ONLINE HOUSE RENT INFORMATION SYSTEM

 \mathbf{BY}

Md. Salman Faruky ID: 143-15-4405

This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

Supervised By

SHAON BHATTA SHUVO

Lecturer
Department of CSE
Daffodil International University

Co-Supervised By

ANUP MAJUMDER

Lecturer
Department of CSE
Daffodil International University



DAFFODIL INTERNATIONAL UNIVERSITY DHAKA, BANGLADESH

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APPROVAL

This Project titled "Online House Rent System", submitted by Md. Salman Faruky to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of science. in Computer Science and Engineering (B.Sc) and approved as to its style and contents. The presentation has been held on May 2018

BOARD OF EXAMINERS

Dr. Sayed Akhter Hossain Chairman Professor and Head

Department of Computer Science & Engineering Faculty of Science & Information Technology Daffodil International University

Dr. Sheak Rashed Haider Noori Associate Professor

Department of Computer Science and Engineering Faculty of Science & Information Technology Daffodil International University

Md. Zahid Hasan Assistant Professor

Department of Computer Science and Engineering Faculty of Science & Information Technology Daffodil International University

Dr. Mohammad Shorif Uddin Professor

Department of Computer Science and Engineering Jahangirnagar University

Internal Examiner

Internal Examiner

External Examiner

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We hereby declare that, this project has been done by us under the Co-supervisor supervision of **Shaon Bhatta Shuvo**, **Senior Lecturer**, **Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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Shaon Bhatta Shuvo

Lecturer
Department of CSE
Daffodil International University

Co-Supervised by:

Anup Majumder

Lecturer
Department of CSE
Daffodil International University

Submitted by:

Md. Salman Faruky

ID: 143-15-4405 Department of CSE

Daffodil International University

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ABSTRACT

Nowadays, there are online house rent reservations which give much benefit to user .A house rent service is a service in which customers arrive to request the hire of house rent unit. It is more convenient then carrying the cost of owning and maintaining the unit. This project activities performed by different roles in real online store. The project gives real life understanding of an online store and activities performed by various roles in the supply chain. Equipment house rent System requirements are that: It allows customers to select, reserve and arrange any instrument of house rent vehicles. Customers or agents are able to make these arrangement online via the website. Provide to rental information personnel as needed by customer and display images that will be displayed to customer.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

The recent boom in the era of internet has ensured that all type of services, sales and products to be made online. Business has become more efficient for both the business person and the customers. It is now fast, accessible from anywhere and anytime and avoids the high physical transaction. The project Online Rental Information System keeping all these things in mind provides a total solution on the field of rental industry.

1.2 Motivation of work

In the case of reality of Bangladesh House Rent system, everybody search the rent manually but most of educated person are used to internet. They do not get the user friendly rental system for rent of all kinds of car, house, sound system, event management instruments etc.In recent time every division of Bangladesh has unique problem which is searching rent house and flat. But no significant step has not been taken .

So we made "Online House Rent System" where every person can getting all kinds of rent equipment for rent using internet browsing of our site. [7] [8]

1.3 Objectives of the software:

- Both customers and Owners can browse this site via computer/smartphone/tabs with the help of internet to create an account and login successfully.
- To deal with Online System in an easy way and efficient mannered.
- Easily find rental information and easily can get the ads post.
- Wide range of rentals information including Vehicles, Houses, Sound System, Event Management Instruments etc.

Create strong and secret database that allows for any connection in a secret way

1.4 Expected Outcome

Online system is a browser based system and to develop online the developer may select any tool for doing it.

PHP is a server site scripting language designed for web development but also used as a general purpose programming language.

In my project YiiPhp is the tool we used as front-end of the online House Rent as a back-end MySQL will be used my system.

MySQL is the world's second most widely used relational database management system(RDBMS) and most widely used open-source RDBMS. MySQL is a popular choice of database for use in web applications.

In other work like designing the web page we have used the CSS,BOOTSTRAP,JAVA-SCRIPT. I did our project in Yii platform in PHP-STORM.

This project is to develop a website that will be used in submit ads and search for rent houses, apartment, car, event management instrument etc. by the creating an account. I want make sure that all the users can get easily search rent information and can post ads easily. [4]

1.5 Report Layout

Chapter 1: Introduction

In this chapter i have discussed about the motivation, objectives and the expected outcome of the project. Later followed by the report layout.

Chapter 2: Background

I discuss about the background circumstances of my project. I also talk about the related work, comparison to other candidate systems, the scope of the problem and challenges of the project.

Chapter 3: Requirement Specification

This chapter is all about the requirements like business process modeling, the requirement collection and analysis, the use case model of the project and their description, the logical relational database model and the design requirements.

Chapter 4: Design Specification

In this chapter all the designs of the project Front-end design, back-end design, interaction design and UX and the implementation requirements.[2]

Chapter 5: Implementation and Testing

This chapter contains the implementation of database, front-end designs, interactions and the test results of the project.

Chapter 6: Conclusion and Future Scope

We discussed about the conclusion and the scope for further developments which pretty much derive about the project

CHAPTER 2

BACKGROUND

2.1 Introduction

The idea behind the proposed website is to develop consistent, robust and user – friendly software that allows visitors and customers to rent any kind of things as per his/her requirement, for required duration and in any of the selected cities. This service will provided for every people whose need house, vehicle, instrument, Event program instrument and needed any kind of accessories which possible for rent in any city without restriction, the rent at this choice of location and could valuable for improvement in products and service.

2.2 Comparative Studies

Our implemented website is different from the existing website's. Every users can post ads for every renting product. Every people getting all kinds of rent information using this websites. The proposed rental system maintenance is easier for users. It is not delay it is process it is very faster system and user friendly. Users easily registration and create her/his profile, login, post ads. This online rental system provides any kind of rent equipment also customer would be able to easily find or choose rent information. Example House, Apartment, Sublet, Bachelor house, Car, Vehicle, Sound system, Event Management instrument and all others rent instrument. [7] [8]

2.3 Scope of the Problem

- It is an open platform where all users can interact easily.
- Users can easily create account and log in then they can get access.
- Admin can distributes all users access for ads post and view.
- Users can post ads and need to information search for rent.

2.4 Challenges

- 2.5 Admin has to define users can get access or not.
- 2.6 Admin maintain the whole database and save to unauthorized access.
- 2.7 Individual post are shown to all.
- 2.8 There are no privacy level when it comes to posting or submitting assignments.

2.5 Time Scheduling

Analysis	1 month 2 week
Design of modules	1 month
Design of modules	1 month
Coding	4 month
Testing and Implementation	3 week
Total	7 month 5 days

Table2.1: Time scheduling

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Online House Rent Information Process Modeling

In our project we have made a processing model. By that we can understand the whole process of our Online Rental Information System

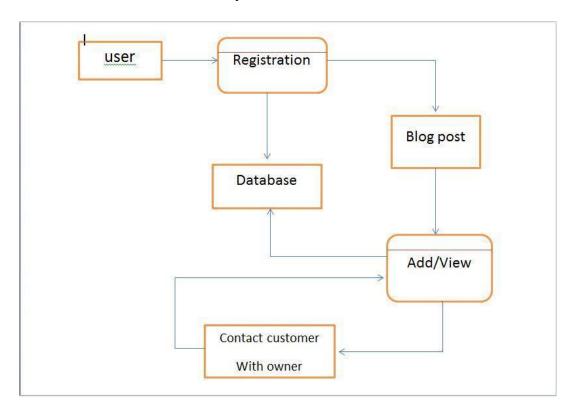


Figure 3.1: Online House Rent processing model

3.2 Requirement Collection & Analysis

There are some basic requirements collected during implementation of the software and also in the data collection. Here are some given below

- Needed to edit the blog post information.
- View the single blog post.
- Specify the users post separately.
- Needed to a create account for log in.
- Needed a valid email to reset the password and further actions.
- Admin needed the access to delete and add post.
- User needed his/her post access to edit and delete post.

3.3 Use Case Modeling and Description

A use-case diagram is the simplified and graphical representation of how system works. It has been said before that "Use case diagrams are the blueprints for your system" [5].

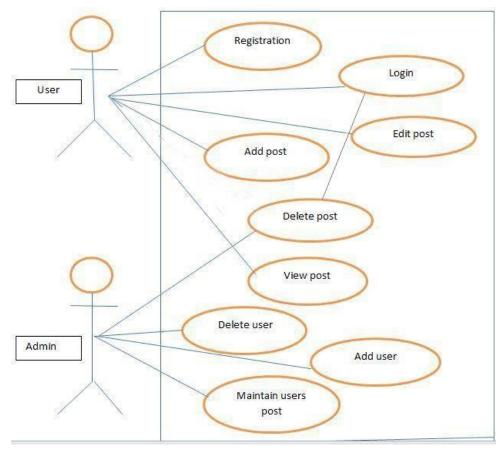


Figure 3.2: Use Case Model Diagram

3.3.1 Use Case Description

Table 3.1: Use case description of registration

Use Case	Registration
Primary Actor	User
Secondary Actor	Null
Pre-condition	Null
Scenario	 Enter unique username Enter valid email address Enter password minimum of 6 character Select a role
Post-condition	Registration successfully or failed

Table 3.2: Use case description of login

Use Case	Login
Primary Actor	User
Secondary Actor	Null
Pre-condition	Registration
Scenario	Enter valid email addressEnter password
Post-condition	Login successfully or failed

Table 3.3: Use case description of add post

Use Case	Add post
Primary Actor	User
Secondary Actor	Null
Pre-condition	Login
Scenario	Update file nameDescriptionUpload file/photo
Post-condition	Updated successfully or failed

Table 3.4: Use case description of edit post

Use Case	Edit post
Primary Actor	User
Secondary Actor	Null
Pre-condition	Login
Scenario	 Enter title Enter description Enter photo/file
Post-condition	 Update successfully or failed View post Delete post

Table 3.5: Use case description of delete post

Use Case	Delete post
Primary Actor	User, Admin
Secondary Actor	Null
Pre-condition	Login
Scenario	Enter password
Post-condition	Delete successfully or failedView post

Table 3.6: Use case description of view post

Use Case	View post
Primary Actor	User
Secondary Actor	Null
Pre-condition	Login
Scenario	Show description
Post-condition	Login successfully or failedView post

Table 3.7: Use case description of Add user

Use Case	Add user		
Primary Actor	Admin		
Secondary Actor	Null		
Pre-condition	Login successfully		
Scenario	Enter titleEnter descriptionEnter file/photo		
Post-condition	Add post successfully or failedView post		

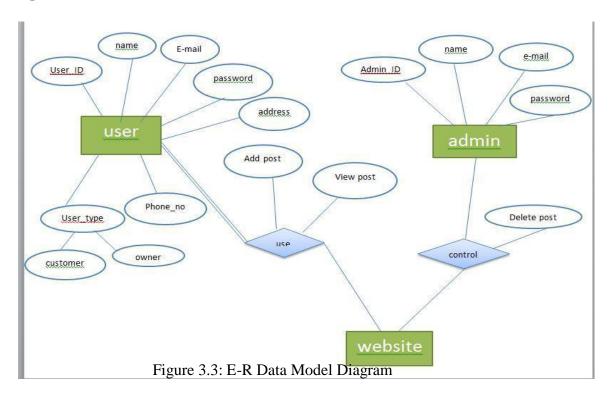
Table 3.8: Use case description of Delete user

Use Case	Delete user
Primary Actor	Admin
Secondary Actor	Null
Pre-condition	Login
Scenario	Enter invalid post
Post-condition	Successfully delete or not

Table 3.9: Use case description of maintain user post

Use Case	Maintain user post
Primary Actor	Admin
Secondary Actor	Null
Pre-condition	Login
Scenario	Enter valid UserEnter valid post
Post-condition	Update Successfully or failed

3.4 Logical Data Model



3.5 Design Requirements

- This system will contain three types of users like Admin, Owner and Customer both are user.
- Owner and Customer will create an account.
- Owner submit his/her post.
- Customer search location wised.
- Customer see all the post and get all information.
- Owner change or delete his/her post.
- Admin maintain all access.
- Admin can delete post.
- Every user view all post.

CHAPTER 4

DESIGN SPECIFICATION

4.1 Front-end Design:

Front-end design is the representation of a software. This is the way of interaction way between the users and the servers. Front-end design is known as a client-side development. In the most aspect of a software development the most important part is to design the front-end. We created a simple front-end design for the users to co-operate with the software easily. Here are some front-end design of our software given below.[6]

4.1.1 Home Page:

In the home page there are menu bar, the tops recent courses, a simple list of teachers and footer exists. The whole website is fully responsive that mean this can be viewed in many devices.



Figure 4.1: Home page in mobile layout

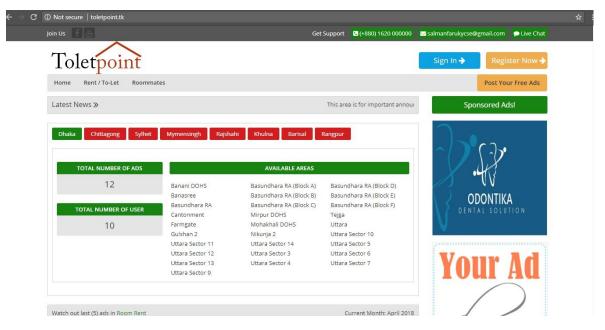


Figure 4.2: Home page in desktop layout

4.1.2 Registration:

This is the registration page where two types of users can be registered. This page contains some informative mandatory data which are needed in the future to identify the respective user.

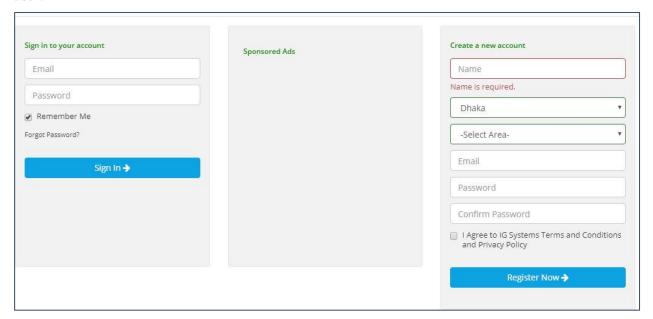


Figure 4.3: Registration

4.1.3 Login:

This is a simple login page which contains all the basic format of a login page. A login use a User for visit this site.

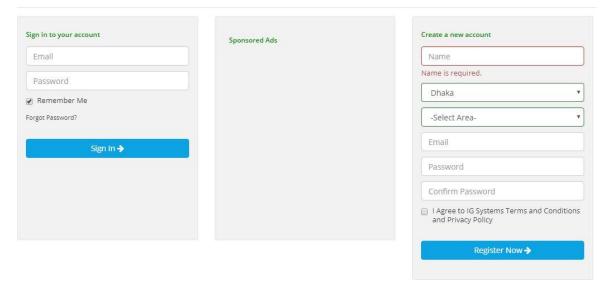


Figure 4.4: Login

4.2 Back-end Design:

The logical part of a software happened in the back-end. It is the most crucial part of a software. The whole system depends on it. Usually back-end refers server side. In back-end there are many factor consists like the scripting languages or the server side language, automated framework, database management, security, authentication, authorization, data parsing, data validating, data backups and so on. We developed "Online Rental Information System" using Raw PHP, in here all the logical thing and the hosting site provide us the MySQL database for saving the data information and the work flow of the software. [4]

4.1.8 Authority Dashboard:

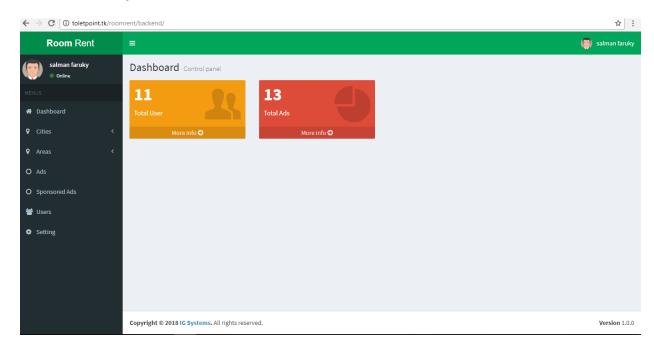


Figure 4.9: Admin Panel

4.3 Interaction Design and UX

We designed this web software using bootstrap framework and font awesome. Those two helps us to design a better visual for the users and it is also responsive in many formats.

"The process of enhancing user satisfaction with a product by improving the usability, accessibility, and pleasure provided in the interaction with the product". "Designers focus on creating engaging web interfaces with logical and thought out behaviors and actions. Successful interactive design uses technology and principles of good communication to create desired user experiences". [2]

4.4 Implementation of Requirements [2]

- The design needed to implement in web programming language Raw PHP,
- Preferred Database is MySQL.
- Hosting platform should be Linux based server.
- Schedule wise backup from server (Both source code and Database).
- Failed log in needed to store in database.
- SQL injection needed to protect with string escaping.
- Form validation needed using java-script before server site validation.
- CROSS-SITE-SCRIPTING needed to verify.
- Unauthorized attach needed to prevent with maximum attach limit.
- Invalid data input should display error message.
- For specific design Julery needed to be implemented.
- In front end design bootstrap framework is needed.
- For visual aspect different types of fonts and icons are collected from Google font and font awesome.

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Database

Because of using PHP Raw PHP and Mysqli we made migration table which describes about the contents' attribute and the data types. Since Mysqli, the model controller the database. So there is no direct SQL query needed to perform actions. In the model the data can be checked whether user has the permission to input the data directly in the database. We used PHPMyAdmin for DBMS. There are some tables in our DBMS which are

Users Registration Table: Information's such as full name, email, password, mobile and status like Owner and Customer are saved in this table.

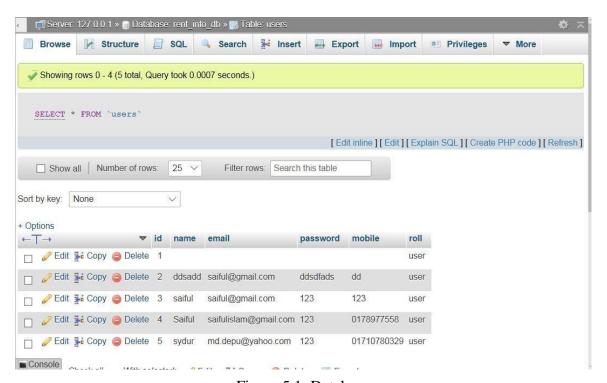


Figure 5.1: Database

Password Resets Table: If users ever forget their account password, they can regaintheir account access by resetting password. Here a generated token and email address of that user is saved.

Ads Post Table: Information such as rent type, title, division, city, information, images, post-date, status which that owner user is saved.

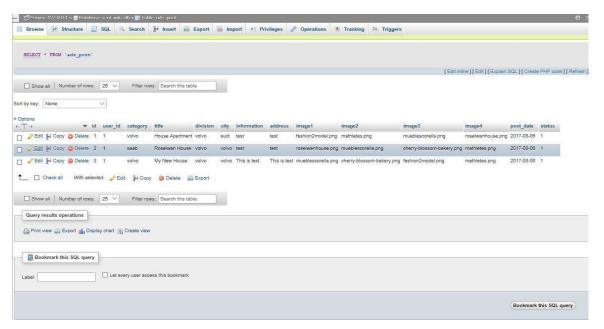


Figure 5.2: Database

Blog Post Table: The post table contains user information such as title description, image and date that users are saved.

The controller control all the data parsing and related validation of the data to secure from injection, unwanted data and if data modification needed which can perform here in controller and also in model. After that model pass the data to the MySQL database.

5.2 Implementation of Front-end Design

It's very challenging to make a simple UI design for the users, we try make as simple as possible. Nowadays, there are many devices like smart mobile, tablets, desktop, 4k desktop etc. We make our website responsive so that user can visit from different devices with a marginable scale of the website and easily interact. We make interface relative and standard with the help of HTML, CSS, JavaScript and JQuery technologies.[1] [3]

There are some factors of implementing the front-end design are given below

- There will be three types of users like Admin, Owner and Customer.
- Every types of user must be registered by filling up the required information fields.
- User can login using their registered email and password.
- User can reset password by filling up the form of forget password.
- For updating user profile, user must enter the password for the security purpose.

5.3 Implementation of Interactions

Here to make our system (Online Rental Information System) we have implemented responsive UI for better user experience. In the cases make things easy we use icon, text link and button. The system design of our web software is user friendly. Both Admin and Users will need to create profile for the access.

5.4 Testing Implementation

Testing implementation is process of testing upcoming implementation of a system, where tester or system architect will see cases and specification, is it implementable or have limitations.

Table 5.1: Test case evaluation

Test Case	Test Input	Expected outcome	Obtained outcome	Pass / fail	Tested on
1. Registration	Empty name, email, status, password, mobile	Show restriction to Fill all the fields	Fields must be filled by data	Pass	09-12-17
2. Login	Login email and password via various devices such as tablet, pc ,cell phones	Successfully login	Successfully login	Pass	09-12-17
3. Password	Incorrect password or empty field	Warning the incorrect password or field is empty	Show warning	Pass	09-12-17
4. Profile settings	View profile, Update profile	Show and update profile information	Show and update information successfully	Pass	09-12-17
5. Ads Post	Add post, Update post	Successfully Add post	Add post successfully	Pass	09-12-17

5.5 User AcceptanceTesting:

The table below summarize the test cases employed for user acceptance testing and the test result obtained for each test case.[7] [8]

Table 5.2: comparative study

1.Lamudi Bangladesh	 Only for house Search location Select a advertisement from search list
2.CarRentalbd.com	 Only for car Search location Select a advertisement from search list
3.RentInfo.com	 House, Vehicle, Event Management and any kind of rent. Search location wise Search by budget Select category of advertisement from the list

Questions for some users:

- 1. UI was user friendly?
- 2. Do you think you found the two or more information you needed as expected?
- 3. Do you think current system was more easier than other system?

Answer:

Table 5.3: user study result

User	Question1	Question2	Question3
1	yes	yes	yes
2	no	yes	yes
3	yes	yes	yes
4	yes	yes	no
5	yes	yes	yes
6	no	yes	yes
7	yes	yes	no

5.6 Test Results and Reports

Test Report is needed to reflect testing results in a formal way, which gives an opportunity to estimate testing results quickly. It is a document that records data obtained from an evaluation experiment in an organized manner, describes the environmental or operating conditions, and shows the comparison of test results with test objectives. [8]

Test report is very important and it is needed to know that the system is ready/ not ready for implementation? It is a document that records data obtained from an evaluation experiment. We need to run through many types of testing. [8]

There are many types of testing:

- o Functionality
- o Regression
- Security
- o Performance
- o Scalability
- o Usability

 $\circ System\ interoperability\ \circ$

Localization

oDisaster recovery o

Installation.

If the system passes through all these types of testing it is finally ready to launch

So at the end we can carry out the results as the benefits of usability testing.

- Good Quality of application.
- System is easier to use in the system.
- Application is more readily accepted by users.
- Easy to use for the new users.
- Better UI for interaction.

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Discussion and Conclusion

The system will build up communication between Owner and Customer through Admin. It will help both owner and customer to give and take a rentals. It will save time and reduce paperwork. No chance of losing any sort of data during transaction. The system will be come with more upgrades and new feature in future. It will be more upgraded with its web interface layout.

6.2 Scope for Further Developments [2]

We have some limitation now soon we will try to reduce our limitation as much as possible.

- In future we intend to implement an artificial intelligence which will put the feedback automatically in future.
- Make sure that can submit individual post within a time frame.
- Will implement notification system.
- System features will be upgraded day by day for its better use.
- System will implement new UI if needed for good looks.

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APPENDIX

Project Reflection:

From Spring-2018 semester i had started my journey to make a system, where teachers and students can communicate easily from anywhere and it will save valuable times as well. We followed the model to implement and monitor my system, with the all hard work and spending a lot of time finally i were able to reach my goal at last.

The project "Online House Rent System" will be very helpful for both owners and users to communicate. The user will be more facilities for need to take rent or give rent. User will take a proper information of he/she want for rent. They will be able to perform task in a contact each other and solved rental problem with good relationship and good understanding for future.

So i believe that my "Online House Rent System" will be a positive and effective and helpful thing for both the owners and the users. And i will be continuously upgrading my system as.