

# Implementing and Improving Room Pooling

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**Abstract - Implementing and Improving Room Pooling”** is software developed for managing various activities in the hostel. For the past few years the number of educational institutions is increasing rapidly. Thereby the number of hostels is also increasing for the accommodation of the students studying in this institution. And hence there is a lot of strain on the person who are running the hostel and software’s are not usually used in this context. This particular project deals with the problems on 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 with the system which is more user friendly and more GUI oriented. We can improve the efficiency of the system, thus overcome the drawbacks of the existing system.

## OVERVIEW OF THE PROJECT

The online hostel management system is web-based software to provide college students accommodation to the university hostel more efficiently. This project also keeps details of the hostellers and applied students. It is headed by Warden. He will be the administrator. For accommodate a large number of students into hostel. This document is intended to minimize human works and make hostel allocation is an easier job for students and hostel authorities by providing online application for hostel, automatically select the students from the waiting list and mess calculation, complaint registration, notice board etc. etc. Students will get approval notification in their mails. Hostellers can view notice board, hostel fee, mess menu by login into the online system.

## INTRODUCTION

This is the Hostel Management System Software. This is mostly used in hostels. Here the user can save all the

details of the students who are staying in the hostel. there are many modules in the software, fee details, leave details, in and out time of the students, total expenditure of a particular student and also all the expenditure of all students. All the bills which are received by the hostel, is divided between all the students depending on the leave details. Even the fee information is also stored. All the reports are also showed here. According to particular month and year. Advantage of this software is all the details of the students will be store in the computer, no chance of losing the details. And also the fees is calculated properly.

Hostel Management system is a project where all the details of the people who stay in the particular hostel will be shown in the software, the check in time and check out time will also be shown in the software. If the parents of a specific student asks for the reports of their timing of check in and check out will be shown in the reports. Here the generation of the reports are very important. Even the fee collected by the student from the hostel people will be shown. Calculation of the fee will be done automatically including the tax. Hence this software is user friendly.

## SYSTEM STUDY

### FEASIBILITY STUDY

The feasibility of the project is analyzed in this phase and business proposal is put forth with a very general plan for the project and some cost estimates. During system analysis the feasibility study of the proposed system is to be carried out. This is to ensure that the proposed system is not a burden to the company. For feasibility analysis, some understanding of the major requirements for the system is essential.

Three key considerations involved in the feasibility analysis are

- ECONOMICAL FEASIBILITY
- TECHNICAL FEASIBILITY
- SOCIAL FEASIBILITY

#### ECONOMICAL FEASIBILITY

This study is carried out to check the economic impact that the system will have on the organization. The amount of fund that the company can pour into the research and development of the system is limited. The expenditures must be justified. Thus the developed system as well within the budget and this was achieved because most of the technologies used are freely available. Only the customized products had to be purchased.

#### TECHNICAL FEASIBILITY

This study is carried out to check the technical feasibility, that is, the technical requirements of the system. Any system developed must not have a high demand on the available technical resources. This will lead to high demands on the available technical resources. This will lead to high demands being placed on the client. The developed system must have a modest requirement, as only minimal or null changes are required for implementing this system.

#### SOFTWARE ENVIRONMENT

##### PHP in the Web Environment

PHP programs are written using a text editor, such as Notepad, Simple Text, or vi, just like HTML pages. However, unlike HTML, PHP files end with a .php extension. This extension signifies to the server that it needs to parse the PHP code before sending the resulting HTML code to the viewer's web browser. In PHP, on the fly method is adopted to publish the document. Hence, the PHP developer can generate not only web pages, but also other web embedding documents like PDF, PNG, GIF, etc. The PHP web environment is usually set with AMP (Apache, MySQL, and PHP/Perl/Python), which are linked together.

What distinguishes PHP from something like client-side JavaScript is that the code is executed on the server, generating HTML which is then sent to the client. The client would receive the results of running that script, but would not know what the underlying

code was. You can even configure your web server to process all your HTML files with PHP, and then there's really no way that users can tell what you have up your sleeve.

The best things in using PHP are that it is extremely simple for a newcomer, but offers many advanced features for a professional programmer. Don't be afraid reading the long list of PHP's features. You can jump in, in a short time, and start writing simple scripts in a few hours.

PHP started out as a small open source project that evolved as more and more people found out how useful it was. Rasmus Lerdorf unleashed the first version of PHP way back in 1994.

- PHP is a recursive acronym for "PHP: Hypertext Preprocessor".
- PHP is a server side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites.
- It is integrated with a number of popular databases, including MySQL, PostgreSQL, Oracle, Sybase, Informix, and Microsoft SQL Server.
- PHP is pleasingly zippy in its execution, especially when compiled as an Apache module on the Unix side. The MySQL server, once started, executes even very complex queries with huge result sets in record-setting time.
- PHP supports a large number of major protocols such as POP3, IMAP, and LDAP. PHP4 added support for Java and distributed object architectures (COM and CORBA), making n-tier development a possibility for the first time.
- PHP is forgiving: PHP language tries to be as forgiving as possible.
- PHP Syntax is C-Like.

##### Common uses of PHP

- PHP performs system functions, i.e. from files on a system it can create, open, read, write, and close them.
- PHP can handle forms, i.e. gather data from files, save data to a file, through email you can send data, return data to the user.
- You add, delete, modify elements within your database through PHP.
- Access cookies variables and set cookies.

- Using PHP, you can restrict users to access some pages of your website.
- It can encrypt data.

#### Characteristics of PHP

Five important characteristics make PHP's practical nature possible –

- Simplicity
- Efficiency
- Security
- Flexibility
- Familiarity

#### "Hello World" Script in PHP

To get a feel for PHP, first start with simple PHP scripts. Since "Hello, World!" is an essential example, first we will create a friendly little "Hello, World!" script. As mentioned earlier, PHP is embedded in HTML. That means that in amongst your normal HTML (or XHTML if you are cutting-edge) you'll have PHP statements like this –

```
<html>
  <head>
    <title>Hello World</title>
  </head>
  <body>
    <?php echo "Hello, World!";?>
  </body>
</html>
```

It will produce following result –

```
Hello, World!
```

If you examine the HTML output of the above example, you'll notice that the PHP code is not present in the file sent from the server to your Web browser. All of the PHP present in the Web page is processed and stripped from the page; the only thing returned to the client from the Web server is pure HTML output. In order to develop and run PHP Web pages three vital components need to be installed on your computer system.

- Web Server – PHP will work with virtually all Web Server software, including Microsoft's Internet Information Server (IIS) but then most often used is freely available Apache Server. Download Apache for free here – <https://httpd.apache.org/download.cgi>

- Database – PHP will work with virtually all database software, including Oracle and Sybase but most commonly used is freely available MySQL database. Download MySQL for free here – <https://www.mysql.com/downloads/>
- PHP Parser – In order to process PHP script instructions a parser must be installed to generate HTML output that can be sent to the Web Browser. This tutorial will guide you how to install PHP parser on your computer.

#### PHP Parser Installation

Before you proceed it is important to make sure that you have proper environment setup on your machine to develop your web programs using PHP.

Type the following address into your browser's address box.

```
http://127.0.0.1/info.php
```

If this displays a page showing your PHP installation related information then it means you have PHP and Webserver installed properly. Otherwise you have to follow given procedure to install PHP on your computer.

This section will guide you to install and configure PHP over the following four platforms –

- PHP Installation on Linux or Unix with Apache
- PHP Installation on Mac OS X with Apache
- PHP Installation on Windows NT/2000/XP with IIS
- PHP Installation on Windows NT/2000/XP with Apache

#### Apache Configuration

If you are using Apache as a Web Server then this section will guide you to edit Apache Configuration Files.

#### PHP.INI File Configuration

The PHP configuration file, php.ini, is the final and most immediate way to affect PHP's functionality.

#### Windows IIS Configuration

To configure IIS on your Windows machine you can refer your IIS Reference Manual shipped along with IIS.

#### How PHP Fits with HTML

- PHP not only allows HTML pages to be created on the fly, but it is invisible to your web site visitors. The only thing they see when they view the source of your code is the resulting HTML output. In this respect, PHP gives you a bit more security by hiding your programming logic.
- HTML can also be written inside the PHP code of your page, which allows you to format text while keeping blocks of code together. This will also help you write organized, efficient code, and the browser (and, more importantly, the person viewing the site) won't know the difference.
- PHP can also be written as a standalone program with no HTML at all. This is helpful for storing your connection variables, redirecting your visitors to another page of your site, or performing other functions.

#### Some of frame works

Frame Work is collection of software or program, that trigger off easy coding and implementing the code. It helps to programmer to achieve goals in short period of time. If PHP code is integrated with frame works, you can do anything with php coding skills.

#### FuelPHP

Fuel PHP works based on Model View Control and having innovative plug ins. FuelPHP supports router based theory where you might route directly to a nearer the input uri, making the closure the controller and giving it control of further execution.

#### CakePHP

Cake PHP is a great source to build up simple and great web application in an easy way. Some great feature which are inbuilt in php are input validation, SQL injection prevention that keeps you application safe and secure.

#### Features

- Build Quickly
- No need to configure
- MIT licence
- MVC Model
- Secure

#### How PHP Fits with MySQL

MySQL easily fits into server-side programming languages, through a domain. Before your MySQL functions will be recognizable, make sure to enable MySQL in your php.ini file. You can use MySQL commands within PHP code almost as seamlessly as you do with HTML. Numerous PHP functions work specifically with MySQL to make your life easier.

Some of the more commonly used functions are:

- `mysql_connect([$host[, $username[, $password]])`: Connects to the MySQL server and returns a resource which is used to reference the connection.
- `mysql_select_db($database[, $resource])`: Equivalent to the MySQL command USE and sets the active database.
- `mysql_query($query[, $resource])`: Used to send any MySQL command to the database server. In the case of SELECT queries, a reference to the result set will be returned.
- `mysql_fetch_array($result)`: Return a row of data from the query's result set as an associative array, numeric array or both.
- `mysql_fetch_assoc($result)`: Return a row of data from the query's result set as an associative array.
- `mysql_error([$resource])`: Shows the error message generated by the previous query.

#### Connecting to the MySQL Server

Before you can do anything with MySQL, you must first connect to the MySQL server using your specific connection values. Connection variables consist of the following parameters:

- **Hostname:** In our case, this is localhost because everything has been installed locally. You will need to change this to whatever host is acting as your MySQL server, if MySQL is not on the same server.
- **Username and password:** This is to authenticate securely over server end.

You issue this connection command with the PHP function called `mysql_connect()`. As with all of your PHP/MySQL statements, you can either put the information into variables or leave it as text in your MySQL query.

Here's how you would do it with variables:

```
$host = 'localhost';  
$user = 'user_name';
```

```
$pass = 'password';
$db = mysql_connect($host, $user, $pass);
```

The following statement has the same effect:

```
$db = mysql_connect('localhost', 'user_name', 'password');
```

For the most part, your specific needs and the way you are designing your table will dictate what piece of code you use. Most people use the first method for security 'sake and put the variables in a different file. Then they include them wherever they need to make a connection to the database.

### Web Interface with Apache, MySQL, and PHP

phpMyAdmin is a tool written in PHP intended to handle the administration of MySQL over the Web. Currently it can create and drop databases, create/drop/alter tables, delete/edit/add fields, execute any SQL statement, manage keys on fields.

Features provided by the program include:

1. Web interface
2. MySQL database management
3. Import data from CSV and SQL
4. Export data to various formats: CSV, SQL, XML, PDF (via the TCPDF library), ISO/IEC 26300 - OpenDocument Text and Spreadsheet, Word, Excel, LaTeX and others PHP in the Web Environment 3
5. Administering multiple servers
6. Creating PDF graphics of the database layout
7. Creating complex queries using Query-by-example (QBE)
8. Searching globally in a database or a subset of it
9. Transforming stored data into any format using a set of predefined functions, like displaying BLOB-data as image or download-link
10. Active query monitor (Processes)

### AMP Bundles

There are many AMP bundles such as LAMP, XAMP, PHPTriad, WAMP, MAMP, FoxServ, etc. consists of AMP build in itself. So, there is no need to configure AMPs manually. Some of the AMPs which are available for various operating systems are LAMP (for Linux); WAMP (for Windows); MAMP (for Macintosh); SAMP (for Solaris); and FAMP (for FreeBSD).

### MySQL

MySQL, the most popular Open-Source SQL database management system, is developed, distributed, and supported by Oracle Corporation. MySQL is an Oracle-backed open-source relational database management system (RDBMS) based on Structured Query Language (SQL). MySQL runs on virtually all platforms, including Linux, UNIX and Windows. Although it can be used in a wide range of applications, MySQL is most often associated with web applications and online publishing. MySQL is an important component of an open-source enterprise stack called LAMP. LAMP is a web development platform that uses Linux as the operating system, Apache as the web server, MySQL as the relational database management system and PHP as the object-oriented scripting language.

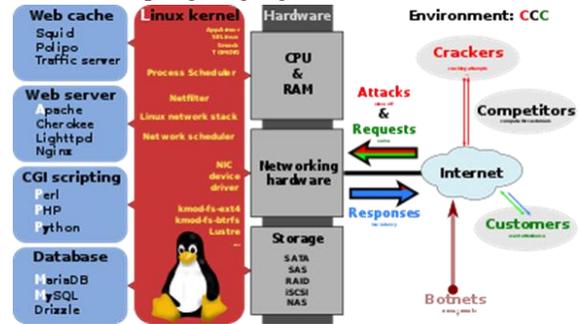


Fig 1: System Architecture

### MySQL software is Open Source

Open Source means that it is possible for anyone to use and modify the software. Anybody can download the MySQL software from the Internet and use it without paying anything. If you wish, you may study the source code and change it to suit your needs. The MySQL software uses the GPL (GNU General Public License), to define what you may and may not do with the software in different situations. If you feel uncomfortable with the GPL or need to embed MySQL code into a commercial application, you can buy a commercially licensed version from us. See the MySQL Licensing Overview for more information.

### MySQL is a database management system.

A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network. To add, access, and process data stored in a computer database, you need a database management system such as MySQL Server. Since

computers are very good at handling large amounts of data, database management systems play a central role in computing, as standalone utilities, or as parts of other applications.

MySQL databases are relational.

A relational database stores data in separate tables rather than putting all the data in one big storeroom. The database structures are organized into physical files optimized for speed. The logical model, with objects such as databases, tables, views, rows, and columns, offers a flexible programming environment. You set up rules governing the relationships between different data fields, such as one-to-one, one-to-many, unique, required or optional, and “pointers” between different tables. The database enforces these rules, so that with a well-designed database, your application never sees inconsistent, duplicate, orphan, out-of-date, or missing data. The SQL part of “MySQL” stands for “Structured Query Language”. SQL is the most common standardized language used to access databases. Depending on your programming environment, you might enter SQL directly (for example, to generate reports), embed SQL statements into code written in another language, or use a language-specific API that hides the SQL syntax.

How MySQL works

- MySQL is based on a client-server model. The core of MySQL is MySQL server, which handles all of the database instructions (or commands). MySQL server is available as a separate program for use in a client-server networked environment and as a library that can be embedded (or linked) into separate applications.
- MySQL operates along with several utility programs which support the administration of MySQL databases. Commands are sent to MySQL Server via the MySQL client, which is installed on a computer.
- MySQL was originally developed to handle large databases quickly. Although MySQL is typically installed on only one machine, it is able to send the database to multiple locations, as users are able to access it via different MySQL client interfaces. These interfaces send SQL statements to the server and then display the results.

The MySQL Database Server is very fast, reliable, scalable, and easy to use.

If that is what you are looking for, you should give it a try. MySQL Server can run comfortably on a desktop or laptop, alongside your other applications, web servers, and so on, requiring little or no attention. If you dedicate an entire machine to MySQL, you can adjust the settings to take advantage of all the memory, CPU power, and I/O capacity available. MySQL can also scale up to clusters of machines, networked together.

MySQL Server was originally developed to handle large databases much faster than existing solutions and has been successfully used in highly demanding production environments for several years. Although under constant development, MySQL Server today offers a rich and useful set of functions. Its connectivity, speed, and security make MySQL Server highly suited for accessing databases on the Internet.

MySQL Server works in client/server or embedded systems.

- The MySQL Database Software is a client/server system that consists of a multithreaded SQL server that supports different back ends, several different client programs and libraries, administrative tools, and a wide range of application programming interfaces (APIs).
- We also provide MySQL Server as an embedded multithreaded library that you can link into your application to get a smaller, faster, easier-to-manage standalone product.

A large amount of contributed MySQL software is available.

MySQL Server has a practical set of features developed in close cooperation with our users. It is very likely that your favorite application or language supports the MySQL Database Server. The official way to pronounce “MySQL” is “My Ess Que Ell” (not “my sequel”), but we do not mind if you pronounce it as “my sequel” or in some other localized way.

Core MySQL features

MySQL enables data to be stored and accessed across multiple storage engines, including InnoDB, CSV, and NDB. MySQL is also capable of replicating data and partitioning tables for better performance and durability. MySQL users aren't required to learn new

commands; they can access their data using standard SQL commands.

Fixed- and variable-length string types are also supported.

For security, MySQL uses an access privilege and encrypted password system that enables host-based verification. MySQL clients can connect to MySQL Server using several protocols, including TCP/IP sockets on any platform. MySQL also supports a number of client and utility programs, command-line programs and administration tools such as MySQL Workbench.

Offshoots of MySQL, also known as forks, include the following:

- Drizzle, a lightweight open-source database management system in development based on MySQL 6.0;
- MariaDB, a popular community-developed "drop-in" replacement for MySQL that uses MySQL APIs and commands; and
- Percona Server with XtraDB, an enhanced version of MySQL known for horizontal scalability.

#### MySQL vs SQL

- Before 2016, the main difference between MySQL and SQL was that the former could be used on multiple platforms, whereas the latter could only be used on Windows. Microsoft has since expanded SQL to support Linux, a change which went into effect in 2017. When MySQL is installed via Linux, its package management system requires custom configuration to adjust security and optimization settings.
- MySQL also allows users to choose the most effective storage engine for any given table, as the program is able to utilize multiple storage engines for individual tables. One of MySQL's engines is InnoDB. InnoDB was designed for high availability. Because of this, it is not as quick as other engines. SQL uses its own storage system, but it does maintain multiple safeguards against loss of data. Both systems are able to run in clusters for high availability.
- SQL Server offers a wide variety of data analysis and reporting tools. SQL Server Reporting Services is the most popular one and is available as a free download. There are similar analysis

tools for MySQL available from third-party software companies, such as Crystal Reports XI and Actuate BIRT.

#### Compatibility with other services

MySQL was designed to be compatible with other systems. It supports deployment in virtualized environments, such as Amazon RDS for MySQL, Amazon RDS for MariaDB and Amazon Aurora for MySQL. Users can transfer their data to a SQL Server database by using database migration tools like AWS Schema Conversion Tool and the AWS Database Migration Service.

The database object semantics between SQL Server and MySQL are similar, but not identical. There are architectural differences that must be considered when migrating from SQL Server to MySQL. In MySQL, there is no difference between a database and a schema, while SQL Server treats the two as separate entities.

#### Software Requirements for MySQL Database

To use MySQL database with Advanced Management Console, download and install a version of MySQL Server mentioned in Software Prerequisites and System Requirements for Advanced Management Console Components.

#### Installing MySQL Database for Advanced Management Console

This topic contains the following sections that describe MySQL installation and configuration setup instructions for Advanced Management Console on different platforms:

- Installing MySQL Database on Windows
- Installing and Configuring MySQL on Linux
- Installing MySQL Database on Windows

To install MySQL database:

1. Install the MySQL database server only and select Server Machine as the configuration type.
2. Select the option to run MySQL as a service.
3. Launch the MySQL Command-Line Client. To launch the client, enter the following command in a Command Prompt window: `mysql -u root -p`.

The `-p` option is needed only if a root password is defined for MySQL. Enter the password when prompted.

MySQL is installed and you can begin to configure your database.

#### Installing and Configuring MySQL on Linux

The following are example instructions to install and configure MySQL database for the Oracle Linux distribution of Linux operating system:

1. Install the MySQL database server package.  
You can use the Yum tool to install MySQL on Oracle Linux: `sudo yum install mysql-community-server`.
2. Start the MySQL service:  
`sudo service mysql start`
3. Launch the MySQL Command-Line Client:  
`mysql -u root -p`  
The `-p` option is needed only if a root password is defined for MySQL. Enter the password when prompted.
4. Create a user (for example, `amc2`) and a strong password:  
`mysql> create user 'amc2' identified by 'amc2';`  
To restrict the access to a machine (for example, to `localhost` for a user) create the user as follows:  
`mysql> create user 'amc2'@'localhost' identified by 'amc2';`
5. Create the database (for example, `amc2`) and grant all access to the user, for example, `amc2` as follows:  
`mysql> create database amc2;`  
`mysql> grant all on amc2.* to 'amc2';`
6. Configure your MySQL installation to handle large BLOB entries, such as MSI binaries. To handle BLOB entries, edit the `my.cnf` file.  
You can find the `my.cnf` file in one of the following locations:
  - `/etc/my.cnf`
  - `/etc/mysql/my.cnf`
  - `$MYSQL_HOME/my.cnf`
  - `[datadir]/my.cnf`
7. Set the options `max_allowed_packet` and `innodb_log_file_size` in the `[mysqld]` section to the values shown:
8. `[mysqld]`
9. `max_allowed_packet=120M`
10. `innodb_log_file_size=768M`  
The MySQL database user credentials provided in this topic are examples. The Advanced Management Console doesn't need to know your MySQL database user credentials. MySQL

database user credentials are only required to configure the DataSource connection in the application server.

#### DEPLOYMENT

MySQL can be built and installed manually from source code, but it is more commonly installed from a binary package unless special customizations are required. On most Linux distributions, the package management system can download and install MySQL with minimal effort, though further configuration is often required to adjust security and optimization settings.

Though MySQL began as a low-end alternative to more powerful proprietary databases, it has gradually evolved to support higher-scale needs as well. It is still most commonly used in small to medium scale single-server deployments, either as a component in a LAMP-based web application or as a standalone database server. Much of MySQL's appeal originates in its relative simplicity and ease of use, which is enabled by an ecosystem of open source tools such as phpMyAdmin. In the medium range, MySQL can be scaled by deploying it on more powerful hardware, such as a multi-processor server with gigabytes of memory.

There are, however, limits to how far performance can scale on a single server ('scaling up'), so on larger scales, multi-server MySQL ('scaling out') deployments are required to provide improved performance and reliability. A typical high-end configuration can include a powerful master database which handles data write operations and is replicated to multiple slaves that handle all read operations. The master server continually pushes binlog events to connected slaves so in the event of failure a slave can be promoted to become the new master, minimizing downtime. Further improvements in performance can be achieved by caching the results from database queries in memory using memcached, or breaking down a database into smaller chunks called shards which can be spread across a number of distributed server clusters.

#### SYSTEM ANALYSIS

##### EXISTING SYSTEM:

The existing system is manual based and need lot of efforts and consume enough time. In the existing

system we can apply for the hostels online but the allotment processes are done manually. It may lead to corruptions in the allocation process as well as hostel fee calculation. The existing system does not deals with mess calculation and complaint registration.

**PROPOSED SYSTEM:**

The proposed system is having many advantages over the existing system. It require less overhead and very efficient. The proposed system deals with the mess calculation and allotment process efficiently.

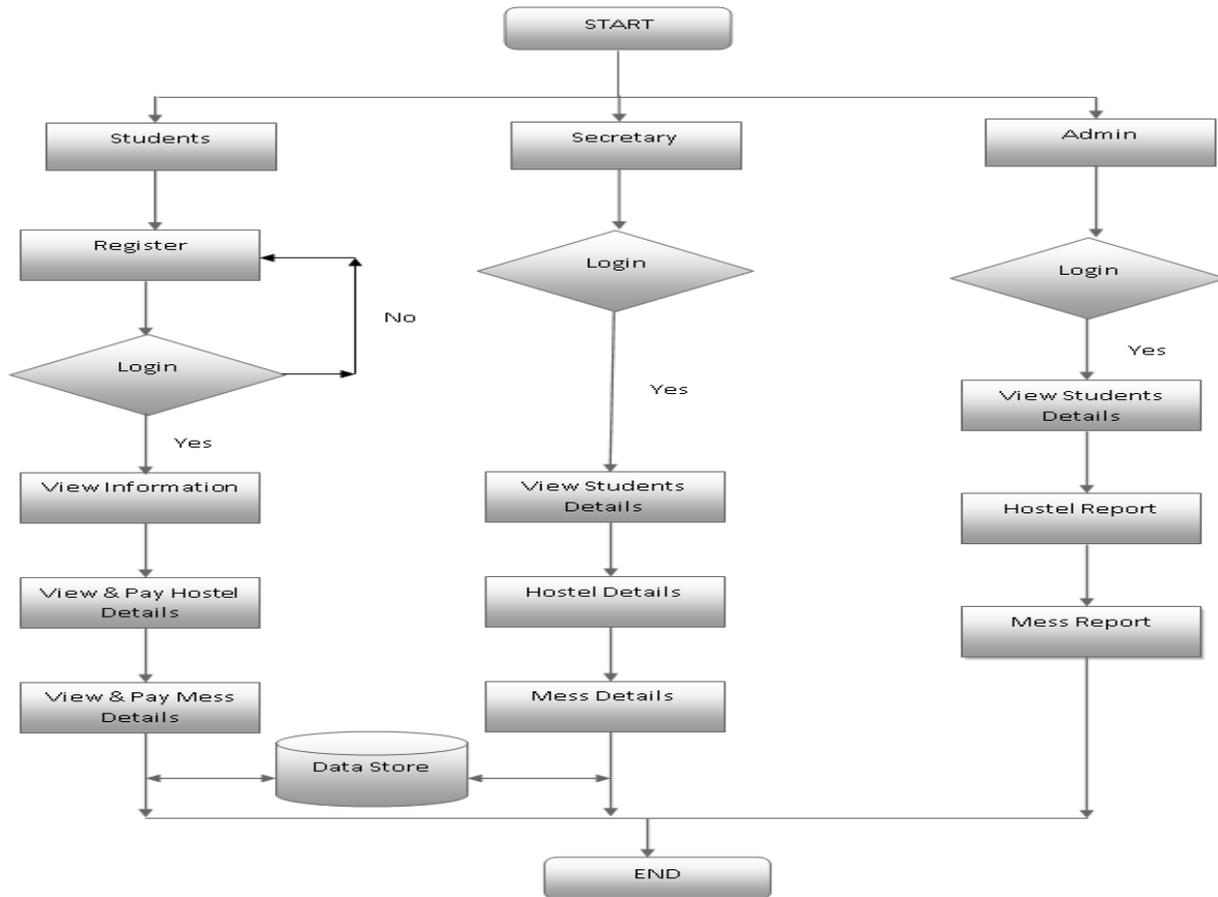
**SYSTEM REQUIREMENTS**

**SOFTWARE REQUIREMENTS**

- Operating System : Windows7/8/10.
- Script Language : JavaScript 4.0.
- IDE Tools : Dreamweaver CC 2017.
- Frontend : PHP 5.1.
- Backend : MYSQL10.0.

**SYSTEM DESIGN**

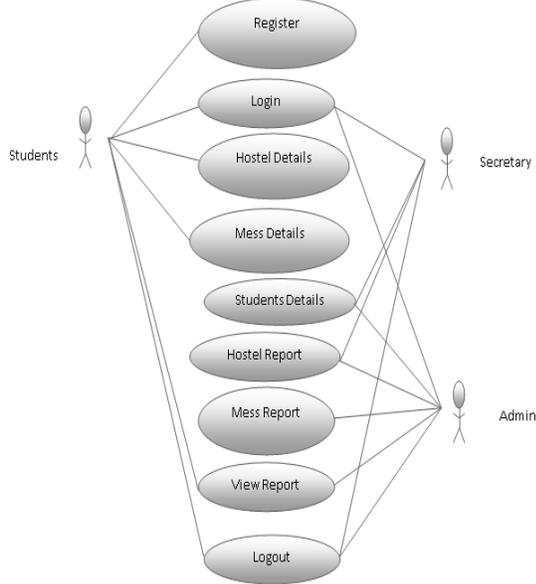
**DATA FLOW DIAGRAM:**



1. The DFD is also called as bubble chart. It is a simple graphical formalism that can be used to represent a system in terms of input data to the system, various processing carried out on this data, and the output data is generated by this system.
2. The data flow diagram (DFD) is one of the most important modeling tools. It is used to model the system components. These components are the system process, the data used by the process, an external entity that interacts with the system and the information flows in the system.
3. DFD shows how the information moves through the system and how it is modified by a series of transformations. It is a graphical technique that depicts information flow and the transformations that are applied as data moves from input to output.
4. DFD is also known as bubble chart. A DFD may be used to represent a system at any level of abstraction. DFD may be partitioned into levels that represent increasing information flow and functional detail.

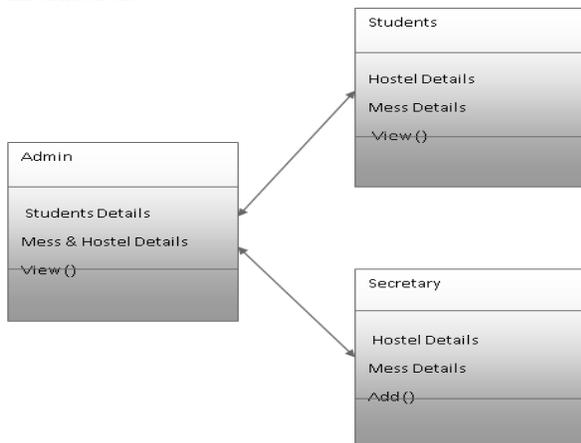
**USE CASE DIAGRAM:**

A use case diagram in the Unified Modeling Language (UML) is a type of behavioral diagram defined by and created from a Use-case analysis. Its purpose is to present a graphical overview of the functionality provided by a system in terms of actors, their goals (represented as use cases), and any dependencies between those use cases. The main purpose of a use case diagram is to show what system functions are performed for which actor. Roles of the actors in the system can be depicted.



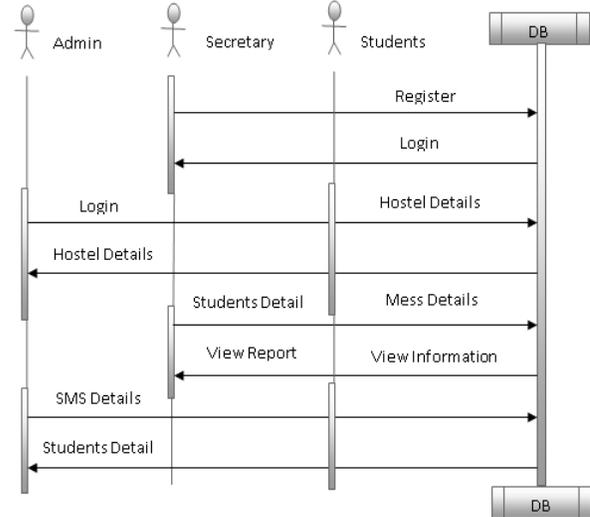
**CLASS DIAGRAM:**

In software engineering, a class diagram in the Unified Modeling Language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among the classes. It explains which class contains information.



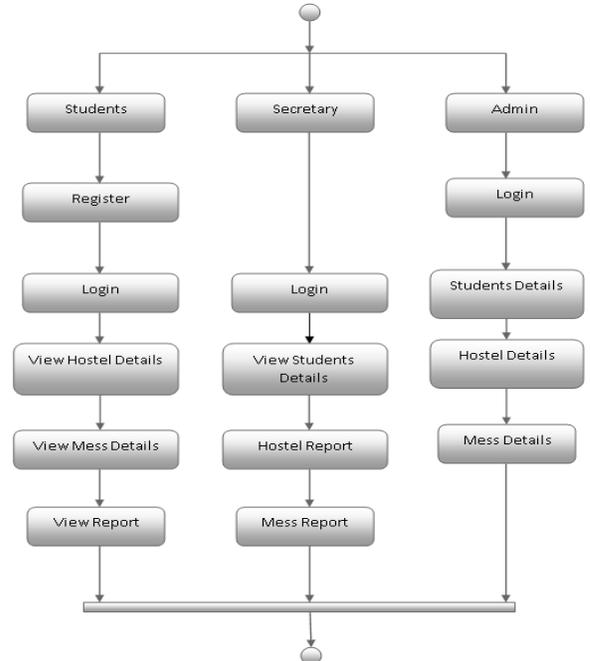
**SEQUENCE DIAGRAM:**

A sequence diagram in Unified Modeling Language (UML) is a kind of interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart. Sequence diagrams are sometimes called event diagrams, event scenarios, and timing diagrams.

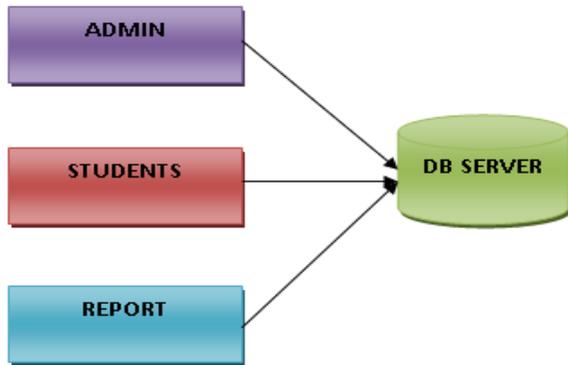


**ACTIVITY DIAGRAM:**

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency. In the Unified Modeling Language, activity diagrams can be used to describe the business and operational step-by-step workflows of components in a system. An activity diagram shows the overall flow of control.



ARCHITECTURE



SYSTEM TESTING

The purpose of testing is to discover errors. Testing is the process of trying to discover every conceivable fault or weakness in a work product. It provides a way to check the functionality of components, sub assemblies, assemblies and/or a finished product. It is the process of exercising software with the intent of ensuring that the Software system meets its requirements and user expectations and does not fail in an unacceptable manner. There are various types of test. Each test type addresses a specific testing requirement.

TYPES OF TESTS

Unit Testing

Unit testing involves the design of test cases that validate that the internal program logic is functioning properly, and that program inputs produce valid outputs. All decision branches and internal code flow should be validated. It is the testing of individual software units of the application. It is done after the completion of an individual unit before integration. This is a structural testing, that relies on knowledge of its construction and is invasive. Unit tests perform basic tests at component level and test a specific business process, application, and/or system configuration. Unit tests ensure that each unique path of a business process performs accurately to the documented specifications and contains clearly defined inputs and expected results.

Integration Testing

Integration tests are designed to test integrated software components to determine if they actually run

as one program. Testing is event driven and is more concerned with the basic outcome of screens or fields. Integration tests demonstrate that although the components were individually satisfactory, as shown by successfully unit testing, the combination of components is correct and consistent. Integration testing is specifically aimed at exposing the problems that arise from the combination of components.

Functional Test

Functional tests provide systematic demonstrations that functions tested are available as specified by the business and technical requirements, system documentation, and user manuals.

Functional testing is centered on the following items:

Valid Input : identified classes of valid input must be accepted.

Invalid Input : identified classes of invalid input must be rejected.

Functions : identified functions must be exercised.

Output : identified classes of application outputs must be exercised.

Systems/Procedures: interfacing systems or procedures must be invoked.

Organization and preparation of functional tests is focused on requirements, key functions, or special test cases. In addition, systematic coverage pertaining to identify Business process flows; data fields, predefined processes, and successive processes must be considered for testing. Before functional testing is complete, additional tests are identified and the effective value of current tests is determined.

System Test

System testing ensures that the entire integrated software system meets requirements. It tests a configuration to ensure known and predictable results. An example of system testing is the configuration-oriented system integration test. System testing is based on process descriptions and flows, emphasizing pre-driven process links and integration points.

White Box Testing

White Box Testing is a testing in which in which the software tester has knowledge of the inner workings, structure and language of the software, or at least its purpose. It is used to test areas that cannot be reached from a black box level.

### Black Box Testing

Black Box Testing is testing the software without any knowledge of the inner workings, structure or language of the module being tested. Black box tests, as most other kinds of tests, must be written from a definitive source document, such as specification or requirements document, such as specification or requirements document. It is a testing in which the software under test is treated, as a black box .you cannot “see” into it. The test provides inputs and responds to outputs without considering how the software works.

### Unit Testing:

Unit testing is usually conducted as part of a combined code and unit test phase of the software lifecycle, although it is not uncommon for coding and unit testing to be conducted as two distinct phases.

### Test objectives

- All field entries must work properly.
- Pages must be activated from the identified link.
- The entry screen, messages and responses must not be delayed.

### Features to be tested

- Verify that the entries are of the correct format
- No duplicate entries should be allowed
- All links should take the user to the correct page.

### CONCLUSION

To conclude the description about the project the project developed using PHP with and MYSQL SERVER is based on the requirement specification of the user and the analysis of the existing system, with flexibility for future enhancement. Online Hostel Room System is very useful for hostel allotment and mess fee calculation. This hostel management software is designed for people who want to manage various activities in the hostel. For the past few years the numbers of educational institutions are increasing rapidly. Thereby the numbers of hostels are also increasing for the accommodation of the students studying in this institution. And hence there is a lot of strain on the person who are running the hostel and software's are not usually used in this context. This particular project deals with the problems on

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 with the system which is more user friendly and more GUI oriented.

### FUTURE WORK

The introduction of an online system of registration focuses on saving cost, improving the efficiency of the processes involved in both registration and management of hostels and makes the overall procedure stress free. The hostel management system is aimed at streamlining the registration and management process of hostels for both students and the administrators in charge of the procedures involved. It is to eliminate unnecessary administrative tasks and reduce or even avoid paperwork. This system will help improve productivity and reliability of the hostel registration and management process in a more efficient manner.

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