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Home Away From Home

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GRADUATE CAPSTONE SEMINAR PROJECT

Submitted in partial fulfillment of the requirements

For the Degree of Master of Science,

With a Major in Civil Engineering



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ABSTRACT

The hotel industry or home on rent is a business for the owners and the travelers or tourist for the sake of stay and enjoying a tour in a comfort zone. A customer can pass a night or even spare a time even if he does not have a plan for the tour.

Through this system customer to be guaranteed a room for his/her stay or a customer can book room/house for his/her friends, neighbors, family members and colleagues.

The system will provide an online reservation to enable customer choose the house and rooms they wanted.

Software requirements and tools for this project are HTML, CSS3, Bootstrap, JavaScript, JQuery, PHP, AJAX, MySQL and Apache Server.

Mainly this application will contain three modules End User Website, Admin Console and Owners of hotels and houses.

From End User Website user can search and view details of any hotel and house(s), he/she can check for room availability for the particular dates and book it online by signing up to the system. He/she can also check the booking status and the cancel the booking too.

From Admin console the administrator of website can manage owners and view bookings done on the platform. Admin can see some reports also.

Hotel and house owners need to register and login on the platform and add their hotel and houses details so that the system will show those hotels and houses on our platform for booking. Owners can add, update and activate deactivate the status of their properties. Owners will receive the bookings and need to confirm it.

Table of Content

1. Project Description	1
1.1 Competitive Information	1
1.2 Relationship to Other Applications/Projects	1
1.3 Assumptions and Dependencies	1
1.4 Future Enhancements	1
2 Project Technical Description	2
2.1 Application Architecture	2
2.2 Application Information flows	4
2.3 Interactions with other Projects	11
2.4 Interactions with other Applications	11
2.5 Capabilities	11
2.6 Risk Assessment and Management	11
3 Project Requirements	11
3.1 Identification of Requirements	11
3.2 Operations, Administration, Maintenance and Provisioning (OAM&P)	12
3.3 Security and Fraud Prevention	12
3.4 Release and Transition Plan	12
4 Project Design Description	12
5 Project Internal/external Interface Impacts and Specifications	13
6 Project Design Unit Impact	21
6.1 Function Overview	21
6.2 Impacts	21
6.3 Requirements	21
7 Open Issues	17
8 Acknowledgements	17
9 References	18

1. Project Description

Hotel and rent house are the big industry in all over the world, people travel all over the world and look for a good accommodation everywhere they reach. Some people travel for their personal reason, some for professional purpose and many times people travel with their families. People want to be in a comfort zone while they travel, for the reason they look for good stay facilities like hotels and house. Some corporate also give holiday packages for their special customers and they look for the hotels and house for their customers stay on holidays.

The demand for hotels and house creates an idea to develop a platform where customer and hotel/house owners can connect with each other. People can plan their stay before traveling anywhere by our platform.

The proposed system will give a platform to the customer to search for a house and hotels and book it, whereas owners of hotels and house can manage their properties. People can see the hotels and house address and also track on map.

1.1 Competitive Information

We have done some study in the area of hotel and house on rent industry to found that many hotels and house are not connected with the online booking system. People love to check the room and house availability on their required dates and book it online. The study helps us to create a platform where people can search house and hotel on rent, view the location of it on the map and book it before travel. We also take care of best user interface for the user to attract the customers.

1.2 Relationship to Other Applications/Projects

After a deep study in the area of hotel and house industry, we found that some application in the market do not provide online booking for the hotels and houses, some are not secured and some are having very ugly user interface. We have tried to overcome with these challenges.

1.3 Assumptions and Dependencies

The system will be totally dependent on the online server. If any issue with the server or server do not perform well the system may lose its popularity. We are assuming that the system will be deployed on a very stable server so that it will not affect the services.

1.4 Future Enhancements

In the proposed system we can add many features like online payment for the booking, refund on booking cancellation, can provide different offers on booking and also add meals menus for hotels and houses.

2. Project Technical Description

To implement the system, we have used PHP script. PHP script is a widely used development framework for building enterprise level web applications. PHP offers immeasurable benefits for various issues like security, ease of coding, quick development and many inbuilt classes to reduce the efforts of developers while implanting business logic.

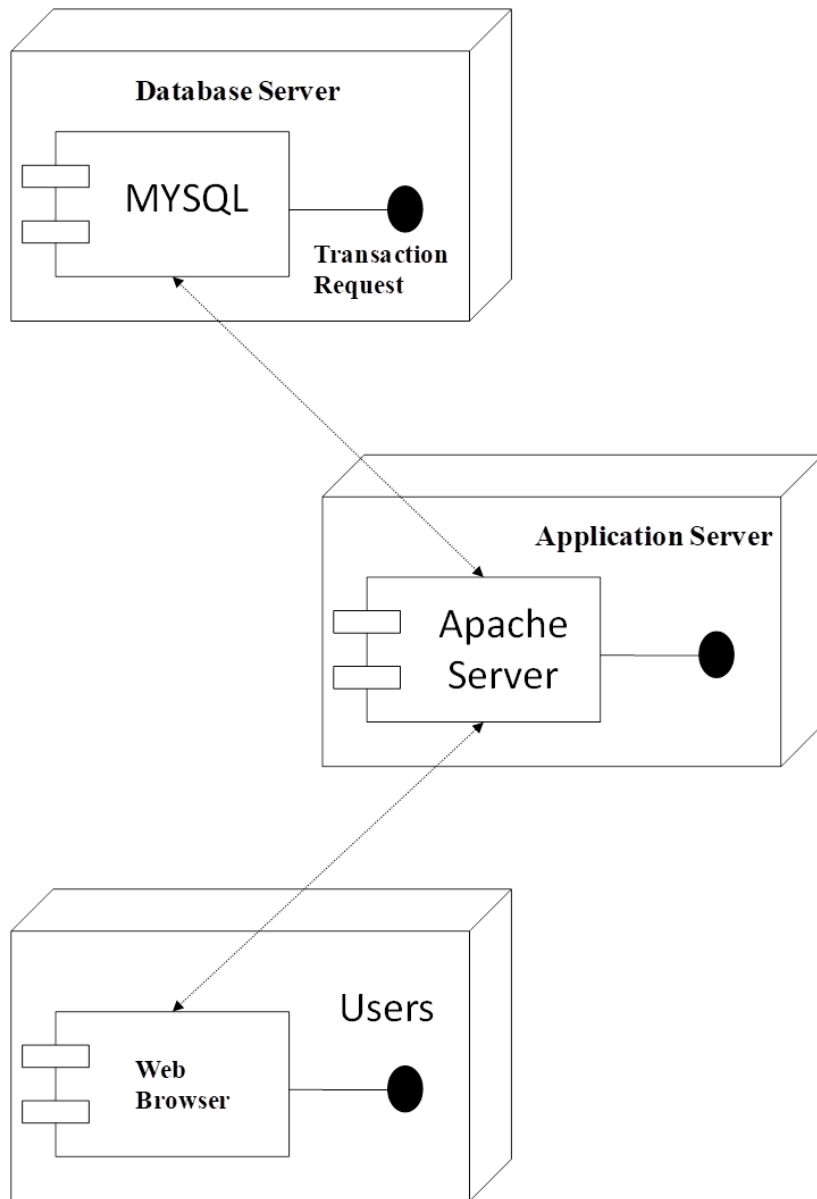
Advantages:

- 1: PHP is a cross platform application that can be run on any platform like windows, linux and even on Apple platform.
- 2: PHP is easy to learn and implement the huge application in a short time.
- 3: With help of PHP classes the website performance can be increased.
- 4: PHP and MYSQL both are open source can lower the development cost
- 5: PHP is stable and the performance of PHP application can beat other language applications
- 6: Configuration and deployment on live server is very easy.
- 7: Built-in classes and libraries provide easy and quick solution for the development and business logic.
- 8: Lots of PHP frameworks are available in the market, which makes development more easy and quick like CodeIgniter Web Framework, Laravel, Symfony, CakePHP, Yii etc.

For the backend development, we have used MYSQL database. MYSQL is open source database application. It provides quick and fast implementation of any web application. The feature of portability and multiplatform stability makes it unique in the market.

2.1 Application Architecture

Home Away From Home is a web based application developed using PHP script and MYSQL database. PHP script is used for connecting with database and processing data in a system. For the front end development we have used HTML, CSS, JQuery and Javascript.



Architecture Diagram

2.2 Project/Application Information flows

DFD (Data Flow Diagrams):

What is a data flow diagram?

Also known as DFD, Data Flow Diagrams are used to graphically constitute the flow of records in a commercial enterprise statistics device. DFD describes the processes which can be involved in a system to switch data from the input to the document storage.

Data Flow Diagrams can be divided into logical and physical. The logical facts flow diagram describes with the flow of records via a machine to perform sure capability of a commercial enterprise. The physical statistics diagram describes the implementation of information with the flow.

DFD graphically representing the capabilities, or strategies, which seize, manipulate, store, and distribute records among a system and its environment and among additives of a system. The visual illustration makes it an excellent conversation device among User and System. Structure of DFD lets in starting from a broad evaluate and extend it to a hierarchy of special diagrams. DFD has frequently been used due to the subsequent reasons:

- Logical data flow of the system
- Determination of physical device construction necessities
- Simplicity of notation
- Establishment of guide and automated structures necessities

Using any convention's DFD rules or guidelines, the symbols depict the four components of data flow diagrams.

1. External entity: an outside system that sends or receives data, communicating with the system being diagrammed. They are the sources and destinations of information entering or leaving the system. They might be an outside organization or person, a computer system or a business system. They are also known as terminators, sources and sinks or actors. They are typically drawn on the edges of the diagram.

2. Process: any process that changes the data, producing an output. It might perform computations, or sort data based on logic, or direct the data flow based on business rules. A short label is used to describe the process, such as "Submit payment."

3. Data store: files or repositories that hold information for later use, such as a database table or a membership form. Each data store receives a simple label, such as "Orders."

4. Data flow: the route that data takes between the external entities, processes and data stores. It portrays the interface between the other components and is shown with arrows, typically labelled with a short data name, like "Billing details."

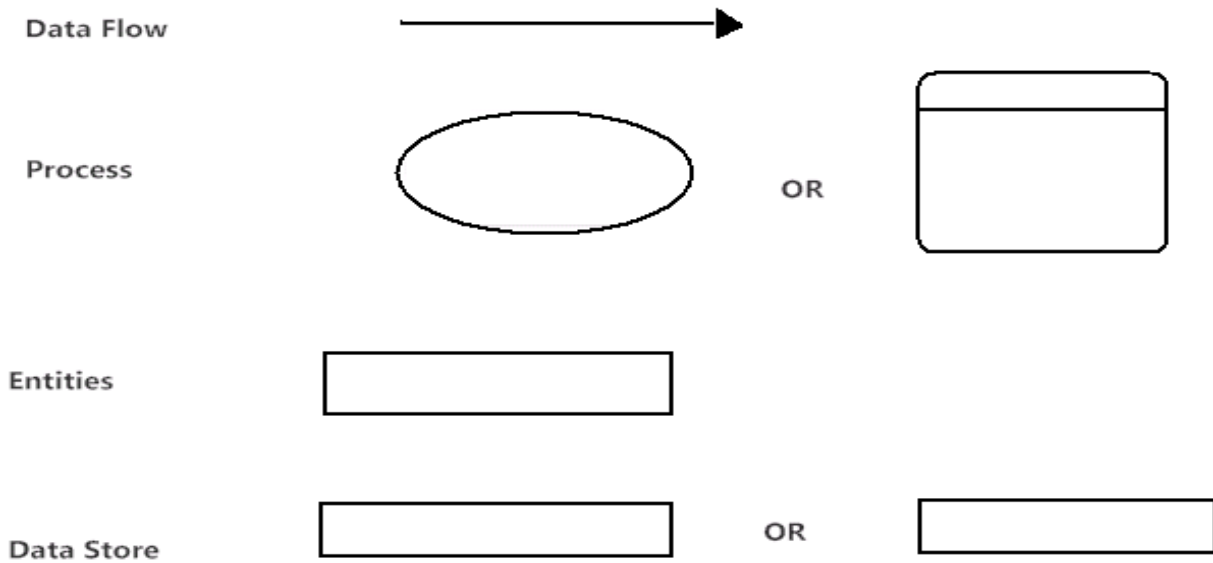


Figure 1. Symbols

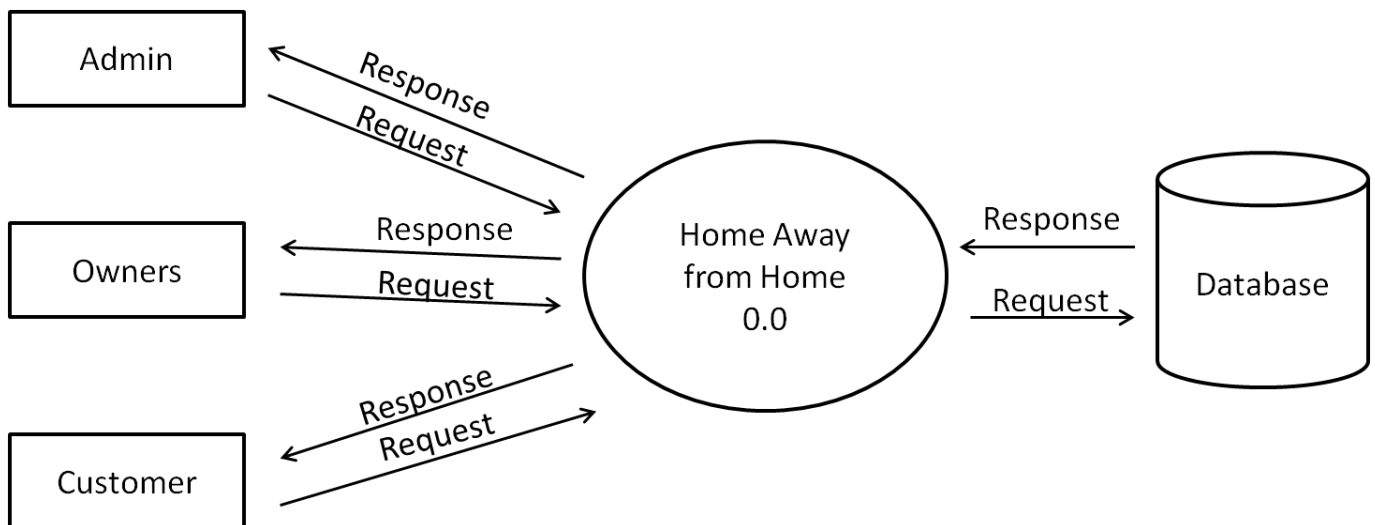


Figure 2. This diagram illustrates complete data flow of the system.

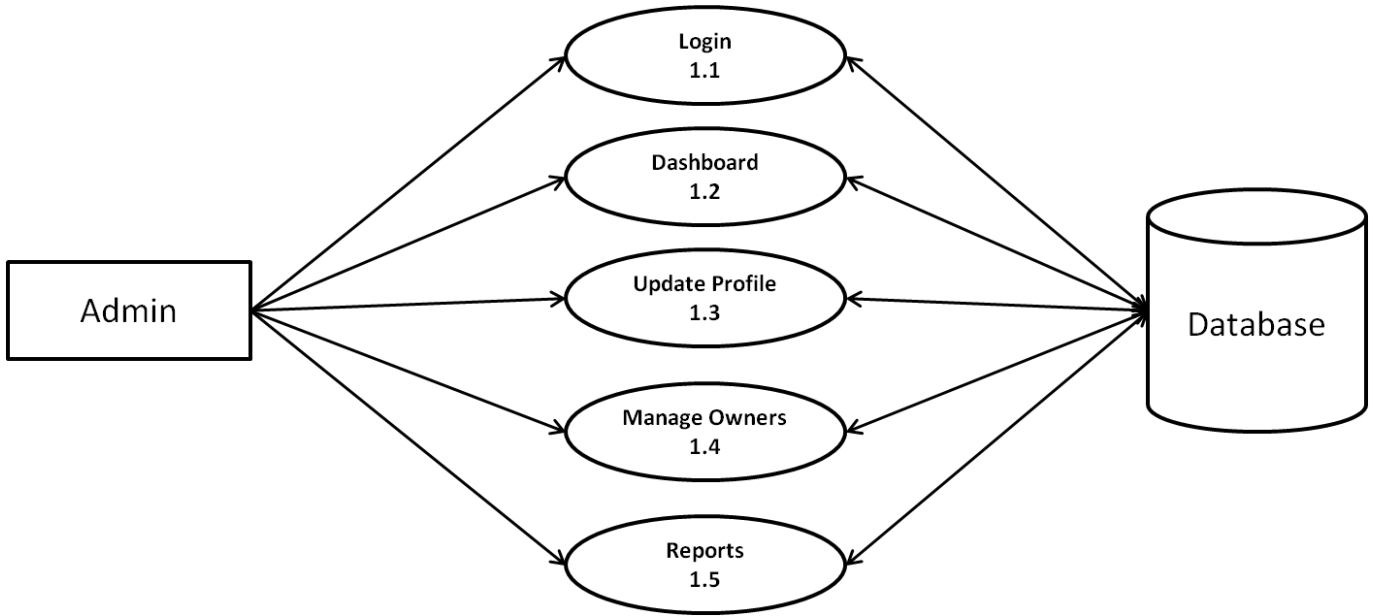


Figure 3. This diagram shows the complete privileges of admin module.

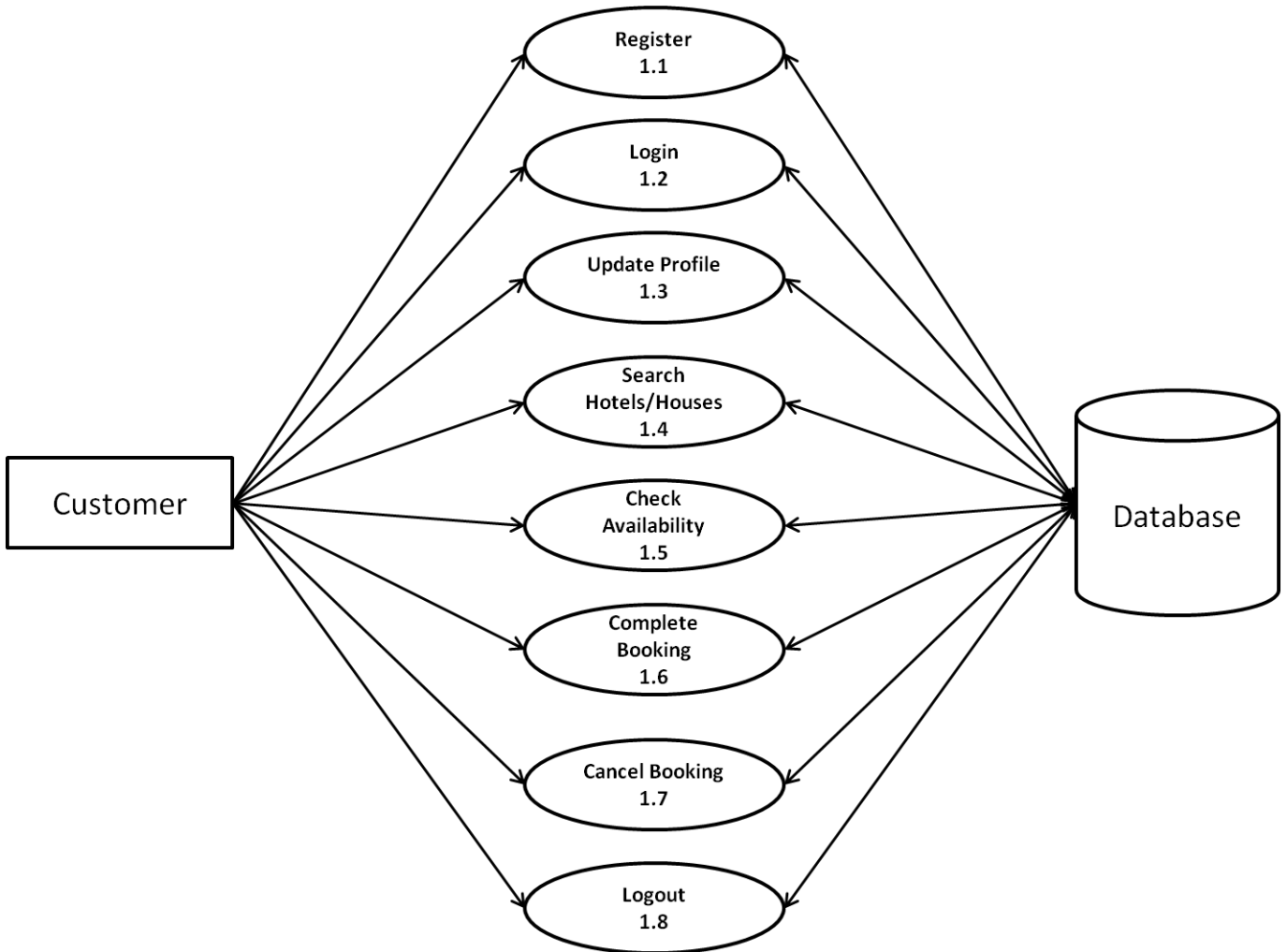


Figure 4. This diagram shows all the functionalities of a customer.

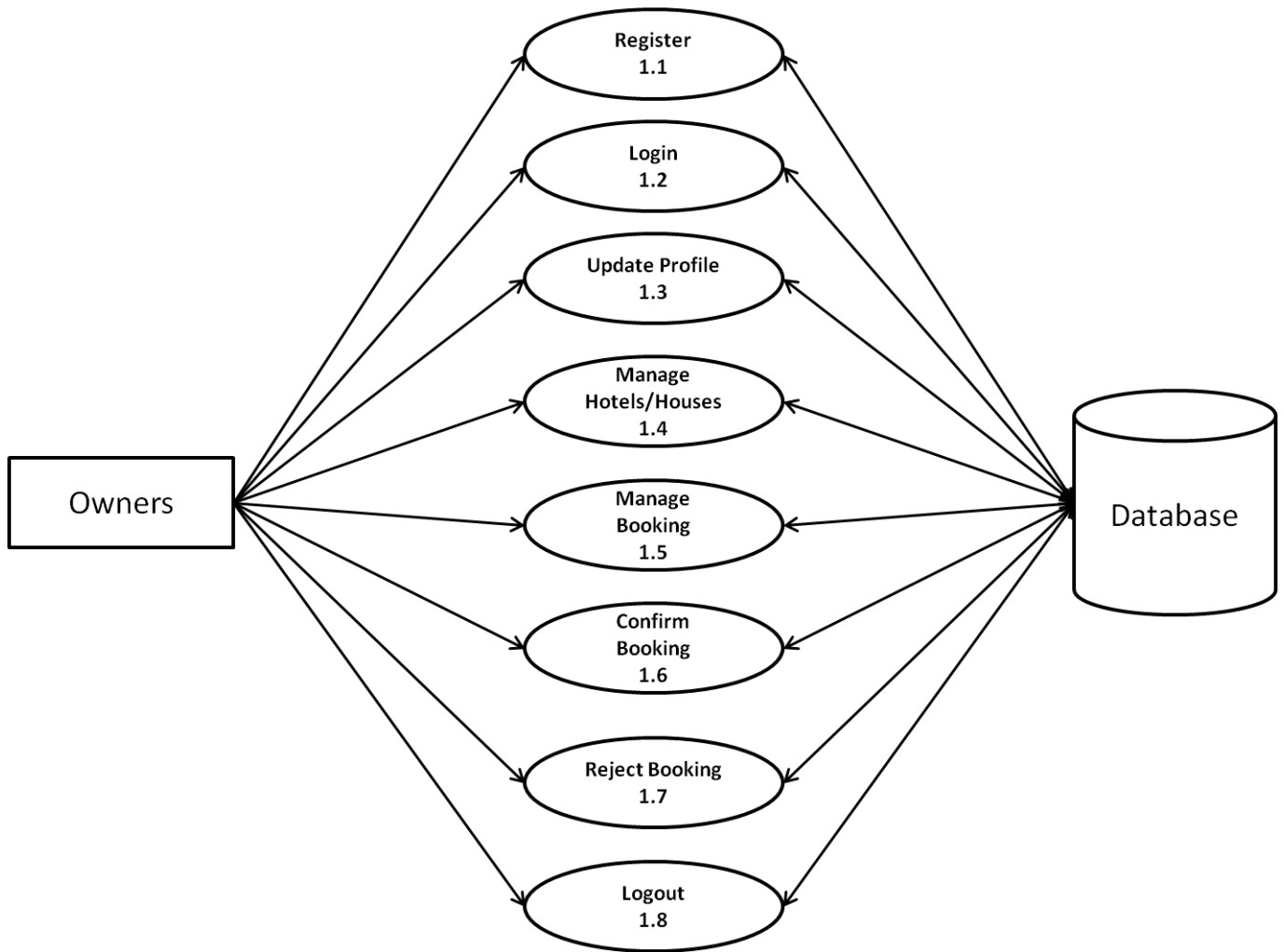


Figure 5. In this diagram all the functionalities of owners.

Database Diagram

This is a web based application, it receives every request from the browser and performs desired operations and response it back the result to the browsers. Here is the database design diagram which depicted the execution flow of application.

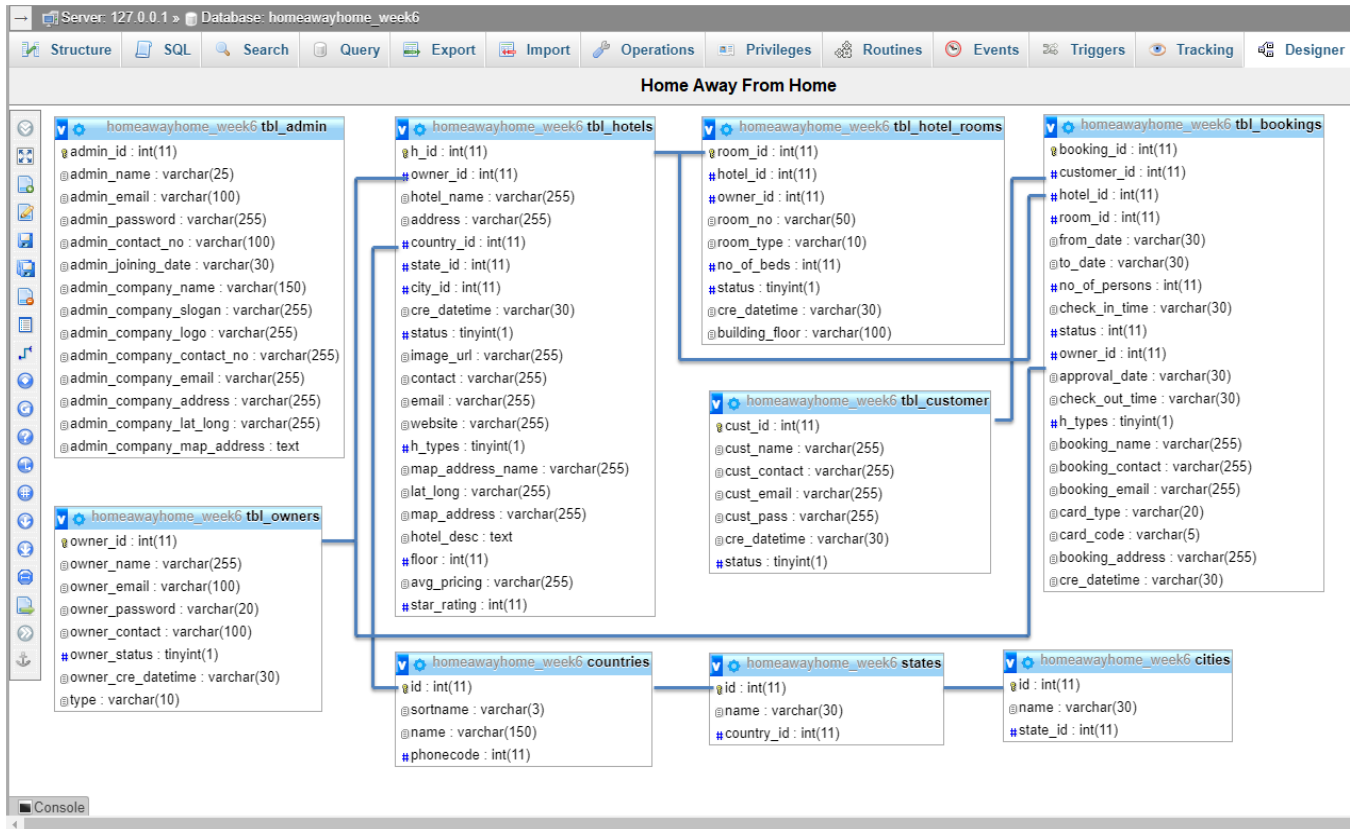


Figure 6. E-R Diagram for Database Design

Table structure:

Table: Admin

Field Name	Field Type
admin_id	int(11)
admin_name	varchar(25)
admin_email	varchar(100)
admin_password	varchar(255)
admin_contact_no	varchar(100)
admin_joining_date	varchar(30)
admin_company_name	varchar(150)
admin_company_slogan	varchar(255)
admin_company_logo	varchar(255)
admin_company_contact_no	varchar(255)
admin_company_email	varchar(255)
admin_company_address	varchar(255)
admin_company_lat_long	varchar(255)
admin_company_map_address	text

Table: Owners

```
homeawayhome_week6 tbl_owners
owner_id : int(11)
owner_name : varchar(255)
owner_email : varchar(100)
owner_password : varchar(20)
owner_contact : varchar(100)
owner_status : tinyint(1)
owner_cre_datetime : varchar(30)
type : varchar(10)
```

Table: Customer

```
homeawayhome_week6 tbl_customer
cust_id : int(11)
cust_name : varchar(255)
cust_contact : varchar(255)
cust_email : varchar(255)
cust_pass : varchar(255)
cre_datetime : varchar(30)
status : tinyint(1)
```

Table: Hotels/Houses

```
homeawayhome_week6 tbl_hotels
h_id : int(11)
owner_id : int(11)
hotel_name : varchar(255)
address : varchar(255)
country_id : int(11)
state_id : int(11)
city_id : int(11)
cre_datetime : varchar(30)
status : tinyint(1)
image_url : varchar(255)
contact : varchar(255)
email : varchar(255)
website : varchar(255)
h_types : tinyint(1)
map_address_name : varchar(255)
lat_long : varchar(255)
map_address : varchar(255)
hotel_desc : text
floor : int(11)
avg_pricing : varchar(255)
star_rating : int(11)
```

Table: Hotel Rooms

```
homeawayhome_week6 tbl_hotel_rooms
room_id : int(11)
hotel_id : int(11)
owner_id : int(11)
room_no : varchar(50)
room_type : varchar(10)
no_of_beds : int(11)
status : tinyint(1)
cre_datetime : varchar(30)
building_floor : varchar(100)
```

Table: Bookings

homeawayhome_week6 tbl_bookings	
🔑	booking_id : int(11)
#	customer_id : int(11)
#	hotel_id : int(11)
#	room_id : int(11)
@	from_date : varchar(30)
@	to_date : varchar(30)
#	no_of_persons : int(11)
@	check_in_time : varchar(30)
#	status : int(11)
#	owner_id : int(11)
@	approval_date : varchar(30)
@	check_out_time : varchar(30)
#	h_types : tinyint(1)
@	booking_name : varchar(255)
@	booking_contact : varchar(255)
@	booking_email : varchar(255)
@	card_type : varchar(20)
@	card_code : varchar(5)
@	booking_address : varchar(255)
@	cre_datetime : varchar(30)

Table: Country

homeawayhome_week6 countries	
🔑	id : int(11)
@	sortname : varchar(3)
@	name : varchar(150)
#	phonecode : int(11)

Table: States

homeawayhome_week6 states	
🔑	id : int(11)
@	name : varchar(30)
#	country_id : int(11)

Table: City

homeawayhome_week6 cities	
🔑	id : int(11)
@	name : varchar(30)
#	state_id : int(11)

2.3 Interactions with other Projects

This application will work independently. It will not have any connection with any other project.

2.4 Interactions with other Applications

This application will work independently. It will not have any connection with any other application.

2.5 Capabilities

Roles of Admin

In this system admin can manage the following Functionalities:

- Secure Login
- Change Password
- View Customers and their Bookings
- View Owners and their Home/Hotels
- Activate/De-activates Owners Account

Role of User:

- Home Page
- Sign up News Customer
- Sign in
- Search and Filters for Home/Hotels
- List of Home/Hotels
- Details of Home/Hotel
- Check Availability
- Book a Room
- Cancel Bookings
- My Profile Update
- Password Change

Role of Hotel/House Owners:

- Sign up
- Login
- View Customer Bookings
- Confirm Bookings
- Manage Hotel / Home Details
- Owner Profile and Password Change

2.6 Risk Assessment and Management

There are some bugs and errors in a system which we have resolved it with the help of testing it repeatedly.

3. Project Requirements

3.1 System Requirement Analysis

In this project we have defined three user roles which are System Administrator, Hotel/House owners and end customer. System admin can manage all the owners; he can activate and de-activate their accounts. Owners of hotels and houses need to register on the platform and login to access all the bookings and his hotels/house details. Owners can register new houses and hotel details and activate and de-activate it. Customer bookings will be listed and owners need to confirm the bookings. Customer need to search hotels and houses from front end website and check availability and book it.

3.2 Operations, Administration, Maintenance and Provisioning (OAM&P)

Customer can access all the hotels and houses details. The bookings of customer are secured in their respective logins. Owners can only see their own hotels/house bookings. System admin can view all the bookings and owners.

3.3 Security and Fraud Prevention

The possible security issue can be access of all data from admin panel, but the admin panel URL is not connected with front end website and the password of admin is stored in encrypted format.

3.4 Release and Transition Plan

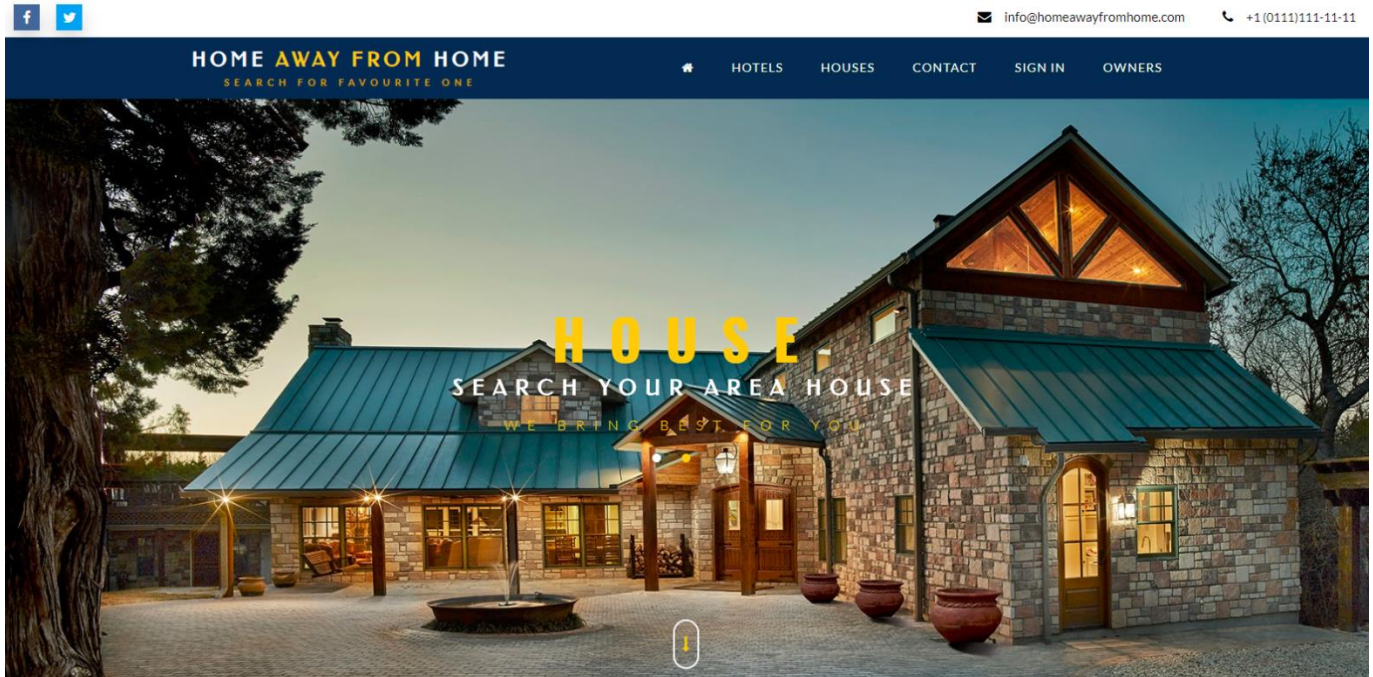
Project will be deployed in a local machine. Once it is being deployed the admin access will be granted to trusted employee suggested by client and the deployment details will be handed over for better transition to be taken care by client team.

4. Project Design Description

A project design is a step towards a successful project. Project design specifies the process, materials of project and strategic organization of ideas. We have designed this system with the help of PHP script and MYSQL database. We have also used a HTML control, CSS, and bootstrap for developing this application for making the attractive and better user interface.

5. Project screen

Home Page:

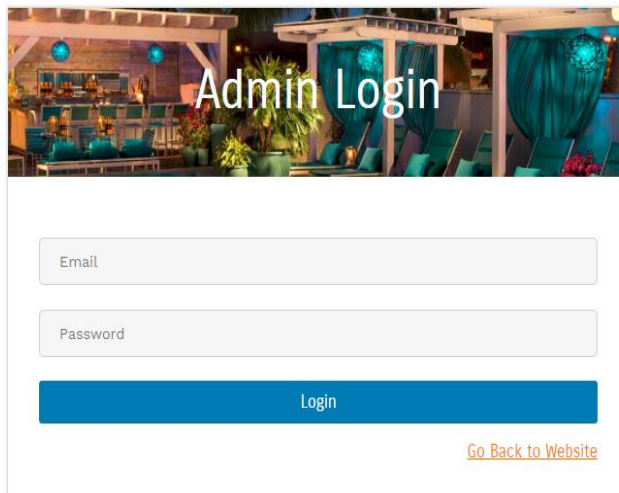


Search Engine:

The screenshot shows a search engine form on a dark blue background. On the left is a yellow button with the text 'Search'. To its right are four input fields: 'LOOKING FOR' (containing 'Hotels'), 'CHECK-IN DATE' (with a placeholder 'mm/dd/yyyy'), 'CHECK-OUT DATE' (with a placeholder 'mm/dd/yyyy'), and 'NO OF PERSON'. A 'GO!' button is located on the far right.

EXPERIENCE A GOOD STAY, ENJOY DELICIOUS FOODS
FIND OUR FRIENDLY WELCOMING HOTELS AND HOUSES

Admin Screen:



The Admin Login screen features a header image of a modern lounge with teal chairs and warm lighting. The text "Admin Login" is centered over the image. Below the image are three input fields: "Email", "Password", and a blue "Login" button. A link "Go Back to Website" is located at the bottom right of the form.

Email

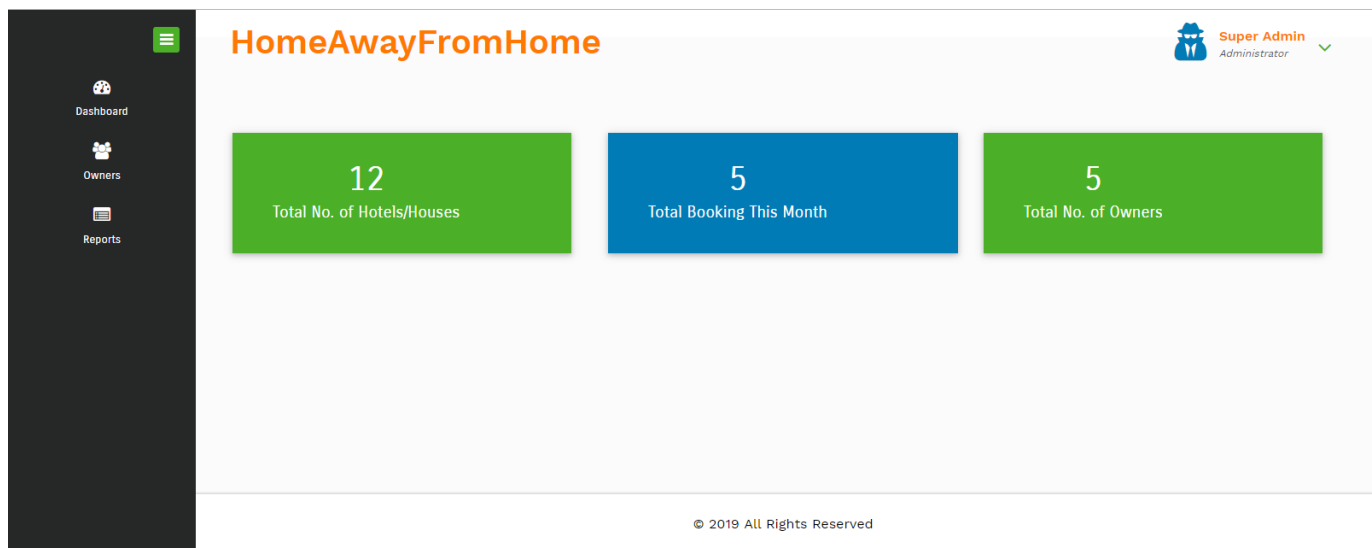
Password

Login

[Go Back to Website](#)

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Admin Dashboard



The Admin Dashboard for HomeAwayFromHome displays a sidebar with navigation options: Dashboard, Owners, and Reports. The main content area shows the user "Super Admin Administrator" and three key performance indicators (KPIs):

- Total No. of Hotels/Houses: 12
- Total Booking This Month: 5
- Total No. of Owners: 5

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Owners Screen:

The screenshot shows the 'Home Away Home - Owners Area' interface. It features two main sections: 'Owner Sign in' and 'Owner Sign up'. The 'Owner Sign in' section includes fields for 'Email' and 'Password', a blue 'Sign in' button, and a link to 'Go Back to Website'. The 'Owner Sign up' section includes fields for 'Owner Name', 'Owner Email', 'Owner Contact', 'Owner Password', and a dropdown menu for 'Select owner type', followed by a blue 'Sign up' button. The background of the top section is a photograph of a modern interior with teal lighting.

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Customer Screen:

The screenshot shows the 'HOME AWAY FROM HOME' customer interface. At the top, there are social media icons for Facebook and Twitter, and contact information: 'info@homeawayfromhome.com' and '+1 (0111) 111-11-11'. The navigation menu includes 'HOTELS', 'HOUSES', 'CONTACT', 'SIGN IN', and 'OWNERS'. The main content area is split into two columns: 'Sign up' (New Customer Register Here) and 'Sign in' (Existing Customers Login Here). The 'Sign up' column has fields for 'Full Name', 'Phone Number', 'Email Address', and 'Password', with a 'Sign Up' button. The 'Sign in' column has fields for 'Email Address' and 'Password', with a 'Sign In' button. The background is a night cityscape with a pool and outdoor seating.

Customer's Booking Page:

HOME AWAY FROM HOME
SEARCH FOR FAVOURITE ONE

HOTELS HOUSES CONTACT MY BOOKINGS SIGN OUT

My Bookings

Sr.No	Hotel/House	Booking Date	Price	Checkin-Checkout Time	Status	Action
1	Hotel	2019-05-01 06:31:25	400	16hrs - 19hrs	Pending Confirmation	Cancel Booking

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Confirmation Page:

HOME AWAY FROM HOME
SEARCH FOR FAVOURITE ONE

HOTELS HOUSES CONTACT MY BOOKINGS SIGN OUT

My Bookings

Sr.No	Hotel/House	Booking Date	Price	Checkin-Checkout Time	Status	Action
1	Hotel	2019-05-01 06:31:25	400	16hrs - 19hrs	Cancelled	
2	Hotel	2019-05-01 06:59:27	350	0hrs - 0hrs	Confirmed	Cancel Booking

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6. Project Design Unit Impact

6.1 Function Overview

- Admin – Organize all the owners and view bookings.
- Owners – Organize their hotels/houses details and view bookings and confirm it.
- Customer – Can register and login to the system, search for hotels and house, check availability and book it online.

6.2 Requirements

Software Requirements

- Operating System : Windows
- Programming language : PHP
- Web Technologies : HTML, CSS, Bootstrap
- Database : MYSQL
- Server : Apache
- IDE : Sublime Editor

Hardware Requirement

- RAM : Minimum 2GB
- Hard Disk : Minimum 30GB

7. Open Issues

- There is no open issue in the project
- Application necessities are implemented effectively
- Required functionalities are implemented and working smoothly.

8. Acknowledgements

We want to express gratitude toward our professor for supporting us to complete this project. Our professor helped in every part of the system development.

At last we would like to express gratitude towards our university for giving us an opportunity to have us as a student and providing all the required things for study and system etc.

9. References

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- 2] Patterns of Enterprise Application Architecture by Martin Fowler
- 3] Designing Software Architectures: A Practical Approach by Humberto Cervantes and Rick Kazman – 2016 Edition
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- 4] <https://solaborateappeus.blob.core.windows.net/upload-documents/f02333f5-6d4f-4988-91ef-da2db5187746.pdf>