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Chapter-1: INTRODUCTION TO EC, MIS AND PROPOSED EC WEBSITE

1.1 Introduction to E-commerce

E-commerce is the process of buying and selling of goods and services with the help of electronic medium generally said as internet. E-commerce is a technique of conducting the process of buying and selling of good over computers, tablets, smartphones with the presence of internet.

E-commerce is the asynchronized process where trading of goods occurs with help of internet. Ecommerce helps a good/service vendor to sell his product at various locations although having a fix located store. E-commerce helps a vendor to reach out to many customers at different location in easy and efficient manner. E-commerce helps to generate automatic/computerized analysis of business transaction for each and every transaction occurred in efficient way. E-commerce helps to globalize the commerce reaching out to many customers living in different regions or even countries.

In context to Nepal, With the influence and arrival of the latest technology from neighboring countries, as well as from abroad, Nepal is on the path of success through e-commerce. Online shopping is taking the Nepalese market by storm facilitated by fast speed inexpensive 3G and 4G internet technology provided by the local service providers. Similarly, the convenient modes of payments and user-friendly, as well as interactive shopping apps are further paving a pathway to unprecedented growth in the e-commerce sector. The growth in the information technology sectors and the increasing number of young human resources in information technology sector directly created more opportunities for the growth of e-Commerce in Nepal (Vaidya, December 2019).

1.2 Introduction to Management Information System (MIS)

MIS is the system that generates summarized reports for the data management. MIS is responsible for storing, searching and analyzing data through which organization can get maximum benefit from those reports generated. It is the study of people, technology, organizations, and the relationship among them. MIS is essential in any businesses for critical decision-making.

In addition to serving as a department within a company, MIS refers to computer software that is used to store, organize and analyze information. Management information systems are used to track sales, inventory, equipment and related business information. The data managed by an MIS system can help managers make better decisions related to sales, manufacturing, resource allocation and more. Managers use an MIS to create reports that provide them with a comprehensive overview of all the information they need to make decisions ranging from daily minutiae to top-level strategy.

MIS is always management oriented and keeps in view every level of management and gets the desired information. It provides updated results of various departments to management for the benefit of the organization. MIS helps to adds the intelligence, alertness, awareness of managers by providing them information in the form of progress and review reports of an ongoing activity.

Chapter-2: INTRODUCTION TO FRIEND'S HOTEL

2.1. Introduction

Hotel businesses are one of the top running businesses all over the world. The hotel business has emerged with massive growth over the last decades. Hotel industries are also one of the main reasons for tourism growth. The section of the service industry that deals with guest housing and lodging are the hotel business. The Internet has become an important distribution channel in the hotel industry. Unlike traditional hotel booking through travel agents, online hotel booking offers benefits to consumers such as accessing more photos and videos, a full description of the hotel property and location, better pricing, and no additional booking fees.

Friend's hotel is an online application which provides the facilities of room reservation, bill settlement and others. Its aim is to provide an efficient and convenient way of reserving rooms for all the persons. The room reservation system helps the customer to reserve the hotel rooms from anywhere at any time with the medium of internet. The room reservation system for this hotel works as the mechanism through which guests can create a secure online reservation. The Room management system is capable of handling various activities like Guest details, Reservation details, invoice details, and many more. This system provides good information sharing to both customers and staff of the hotel. The room reservation system will be the means to eliminate the manual system which then provides faster and efficient operation in the hotel. The Room reservation system is also considered to offer an efficient, informative, and user-friendly website.

2.2. Problem Statement

The problem that our system might face are:

a) Guests cannot access every detail of the hotel.
b) Inability to match guest expectations.
c) Lack of hotel and hotel website promotion.
d) As guests can arrive directly to hotels and reserve rooms and if the admin forgets to set the room reserved in the system it can create confusion and problems.
e) If the admin does not view the guest reservation and acknowledge them, guests might have to wait for a long period to assure if their reservation is successful.
f) Guest does not know what the surrounding of the hotel looks like.
g) technical problems like server down may be another problem.

2.3. Objectives

The main objective of our system room reservation for friends' hotel is to provide an online service to the guest for reserving the hotel room and others like:

a) To make it easy for customers to make reservations from anywhere at any time.
b) To avoid manual and repetitive work.
c) To create a database where every customer's details are recorded.
d) To keep track of available rooms and reservations.
e) To provide speed reservation and registration service.
f) To allow booking rooms without any error and without creating conflict.

2.4. Scope and Limitation

Scope are as follows:

- Making it easy for customers to make reservations.
- Avoiding manual and repetitive work.
- To create a database where every customer's details are recorded.
- To secure all the data and records.
- Keeping track of available rooms and reservations.
- Providing speed reservation and registration service.
- Providing the ability to reserve rooms anytime from anywhere with internet access.
- Users can book a room on any specific date.
- Customers can get their rooms according to their choice.
- Users can cancel room booking in case of unavoidable problems.
- Users can check the availability of rooms before they book a room.
- Integrating online payment system.

Limitations are as follows:

- System can only provide service for online reservations.
- Users are not able to choose their breakfast or dinners using the website.

2.5 Feasibility Study

A room reservation system is a system that is highly feasible for these kinds of hotels. This system is being developed after a high-level study of the entire system analysis and design process which helps the hotel in every aspect. The system being developed will be flexible

to support the hotel to acquire more guests. There are three types of the feasibility study we kept in our mind for the development of the system for this hotel.

i. Technical feasibility

The proposed system of room reservation is very technically feasible as we are going to develop the system using existing technology. The required hardware and software for the development of the system are available. The software developed for the hotel management system is used in a client-server architecture where HTML, CSS, and JavaScript are used as front end and PHP is used as the back end for this project. With every knowledge of working with programming languages, we are going to develop the system.

ii. Operational feasibility

The room reservation system is very feasible regarding the operation of the hotel reservation. The system is just an advancement of the manual system. The main purpose of the system is to provide an online reservation service to guests which is easy to operate and staff to handle that reservation easily. The system helps to promote the hotel and also creates a user-friendly environment for room booking that saves time. The system helps in recording the details and providing invoices for both guests and the staff without having to deal with time-consuming paperwork.

iii. Economic feasibility

The system will help reduce the traditional record-keeping style which will eventually reduce the expense of hotels for registers and files. Keeping records in a digital format is less costly yet reliable. The system also does work alone that requires two or more people to do. The cost for the development of the system is also one time cost as the system is reliable for the long run.

iv. Schedule feasibility

All the above-mentioned will be fulfilled within 91 days. Each of these jobs will be separated to each team member within a particular time. All the activities which are done will be well-defined for users with caution and error notifications.

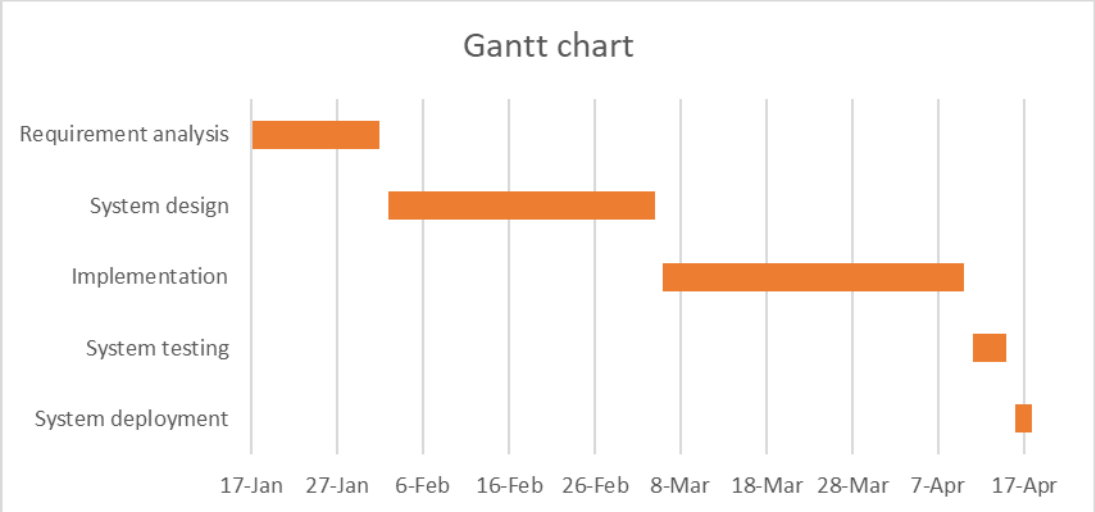

Figure 3.2: Gantt Chart for Room Reservation System

CHAPTER-3: NETWORK INFRASTRUCTURE

3.1 Network infrastructure

Chapter 4: WEBSITE DEVELOPMENT IMPLEMENTATION

4.1. Implementation

This implementation is the process of working in project to meet the objectives. It discusses programming language or software used in this application. It also gives details of codes of the entire system. This chapter also shows how the system works as a whole.

4.1.1. Tools used

a) Case tools

- Vs Code:

  VS Code is a streamlined code editor with support for development operations like debugging, task running, and version control. It features a lightning-fast source code editor which supports hundreds of languages. We have done all the coding in VS Code.

- XAMPP:

  XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTPS server, MariaDB database and interpreters for scripts written in the PHP and Perl programming languages. It is mainly used to host the server for using the website.

- Draw.io:

  Draw.io is a free, open-source windows app that helps to create offline or online diagrams. Many diagrams can be created easily like UML diagrams, flowchart, etc. We have made diagrams using Draw.io.

- Dbdesigner.net:

  Dbdesiner.net is a database schema design and modeling tool. It lets us use database schema without using SQL. We have made our database schema using Dbdesigner.io.

b) Programming language

There are many programming languages which are used in this project. Some of the languages are HTML, PHP, JAVASCRIPT, etc.

- HTML:
  With the help of html, we created our websites. This language is used as the frontend of the website. Html is used as base of our project. With help of html, we have described the structure of the webpage. The content on the system is established using html.

- CSS:
  CSS used to style the HTML document of our website. CSS have been used to give styles to our website. With the help of CSS, we have tried to make our website quite attractive.

- PHP:
  PHP is used for backend. All the data manipulation, update, remove are done using PHP. As a general scripting language, it was quite easy for us to use. All backend is done from PHP.

- JAVASCRIPT:
  JavaScript is a lightweight, interpreted, or just-in-time compiled programming language with first-class functions. Using JavaScript, we have done mostly form validations.

c) Database platforms

- PhpMyAdmin:
  We have used for database called MYSQL. MYSQL is an open-source SQL relational database management system that's developed and supported by Oracle. It is a system that stores and manages the data. Using PhpMyAdmin we have made our database and tables.

4.1.2 Implementation details of modules

User-form validation: signmodal.php

```
function signin(){
```

```
        email = document.getElementById('logemail').value;
        password = document.getElementById('logpsw').value;
        isValidate = true;
        if(email == ''){
            document.getElementById('for_log_email').style.display = 'block';
            isValidate = false;
        }else{
           document.getElementById('for_log_email').style.display = 'none';
        }

        if(password == ''){
           document.getElementById('for_log_password').style.display = 'block';
           isValidate = false;
        } else{
              document.getElementById('for_log_password').style.display = 'none';
        }

        if(isValidate){
           document.getElementById("sign-in").submit();
        }
    }
function signupvalidate(){
        userName = document.getElementById('name').value;
        Email = document.getElementById('email').value;
        Password = document.getElementById('psw').value;
        ConfirmPassword = document.getElementById('pswcon').value;
        isValidate = true;
        if(userName == ''){
            document.getElementById('for_name').style.display = 'block';
            isValidate = false;
        }else{
           document.getElementById('for_name').style.display = 'none';
        }
        if(Email == ''){
```

```
    document.getElementById('for_email').style.display = 'block';
    isValidate = false;
}else{
   document.getElementById('for_email').style.display = 'none';
}

if(Password == ''){
   document.getElementById('for_password').style.display = 'block';
   isValidate = false;
}else{
   document.getElementById('for_password').style.display = 'none';
   if(Password.length < 8){
      document.getElementById('password_length').style.display = 'block';
      isValidate = false;
   }else{
      document.getElementById('password_length').style.display = 'none';
   }
}

if(ConfirmPassword == ''){
   document.getElementById('for_con_password').style.display = 'block';
   isValidate = false;
}else{
   document.getElementById('for_con_password').style.display = 'none';
   if(Password != ConfirmPassword){
      document.getElementById('password_match').style.display = 'block';
      isValidate = false;
   }else{
      document.getElementById('password_match').style.display = 'none';
   }
}

if(isValidate){
   document.getElementById("signup-form").submit();
```

```
    }
}
```

The following things are:

- It checks whether the input fields are empty or not.
- It checks inserted password character is more than 8 character or not.
- It checks password and confirm password match or not.
- For sign in its checks weather the email is already registered or not.

Reservation-form validation: room_modal.php

```
function validateDetails(){
    userName = document.getElementById('username').value;
    phone = document.getElementById('phone').value;
    today = new Date(new Date().getTime() - 24*60*60*1000);
    checkin = new Date(document.getElementById('datein').value);
    checkout = new Date(document.getElementById('dateout').value);
    checkinemp = document.getElementById('datein').value;
    checkoutemp = document.getElementById('dateout').value;
    userNameError = document.getElementById('username-error');
    phoneError = document.getElementById('phone-error');
    dateError = document.getElementById('datein-error');
    datepError = document.getElementById('datepin-error');
    dateoutError = document.getElementById('dateout-error');
    Checkdaterror = document.getElementById('Checkdaterror');
    validate = true;
    if(userName.trim() == ""){
        userNameError.innerHTML="Username required";
        userNameError.style.display="block";
```

```
    validate = false;
}else{
    userNameError.style.display="none";
}
if(phone == ""){
    phoneError.innerHTML="Phone number required";
    phoneError.style.display="block";
    validate = false;
}else{
    if(phone.length<10){
        phoneError.innerHTML="Phone number cannot be less than 10 digits";
        phoneError.style.display="block";
        validate = false;
    }else{
        if(phone.length>14){
            phoneError.innerHTML="Phone number cannot be greater than 14 digits";
            phoneError.style.display="block";
            validate = false;
        }else{
            phoneError.style.display="none";
        }
    }
}
if(checkinemp == ''){
```

```
    dateError.innerHTML="Check-in date required";
    dateError.style.display="block";
    validate = false;
}else{
    dateError.style.display="none";
}
if(checkin < today){
    dateError.style.display="none";
    datepError.innerHTML="Check-in date cannot be past";
    datepError.style.display="block";
    validate = false;
}
else{
    datepError.style.display="none";
}
if(checkoutemp == ''){
    dateoutError.innerHTML="Check-out date required";
    dateoutError.style.display="block";
    validate = false;
}else{
    dateoutError.style.display="none";
}
if(checkin > checkout){
    Checkdaterror.innerHTML = "Check-out date cannot be before Check-in date";
```

```
            Checkdaterror.style.display="block";
            validate = false;
        }else{
            Checkdaterror.style.display="none";
        }
        if(validate){
            document.getElementById("SuiteRoom").submit();
        }
    }
```

The following things validates if:

- Given fields are empty or not.
- Phone number cannot be less than 10 and more than 14 digits.
- Check-in date cannot be a paste date compared to today.
- Check-out date cannot be before check-in date.

Chapter 5: PAYMENT GATEWAY

5.1 Payment gateway and its implementation

A payment gateway processes online payments, authenticating and safely passing cardholder data among the parties within the transaction flow. is a transaction processing technology that captures, stores, and transmits card information from the customer to the acquirer. It then shares the payment acceptance or decline notification back to the customer. In other words, the payment gateway works as the middleman between a customer and the merchant. By acting as an interface between a merchant's website and their acquirer, an online payment gateway can simplify how merchants process card payments.

For our project, we chose to use eSewa as it is the first payment gateway in Nepal. It is a mobile wallet that allows us to make online payments to the merchants and even transfer funds to the banks. It ensures real time, secure and instant payment.

Integration of eSewa in the project:

```
<form action="https://uat.esewa.com.np/epay/main" method="POST">
    <input value="<?php echo $_REQUEST['rs']?>" name="tAmt" type="hidden">
    <input value="<?php echo $_REQUEST['rs']?>" name="amt" type="hidden">
    <input value="0" name="txAmt" type="hidden">
    <input value="0" name="psc" type="hidden">
    <input value="0" name="pdc" type="hidden">
    <input value="EPAYTEST" name="scd" type="hidden">
    <input value="<?=  $rev["rev_id"]?>" name="pid" type="hidden">
      <input value="http://localhost/FriendsHotelpy/paymentsuccess.php"
      type="hidden" name="su">
    <input value="http://localhost/FriendsHotelpy/failedBooking.php" type="hidden"
    name="fu">
     <input src="images/eSewa.jpeg" type="image" style="width:70px; height:40px;
    border-radius:6px;">
</form>
```

Payment Verification

```
$rev_id = $_REQUEST['oid'];
        $sql = "SELECT * FROM reservation WHERE rev_id = $rev_id"  ;
        $result = mysqli_query( $conn, $sql);
        if(  $result )
        {
```

```
echo "hello world";
            if( mysqli_num_rows($result) == 1)
            {
    echo "hello world";
                        $order = mysqli_fetch_assoc( $result);
                        $url = "https://uat.esewa.com.np/epay/transrec";
                        $data =[
                        'amt'=> $_REQUEST['amt'],
                        'rid'=>  $_REQUEST['refId'],
                        'pid'=>  $order['rev_id'],
                        'scd'=> 'EPAYTEST'
                        ];
    $curl = curl_init($url);
    curl_setopt($curl, CURLOPT_POST, true);
    curl_setopt($curl, CURLOPT_POSTFIELDS, $data);
    curl_setopt($curl, CURLOPT_RETURNTRANSFER, true);
    $response = curl_exec($curl);
    curl_close($curl);
    $sql = "UPDATE reservation SET status=0 WHERE rev_id = $rev_id";
                        mysqli_query($conn, $sql);
                        header('Location: successBooking.php');
            }
    }
```

Chapter 6: CONCLUSION AND FUTURE RECOMMENDATION

6.1 Lesson Learnt/ Outcome

Through this project, we get to know about many functionalities of html, JavaScript, CSS, PHP. We have learned to use right code at the right place making it more efficient and convenient. We have learned to use mail system using SMTP. We have also learned the use of session.

Furthermore, with help of this project, we have learned how an administration works and how we can implement those functionalities to a program making them easier and efficient.

6.2 Conclusion

In this world of rapid technology development, people want everything to happen through their tip of the finger so that they can save their time as well as make the work faster and easier. In Hospitality business as well, the technology has played a huge roll.

Project like ours have made the hotel reservation a lot easier. People just have to go into a hotel website and look through the varieties of rooms along with their price. They can just choose which room they like and to book them simply just register into the system then login and book the room proving the essential details asked for it. This makes the reservation to happen really fast and easily from anywhere. Reservation system like ours also keeps proper records of the customers.

6.3 Future Recommendation

This system can be expanded in future in which we can implement hotel room reservation system for multiple hotels. It can be made more user-friendly. Online payment integration can also be added in the website.