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Internet application for renting houses and rooms in multilingual application

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Abstract

It is necessary to have rental home and room software as a result of the growing significance of renting a house and rooms in today's modern society. This will help to ensure that people have access to a variety of rental housing options that are not only affordable but also accessible and decent. Over the course of the years, landlords had trouble finding tenants, and finding tenants was difficult for landlords. There is no house that is adequately allocated, and the system cannot be simply configured according to the user's interests or based on the user's native language.

The primary goals of our research are to create a system that will be of value to landlords as well as tenants, or home owners in our case admin, and to make the procedure of searching for households and renting more effective in several languages, such as English and Polish.

I have used web technologies such as HTML, CSS, Bootstrap, Javascript, PHP, MySQL, PHPMailer to complete this project.

Keywords: House Rent, Room Rent, Rental System, Multi-Lingual, PHP, XAMPP, MySQL, Tenaments, Bungalow, Flat.

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Chapter – 1 : Introduction

The management of rental homes and apartments has emerged as an essential component of contemporary society; thus, there is a pressing want for an integrated rental home and apartment management system. It is challenging to discover an appropriate rental home in a timely manner if you are an outsider in a city and you are looking for housing there.

1.1 Multilingual System

The primary impetus behind the creation of the Multilingual Room and House Rental Management System was to accomplish the aforementioned goal. An online web portal that is used to manage rental properties, allows tenants to view all of the listed properties, and allows tenants to search for the property that best meets their needs by using key terms such property type and location. It is essential that landlords have the ability to post and update information about their properties, subject to administrative approval. In addition to this, they need a feature that gives tenants the ability to browse all of the property's data, select which ones are most appealing to them, and then register to schedule a visit to the location. It is necessary for the website to provide a form for registering members and an inquiry form for contacting the administrator about marketing. It is required that registered members have the ability to book for a site visit, view their recently viewed, site visits, and reviewed sites within their member account, and also view recently booked site visits. It is possible for property owners to list their properties on the portal and manage those properties, as well as the agreements and tenants who have been assigned to them, with an on/off reminder that the facilities for the agreement's due date or expiration date is approaching. HTML, CSS, bootstrap, and JavaScript are going to be the technologies that are utilised for the front end of the project. Because of these technologies, the website may now be made responsive. It indicates that the website will function without any problems on any device. There is no stipulation regarding the necessity of a specific display of a predetermined size. PHP and MySQL are going to be the technologies that are used on the back end of the website. These enable dynamic content to be shown on the website. They make it possible to design forms that may be used to solicit specific information from users and then save that data in a database.

The listing of houses, flats, and rooms that are available for rent is the primary objective of this website. Users who are looking for a place to rent will be able to obtain information in multiple languages regarding the house or room they are interested in renting. The information regarding the house, including the price, a photograph, and a detailed description, is displayed on the detail page. In a similar fashion, the admin user can control the houses by using the straightforward administration panel. They are able to quickly add a new house, alter the current ones, or delete the ones that are there.

This web programme is incredibly user-friendly, efficient, and it offers many unique features that other currently accessible house rental websites do not offer. These features include: Using web applications that have been built, tenants are able to register using their phone number, save information about their identity, search for available houses, send messages to house owners, and select a property that is right for them. House owners can also sign up for the system, which will manually verify and authenticate the information that is provided by the house owner. The house owner will be able to view a tenant's information history whenever a tenant makes contact through text, and they will be able to provide house-related information in accordance with that history.

The application makes it easier and more expedient to get rooms and houses, and it also ensures that there are houses available for rent in the most number of different locations possible. The technology will assist in the dissemination of reliable services across the nation and will provide users with the opportunity to communicate and increase the house rent. This newly designed multilingual house and room rental web application will make it very simple for tenants to find a property to rent because it comes equipped with a wide variety of intelligent features. On the other hand, homeowners have the ability to rent out their residences with relative ease.

1.2 Existing Work

At the moment, the majority of property managers manage the details of their tenants and properties using paper. Using the existing method, tracking the specifics of a user's many different actions is entirely manual and requires a significant amount of paperwork to be completed. There is a file for each home that details the following information about the dwelling: number, size, rent per month, expected deposit, current occupant, and status. The tenant's first name, last name, phone number, date of payment,

amount, and remaining balance, if any, are all included on the rent payment table. The only interface that the current system offers is a text-based one, which is not nearly as user-friendly as graphical user interfaces. Because of the manual nature of the system's implementation, the response time is exceedingly slow.

1.3 Features of the system

A user has the ability to view all of the residences that are available for rental in multiple languages. A residence can be rented by the admin by simply clicking on the button labelled "rent." Following this step, a record of the rent is added to the database, where it may be managed by the system administrator. The user can conduct a search for various residences by typing the locations of the properties into the search bar.
However, a default user (a renter) can only take rent on a house. The administrator has the ability to add, update, and delete houses and rent records. Additionally, the administrator has the ability to remove rent records. In addition, a guest can create a new account on the system for renting houses by registering with the system using an email address. If a user ever forgets their password, they have the option to update it.

1.4 Objective

The main objectives of the system are:

- To provide facility to the users to find house and rooms on rent
- To give multi-lingual GUI to users for the ease of searching
- To make user friendly and simple GUI
- To facilitate house, rooms and apartment search quick

1.5 Need for New System

In the past, it was difficult to go to a place to shift that was located at long-distances. As a result, we had to miss out on fantastic opportunities of living since we did not know where to stay and were clueless about a specific city. However, it is now much simpler to choose an apartment or property that is located close to the location of employment and that offers affordable prices. Users of this system are able to locate a variety of available properties in close proximity to their workplaces or other desirable locations. The administrator will be able to add desirable locations and easily get users by simply uploading pictures and information pertaining to each location. Additionally, he or she

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is able to view the users who are interested in the post that they have submitted. It is possible to remove or delete the post that was uploaded. The details about property are made available in both English and Polish language. User will send enquiry about any property by giving her email and contact number in response admin will provide proper feedback about enquired property.

1.6 Types of Users

There are two types of users in this system.

1. **Admin**
2. **User**

User wise features

Admin:

1. Login
2. Add Properties
3. View and Edit existing properties
4. View Enquiry
5. Send feedback/response to enquiry
6. Change Password

User:

1. Home
2. About us
3. View Properties
4. Post Enquiry
5. Set Language preference

1.7 Modules of System

Admin Module

Dashboard:

In this section, admin can see all detail in brief like total property type and total property listed.

Property Type:

In this section, the admin can manage property type (add/update).

List of properties:

In this section, admin can view details of the property listed,

Enquiry:

In this section admin, can view enquiry generated by the buyer.

Buyer (Simple User)

Home Page:

User can view the home page of the house & rooms rental system

About:

User can view about us page.

Properties:

User can view properties they can view property type wise

Contact us:

User can view contact us page.

1.8 Hardware and Software Requirement

Hardware and Software Requirement Software and Hardware work together to process the input. The CPU Processes input into Output through the fetch execute cycle.

Client side:

A. Software Requirements

- Web browser: Google chrome, Mozilla Firefox

B. Hardware Requirements

- **Smart phone/tablet**
  - Secondary Storage : 4 GB (Minimum)
  - RAM : 2 GB(Minimum)
- **Computer/laptop**
  - Secondary Storage : 100 GB
  - RAM : 2 GB(Minimum)

Server side:

A. Software Requirements

- My SQL
- Windows 10
- Web browser: Google chrome, Mozilla Firefox

B. Hardware Requirements

- Secondary Storage: 8 GB(Minimum)
- RAM :1 GB
- Computer/laptop
- RAM :2 GB(Minimum)

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1.9 Tools & Technology Used

Table 1.1 : Tools and Technology

Tools & Technology	
Operating System	Windows 10
Browser Support	Mozilla Firefox, Google Chrome, Internet Explorer version 6 or later, Microsoft Edge
Database	My SQL
Technology	PHP
Web Server	XAMPP
Documentation	MS- Office & MS-PowerPoint
Analysis	MS-Visio 2013
Designing	HTML,CSS & Java Script

Chapter - 2 : System Analysis & Design

System analysis and design is a technique that is used by many businesses to examine specific business scenarios and devise solutions to improve such scenarios through the application of methodologies that are more effective. This method can be utilised by businesses in order to restructure their organisations or accomplish other business goals connected to expansion and increased profitability.

2.1 System Analysis

The collection of factual data, an understanding of the processes involved, the identification of problems, and the recommendation of practical solutions for enhancing the system's functioning are all steps included in the process of systems analysis. This involves researching the business processes, acquiring operational data, understanding the information flow, discovering bottlenecks, and developing solutions for overcoming the shortcomings of the system so that the firm can achieve its goals. System Analysis also includes the identification of data stores and manual procedures, as well as the subdividing of complicated processes that include the entire system.

Finding answers to the following questions about each business process is one of the primary goals of systems analysis: what is being done, how is it being done, who is doing it, when is he doing it, why is it being done, and how can it be improved? This is more of a thinking process that requires the System Analyst to utilise their creative abilities. It makes an effort to give birth to a new effective system that serves the current needs of the user and has room for future expansion despite the limits imposed by the organisation. A logical system design is produced as the end product of this process. The process of systems analysis is iterative, and it continues until a solution that is preferred and acceptable becomes apparent.

2.2 System Design

System design refers to the process of determining all of the requirements that must be met by a system, including its architecture, modules, and user interface design. We can state that system design encompasses a wide variety of activities, from having discussions about the system needs to developing products. System development either builds an entirely new system or modifies an existing one by modifying the procedures, techniques, and methodologies used to construct the system. As a result, in order to

effectively manage the system requirements and design technique, a systematic strategy is required. It is possible to categorise it as either logical design or physical design. The logical design depicts the abstract dataflow, whereas the physical design depicts the input and output operations of the system.

Importance of System Analysis

Below is the few listed importance of the system analysis**:**

Improve the User experience

An effective analysis will frequently consider a system from the point of view of the end user. It is essential for providers to keep their systems accessible, simple to browse, and in line with the requirements of their customers. Carrying out an analysis of a product or piece of software from the point of view of its final consumers might help providers identify any flaws in the offering. An analyst might, for instance, come across an issue that stops users from effectively carrying out certain operations. By locating these issues, they will be able to make the necessary adjustments to ensure that the system will perform as it was designed to for users.

Reduce error or inefficiencies

An analysis of the system in question can also be used to determine whether or not it is feasible or effective. Analysts are able to evaluate the system's performance and determine whether or not it is feasible by looking at the system's design as a whole. They are therefore in a position to provide recommendations regarding ways in which the system can be enhanced in its operation or improved overall.

Identifies potential issues in code

In most cases, analysis necessitates a comprehensive investigation into a system's source code. Source code is the most common place where faults in a system's functionality can be found. A computer system's behaviour could deviate from the task for which it was designed if it contains errors or if the code was poorly written. By locating these problems, the developers of the system will have an easier time eliminating bugs and addressing coding discrepancies.

Helps Business improve their Systems

There are occasions when companies will employ analysts to look over their systems. The enhancements, modifications, and recommendations that analysts make can assist firms in improving their efficiency and ensuring that their systems continue to function properly. This has the potential to reduce the costs associated with system downtime or troubleshooting. Additionally, it may ensure that firms take into consideration every

aspect of their system, including its usability, performance, scalability, and influence on the business.

Importance of system Design

The following is a list of some of the important aspects of system design:

Scalability

When expanding production of their products, most businesses run into problems. The non-linear rise in required effort is the primary obstacle. This frequently occurs both throughout the development process and the maintenance process. The problem is that the addition of new features and products makes the situation exponentially more complicated. This indicates that you need more employees to ensure that the user experience is consistent across all of your products; a design system can assist you with this.

Maintainability

Writing code in such a way that it can be easily understood and improved upon by a person who was not the original creator of the code is what this means. A good piece of code should have squeaky clean APIs and interfaces so that it can continually build new functionalities.

Reliability

It refers to the capacity of a system to withstand errors or difficulties in order to avoid total shutdowns or malfunctions. The elegance and benefit of this is that it allows for the construction of fault-tolerant systems utilising components that are prone to error.

Save Time

The development of systems will make it possible for your complete digital staff to function more effectively. This does not mean that you will no longer require any designers on your team, but it does assist reduce the amount of effort that is spent on tackling design difficulties that have previously been addressed elsewhere in the system. In addition, a design system lets the entirety of the firm to imagine how something will look before it is ever implemented. Through the usage of reusability, you may stay one step ahead of your rivals or keep up with the demands of your customers. Never again should you begin completely from scratch!

Consistency

Design systems are used to construct components in accordance with a standardised set of guidelines and regulations. They make it possible for the designers to recycle the components an almost uncountable number of times.

In addition to this, they remove any and all instances of component duplication. Because of this, it is now much simpler to develop experiences that are consistent across a variety of platforms.

2.3 Use Case

A person who really uses that process or system to achieve their goals is the focus of a use case, which is a description of how they will do so. Although it is most frequently used in regard to software systems, the term can be applied to any process.

There are three components that any use case must have:

1. Actor, often known as the user, can refer to either a single individual or a group of individuals. An actor interacts with a process.
2. System, which is the procedure that must be followed in order to get at the desired result.
3. The goal, which is for the user to have a successful experience.

Admin UseCase

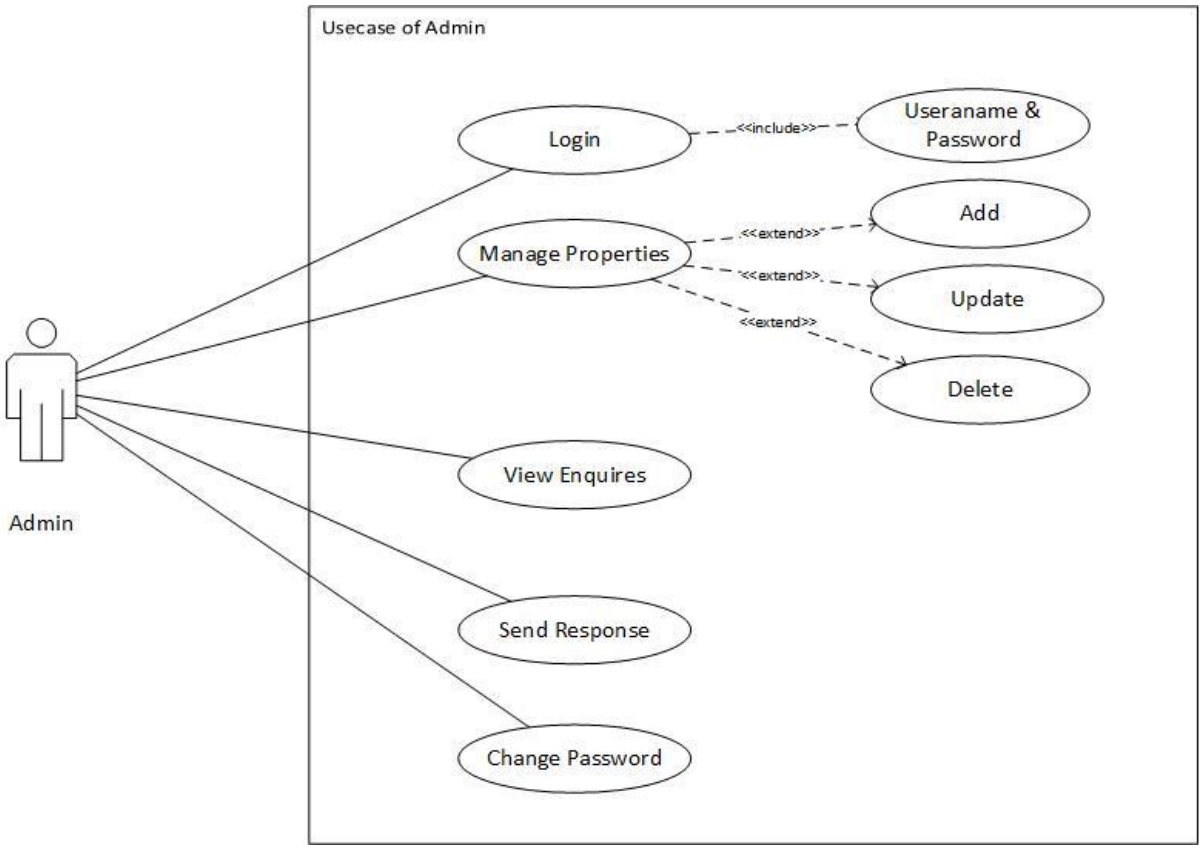

Figure – 2.1: Admin UseCase [Own Development]

In the above use case diagram, there is one actor named Admin. There are a total of five use cases that represent the specific functionality. Admin actor can manage properties, View Enquires, and send response on the application or a system.

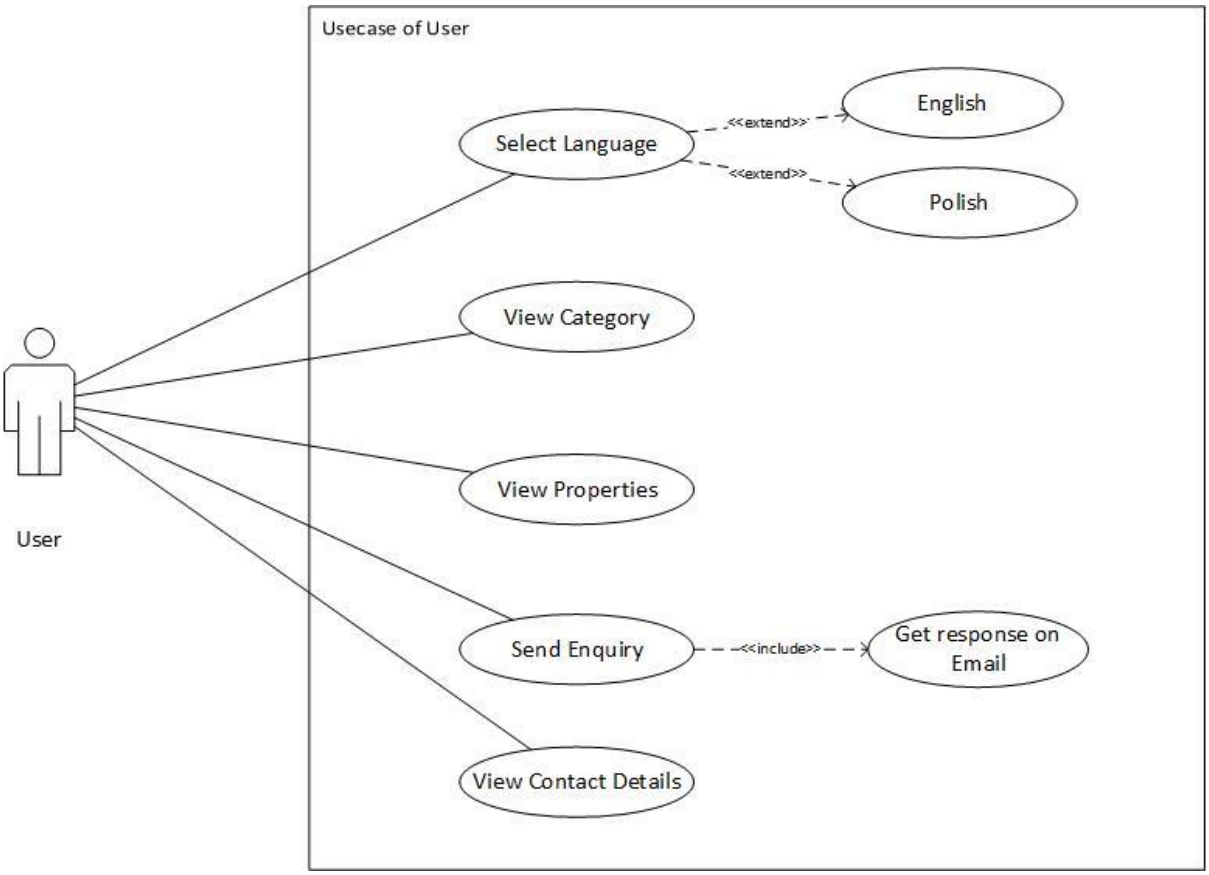

Figure – 2.2 : User UseCase [Own Development]

In the above use case diagram, there is one actor named User. There are a total of five use cases that represent the specific functionality. User actor can select Language, View Category, View Properties, Send Enquiry and View contact Details on the application or a system.

2.4 Activity Diagram

An activity diagram is essentially a flowchart that is used to illustrate the transition from one activity to another. An operation of the system is what the activity is, thus you might say that it is an operation. Activity diagrams' fundamental objective is to record the dynamic behaviour of the system they are intended to describe.

In the modelling of business processes, activity diagrams are frequently utilised. They are also able to explain the steps that are included in a use case diagram. The activities that are modelled can either take place sequentially or concurrently. In either scenario, an activity diagram will have a starting point, also known as an initial state, as well as a conclusion (a final state).

Admin Activity diagram

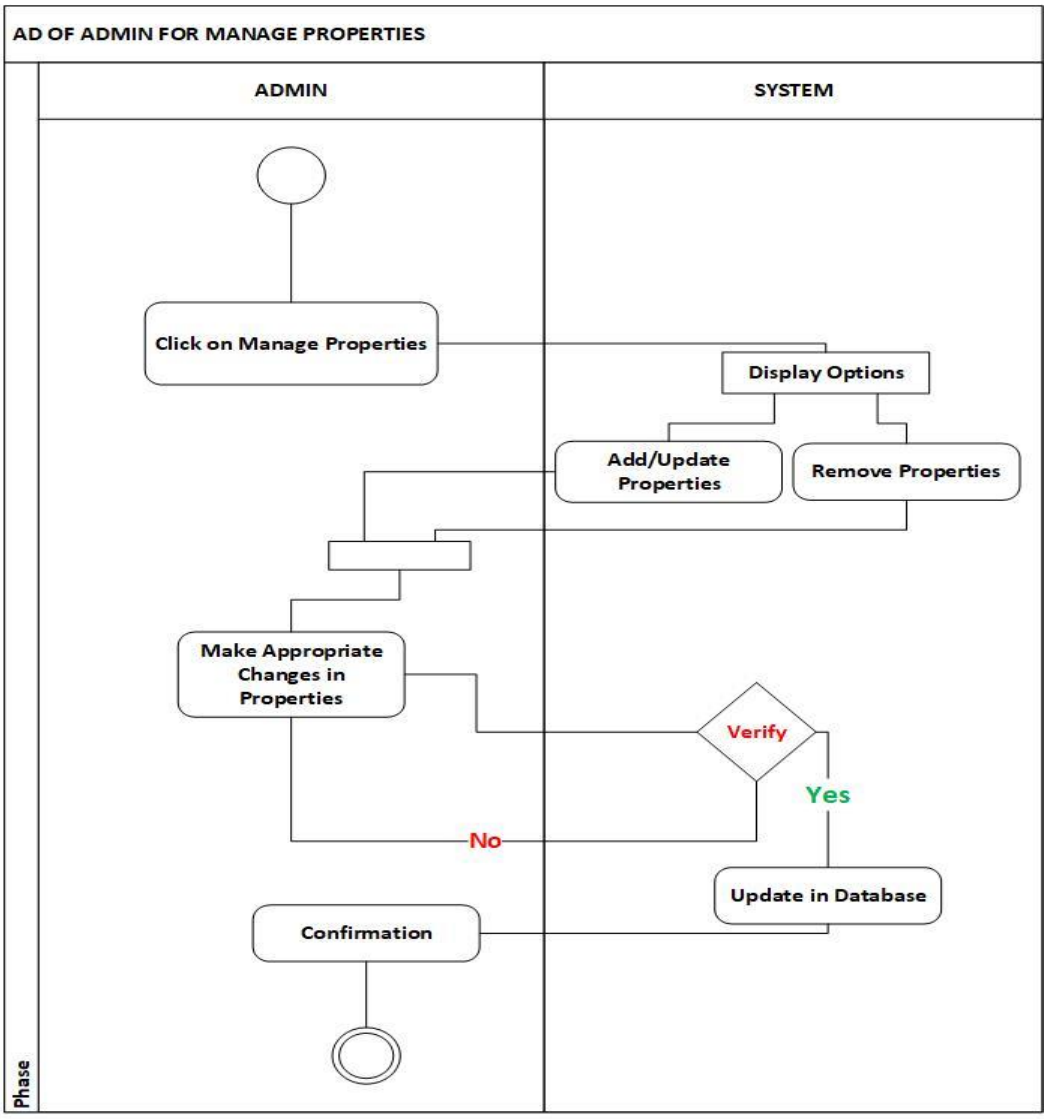

Figure – 2.3 : Admin Manage Property [Own Development]

As seen in figure-2.3, Admin can click on Manage Properties then display the Option Add/update properties and Remove properties. After admin make appropriate changes in properties, condition check if it is true then update in database activity perform. After performing the activity, perform confirmation activity, after finally the process is terminated at termination node.

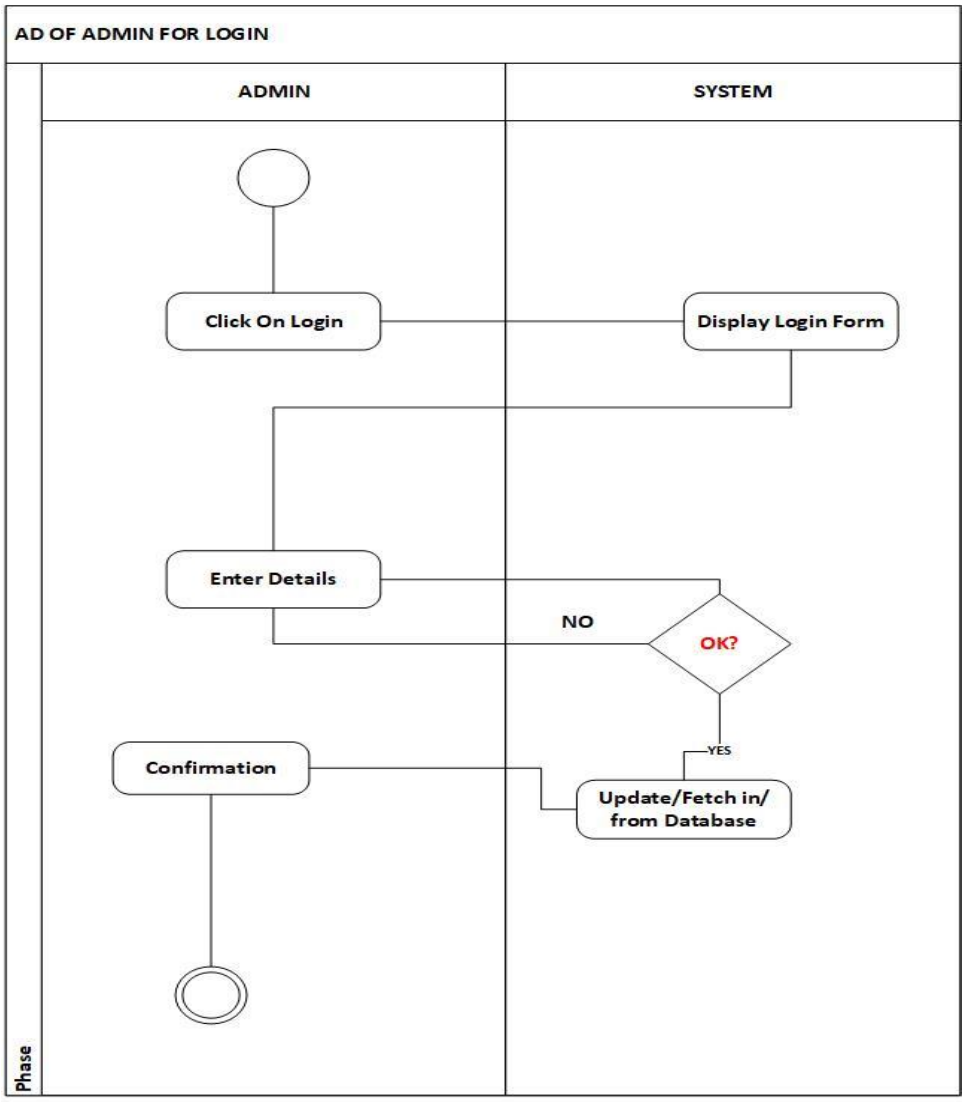

Figure – 2.4 : Admin Login [Own Development]

In the above activity diagram, five activities are specified. First admin click on Login then display the login form, after Enter details, condition check if it is true then update/Fetch in/From Database activity perform, after perform confirmation activity, after finally the process is terminated at termination node.

User Activity Diagram

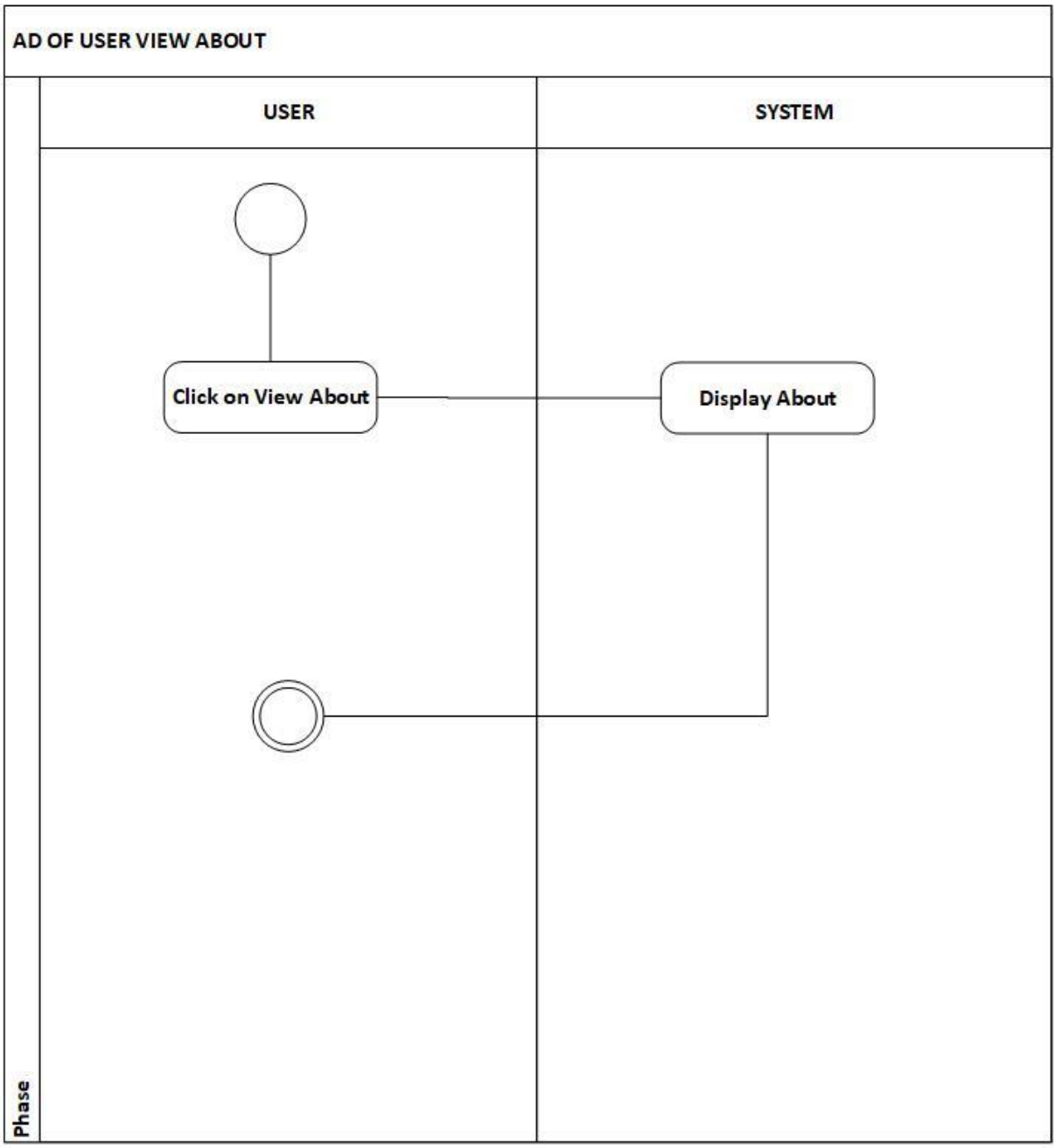

Figure – 2.5 : User View Property [Own Development]

In the above activity diagram, two activities are specified .when User can click on View About then display the about page. After finally the process is terminated at termination node.

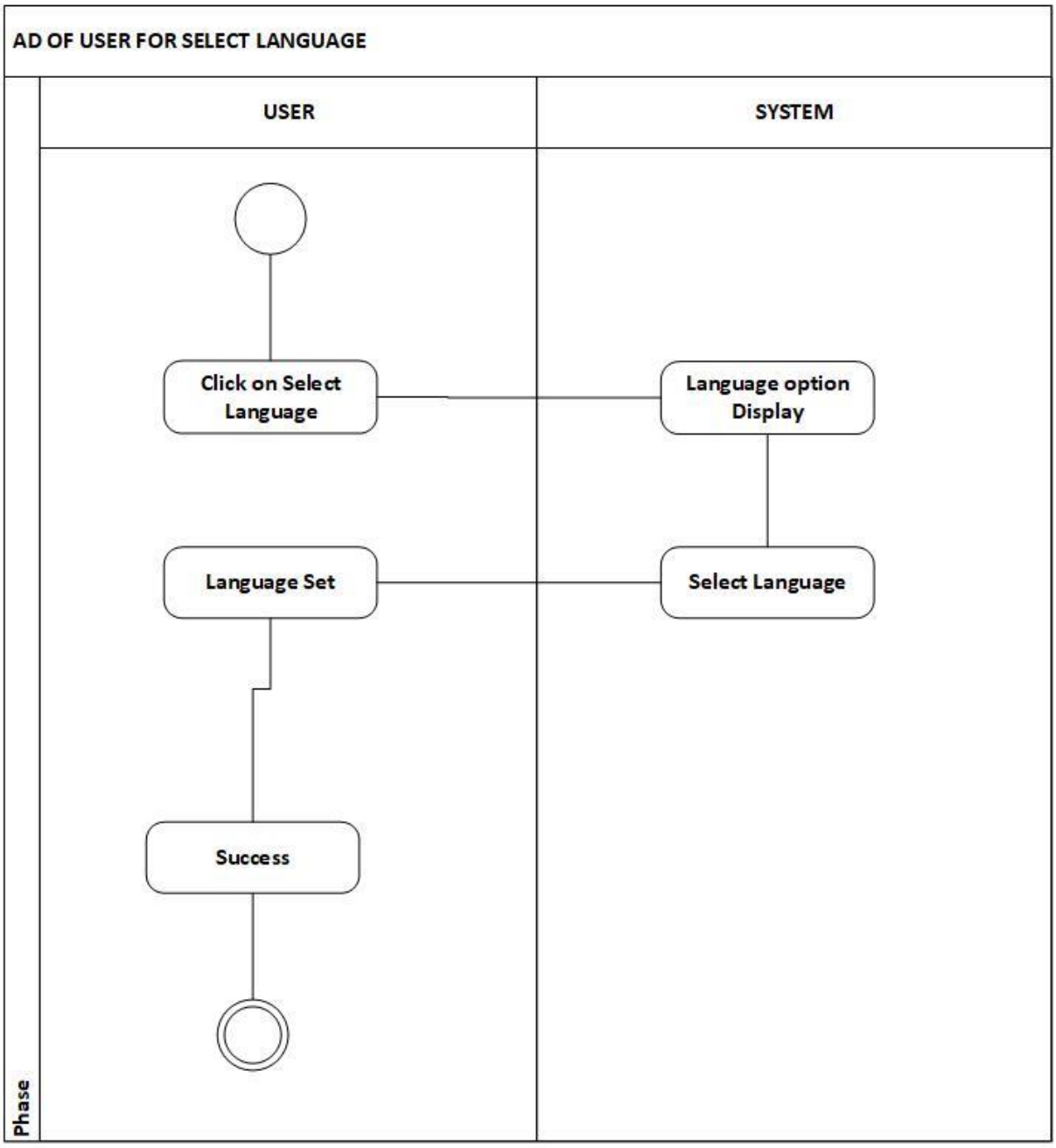

Figure – 2.6 : Select Language [Own Development]

In the above activity diagram, two main activities are specified. User can click on Select Language then display the Language option. Second, User can Set Language, after perform Success activity, after finally the process is terminated at termination node.

2.5 Data Dictionary

A collection of metadata, such as an object's name, data type, size, classification, and relationships with other data assets, is referred to as a data dictionary. Imagine it as a list that also includes an explanation of the tables, fields, and columns involved. The fundamental objective of a data dictionary is to improve the understanding of data assets among data teams.

A Data Dictionary also provides metadata on data elements. The data items' scope and features, as well as the rules for their usage and application, can be more precisely defined with the assistance of the metadata that is contained in a Data Dictionary**.**

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐	1	id	int(5)			No	None		AUTO_INCREMENT	Change Drop More
☐	2	Email	varchar(100)	latin1_swedish_ci		No	None			Change Drop More
☐	3	Password	varchar(50)	latin1_swedish_ci		No	None			Change Drop More
☐	4	Name	varchar(30)	latin1_swedish_ci		No	None			Change Drop More

Table 2.1 : Admin Login Table

In the above given admin table are stored the data of admin login.

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐	1	e_id	int(5)			No	None		AUTO_INCREMENT	Change Drop More
☐	2	id	int(5)			No	None			Change Drop More
☐	3	name	varchar(30)	utf8mb4_general_ci		No	None			Change Drop More
☐	4	telephone	varchar(20)	utf8mb4_general_ci		No	None			Change Drop More
☐	5	email	varchar(35)	utf8mb4_general_ci		No	None			Change Drop More

Table 2.2 : Enquiry Table

In the above given Enquiry table are stored the data of Enquiry

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(5)			No	None		AUTO_INCREMENT	Change Drop More
2	R_name	varchar(20)	latin1_swedish_ci		No	None			Change Drop More
3	R_address	varchar(100)	latin1_swedish_ci		No	None			Change Drop More
4	R_image	mediumtext	latin1_swedish_ci		No	None			Change Drop More
5	R_price	int(5)			No	None			Change Drop More
6	R_occupant	int(11)			No	None			Change Drop More
7	R_name_pl	varchar(100)	latin1_swedish_ci		No	None			Change Drop More
8	R_address_pl	varchar(500)	latin1_swedish_ci		No	None			Change Drop More
9	pname	varchar(50)	latin1_swedish_ci		No	None			Change Drop More
10	pname_pl	varchar(50)	latin1_swedish_ci		No	None			Change Drop More

Table – 2.3 : Resources Table

In the above given resources table are stored the data of Resources.

Chapter – 3 : Web Technologies

In this study, several web technologies are used to develop a system. Following are the details of the technologies used.

3.1 HTML

The term "Hypertext Markup Language" (often known simply as "HTML") refers to the programming language that is the de facto standard for creating web pages. The interconnectivity of Web pages, also known as HTML documents, is what is meant by the term "hypertext." As a result, the link that is accessible on a webpage is referred to as hypertext. HTML stands for "HyperText Markup Language," which implies that it is used to "mark up" (or annotate) a text document with tags that instruct a web browser on how to structure the document so that it may be shown on the web.

Initially, the HyperText Markup Language (HTML) was created with the purpose of defining the structure of documents, such as headings, paragraphs, lists, and other similar elements, in order to make the exchange of scientific information among researchers easier.

At this time, HTML is being used extensively to format web pages with the assistance of a variety of tags that are accessible in the HTML language.

HTML Tags

As was said before, HTML is a markup language that, in order to format the text, makes use of a variety of tags. These tags are encased in angle bracing for added security. A few tags are missing their appropriate closing tags, but the vast majority of tags have them. For instance, the <html> tag has its own closing tag, which is referred to as /html>, and the <body> tag also has its own closing tag, which is referred to as </body> tag.

HTML Document Structure

The following outline constitutes the structure of a typical HTML document:

```
<!DOCTYPE HTML>
    <html>
    <head>
        <Title>Title here</Title>
    </head>
    <body>
```

Web page content goes here.

</body>

</html>

The DOCTYPE

Each online document needs to have a DOCTYPE declaration included on the very first line:

The DOCTYPE tag informs the web browser about the particular version of HTML that was used to create the page. In this course, we will be working with 'XHTML Transitional,' which provides us with some liberty in terms of formatting.

The <html> Element

After the DOCTYPE declaration comes the html element, which consists of the following:

The browser is informed by the <html> element that the page will be formatted using HTML and, optionally, the language of the world's languages the content of the page is in.

The <head> and <body> Elements

All of the unique "behind the scenes" components of a web document are enclosed by the <head> element. Most of these components are not really shown on the live website. All the stuff that will really be shown on our website (text, videos, images, links, etc.) is contained within the <body> element.

The <title> Element

As its name suggests, the <title> element controls what appears in the browser's title bar.

3.2 Boostrap

Bootstrap is a front-end framework that prioritises mobile devices and is slick, user-friendly, and powerful. It makes the process of developing websites more quickly and easily. It employs the markup languages HTML, CSS, and JavaScript.

Mark Otto and Jacob Thornton of Twitter are responsible for the development of Bootstrap. In August of 2011, it was made available on GitHub as a free and open-source software product.

Features

Mobile first approach: The Bootstrap 3 framework incorporates mobile-first styles throughout the entirety of the library rather than keeping these styles in individual files.

Browser Support: It is compatible with all of the most major browsers.

Easy to get started: Anyone who has a basic understanding of HTML and CSS can quickly get up and running with Bootstrap. Additionally, the official Bootstrap website has a comprehensive documentation.

Responsive design: The adaptable CSS that Bootstrap uses adapts itself to desktop computers, tablets, and mobile devices. Offers a method that is tidier and more consistent in terms of appearance when designing an interface for developers. It comes with aesthetically pleasing and practically useful built-in components that are simple to personalise. In addition to that, it offers configuration through the web..

3.3 AJAX

Asynchronous JavaScript and XML is what the acronym AJAX stands for. AJAX is not a technology; rather, it is a new programming concept and technique that enables developers to make web applications that are better, faster, and more interactive by utilising XML, HTML, CSS, and JavaScript without interfering with the display or behaviour of the page that is currently being viewed.

A Web page does not need to be refreshed when using an asynchronous Web application because the Web Application can transmit and receive data from the Web Server. The asynchronous aspect or feature of AJAX refers to the process that takes place in the background, which involves sending and receiving data from the server as well as updating various areas of a web page.

AJAX's primary functions in online applications include the automatic reloading of pages, the establishment of secure connections, the integration of APIs, and the provision of open source**.**

The two most significant characteristics of AJAX are::

- Ajax makes it possible to send requests to a server without having to reload the page each time.
- Ajax makes it possible to retrieve data from a server and perform operations on it.

A browser's built-in XMLHttpRequest object is used by AJAX to send a request for data to a web server. The data can then be displayed or used with the help of the HTML Document Object Model.

XMLHttpRequest Object : It is an application programming interface that takes the shape of an object. The methods of this API facilitate the exchange of data between a web server and a web browser.

HTML DOM : The Document Object Model of a web page is created by the browser whenever a page is loaded.

3.4 JQuery

JQuery is a JavaScript library that is not just quick and compact but also packed with features. By providing a basic API that is compatible with a wide variety of browsers, it makes a wide range of tasks, such as traversing and manipulating HTML documents, event handling, animation, and Ajax, much easier to accomplish. The method that millions of people use to create JavaScript has been revolutionised as a result of jQuery's combination of adaptability and extensibility.

The writing of JavaScript is simplified by JQuery. The same code that you execute in JavaScript, which consists of several lines, can be simply worked with by jQuery, which will result in the reduction of the amount of code to a single line.

The code is not as difficult to understand and is significantly shorter than that of JavaScript. Therefore, in order to do the same work, we need to write less lines of code. It is not difficult to grasp at all. If a developer has sufficient experience with coding and playing with documents that employ CSS, they will be able to understand how straightforward it is to use jQuery. To further improve their websites, developers can also make advantage of a wide array of effective jQuery UI add-ons.

JavaScript Code Snippet:

```
function backgroundColorChange(color) {
   document.body.style.background = color;
}
Onload = changeColor('green');
```

jQuery Syntax:

```
$('body').css('background', 'green');
```

3.5 JavaScript

JavaScript is an open-source programming language that was developed specifically for the purpose of developing applications that are web-centric. It is also coupled with HTML, which makes it more simpler to use in web applications due to the fact that it is a lightweight language that can be interpreted, making it considerably faster than other languages.

JavaScript includes a core set of language components in addition to its standard library of objects, which includes things like operators, control structures, and statements. Examples of these elements include Array, Date, and Math. The fundamental JavaScript language can be expanded to serve a wide range of purposes by complementing it with supplemental objects.

The core language is extended with JavaScript, which provides objects that may manage a browser and that browser's Document Object Model (DOM). For instance, client-side extensions make it possible for an application to set items on top of an HTML form and to respond to user events like clicks of the mouse, form input, and page navigation.

Server-side is expanded upon by JavaScript, which adds objects that are necessary for the language to be executed on a server. For instance, server-side extensions make it possible for an application to interface with a database, keep information consistent from one invocation of the application to the next, or manipulate files on a server.

There are two different techniques to incorporate JavaScript into your HTML file:

Internal JS: We are able to incorporate JavaScript into our HTML file in a straightforward manner by entering the code inside of the <script> tag. According to the specifications, the <script> tag should be positioned either inside the <head> or the <body> tag.

External JS: It is possible for us to compose JavaScript code in a separate file with the extension.js, and afterwards link this file inside the head> tag of the HTML file to which we need to add this code. Alternatively, we could just write the code directly into the HTML file.

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3.6 PHP

The acronym PHP refers to the Hypertext Pre-Processor. PHP is a general-purpose programming language that may be used to create both static and dynamic web pages, as well as online applications.

The Hypertext Markup Language (HTML) is the host for the PHP server-side programming language. It can also be used to develop full e-commerce websites, in addition to managing dynamic content and databases, as well as tracking user sessions.

It is compatible with a variety of well-known databases, such as PostgreSQL, MySQL, Oracle, Sybase, Informix, and Microsoft SQL Server, and it can connect with these databases automatically.

When compiled on the Unix side as an Apache module, PHP's execution speed is noticeably increased, which is a very welcome feature. Once it is running, the MySQL server can complete even extremely complicated queries with extremely large result sets in a record amount of time.

Common uses of PHP

- PHP is capable of carrying out system functions, such as creating, opening, reading, writing, and shutting down files on a computer system.
- It is possible to use it to develop web applications such as social networks (such as Facebook and Digg), blogs (such as Wordpress and Joomla), and online retail stores (such as OpenCart, Magento, etc.).
- PHP is able to process forms, which means that it can collect data from files, store data to a file, transmit data over email, and return data to the user.
- Using PHP, you can add new components, delete existing ones, and alter existing ones in your database.
- You can access the variables associated with cookies and set cookies.
- You can prevent users from accessing certain sections of your website by utilising PHP in this capacity.

3.7 MySQL

One of the most popular open-source database management systems is MySQL. It is a database management system that supports multiple users and threads simultaneously. MySQL is one of the most widely used databases on the web. It is one of the modules that make up the extremely well-known LAMP platform. Linux, Apache, MySQL, and PHP are the four programmes. The MySQL database is accessible on all of the major operating system platforms. It is compatible with BSD Unix, Linux, Windows, and Mac operating systems. MySQL is used by Wikipedia, YouTube, and Facebook. Every day, these websites process millions of search inquiries. MySQL is available in two different flavours: the MySQL server system and the MySQL embedded system. Both the MySQL server software and the client libraries are licenced under two different types of agreements: the GNU General Public License version 2 and a proprietary licence.

MySQL is an open-source relational database management system (RDBMS) that may be used for a wide range of applications and use cases, such as dynamic websites, mission-critical programmes, and embedded databases in software, hardware, and appliances.

It is frequently combined with PHP scripts in order to develop highly effective and dynamic server-side or web-based enterprise applications.

The Relational Database Management System (RDBMS) software known as MySQL offers several benefits, some of which are detailed in the following list:

- It makes it possible for us to carry out operations on tables, rows, columns, and indexes in the database.
- It does this by defining the relations between the databases using tables, which are collections of rows and columns. Tables are also referred to as relations.
- It ensures that there is no corruption in the referential integrity of rows or columns in different tables.
- Because of this, we are able to make automatic modifications to the table indexes.
- It makes use of a large number of SQL queries and pulls relevant information from several different columns to provide to end users.

3.8 PHPMailer

PHPMailer is a code that is available for anybody to use and is utilised by apps written in PHP in order to send emails. It is incorporated into content management systems (CMS) such as Word Press, Drupal, and Joomla. In place of the PHP mail() function, the PHPMailer library is considered to be the superior option.

The following are some examples of SMTP (Simple Mail Transfer Protocol) service providers that can be integrated with PHPMailer: Amazon SES, Gmail, Microsoft Outlook, Send Grid, Sendinblue, and Mailgun.

Linux, Microsoft Windows, and Ubuntu server are only few of the operating systems that are compatible with the PHPMailer installation. The PHPMailer library comes equipped with a variety of features and capabilities, which include the following:

- It is possible to send email messages to numerous recipients at once by using the Bcc and Cc fields.
- It is possible to utilise this to respond to emails.
- Your emails allow you to attach files to them.
- Allows for UTF-8 encoding.
- Email Validation.
- DKIM, which stands for Domain Keys Identified Mail, and SPF, which stands for Sender Policy Framework, need to be set up.
- You are able to send emails even if you do not have a local server.
- authentication over SMTP.
- SMTP SSL encryption .
- You are able to utilise it to send emails formatted in HTML.
- It is possible to utilise it to create contact forms.

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Chapter – 4 : Implementation

The process of translating the design of a system into a format that can be understood by a computer is referred to as coding. During this phase of software development, known as the coding phase, the software is responsible for transforming the design specification into the source code. It is essential to write the source code as well as the internal documentation in order to make it possible to verify with relative ease whether or not the code complies with its specification.

Coding is carried out by independent individuals known as coders or programmers, who are separate from the designer. The objective is not to cut back on the time and money spent on the coding phase; rather, the goal is to lower the cost of a later stage. Through more effective code, one can drastically cut down on the costs associated with testing and maintenance.

4.1 Form Layouts

Login

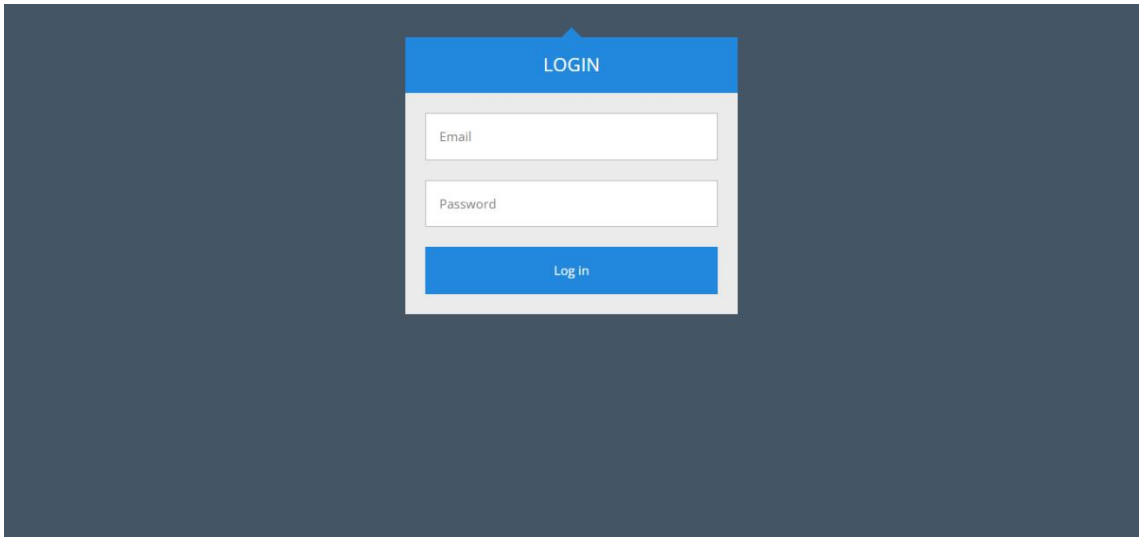

Figure 4.1: Login [Own Development]

The above image seen in figure-4.1 demonstrates login form for the admin. As soon as admin URL is entered, login form is displayed and verification of the admin is done here. Once credentials entered are validated, admin will be moved to the dashboard.

Add Resource

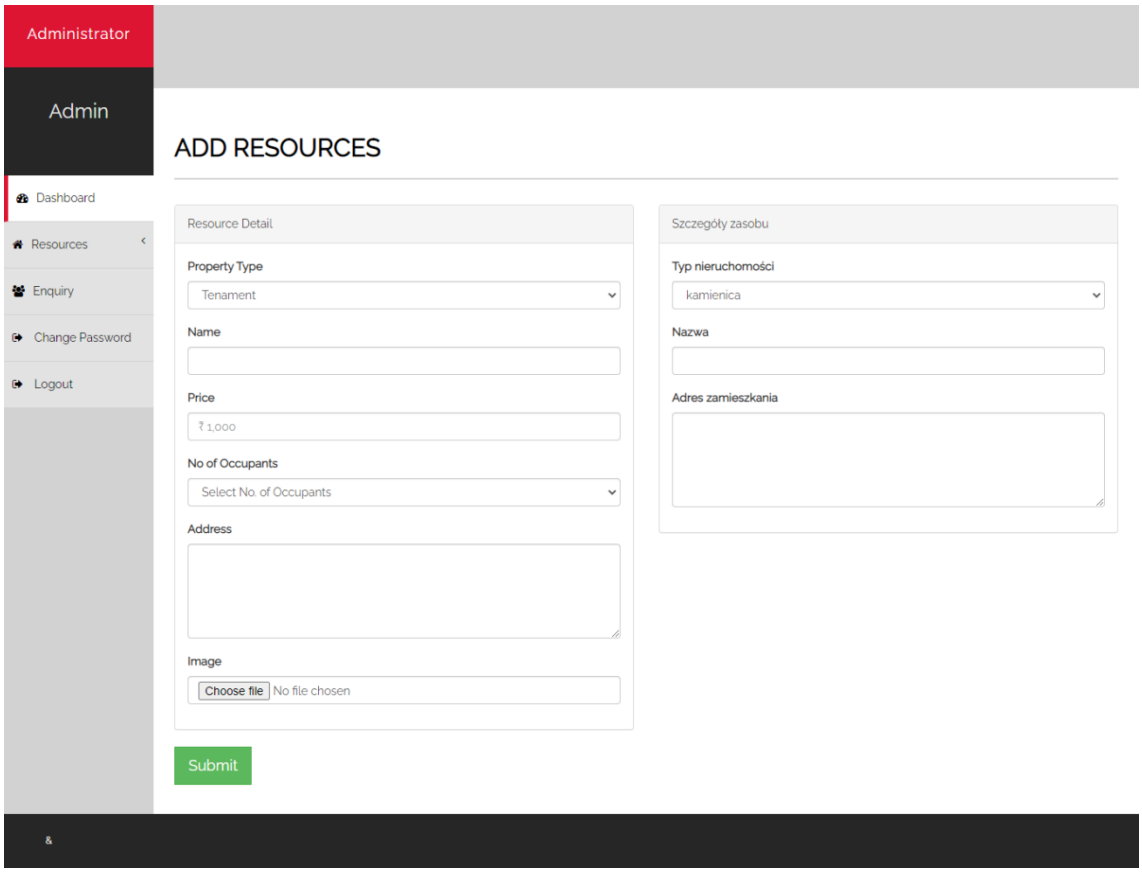

Figure 4.2: Add Resource [Own Development]

As seen in Figure 4.2 admin can add property by adding resource details. The details like property type, name, price, no. of occupants, address, image can be added using this form.

Edit Resource

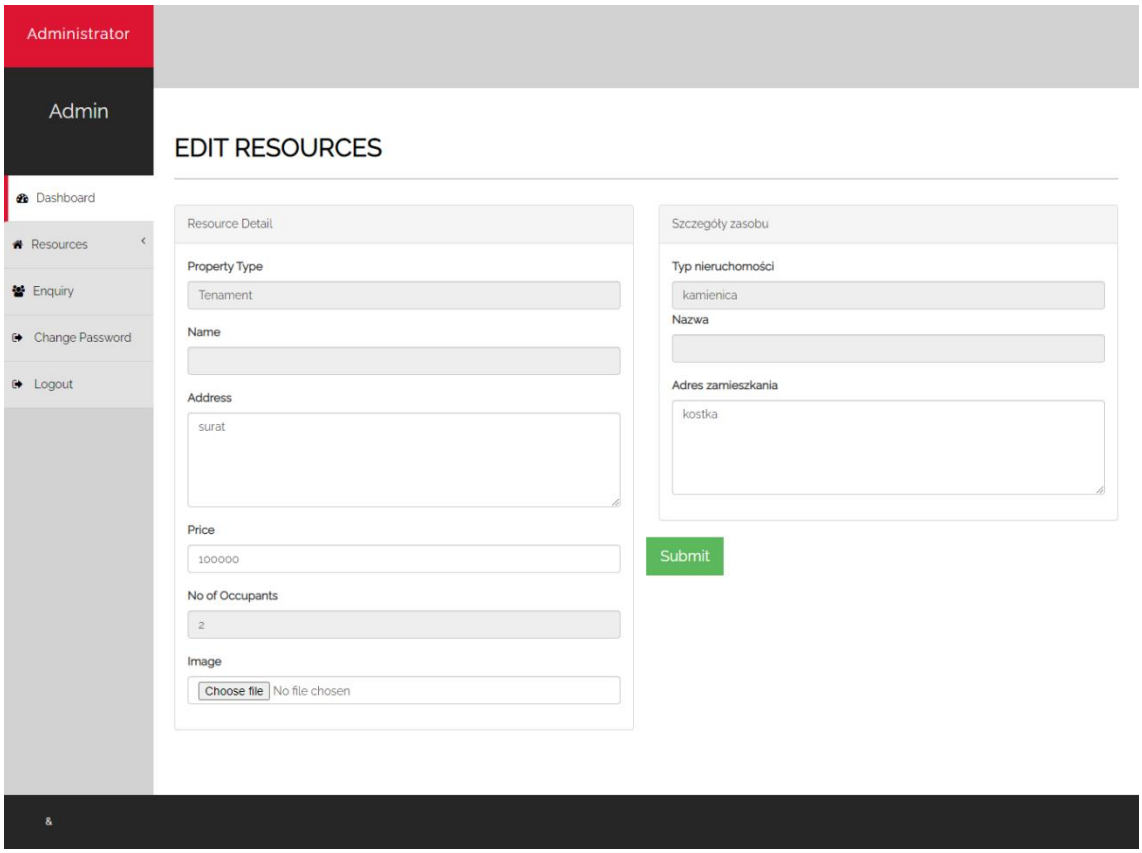

Figure 4.3: Edit Resource [Own Development]

Admin can also edit the details of the resource previous entered to make any corrections. It is shown in figure-4.3.

Send Enquiry (Polish)

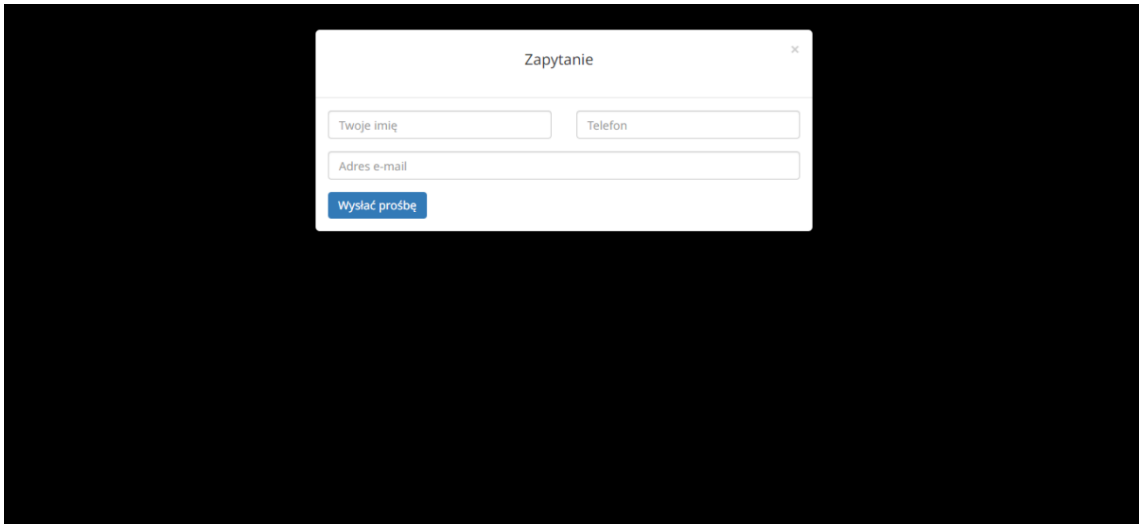

Figure 4.4: Send Enquiry (Polish) [Own Development]

Send Enquiry (English)

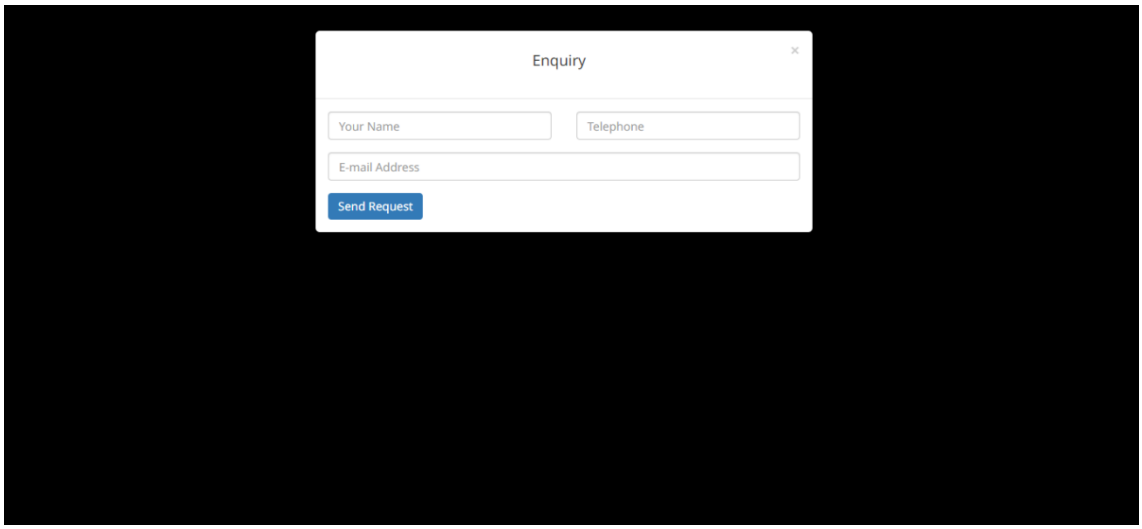

Figure 4.5: Send Enquiry (English) [Own Development]

As displayed in figure 4.4 and figure 4.5, users can send enquiry for the property users is interested.

Send Response (Polish)

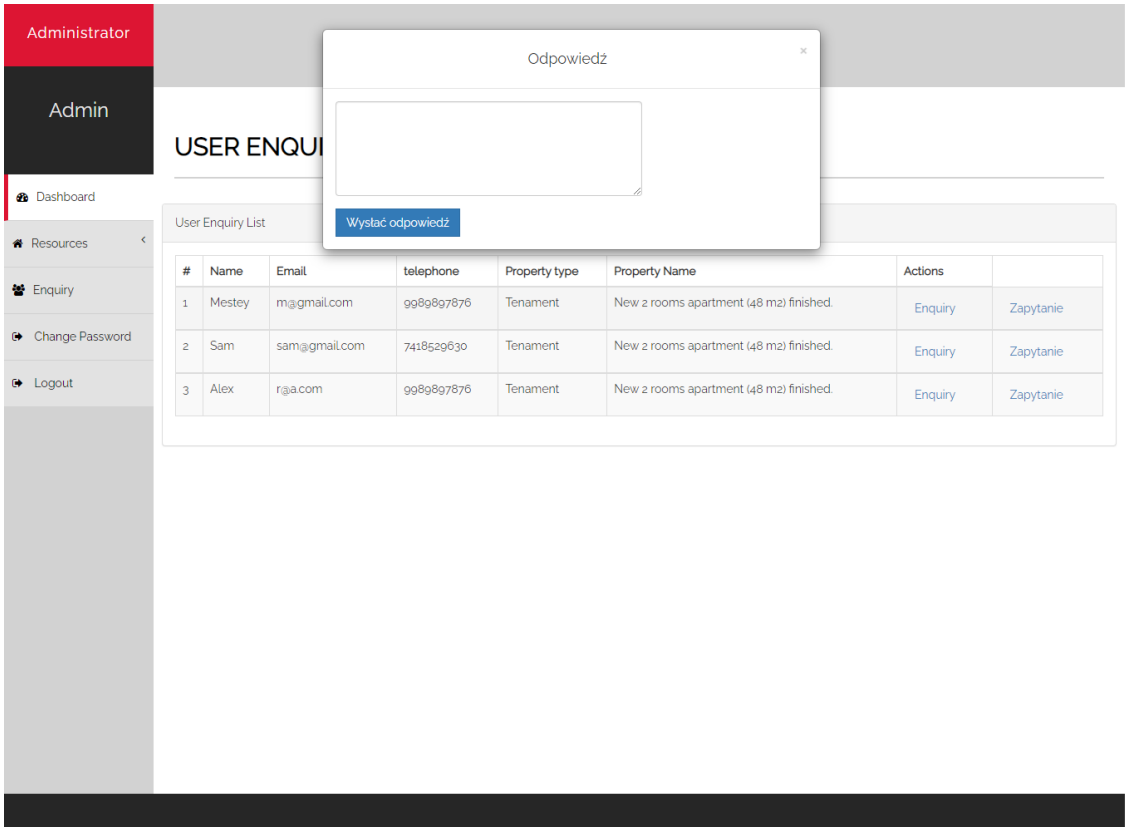

Figure 4.6: Send Response (Polish) [Own Development]

Admin can send response for the enquiry generated by the users and email will be sent to the respective users. As seen in the figure-4.6, as soon as enquiry link is clicked, the response pop up will appear and admin can send appropriate response to the user.

Change Password

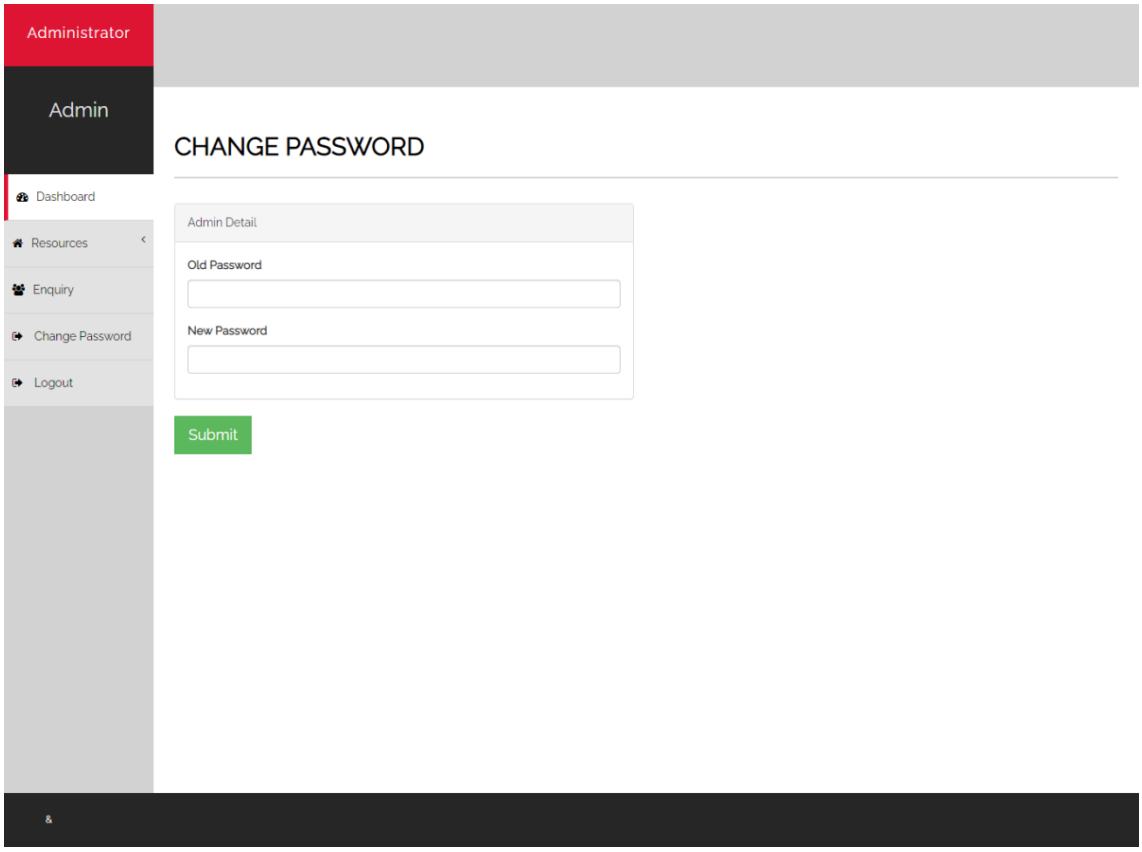

Figure 4.7 : Change Password [Own Development]

Admin can change password using the form displayed in figure-4.7. As it is good to change password at the regular interval, in this application, I have provided that feature so that admin can change password.

4.2 Screen Layouts

Dashboard

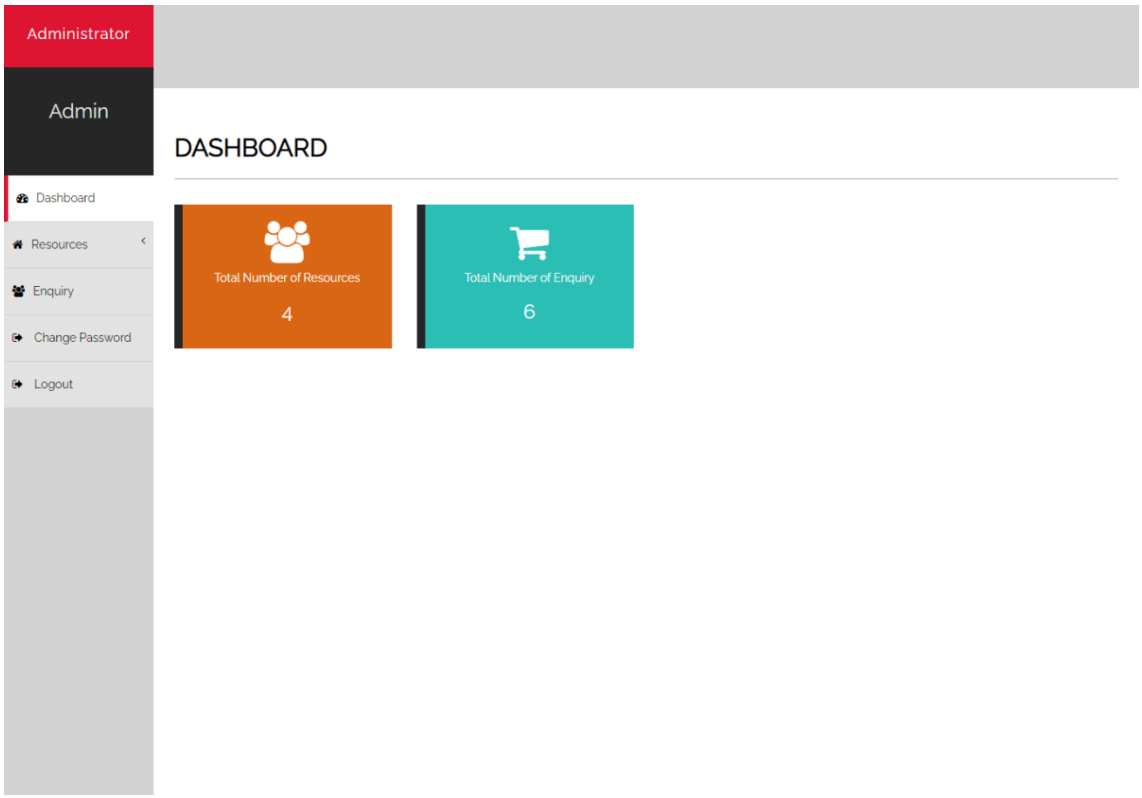

Figure 4.8: Dashboard [Own Development]

Figure 4.4 represents admin dashboard. Total number of property listing as well as enquiry statistics are displayed. Also we can see various menus on the left side which are resource management, enquiry list, change password and logout options.

View Resource

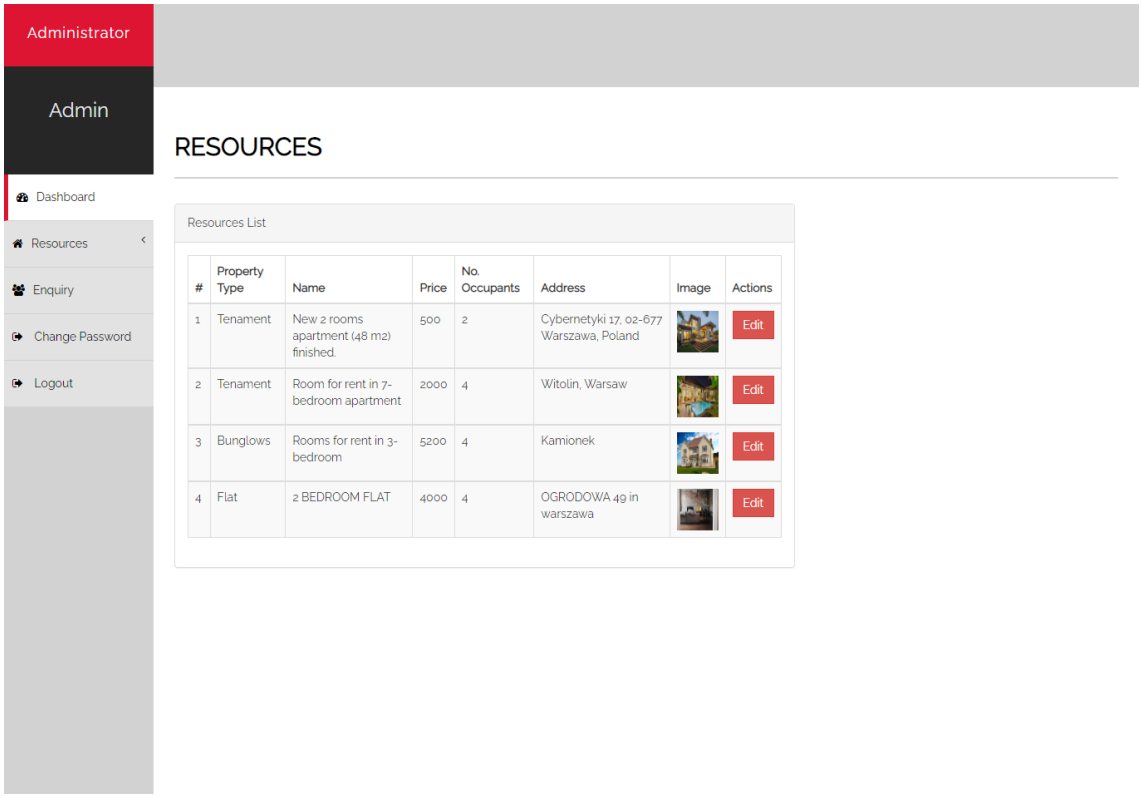

Figure 4.9: View Resources [Own Development]

Figure 4.9 represents the list of property added by the admin. As seen in figure-4.9 edit option is given to change any details. This represents the list of property added so far by the admin.

Tenament (Polish)

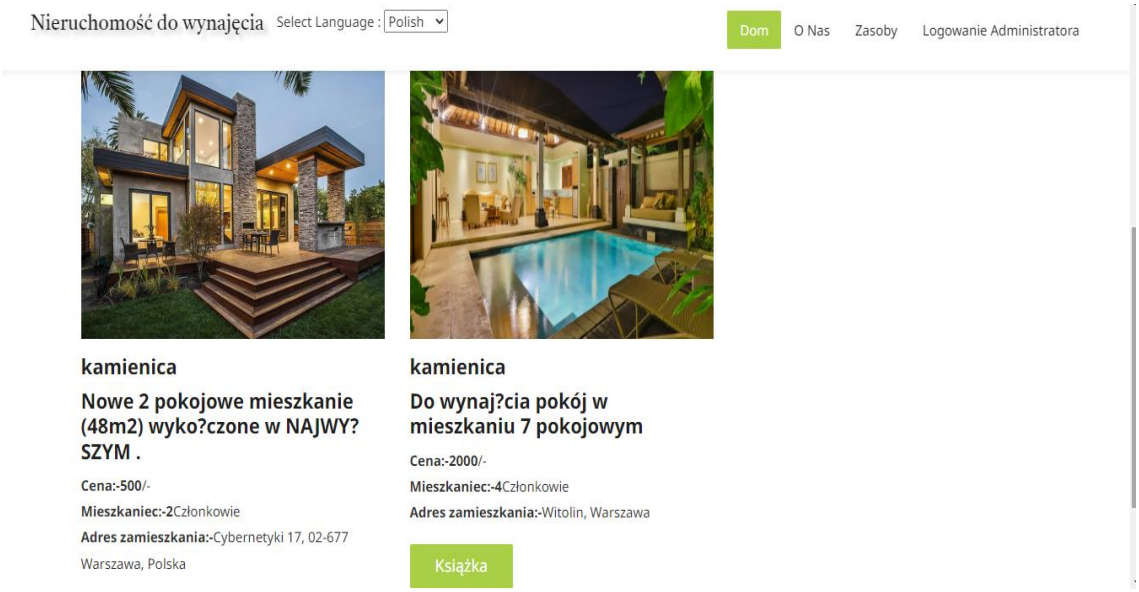

Figure 4.10: Tenaments Listing (Polish) [Own Development]

Figure 4.10 shows the listing of tenaments in polish language. As seen in the figure the selected language is Polish so all the information regarding tenaments will be displayed in Polish.

Bungalow (English)

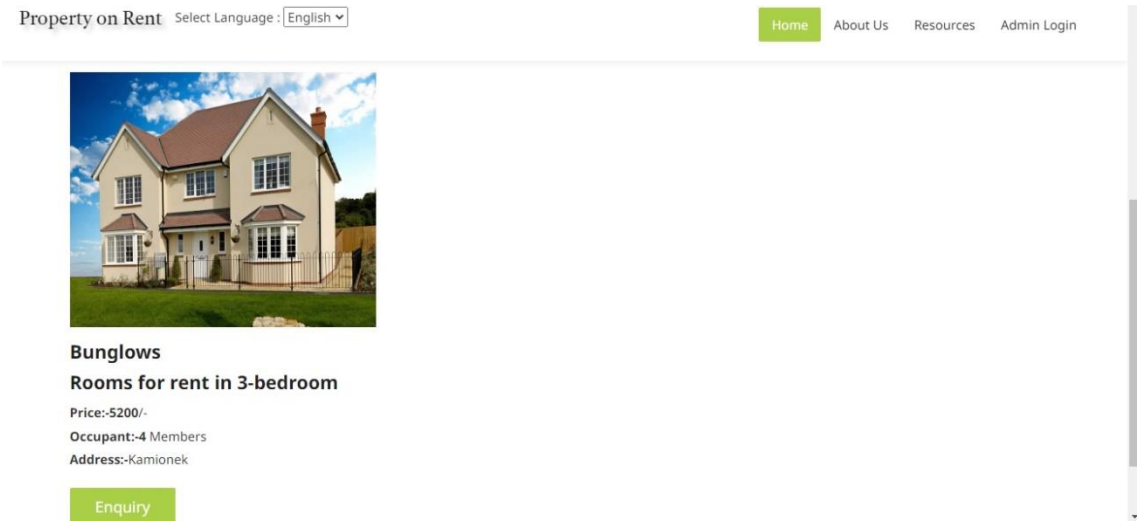

Figure 4.11: Bungalow Listing (English) [Own Development]

Figure 4.11 shows the listing of bungalow in English language. As seen in this image, the language selected is English so all the information will be seen in English.

View Enquiry

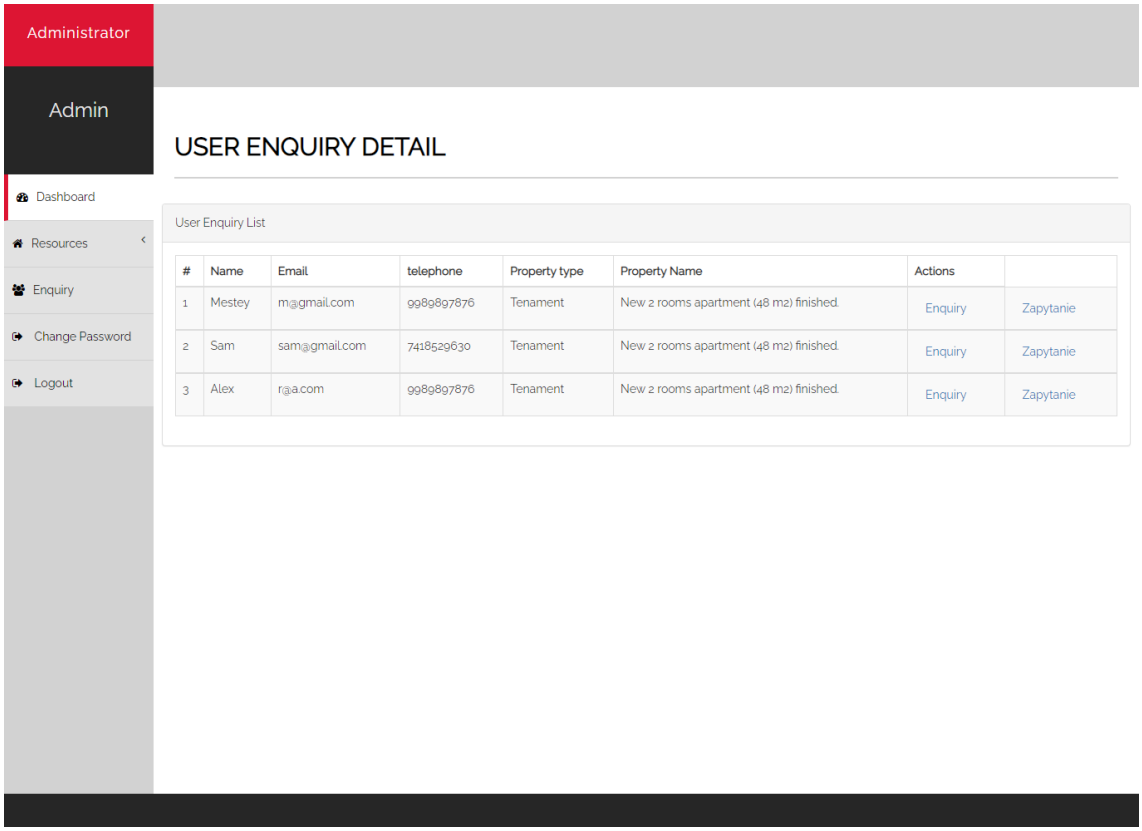

Figure 4.12: View Enquiry [Own Development]

Figure 4.12 shows the enquiry list generated by the users. Also admin can response to this enquiry by clicking on enquiry action.

4.3 Validation Screenshots

Check for Null field

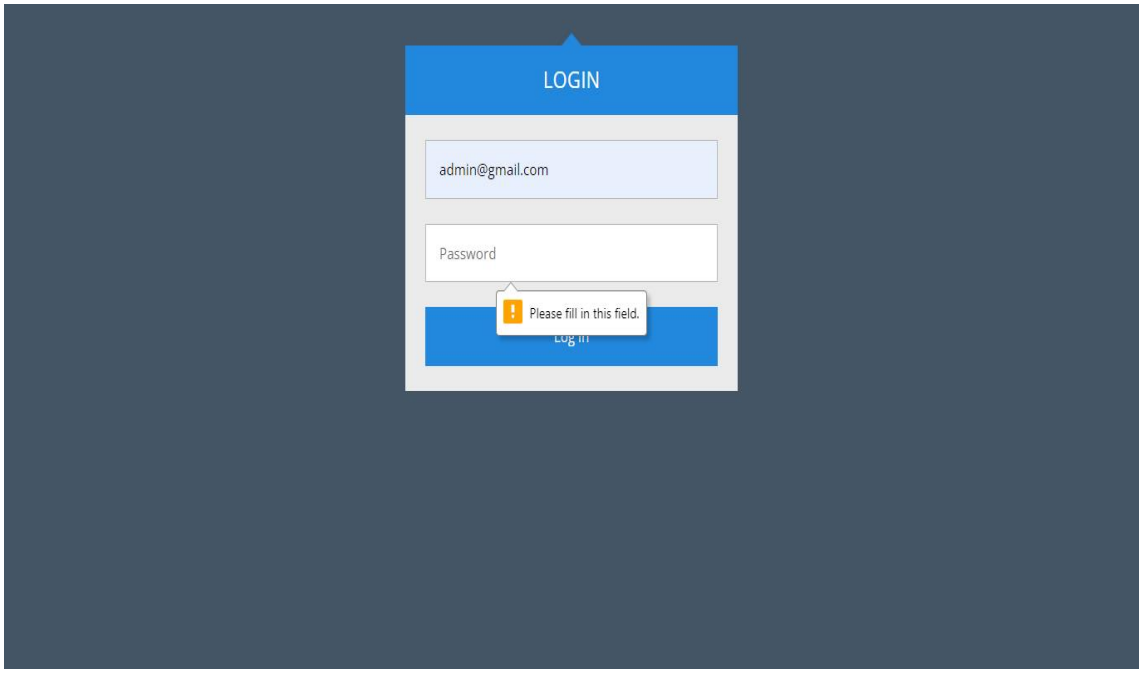

Figure 4.13: Login Form [Own Development]

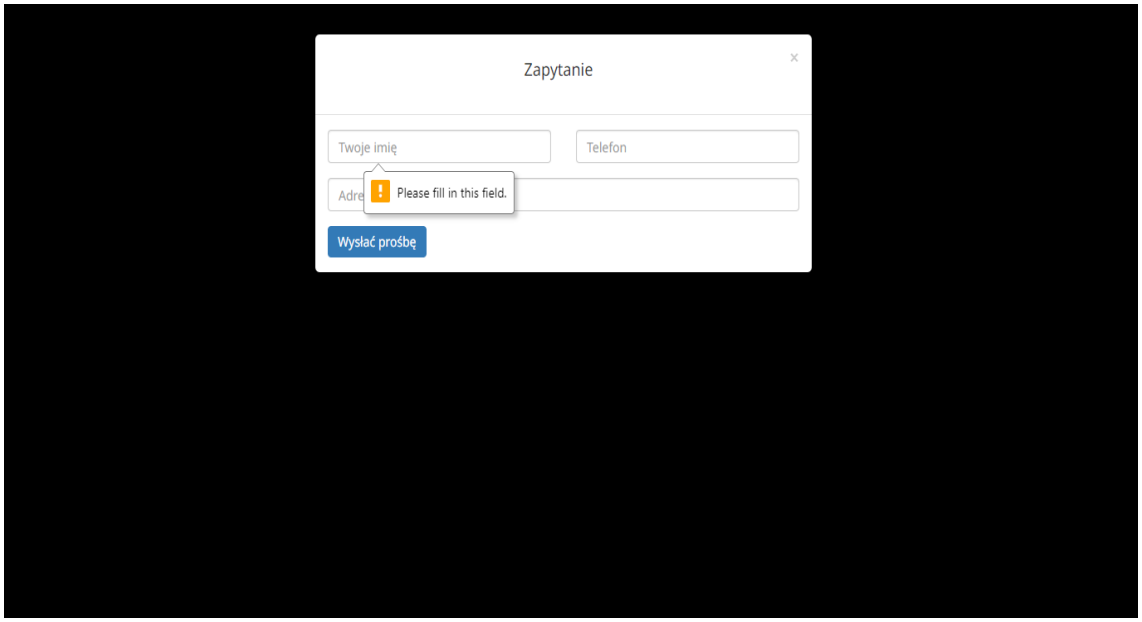

Figure 4.14: Send Enquiry [Own Development]

As shown in figure-4.13 and figure-4.14, validations for required field is kept on login form and send enquiry form.

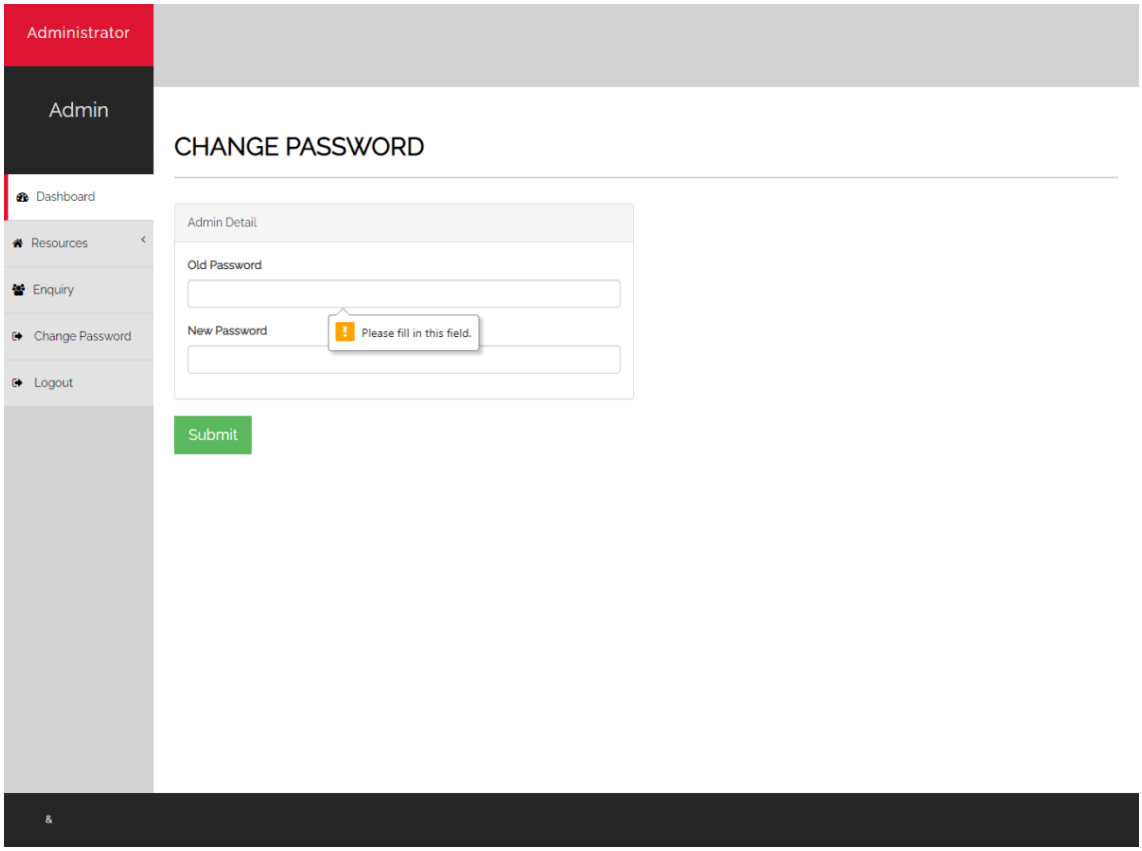

Figure 4.15: Change Password [Own Development]

As shown in figure-4.15, appropriate validations are kept on change password form as well.

Check for Email Validation

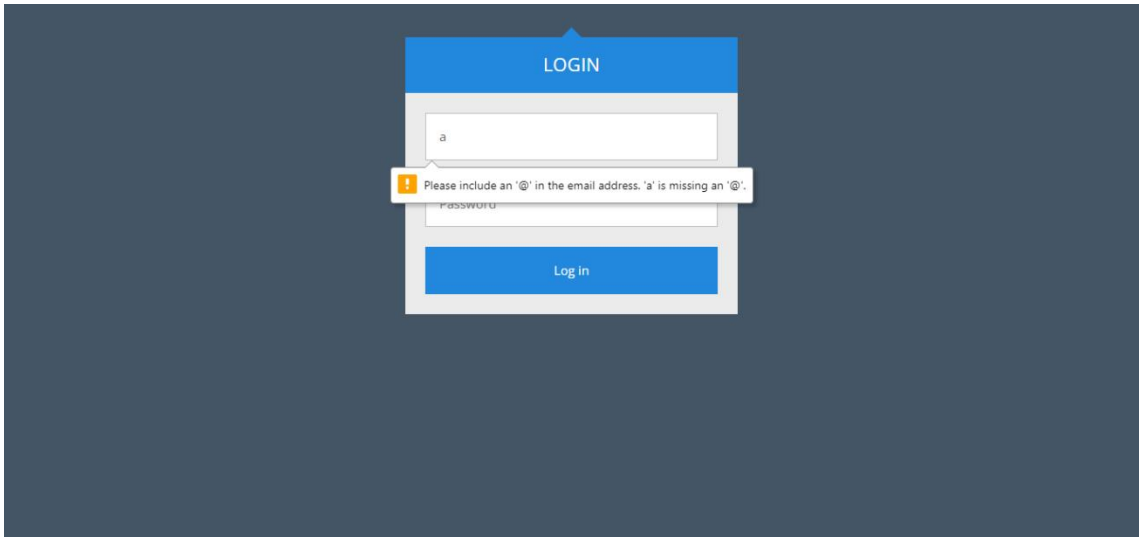

Figure 4.16: Login Form [Own Development]

As shown in figure-4.16, validation for the email address is kept using regular expression concept. With the help of validation we can have a strong check on the correct email address being entered.

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Conclusion

To summarise, Poland is one of the European countries that has one of the lowest shares of flats in the overall housing market. Because of this, any phenomenon that raises this proportion provides an alternative to purchasing a flat or living in an apartment that is too crowded.

A further advantage of institutional leasing is that completed contracts are public knowledge, which helps to strike a healthy balance between the interests of renters and landlords. It is important to keep in mind that one of the characteristics of this kind of rental is that it is offered for commercial purposes, which means that not everyone can take advantage of this offer. Therefore, renting from an institution will not be an adequate solution to the housing issues faced by Poles. One of the potential answers might be the implementation by the state of a housing policy that is both conscious and consistent but currently does not exist.

Using PHP and MySQL, the Renting Houses and Rooms in Multilingual Application is a web application. It is built on top of the HTTP protocol and has client-server architecture. It is built with the assistance of IDEs as well as XAMPP. In the long run, our project will hopefully meet the requirements of landlords and property managers. Additionally, a number of user-friendly interfaces have been implemented. This package will demonstrate its power by successfully meeting all of the requirements that have been outlined by the users. It is with the highest faith that we provide this programme to you in the hopes that it will provide solutions to difficulties and inspire you to continue enjoying technology because it is intended to change and simplify all of our job that appears to be very difficult. The user can choose between English and Polish using one of two dropdown menus that we have supplied for them. Email functionality is also included in this application, allowing administrators to communicate with users via electronic mail.

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