data Analaytics', '2023-01-01 01:05:19'),

(7, 'UE21CS343AA2', 'BD', 'Big Data', '2023-01-01 19:09:21');

-- --

--

-- Table structure for table `registration`

--

```
CREATE TABLE `registration` (
  `id` int(11) NOT NULL,
  `roomno` int(11) DEFAULT NULL,
  `seater` int(11) DEFAULT NULL,
  `feespm` int(11) DEFAULT NULL,
  `foodstatus` int(11) DEFAULT NULL,
  `stayfrom` date DEFAULT NULL,
  `duration` int(11) DEFAULT NULL,
  `course` varchar(500) DEFAULT NULL,
  `regno` int(11) DEFAULT NULL,
  `firstName` varchar(500) DEFAULT NULL,
  `middleName` varchar(500) DEFAULT NULL,
```

```
  `lastName` varchar(500) DEFAULT NULL,
  `gender` varchar(250) DEFAULT NULL,
  `contactno` bigint(11) DEFAULT NULL,
  `emailid` varchar(500) DEFAULT NULL,
  `egycontactno` bigint(11) DEFAULT NULL,
  `guardianName` varchar(500) DEFAULT NULL,
  `guardianRelation` varchar(500) DEFAULT NULL,
  `guardianContactno` bigint(11) DEFAULT NULL,
  `corresAddress` varchar(500) DEFAULT NULL,
  `corresCIty` varchar(500) DEFAULT NULL,
  `corresState` varchar(500) DEFAULT NULL,
  `corresPincode` int(11) DEFAULT NULL,
  `pmntAddress` varchar(500) DEFAULT NULL,
  `pmntCity` varchar(500) DEFAULT NULL,
  `pmnatetState` varchar(500) DEFAULT NULL,
  `pmntPincode` int(11) DEFAULT NULL,
  `postingDate` timestamp NULL DEFAULT CURRENT_TIMESTAMP,
  `updationDate` varchar(500) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;


--
-- Dumping data for table `registration`
--


INSERT INTO `registration` (`id`, `roomno`, `seater`, `feespm`, `foodstatus`,
`stayfrom`, `duration`, `course`, `regno`, `firstName`, `middleName`,
`lastName`, `gender`, `contactno`, `emailid`, `egycontactno`, `guardianName`,
`guardianRelation`, `guardianContactno`, `corresAddress`, `corresCIty`,
```

`corresState`, `corresPincode`, `pmntAddress`, `pmntCity`, `pmnatetState`, `pmntPincode`, `postingDate`, `updationDate`) VALUES

(1, 1, 3, 8000, 0, '2023-01-25', 12, 'Database Managment System', 10001, 'Arjun', '', 'Reddy', 'male', 8285703354, 'arjun_reddy@gmail.com', 0, 'XYZ', 'Mother', 8285703354, 'New Delhi India', 'Aligarh', 'Uttar Pradesh', 202001, 'New Delhi India', 'Delhi', 'Delhi (NCT)', 202001, '2023-01-25 13:54:09', ''),

(2, 1, 3, 8000, 1, '2023-06-17', 10, 'Machine Intelligence', 10002, 'Rajesh', '', 'kumar', 'male', 8467067344, 'rajesh@gmail.com', 123456789, 'subhash', '', 1236547890, 'New Delhi India', 'Aligarh', 'Uttar Pradesh', 202001, 'New Delhi India', 'Delhi', 'Delhi (NCT)', 202001, '2023-02-09 17:24:35', ''),

(3, 101, 2, 10000, 1, '2023-06-27', 12, 'Internet Of Things', 102355, 'rahul', '', 'Singh', 'male', 6786786786, 'rahul@gmail.com', 789632587, 'XAD', 'father', 1234567890, 'New Delhi', 'Delhi', 'Delhi (NCT)', 110001, 'New Delhi', 'Delhi', 'Delhi (NCT)', 110001, '2023-06-27 22:01:08', ''),

(4, 101, 2, 10000, 1, '2023-05-31', 12, 'Human Computer Interaction', 586952, 'Ganesh', '', 'Reddy', 'male', 8596185625, 'ganesh_reddy@gmail.com', 8285703354, 'Balchandar reddy', 'father', 8285703354, 'Banglore', 'Karnataka', 'Karnataka', 563131 , 'banglore', 'Karnataka', 'Karnataka', 879465, '2023-05-31 18:48:52', ''),

(5, 2, 3, 8000, 1, '2023-06-28', 11, 'Big Data', 586952, 'Ajay', '', 'yadav', 'male', 8596185625, 'ajay@gmail.com', 8285703354, 'vijay', '', 8285703354,'cousin', 'New Delhi India', 'Aligarh', 'Uttar Pradesh', 202001, 'New Delhi India', 'Delhi', 'Delhi (NCT)', 202001, '2023-06-26 22:10:07', '');

-- --

--

-- Table structure for table `rooms`

--

CREATE TABLE `rooms` (

  `id` int(11) NOT NULL,

  `seater` int(11) DEFAULT NULL,

```
  `room_no` int(11) DEFAULT NULL,
  `fees` int(11) DEFAULT NULL,
  `posting_date` timestamp NULL DEFAULT CURRENT_TIMESTAMP
) ENGINE=InnoDB DEFAULT CHARSET=latin1;


--
-- Dumping data for table `rooms`
--


INSERT INTO `rooms` (`id`, `seater`, `room_no`, `fees`, `posting_date`)
VALUES
(1, 3, 1, 8000, '2023-10-07 04:15:43'),
(2, 3, 2, 8000, '2023-10-07 04:15:43'),
(3, 3, 3, 8000, '2023-10-07 04:15:43'),
(4, 3, 4, 8000, '2023-10-07 04:15:43'),
(5, 3, 5, 8000, '2023-10-07 04:15:43')
(6, 3, 6, 8000, '2023-10-07 04:15:43')
(7, 3, 7, 8000, '2023-10-07 04:15:43')
(8, 3, 8, 8000, '2023-10-07 04:15:43')
(9, 3, 9, 8000, '2023-10-07 04:15:43')
(10, 3, 10, 8000, '2023-10-07 04:15:43')
(11, 2, 101, 10000, '2023-10-07 04:15:43')
(12, 2, 102, 10000, '2023-10-07 04:15:43')
(13, 2, 103, 10000, '2023-10-07 04:15:43')
(14, 2, 104, 10000, '2023-10-07 04:15:43')
(15, 2, 105, 10000, '2023-10-07 04:15:43');


-- --------------------------------------------------------
```

```
--
-- Table structure for table `states`
--

CREATE TABLE `states` (
  `id` int(11) NOT NULL,
  `State` varchar(150) DEFAULT NULL
) ENGINE=MyISAM DEFAULT CHARSET=latin1;

--
-- Dumping data for table `states`
--

INSERT INTO `states` (`id`, `State`) VALUES
(1, 'Andaman and Nicobar Island (UT)'),
(2, 'Andhra Pradesh'),
(3, 'Arunachal Pradesh'),
(4, 'Assam'),
(5, 'Bihar'),
(6, 'Chandigarh (UT)'),
(7, 'Chhattisgarh'),
(8, 'Dadra and Nagar Haveli (UT)'),
(9, 'Daman and Diu (UT)'),
(10, 'Delhi (NCT)'),
(11, 'Goa'),
(12, 'Gujarat'),
```

(13, 'Haryana'),

(14, 'Himachal Pradesh'),

(15, 'Jammu and Kashmir'),

(16, 'Jharkhand'),

(17, 'Karnataka'),

(18, 'Kerala'),

(19, 'Lakshadweep (UT)'),

(20, 'Madhya Pradesh'),

(21, 'Maharashtra'),

(22, 'Manipur'),

(23, 'Meghalaya'),

(24, 'Mizoram'),

(25, 'Nagaland'),

(26, 'Odisha'),

(27, 'Puducherry (UT)'),

(28, 'Punjab'),

(29, 'Rajastha'),

(30, 'Sikkim'),

(31, 'Tamil Nadu'),

(32, 'Telangana'),

(33, 'Tripura'),

(34, 'Uttarakhand'),

(35, 'Uttar Pradesh'),

(36, 'West Bengal');

-- ----------

```
--
-- Table structure for table `userlog`
--

CREATE TABLE `userlog` (
  `id` int(11) NOT NULL,
  `userId` int(11) NOT NULL,
  `userEmail` varchar(255) NOT NULL,
  `userIp` varbinary(16) NOT NULL,
  `city` varchar(255) NOT NULL,
  `country` varchar(255) NOT NULL,
  `loginTime` timestamp NOT NULL DEFAULT CURRENT_TIMESTAMP
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `userlog`
--

INSERT INTO `userlog` (`id`, `userId`, `userEmail`, `userIp`, `city`, `country`, `loginTime`) VALUES
(1, 10, 'test@gmail.com', '', '', '', '2023-11-20 14:30:13'),
(2, 10, 'test@gmail.com', '', '', '', '2023-11-20 14:30:13'),
(4, 10, 'test@gmail.com', 0x3a3a31, '', '', '2023-11-20 14:30:13'),
(5, 10, 'test@gmail.com', 0x3a3a31, '', '', '2023-11-20 14:30:13'),
(6, 20, 'ajay@gmail.com', 0x3a3a31, '', '', '2023-11-20 14:30:13'),
(7, 10, 'test@gmail.com', 0x3a3a31, '', '', '2023-11-20 14:30:13'),
(8, 10, 'test@gmail.com', 0x3a3a31, '', '', '2023-11-20 14:30:13'),
(9, 10, 'test@gmail.com', 0x3a3a31, '', '', '2023-11-20 14:30:13'),
```

```
(10, 10, 'test@gmail.com', 0x3a3a31, '', '', '2023-11-20 14:30:13');

-- --------------------------------------------------------

--
-- Table structure for table `userregistration`
--

CREATE TABLE `userregistration` (
  `id` int(11) NOT NULL,
  `regNo` varchar(255) DEFAULT NULL,
  `firstName` varchar(255) DEFAULT NULL,
  `middleName` varchar(255) DEFAULT NULL,
  `lastName` varchar(255) DEFAULT NULL,
  `gender` varchar(255) DEFAULT NULL,
  `contactNo` bigint(20) DEFAULT NULL,
  `email` varchar(255) DEFAULT NULL,
  `password` varchar(255) DEFAULT NULL,
  `regDate` timestamp NULL DEFAULT CURRENT_TIMESTAMP,
  `updationDate` varchar(45) DEFAULT NULL,
  `passUdateDate` varchar(45) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `userregistration`
--
```

```
INSERT INTO `userregistration` (`id`, `regNo`, `firstName`, `middleName`, `lastName`, `gender`, `contactNo`, `email`, `password`, `regDate`, `updationDate`, `passUdateDate`) VALUES

(1, '10001', 'Arjun', '', 'Reddy', 'male', 8285703354, 'arjun_reddy@gmail.com', 'arjun1080', '2023-10-31 09:51:33', '25-01-2023 13:54:09', NULL),

(2, '1002', 'Rajesh', '', 'kumar', 'male', 8467067344, 'rajesh@gmail.com', '123456', '2023-09-02 17:24:35', '', ''),

(3, '102355', 'Rahul', '', 'Singh', 'male', 6786786786, 'rahul@gmail.com', 'rahul@123', '2023-06-27 22:10:07', '', ''),

(4, '123', 'Ganesh', '', 'Reddy', 'male', 123456789, 'ganesh_reddy@gmail.com', '123456789', '2023-05-31 18:48:52', 'NULL', 'NULL'),

(5, '586952', 'Ajay', '', 'Yadav', 'male', 8596185625, 'ajay@gmail.com', 'ajay@000', '2023-06-26 22:10:07', 'NULL', 'NULL');


--

-- Indexes for dumped tables

--


--

-- Indexes for table `admin`

--

ALTER TABLE `admin`

  ADD PRIMARY KEY (`id`);


--

-- Indexes for table `courses`

--

ALTER TABLE `courses`

  ADD PRIMARY KEY (`id`);
```

```
--
-- Indexes for table `registration`
--
ALTER TABLE `registration`
  ADD PRIMARY KEY (`id`);

--
-- Indexes for table `rooms`
--
ALTER TABLE `rooms`
  ADD PRIMARY KEY (`id`),
  ADD KEY `room_no` (`room_no`);

--
-- Indexes for table `states`
--
ALTER TABLE `states`
  ADD PRIMARY KEY (`id`);

--
-- Indexes for table `userlog`
--
ALTER TABLE `userlog`
  ADD PRIMARY KEY (`id`);

--
-- Indexes for table `userregistration`
```

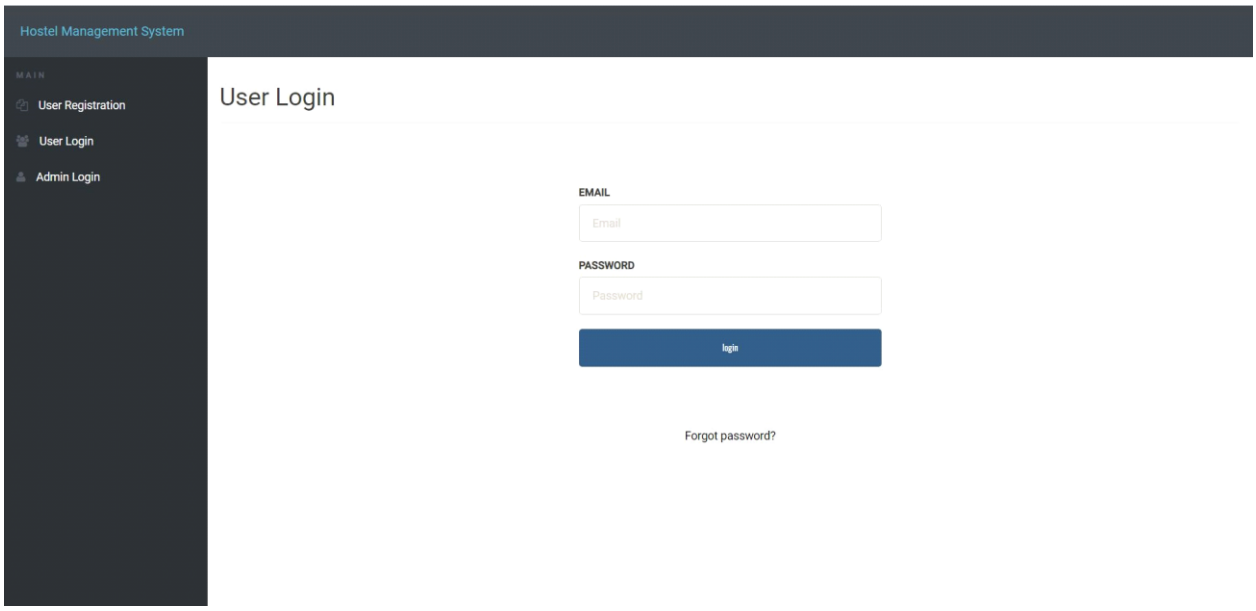
```
--
ALTER TABLE `userregistration`
  ADD PRIMARY KEY (`id`),
  ADD KEY `email` (`email`);


--
-- AUTO_INCREMENT for dumped tables
--


--
-- AUTO_INCREMENT for table `admin`
--
ALTER TABLE `admin`
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT,
AUTO_INCREMENT=2;


--
-- AUTO_INCREMENT for table `courses`
--
ALTER TABLE `courses`
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT,
AUTO_INCREMENT=8;


--
-- AUTO_INCREMENT for table `registration`
--
ALTER TABLE `registration`
```

```
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT,
AUTO_INCREMENT=10;


--

-- AUTO_INCREMENT for table `rooms`

--

ALTER TABLE `rooms`

  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT,
AUTO_INCREMENT=6;


--

-- AUTO_INCREMENT for table `states`

--

ALTER TABLE `states`

  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT,
AUTO_INCREMENT=37;


--

-- AUTO_INCREMENT for table `userlog`

--

ALTER TABLE `userlog`

  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT,
AUTO_INCREMENT=11;


--

-- AUTO_INCREMENT for table `userregistration`

--

ALTER TABLE `userregistration`
```

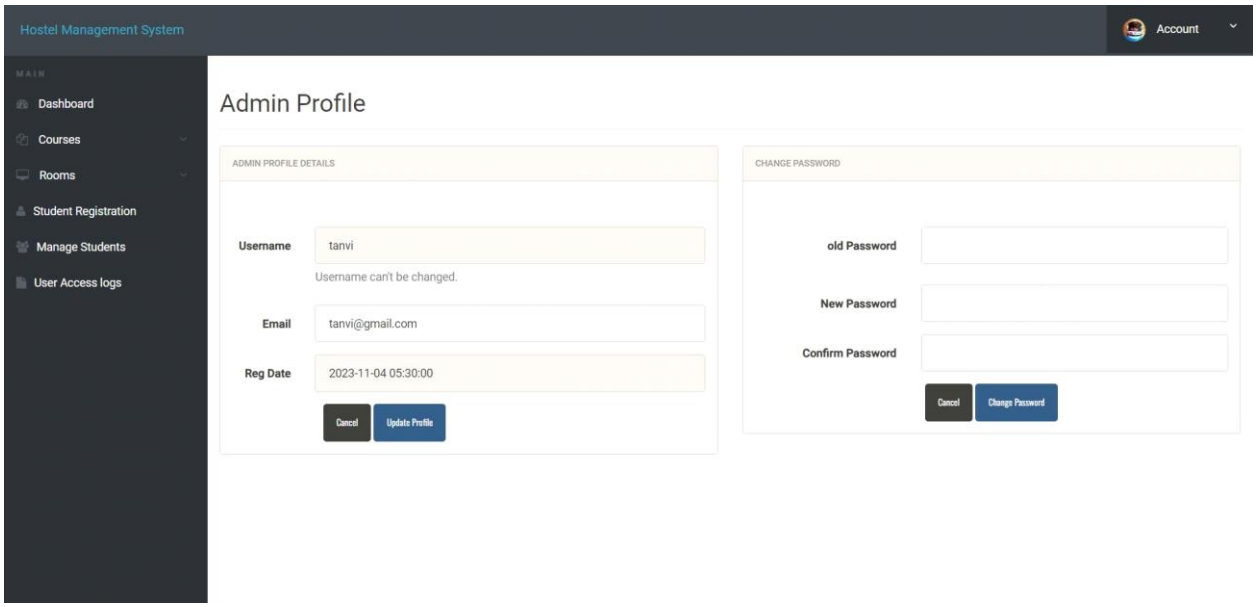
```
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT,
AUTO_INCREMENT=21;

COMMIT;


/*!40101 SET
CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;

/*!40101 SET
CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;

/*!40101 SET
COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;


DELIMITER ;
```

CRUD Operations Screenshots:

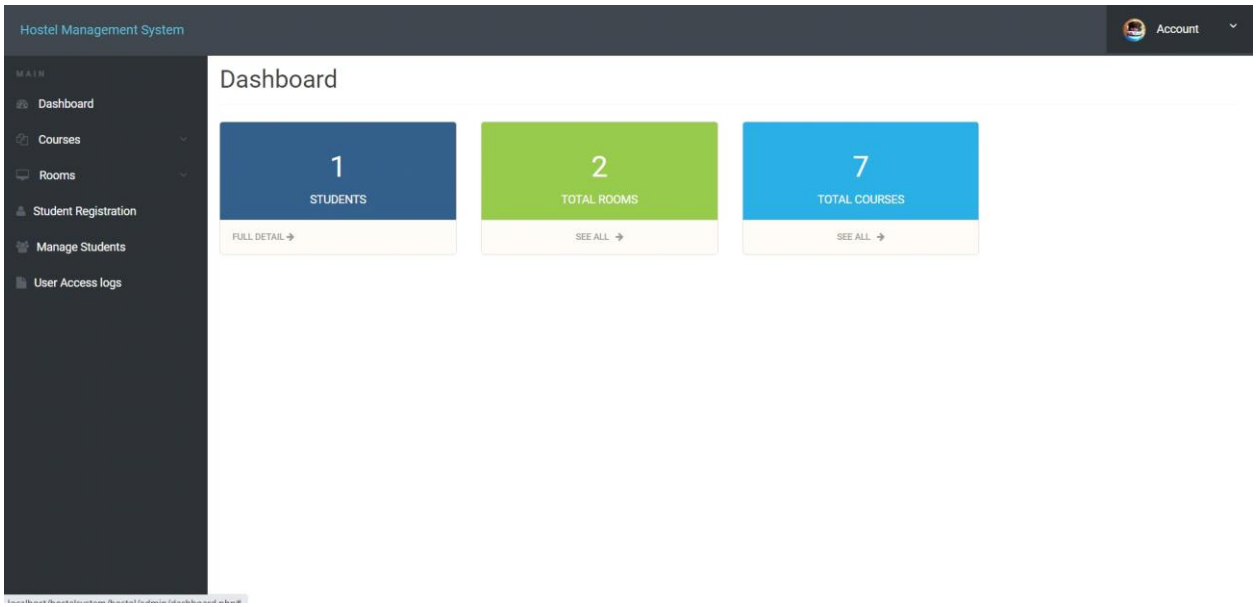
HOME PAGE



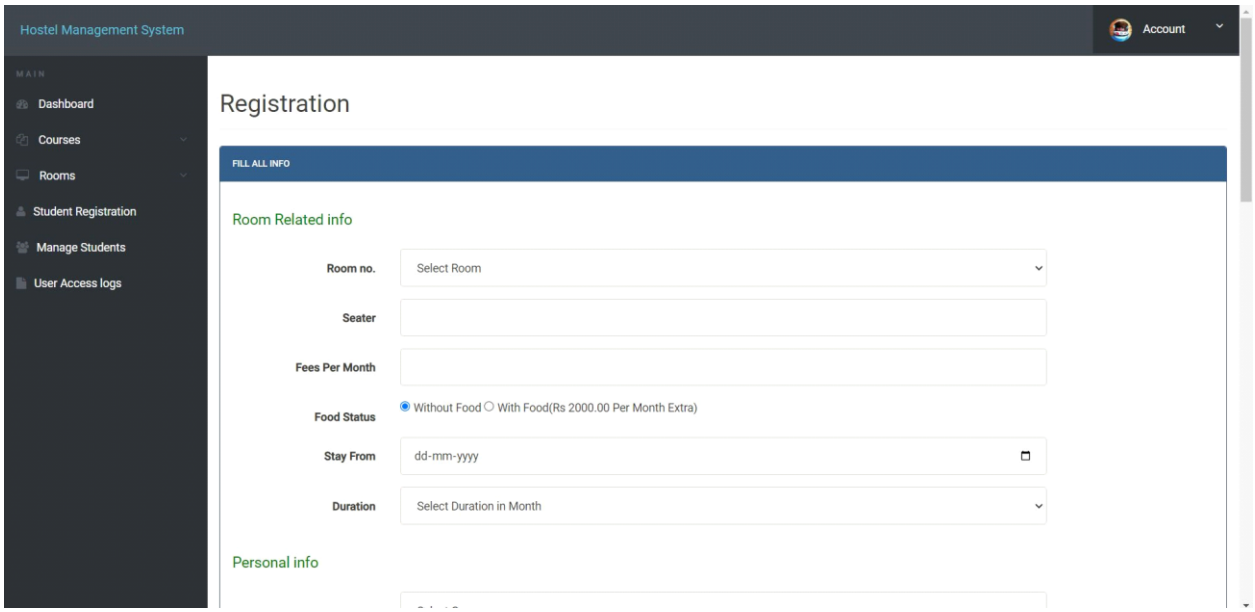
ADMIN PROFILE



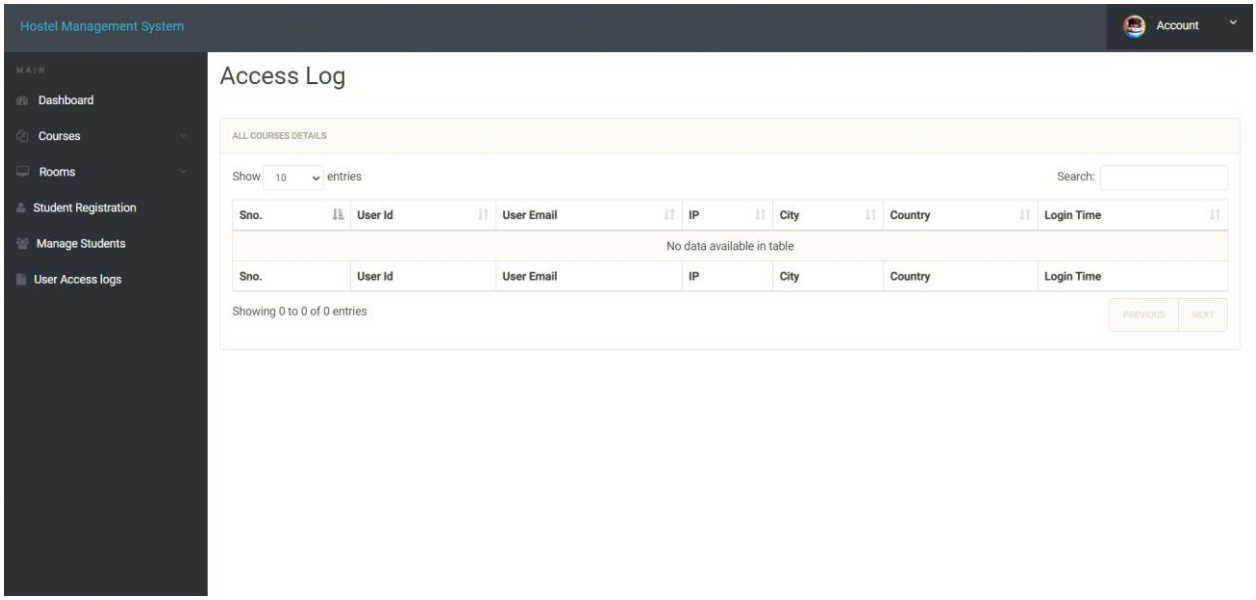
ADMIN DASHBOARD



STUDENT REGISTRATION



USER ACCESS LOGS



PROCEDURE CALL

```
-- Delimiter is set to // to allow the creation of the stored procedure
DELIMITER //

-- Create a stored procedure named GetAllAdmins
CREATE PROCEDURE GetAllAdmins()
BEGIN
    SELECT * FROM admin;
END //

-- Reset the delimiter back to ;
DELIMITER ;

-- Your original SQL file content starts here

SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
SET time_zone = "+00:00";

-- ... (rest of your SQL file)
```

TRIGGER

```
--
-- CREATE TRIGGER to insert login time of user
--
CREATE TRIGGER `insertLog` AFTER INSERT ON `users` FOR EACH ROW INSERT INTO user_log VALUES(null, NEW.id, NOW());
```

```
    <?php
$select_accounts = $conn->prepare("
    SELECT users.id, users.name, users.email, COALESCE(user_log.log_time, 'No login record') AS last_login_t
    FROM users
    LEFT JOIN user_log ON users.id = user_log.user_id
");
$select_accounts->execute();
```

JOIN

```
<?php
$aid=$_SESSION['id'];
//$ret="select * from registration";
$ret = "SELECT r.*, c.course_fn
      FROM registration r
      JOIN courses c ON r.course = c.course_fn";
$stmt= $mysqli->prepare($ret) ;
//$stmt->bind_param('i',$aid);
$stmt->execute() ;//ok
$res=$stmt->get_result();
$cnt=1;
while($row=$res->fetch_object())
          {
                ?>
```

NESTED QUERY

```
// to select from cart on name and user_id
$check_cart_numbers = $conn->prepare("SELECT *
FROM (
    SELECT c.id, c.user_id, c.pid, c.name, c.price, c.quantity, c.image, p.name AS product_name, p.detai
    p.price AS product_price, p.image_01
    FROM `cart` c
    JOIN `products` p ON c.pid = p.id
) AS combined_data
WHERE combined_data.name = ? AND combined_data.user_id = ?");
$check_cart_numbers->execute([$name, $user_id]);
```

AGGREGATE FUNCTION

```
<?php
$result ="SELECT count(*) FROM registration ";
$stmt = $mysqli->prepare($result);
$stmt->execute();
$stmt->bind_result($count);
$stmt->fetch();
$stmt->close();
?>
```

Why our database schema is in 3NF form?

First Normal Form (1NF):

- All tables have a primary key.
- All columns contain atomic (indivisible) values.
- There are no repeating groups or arrays of data.

Second Normal Form (2NF):

- It satisfies 1NF.
- All non-key attributes are fully functionally dependent on the primary key.

Third Normal Form (3NF):

- It satisfies 2NF.
- There are no transitive dependencies.

Hence our **schema satisfies 3NF form**