

CERTIFICATE

This is to certify that the training work is the bonafide work carried out by Aayushi Pachorkar(2016AB001002) of B.Tech.(Computer Science &Information Technology) Symbiosis University Of Applied Sciences during the academic year 2019, in partial fulfillment of the requirements for the award of the degree of B.Tech.(CS&IT).

Signature Of Internal

Signature of External

Signature of Dean

ACKNOWLEDGEMENT

The training work has been possible with continued & dedicated efforts & guidance by Mr. Neeraj Paliwal Sir and University professors. I acknowledge gratitude to all of them. The acknowledgement however will be incomplete without specific mention as follows

I wish to acknowledge my deep gratitude to Mr. Neeraj Paliwal Sir, Team Lead of AARTEK Software Solutions, for his cooperation and guidance that provided staunch support throughout the training.

Furthermore, I would also like to acknowledge my University faculties, Dean Sir Dr. Ashish Bansal and my Mentor Mr. Ashish Revar Sir, for proving guidance throughout.

Aayushi Pachorkar

(2016AB001002)

COMPANY PROFILE



AARTEK Software Solutions is a leading information technology consulting and services provider, providing end-to-end solutions for diversified clients from varied industry. We have been a pioneer in adopting technology to ensure enhanced customer choice, convenience and gratification.

We aim to provide cost effective web-based back office solutions to various industries. Our solutions are reckoned the best in understanding the customer requirement. Developing new software creates profound corporate change that must be anticipated, managed and nurtured.

We take Software projects as the challenge and opportunity to prove our caliber in streamlined and optimized process flow, deliver excellent, creative and innovative services is not only our work it's our passion. We employ a large pool of software engineers coming from different backgrounds. We are able to balance product development efforts and project duration to your business software needs.

Our Vision

To be recognized as a global company in serving best solutions to our clients by our innovation and implementation in Information Technology.

Our Mission

We have been a pioneer in adopting technology to ensure enhanced customer choice, convenience and gratification which has lead us to be a leading information technology consulting and services provider, providing end-to-end solutions for diversified clients from varied industry.

SERVICES

We manage and promote the perfect online presence for small business to medium business companies with our web development team. We evaluate your needs and tailor the solution that suits your strategy. The expertise of our design team and the span of our technical resources, places us at the cutting edge of new developments in site construction.

We provide End-to-end solutions for planning, developing, implementing and supporting your e-business strategy. Leverage the power of Internet coupled with high security, ease of access, low infrastructure requirements, short development cycle, scalability and high adaptability. We will be your technology partners in taking your enterprise to high levels of efficiency, interactivity, external and internal customer satisfaction, better resource management, convergence of mediums and devices and the list goes on.

Java Application

We provide services to develop all kinds of apps that includes games apps, social application apps and many more. our expert team of android developers will meet your requirements with fast work time in a cost effectual manner. our app developers are experienced in all up-to-the-minute technologies to create the mobile applications to your custom needs.

Web Development

In software engineering, a software development methodology (also known as a system development methodology, software development life cycle, software development process, software process) is a division of software development work into distinct phases or activities with the intent of better planning and management.

Web Design

We are more oriented towards the concepts and operation of Search Engine Operation, arrangement and prominence of key words. Our team has the desires and passion of a skilled professional to create a site that not only does it ranks among the top but provides an interactive environment for the customer.

Android/iOS Development

We provide services to develop all kinds of apps that includes games apps, social application apps and many more. our expert team of android developers will meet your requirements with fast work time in a cost effectual manner. our app developers are experienced in all up-to-the-minute technologies to create the mobile applications to your custom needs.

TRAINING TASKS

Form Creation using HTML, CSS, Java Script

A screenshot of a web browser displaying a registration form titled "REGISTRATION FORM". The form is set against a red and orange gradient background. The form fields are as follows:

- Enter Name: A rounded rectangular input field with the placeholder text "Enter Name".
- Enter Password: A rounded rectangular input field with the placeholder text "Enter Password".
- Address: A rectangular input field.
- Select Date: A rounded rectangular input field with the placeholder text "mm/dd/yyyy".
- Select File: A file selection area with a "Browse..." button.
- Enter email: A rounded rectangular input field.
- Select Gender: Two radio buttons labeled "Male" and "Female".
- Select Hobbies: Three checkboxes labeled "Playing", "Dancing", and "Drawing".
- Select City: A dropdown menu with the text "Select City" and a downward arrow.

The browser's address bar shows the file path: file:///C:/Users/ayushi/Desktop/html/form1.html. The Windows taskbar at the bottom shows the search bar and various application icons.

A screenshot of the same web browser displaying the registration form, now filled with sample data. The form fields are as follows:

- Enter Name: A rounded rectangular input field containing the text "Aayushi".
- Enter Password: A rounded rectangular input field containing four dots "....".
- Address: A rectangular input field containing the text "140,Ahilya Nagar Ext..".
- Select Date: A rounded rectangular input field with the placeholder text "mm/dd/yyyy".
- Select File: A file selection area with a "Browse..." button.
- Enter email: A rounded rectangular input field containing the text "ayushi04@gmail.com".
- Select Gender: Two radio buttons labeled "Male" and "Female", with "Female" selected.
- Select Hobbies: Three checkboxes labeled "Playing", "Dancing", and "Drawing", with "Playing" and "Dancing" checked.
- Select City: A dropdown menu with "Indore" selected.

The browser's address bar shows the file path: file:///C:/Users/ayushi/Desktop/html/form1.html. The Windows taskbar at the bottom shows the search bar and various application icons.

```
form1 - Notepad
File Edit Format View Help
<html>
<head>
<style>
input[type=text],[type=password],[type=date],[type=email]
{
width: 50%;
padding: 12px 20px;
margin: 8px 0;
display: inline-block;
border: solid;
border-radius: 40px;
box-sizing: border-box;
}
</style>
</head>
<body background="photo.jpg">
<form>
<table border="1" align="center"
cellpadding="10" colspan="2" height="600" width="600" rules="none" bgcolor="">
<thead>
<tr><th colspan="2"><b><u><font size="7" face="arial">REGISTRATION FORM</font></u></b></th></tr>
</thead>
<tbody>
<tr><td>Enter Name</td><td><input type="text" placeholder="Enter Name"></td></tr>
<tr><td>Enter Password</td><td><input type="password" placeholder="Enter Password"></td></tr>
<tr><td>Address</td><td><textarea rows="3" cols="20"></td></tr>
<tr><td>Select Date</td><td><input type="date"></td></tr>
<tr><td>Select File</td><td><input type="file"></td></tr>
<tr><td>Enter email</td><td><input type="email"></td></tr>
<tr><td>Select Gender</td><td><input type="radio" name="r1">Male <input type="radio" name="r1">Female</td></tr>
<tr><td>Select Hobbies</td><td><input type="checkbox">Playing <input type="checkbox">Dancing <input type="checkbox">Drawing</td></tr>
<tr><td>Select City</td>
<td><select><option>Select City</option>
<option>Indore</option>
<option>Bhopal</option>
</td>
</tr>
</tbody>
</table>
</form>
</body>
</html>
```

```
form1 - Notepad
File Edit Format View Help
cellpadding="10" colspan="2" height="600" width="600" rules="none" bgcolor="">
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<tr><td>Select File</td><td><input type="file"></td></tr>
<tr><td>Enter email</td><td><input type="email"></td></tr>
<tr><td>Select Gender</td><td><input type="radio" name="r1">Male <input type="radio" name="r1">Female</td></tr>
<tr><td>Select Hobbies</td><td><input type="checkbox">Playing <input type="checkbox">Dancing <input type="checkbox">Drawing</td></tr>
<tr><td>Select City</td>
<td><select><option>Select City</option>
<option>Indore</option>
<option>Bhopal</option>
<option>Mumbai</option>
</td>
</tr>
<tr><td>Select Documents</td>
<td><select multiple="">
<option>Select Documents</option>
<option>Adhaarcard</option>
<option>VoterId</option>
<option>Pancard</option>
</td>
</tr>
<tr><td colspan="2"><input type="submit" value="Submit" style="background-color:blue;color:white">
<input type="reset" value="Refresh" style="background-color:green;color:white"></td></tr>
</tbody>
</table>
</form>
</body>
</html>
```

Introduction to Working On Project of

Hostel Management System

Rationale:

There are a lot of people who come to cities leaving their family and comfort zones behind. In these new cities they need a place to live and the search for a reliable as well as comfortable and economic begins. Finding such a place in a new city about which you know nothing is a tough job. With our website we are making this job just a bit easier with the multiple user friendly methods and features we are providing both at the hostel and the website which will make the residents carefree about any kinds of cheatings or anything wrong.

Problem Definition:

Problem definition is to provide a centralized management system to meet the entire requirement of the hostel for the residents.

A hostel is an accommodation or lodging for the students. In College mess facility is also provided for the students. Thus maintaining the hostel and mess manually can prove to be very tedious process, since it often includes huge databases like students account number and details, list, mess details. Since these tasks are repetitive in nature like searching, sorting, selecting etc., so it is highly efficient to go in for the computerization of this process.

1. Admin control
2. Front Desk
3. Complaint submission

Proposed Solution:

The hostel management system will help to resolve the issues like bills' management and splitting it for all the residents, the availability of rooms in the hostel, rent payment status, the contact details and permanent addresses of the residents. This website being an interactive one, the users will be using their specific mail IDs and passwords using which they will be able to update the required data and information needed to keep the hostel's site up to date which will further lead to better working and management of the hostel.

Existing System

When a student applies for accommodation in the hostel he has to fill a form with the required details . Following this an entry is made into the student detail register to enter his personal details. Another separate entry for each students mess details for each month is also opened in the mess detail register. Each students pay money may be for room rent or for the mess or for some other reason and are given receipts in return for them, likewise the mess authorities make the payments, daily total receipts in returns are calculated manually and entered into the cashbook.

Limitations in Existing System

1. This system is maintained at individual database
2. The User or student cannot easily access the database
3. In the current system there is database maintenance, therefore accessing single records take more time to verify the data of particular student information.
4. Student doesn't have any permission to access their own accounts.
5. Manually maintaining the data is never an easy task.

Proposed System

As soon as a new student is admitted into the hostel he is registered with a unique account number, all his details may be found out at the simple entry of this account number. To allot a student with his account a form number if filled here other details like father name, branch, and address are to be filled in this form.

We have chosen oracle as the backend as it is supposed to be one of the best database management systems. Oracle is used as it supports very large database Automatic optimization of searching.

Advantage Over Existing System

1. In this system the database is maintained in centralized manner.
2. The user can access the entire hostel information so that they can book the hostel room without travelling anywhere.
3. This system is very fast because of the centralized database and accessing database will be very easy, when compared to the existing system.
4. To this application we are providing new offers and timetables to the students where the student easily retrieves the information of the entire hostels list.
5. Student can access their account and update their information from anywhere and can post any queries about the hostel maintenance.

Literature Survey Related Works

As the topic mentions above "Hostel Management System" is software that is developed to help in managing various activities in the hostel. As is well-known, the education institutions are rapidly increasing for the past few years. Therefore, it leads to mushrooming of hostels for the accommodation of the students study in these institutions. And hence there is the appearance of Hostel Management System which helps with dealing the problem of managing hostel and avoid the problem when do it manually.

(Muhammed Shaheer .K.A, Muhammed Shiras.A, Vinod Raj. R, Prasobh.G.V, April, 2009)

Hostel management by manual way is tedious process, since it involves work load and time consumption. In this system, we can easily manage the hostel details, room details, student records, mess expenditure, mess bill calculation, easy way of room allocation and hostel attendance. Thus, there are a lot of repetition can be easily evaded which has reduced the data redundancy. (M. Deepika, A. Chitra, 2010)

Reports in regard to the Room Availability, Room Allocation, Student Transfer and Evacuation are provided too.

We can improve the efficiency of the system, thus overcome the drawbacks of

- Less human error
- Strength and strain of manual labor can be reduced
- Reduce data redundancy
- High security
- Data consistency
- Easy to handle
- Easy data updating
- Easy record keeping
- Backup data can be easily generated

Technologies and Tools used:

Technology o HTML:

Hyper Text Markup Language is a language to develop dynamic web pages which runs on web browser. It is tag based language and provides a very easy way to develop static web pages.

Creating websites and web applications with HTML is a best practice but, in all honesty, not a requirement.

The following is a list of some things that are part of HTML:

Canvas: using code to automatically draw stuff on a website.

Drag & Drop: dragging and dropping stuff on a website.

Application Cache: storing website content, such as images, on a device, making the site run faster.

To make a site look good in as many browsers as possible, these three things are currently the best tools to do so:

CSS: applies pictures, colors.

JavaScript: creates interactivity on a website.

JavaScript-related technologies: JQuery is the biggest one of these right now.

These things are used in HTML websites .

Tools o Netbeans

Most developers recognize the NetBeans IDE as the original free Java IDE. It is that, and much more! The NetBeans IDE provides support for several languages (PHP, Java FX, C/C++, JavaScript, etc.) and frameworks.

NetBeans is an open-source project dedicated to providing rock solid software development products (the NetBeans IDE and the NetBeans Platform) that address the needs of developers, users and the businesses who rely on NetBeans as a basis for their products; particularly, to enable them to develop these products quickly, efficiently and easily by leveraging the strengths of the Java platform and other relevant industry standards.

- **CSS**

Cascade style sheet is a designing language to provide colors and more interactive look to the web pages. It can works with HTML.

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language. Although most often used to set the visual style of web pages and user interfaces written in HTML and XHTML, the language can be applied to any XML document, including plain XML, SVG and XUL, and is applicable to rendering in speech, or on other media. Along with HTML and JavaScript, CSS is a cornerstone technology used by most websites to create visually engaging web pages, user interfaces for web applications, and user interfaces for many mobile applications.

- **JSP:**

Java script is a high-level, dynamic, untyped, and interpreted programming language. It has been standardized in the ECMAScript language specification. Alongside HTML and CSS, it is one of the three core technologies of World Wide Web content production; the majority of websites employ it and it is supported by all modern Web browsers without plug-ins. JavaScript is prototypebased with first-class functions, making it a multi-paradigm language, supporting object-oriented, imperative, and functional programming styles. It has an API for working with text, arrays, dates and regular expressions, but does not include any I/O, such as networking, storage, or graphics facilities, relying for these upon the host environment in which it is embedded.

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Requirement Analysis Software Engineering Paradigms Applied

“Paradigm” is commonly used to refer to a category of entities that share a common characteristic.

We can distinguish between three different kinds of Software Paradigms:

PROGRAMMING PARADIGM is a model of how programmers communicate an calculation to computers

SOFTWARE DESIGN PARADIGM is a model for implementing a group of applications sharing common properties

SOFTWARE DEVELOPMENT PARADIGM is often referred to as Software Engineering, may be seen as a management model for implementing big software projects using engineering principles.

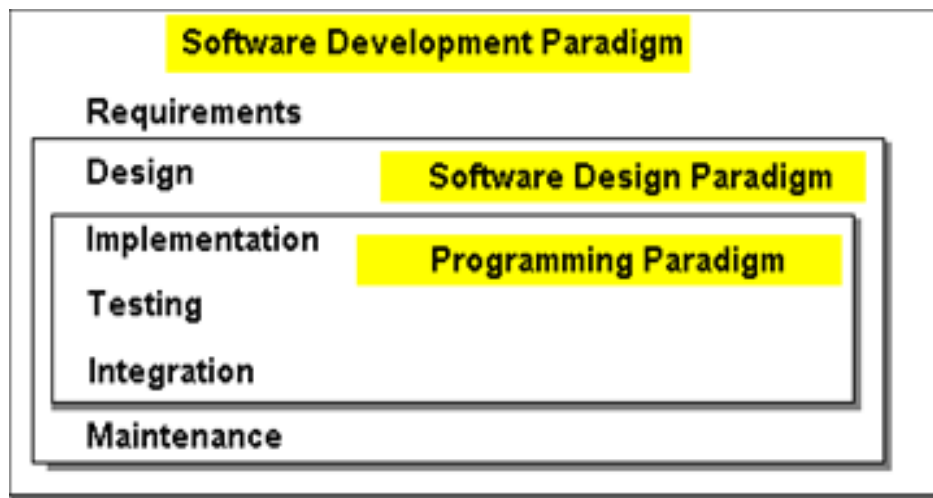


Figure: S/W engineering paradigm

Software Requirements

Software	Name
Operating System	Windows/MAC
User Interface	HTML, CSS
Client-side Scripting	JSP
Programming Language	Java, Servlet
Web Applications	Servlets, JSP, Apache Tomcat server
IDE/Workbench	NetBeans
Database	My-SQL
Server Deployment	Apache Tomcat

Table: Software Requirement

Hardware Requirements

Hardware	Size
Processor	Pentium IV
Hard Disk	40GB
RAM	256 MB

Table: Hardware Requirements

Feasibility Study

Economic Feasibility

Economic feasibility attempts to weigh the costs of developing and implementing a new system, against the benefits that would accrue from having the new system in place. This feasibility study gives the top management the economic justification for the new system. A simple economic analysis which gives the actual comparison of costs and benefits are much more meaningful in this case. In addition, this proves to be a useful point of reference to compare actual costs as the project progresses. There could be various types of intangible benefits on account of automation. These could include increased customer satisfaction, improvement in product quality better decision making timeliness of information, expediting activities, improved accuracy of operations, better documentation and record keeping, faster retrieval of information, better employee morale.

- **Operational Feasibility**

Proposed project is beneficial only if it can be turned into information systems that will meet the organizations operating requirements. If the current system is well liked and used to the extent that persons will not be able to see reasons for change, there may be resistance. If they are not, Users may welcome a change that will bring about a more operational and useful systems. Early involvement reduces the chances of resistance to the system and in general and increases the likelihood of successful project. Since the proposed system was to help reduce the hardships encountered. In the existing manual system, the new system was considered to be operational feasible.

- **Technical Feasibility**

Evaluating the technical feasibility is the trickiest part of a feasibility study. This is because, at this point in time, not too many detailed design of the system, making it difficult to access issues like performance, costs on (on account of the kind of technology to be deployed) etc. A number of issues have to be considered while doing a technical analysis. Understand the different technologies involved in the proposed system .

Architectural Structure

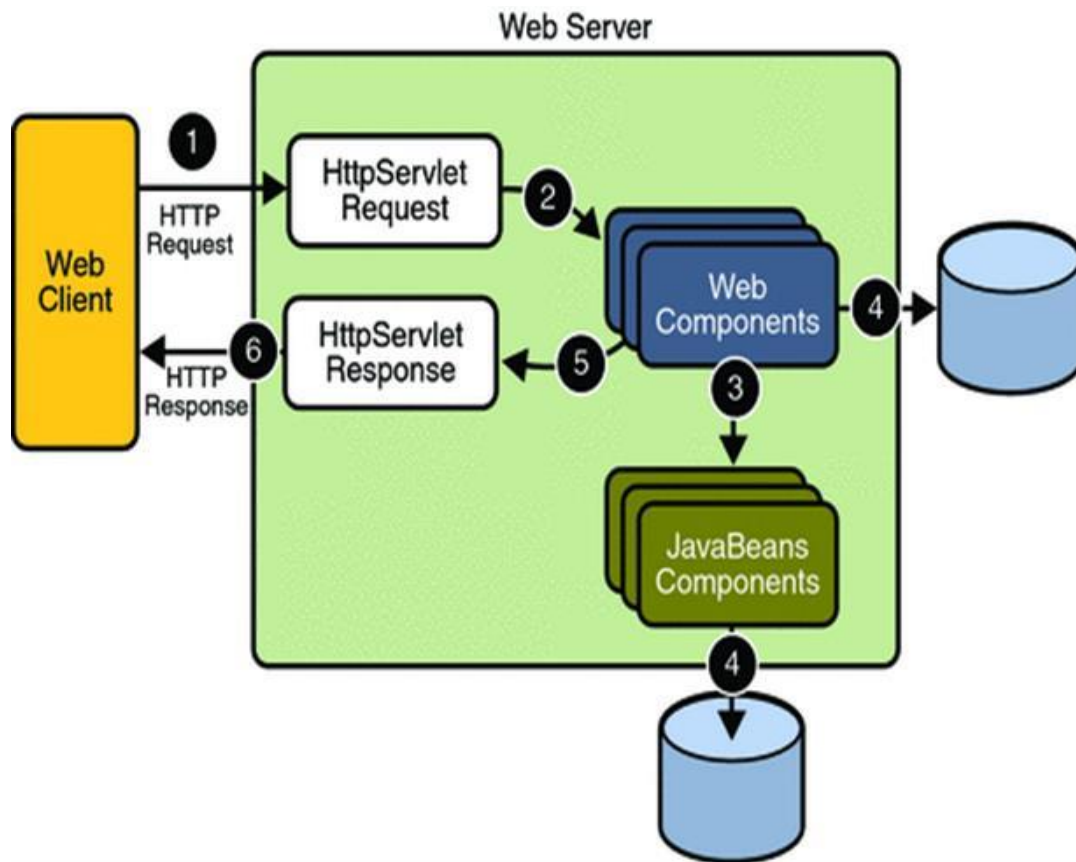


Figure: System Architecture Diagram

UML Diagrams

Unified Modeling Language:

The Unified Modeling Language allows the software engineer to express an analysis model using the modeling notation that is governed by a set of syntactic semantic and pragmatic rules.

A UML system is represented using five different views that describe the system from distinctly different perspective. Each view is defined by a set of diagram, which is as follows.

User Model View

This view represents the system from the users perspective.

The analysis representation describes a usage scenario from the end-users perspective.

Structural model view

In this model the data and functionality are arrived from inside the system.

This model view models the static structures.

Behavioral Model View

It represents the dynamic of behavioral as parts of the system, depicting the interactions of collection between various structural elements described in the user model and structural model view.

Implementation Model View

In this the structural and behavioral as parts of the system are represented as they are to be built.

Environmental Model View

In this the structural and behavioral aspects of the environment in which the system is to be implemented are represented.

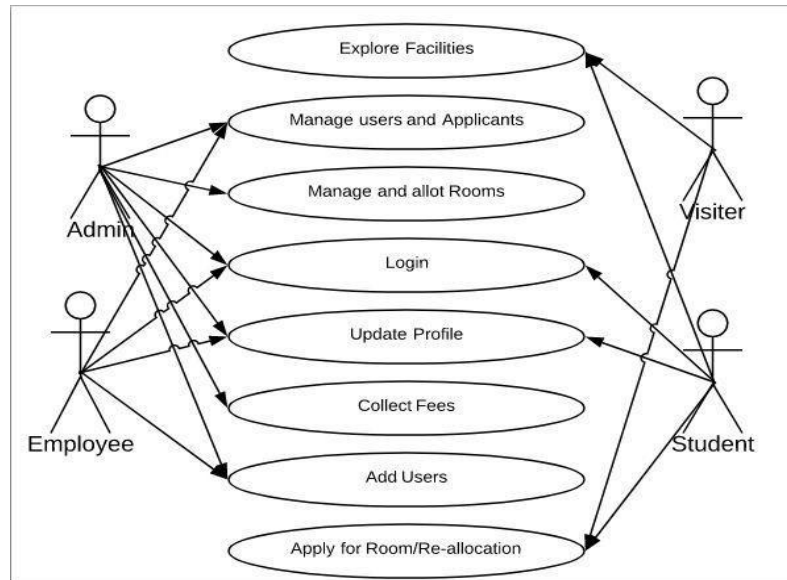
UML is specifically constructed through two different domains they are:

UML Analysis modeling, this focuses on the user model and structural model views of the system.

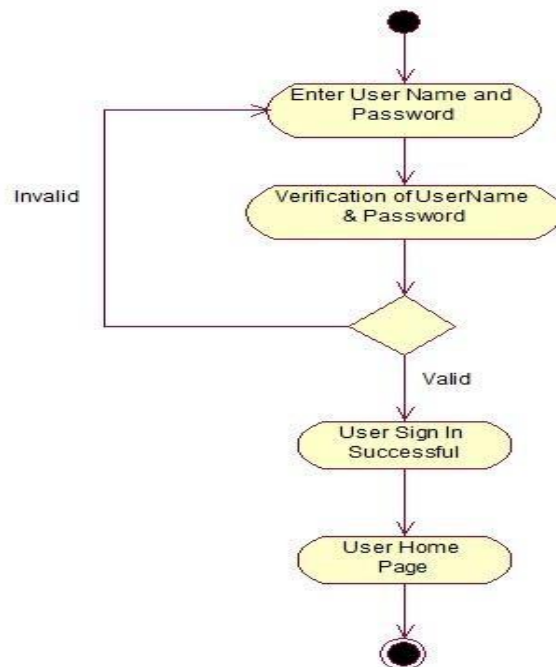
UML design modeling, which focuses on the behavioral modeling, implementation modeling and environmental model views.

Use case Diagrams represent the functionality of the system from a user's point of view. Use cases are used during requirements elicitation and analysis to represent the functionality of the system. Use cases focus on the behavior of the system from external point of view.

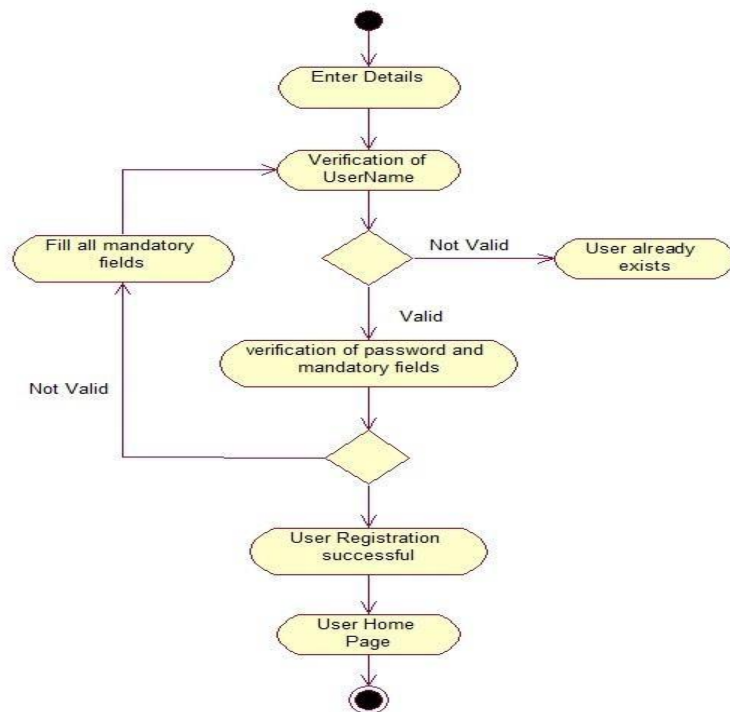
Actors are external entities that interact with the system. Examples of actors include users like administrator, bank customer ...etc., or another system like central data.



Activity Diagrams



Activity diagram for user sign in



Activity diagram for registered user

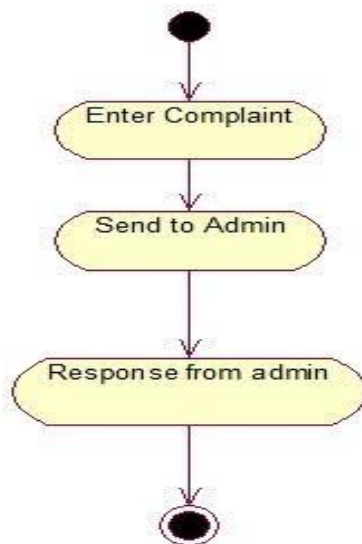


Figure: Activity Diagram For Lodge Complaint

Sequence diagram

Sequence Diagram For Admin

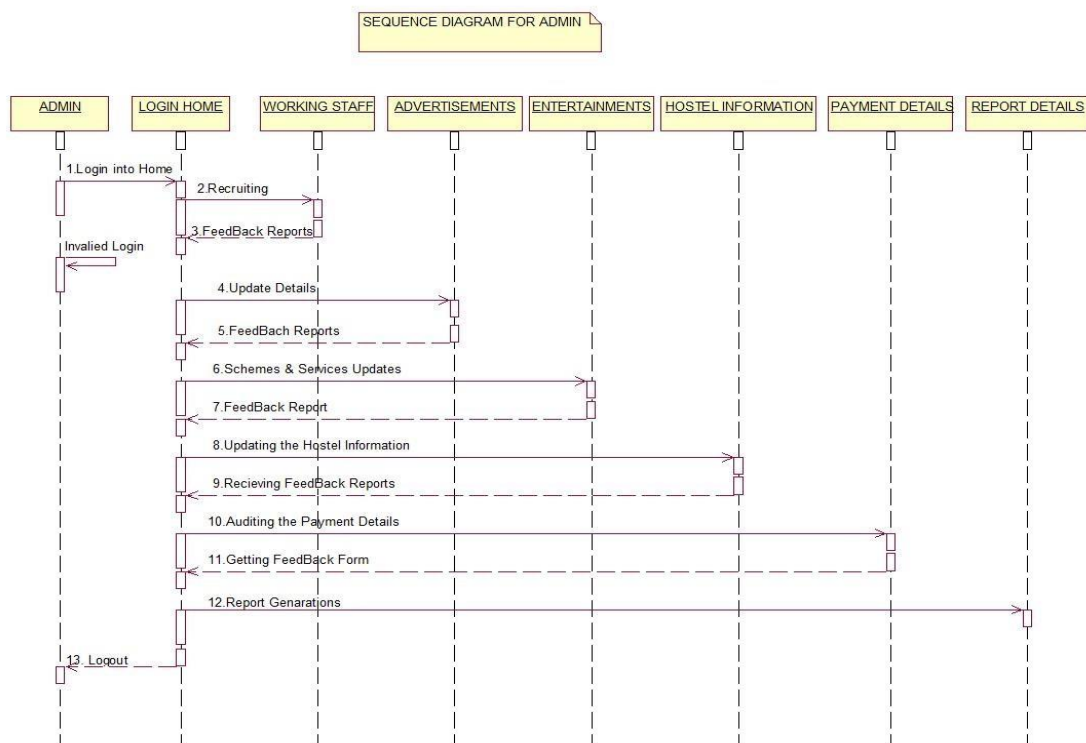


Figure: Sequence Diagram for Admin

Implementation and Testing

Language used characteristics JAVA Servlet

A Java servlet processes or stores a Java class in Java EE that conforms to the Java Servlet API, a standard for implementing Java classes that respond to requests. Servlets could in principle communicate over any client–server protocol, but they are most often used with the HTTP protocol. Thus "servlet" is often used as shorthand for "HTTP servlet". Thus, a software developer may use a servlet to add dynamic content to a web server using the Java platform. The generated content is commonly HTML, but may be other data such as XML. Servlets can maintain state in session variables across many server transactions by using HTTP cookies, or URL rewriting.

To deploy and run a servlet, a web container must be used. A web container (also known as a servlet container) is essentially the component of a web server that interacts with the servlets. The web container is responsible for managing the lifecycle of servlets, mapping a URL to a particular servlet and ensuring that the URL requester has the correct access rights.

The Servlet API, contained in the Java package `javax.servlet` hierarchy, defines the expected interactions of the web container and a servlet

`Servlet` is an object that receives a request and generates a response based on that request. The basic Servlet package defines Java objects to represent servlet requests and responses, as well as objects to reflect the servlet's configuration parameters and

execution environment. The `javax.servlet.http` package defines HTTP-specific subclasses of the generic servlet elements, including session management objects that track multiple requests and responses between the web server and a client. Servlets may be packaged in a WAR file as a web application. Servlets can be generated automatically from JavaServer Pages (JSP) by the JavaServer Pages compiler. The difference between servlets and JSP is that servlets typically embed HTML inside Java code, while JSPs embed Java code in HTML. While the direct usage of servlets to generate HTML (as shown in the example

below) has

become rare, the higher level MVC web framework in Java EE (JSF) still explicitly uses the servlet technology for the low level request/response handling via the `FacesServlet`. A somewhat older usage is to use servlets in conjunction with JSPs in a pattern called "Model 2", which is a flavor of the model–view–controller.

HTML

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript, it forms a triad of cornerstone technologies for the World Wide Web.^[4] Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets.

Tags such as `` directly introduce content into the page. Other tags such as `<input />` and `<p>...</p>` as surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page.

HTML can embed programs written in a scripting language such as JavaScript which affects the behavior and content of web pages. Inclusion of CSS defines the look and layout of content. The World Wide Web Consortium (W3C), maintainer of both the HTML and the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997.

CSS

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language. Although most often used to set the visual style of web pages and user interfaces written in HTML and XHTML, the language can be applied to any XML document, including plain XML, SVG and XUL, and is applicable to rendering in speech, or on other media. Along with HTML and JavaScript, CSS is a cornerstone technology used by most websites to create visually engaging webpages, user interfaces for web applications, and user interfaces for many mobile applications.

CSS is designed primarily to enable the separation of presentation and content, including aspects such as the layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple HTML pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content.

Separation of formatting and content makes it possible to present the same markup page in different styles for different rendering methods, such as on-screen, in print, by voice (via speech-based browser or screen reader), and on Braille-based tactile devices. It can also display the web page differently depending on the screen size or viewing device. Readers can also specify a different style sheet, such as a CSS file stored on their own computer, to override the one the author specified.

Changes to the graphic design of a document (or hundreds of documents) can be applied quickly and easily, by editing a few lines in the CSS file they use, rather than by changing markup in the documents.

The CSS specification describes a priority scheme to determine which style rules apply if more than one rule matches against a particular element. In this so-called cascade, priorities (or weights) are calculated and assigned to rules, so that the results are predictable.

SQL

SQL (Structured Query Language) is a domain-specific language used in programming and designed for managing data held in a relational database management system (RDBMS), or for stream processing in a relational data stream management system (RDSMS). In comparison to older read/write APIs like ISAM or VSAM, SQL offers two main advantages: first, it introduced the concept of accessing many records with one single command; and second, it eliminates the need to specify how to reach a record, e.g. with or without an index.

Originally based upon relational algebra and tuple relational calculus, SQL consists of many types of statements, which may be informally classed as sublanguages, commonly: a data query language (DQL), a data definition language (DDL), a data control language (DCL), and a data manipulation language (DML). The scope of SQL includes data query, data manipulation (insert, update and delete), data definition (schema creation and modification), and data access control. Although SQL is often described as, and to a great extent is, a declarative language (4GL), it also includes procedural elements.

SQL was one of the first commercial languages for Edgar F. Codd's relational model, as described in his influential 1970 paper, "A Relational Model of Data for Large Shared Data Banks". Despite not entirely adhering to the relational model as described by Codd, it became the most widely used database language.

SQL became a standard of the American National Standards Institute (ANSI) in 1986, and of the International Organization for Standardization (ISO) in 1987. Since then, the standard has been revised to include a larger set of features. Despite the existence of such standards, most SQL code is not completely portable among different database systems without adjustments.

SOFTWARE TESTING

Software testing helps in finalizing the software application or product against business and user requirements. It is very important to have good test coverage in order to test the software application completely and make it sure that it's performing well and as per the specifications.

While determining the test coverage the test cases should be designed well with maximum possibilities of finding the errors or bugs. The test cases should be very effective. This objective can be measured by the number of defects reported per test cases. Higher the number of the defects reported the more effective are the test cases.

Software testing makes sure that the testing is being done properly and hence the system is ready for use. Good coverage means that the testing has been done to cover the various areas like functionality of the application, compatibility of the application with the OS, hardware and different types of browsers, performance testing to test the performance of the application and load testing to make sure that the system is reliable and should not crash or there should not be any blocking issues. It also determines that the application can be deployed easily to the machine and without any resistance.

Hence the application is easy to install, learn and use.

TESTING METHODS

There are different methods that can be used for software testing. This chapter briefly describes the methods available.

Black-Box Testing

The technique of testing without having any knowledge of the interior workings of the application is called black-box testing. The tester is oblivious to the system architecture and does not have access to the source code. Typically, while performing a black-box test, a tester will interact with the system's user interface by providing inputs and examining outputs without knowing how and where the inputs are worked upon.

Advantages	Disadvantages
<ul style="list-style-type: none">• Well suited and efficient for large code segments.• Code access is not required.• Clearly separates user's perspective from the developer's perspective through visibly defined roles.	<ul style="list-style-type: none">• Limited coverage, since only a selected number of test scenarios is actually performed.• Inefficient testing, due to the fact that the tester only has limited knowledge about an
<ul style="list-style-type: none">❑ Large numbers of moderately skilled testers can test the application with no knowledge of implementation, programming language, or operating systems.	<ul style="list-style-type: none">❑ application.Blind coverage, since the tester cannot target specific code segments or error-prone areas. The test cases are❑ difficult to design.

White-Box Testing

White-box testing is the detailed investigation of internal logic and structure of the code. White-box testing is also called glass testing or open-box testing. In order to perform white-box testing on an application, a tester needs to know the internal workings of the code.

The tester needs to have a look inside the source code and find out which unit/chunk of the code is behaving inappropriately.

Advantages	Disadvantages
<ul style="list-style-type: none">• As the tester has knowledge of the source code, it becomes very easy to find out which type of data can help in testing the application effectively.• It helps in optimizing the code.• Extra lines of code can be removed which can bring in hidden defects.• Due to the tester's knowledge about the code, maximum coverage is attained during test	<ul style="list-style-type: none">• Due to the fact that a skilled tester is needed to perform white-box testing, the costs are increased.• Sometimes it is impossible to look into every nook and corner to find out hidden errors that may create problems, as many paths will go untested.• It is difficult to maintain white-box testing, as it requires specialized tools like code analyzers and debugging tools.

Testing Strategies

Test Strategy is also known as test approach defines how testing would be carried out. Test approach has two techniques:

Proactive - An approach in which the test design process is initiated as early as possible in order to find and fix the defects before the build is created.

Reactive - An approach in which the testing is not started until after design and coding are completed.

Different Test approaches:

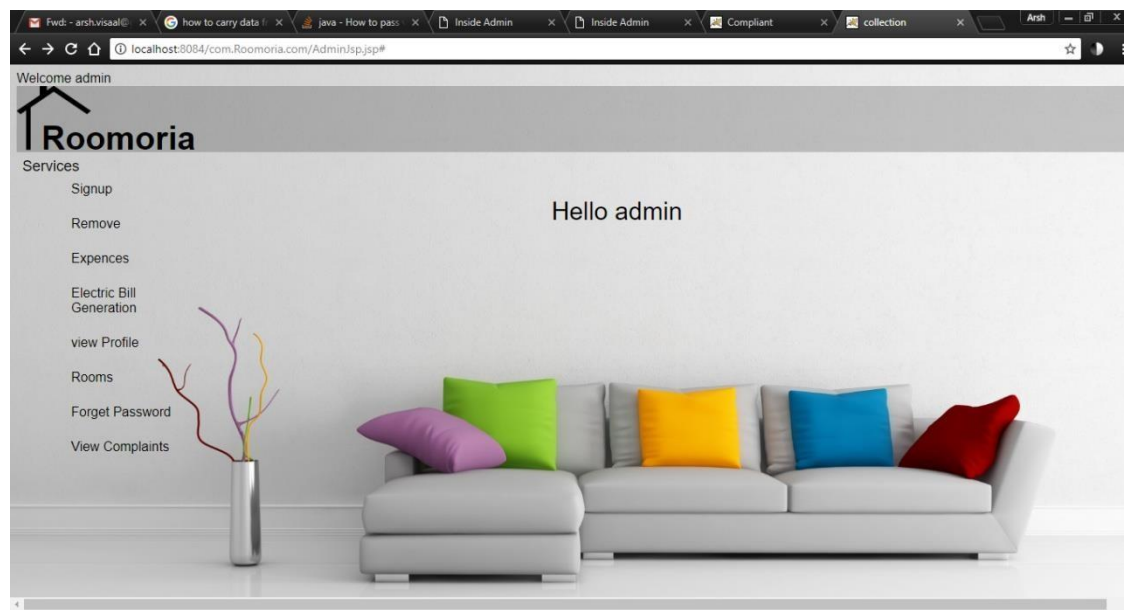
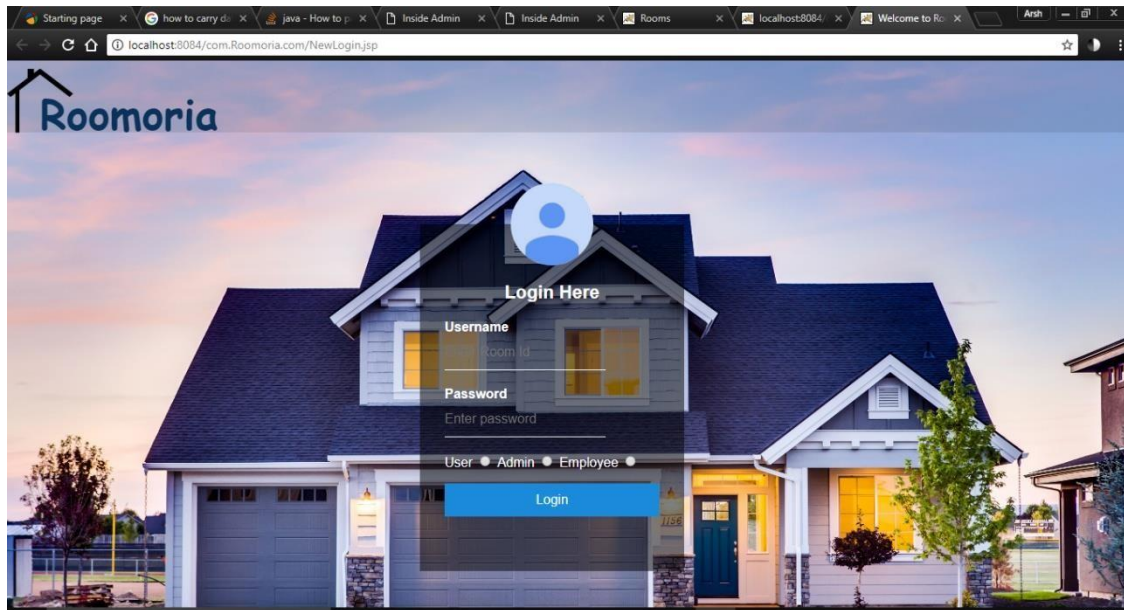
There are many strategies that a project can adopt depending on the context and some of them are:

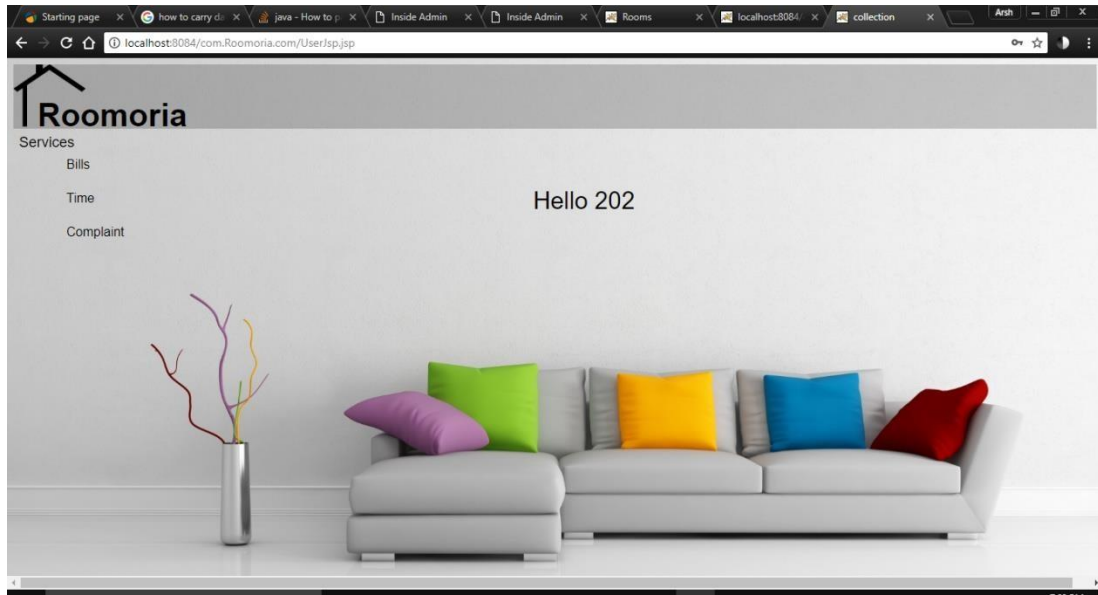
- Dynamic and heuristic approaches
- Consultative approaches
- Model-based approach that uses statistical information about failure rates.
- Approaches based on risk-based testing where the entire development takes place based on the risk
- Methodical approaches which is based on failures.
- Standard-compliant approach specified by industry-specific standards. Factors to be considered:
 - Risks of product or risk of failure or the environment and the company
 - Expertise and experience of the people in the proposed tools and techniques.
 - Regulatory and legal aspects, such as external and internal regulations of the development process

CONCLUSION & DISCUSSION

To conclude the description about the project: The project developed using servlets and MySQL is based on the requirement specification of the user and the analysis of the existing system, with flexibility for future enhancement. The expanded functionality of today's software requires an appropriate approach towards software development. 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.

Appendix

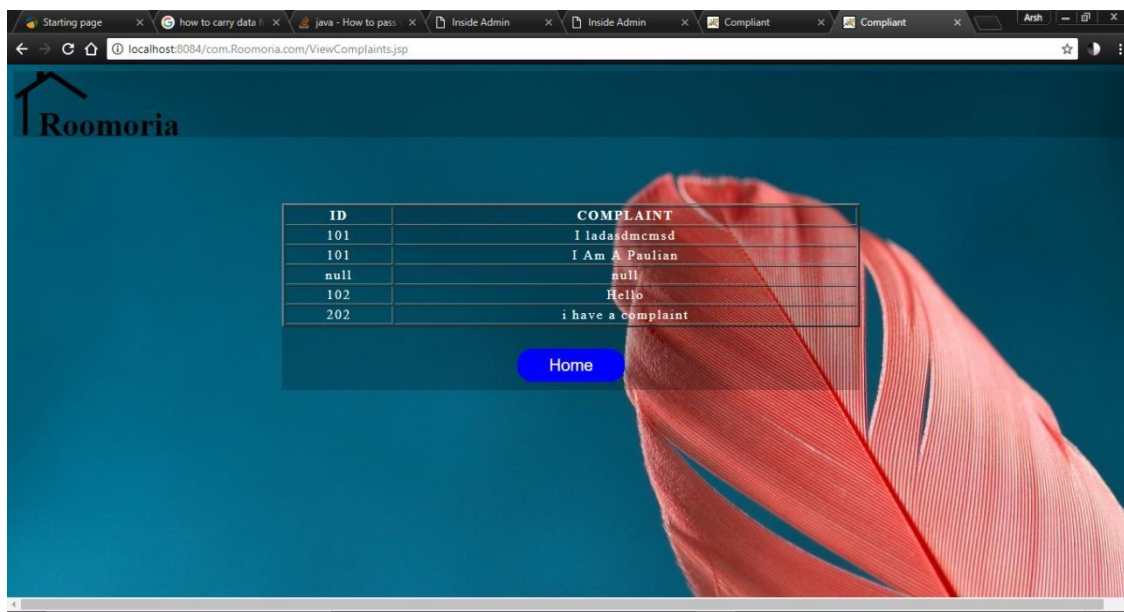
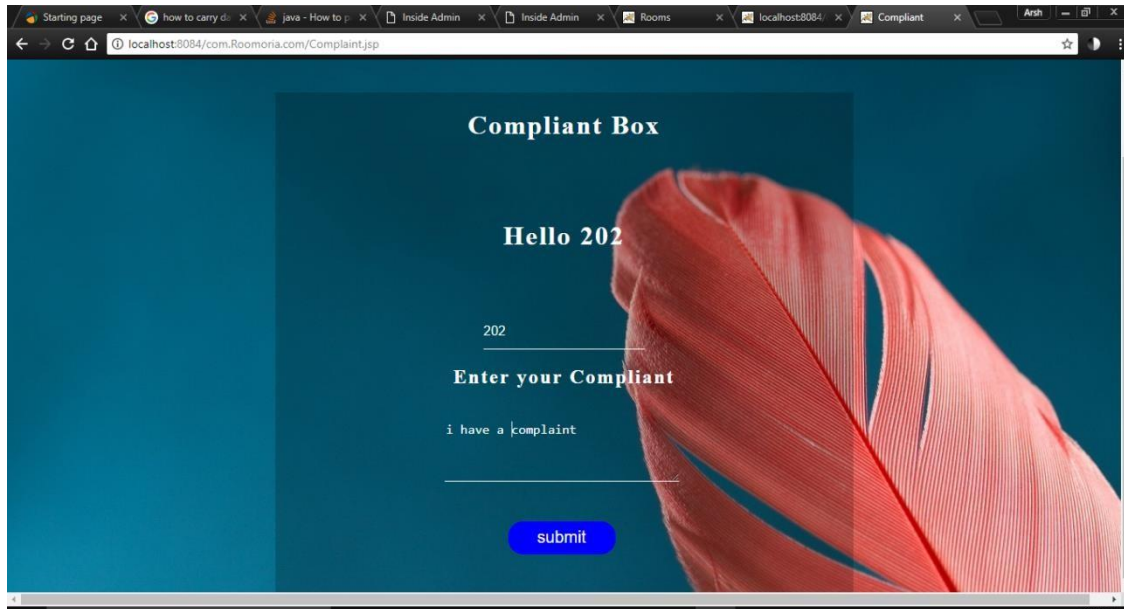


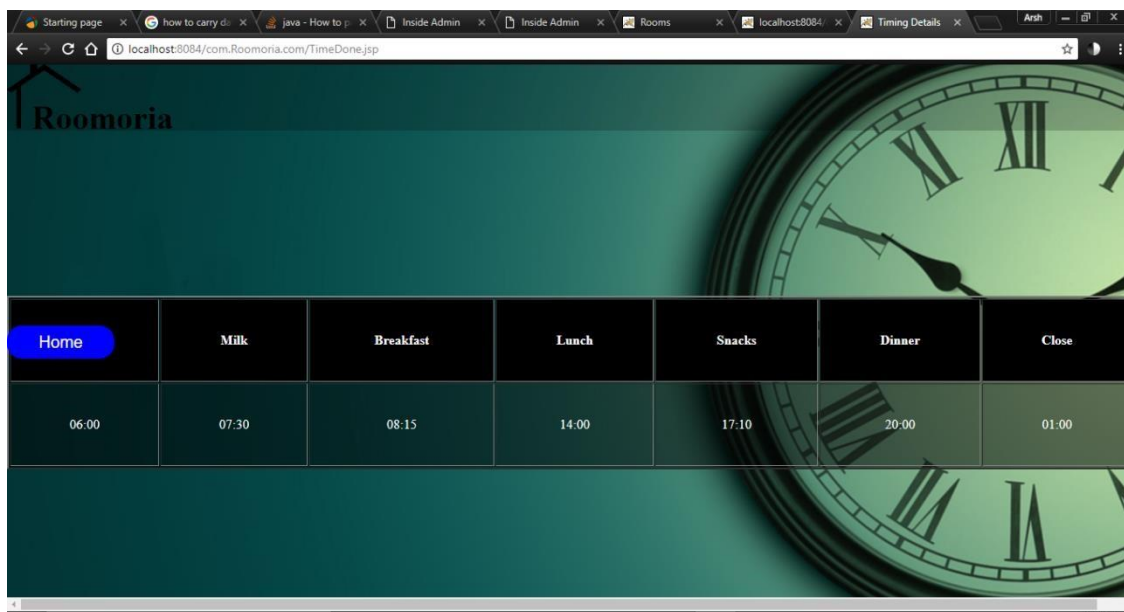
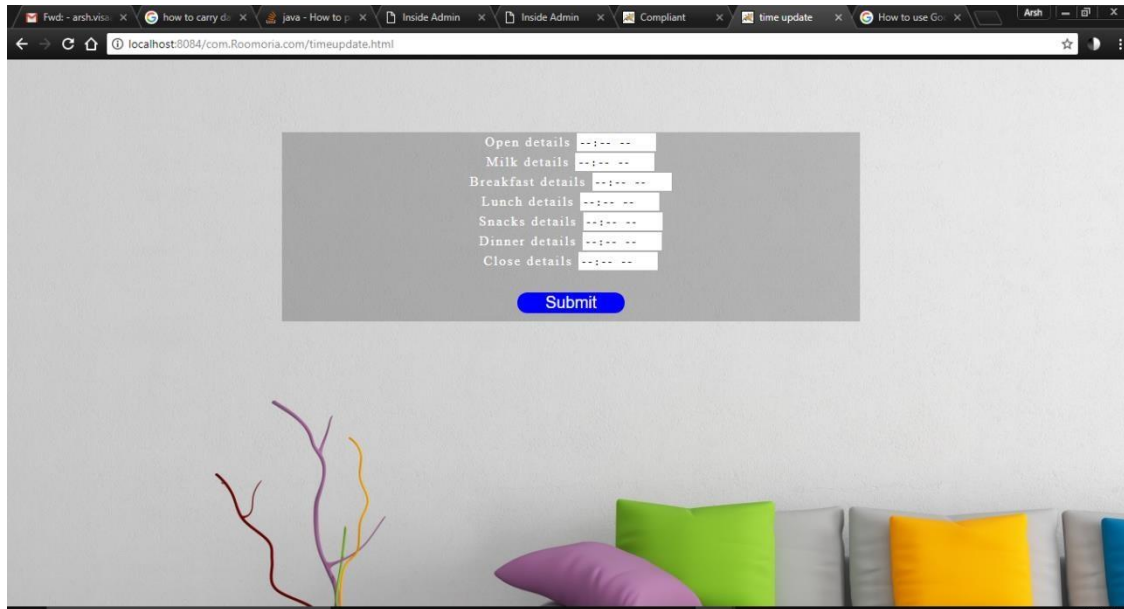


A screenshot of a web browser displaying the Roomoria Expenses.html form. The browser's address bar shows the URL `localhost:8084/com.Roomoria.com/Expenses.html`. The form is titled "Roomoria" and contains the following fields and labels:

- Enter Employee Name
Enter your name
- Enter roomid(if any) enter only if needed
- Enter your role
Enter your role
- Enter name of thing purchased
Enter thing
- Enter date
- Enter Amount
enter amount

A blue "submit" button is located at the bottom of the form.





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Book Name	Author Name
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Head First Servlets & JSP O'Reilly – SPD	Eric Freeman Elisabeth Freeman
The Book of JavaScript 2nd Edition SPD	Thau
Effective Java – Programming Language Guide Pearson Education – Sun Microsystems	Joshua Bloch
Java Database Best Practices O'Reilly – SPD	George Reese
JBoss – A Developers Notebook O'Reilly – SPD	Norman Richards Sam Griffith