

Sri Lanka Institute of Information Technology

**Hotel Management System**

Project Proposal

Information Technology Project (IT2080)

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Submitted by:

1. IT18143614– Kavindi Gunasinghe U.L.D

2. IT18135862–Wattegedara S.L

3. IT18140262– Visna Oshani Jayasinghe H.W

4. IT18149654– Rajapaksha T.N

5. IT18124590– Parana Liyanage T.L

6. IT18153682– Gajasinghe A.N

7. IT18093124– D.H.L.Amarasinghe

8. IT18151770– C.A.J.P.Chandranath

Submitted to:

Ms.Uthpala Samarakoon

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(Supervisor’s signature)

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Introduction

Peter’s Place is a hotel which is situated in Hiriketiya (Matara District) Sri Lanka. The hotel is providing service for both local and foreign guests throughout many years now. Although it is not particularly a large hotel, currently there are 38 employees who are working in the hotel.The owners have been running the business profitably , since the day it started and the income and the expinditure of the business balanced with each other. Also the ranges of the services they provide have varied with the time.

Their current way of handling the processes of the hotel, is a manual system which results in need of a reasonable amount of human labour and materilalistic resources.This also consume more time and , the quick accessibility to the hotel records is low.

Problem Statement

Since the hotel currenty uses a manual system , it face many problems in their functions.

* Time Consuming

They have to enter all details of the guests, employees , financial, suppliers, stocks and other details manually. And also, handling documents, storing them, finding the stored data etc take a huge amount of time.

* Data Redundancy

Due to maintaining of multiple registers, data redundancy is high as the data duplications are possible.

* Insufficient storage space

With the increase of documents , the space to store those documents should be also increased. This needs a considerable amount of expenditure to maintain these places to store documents and its difficult to maintain a large amount of documents .

* Difficulty in updating data

With the time they have to update certain data about the employees, suppliers, products

etc. In this manual system, if they want to make changes, they have to make a copy, so

they do not destroy the original with any edits or comments. This make the updating

process more time consuming and costly.

* Lack of security

Misplacing of documents and getting accessed by unauthorized people can happen when using a manual system. The leak of confidential data and documents in the hotel can cost immeasurable damage to the whole system. And also , due to the natural disasters and fire hazard situations , the documents can be destroyed , making huge losses to the hotel.

Solutions and Benefits

**Solutions**

Due to the number of problems mentioned above, our client (Peter’s Place Hotel) decided to make the Manuel system in to a computerized system which will evade the before mentioned issues in the hotel management. This will also be user friendly for every employee capability. The new system design and implementation process can be strategically broken down as follows to the problems found within the Manual system.

The inventory will be monitored using the serial numbers given to each section in the hotel. This method helps to ensure that the stock is in check and up to date. The data form the employee database will be used to generate reports and provide the platform to select the best performing employees. All the employees’ in will be given a unique ID number to input the hours worked, entered time, and other details which helps to keep track of daily attendance.

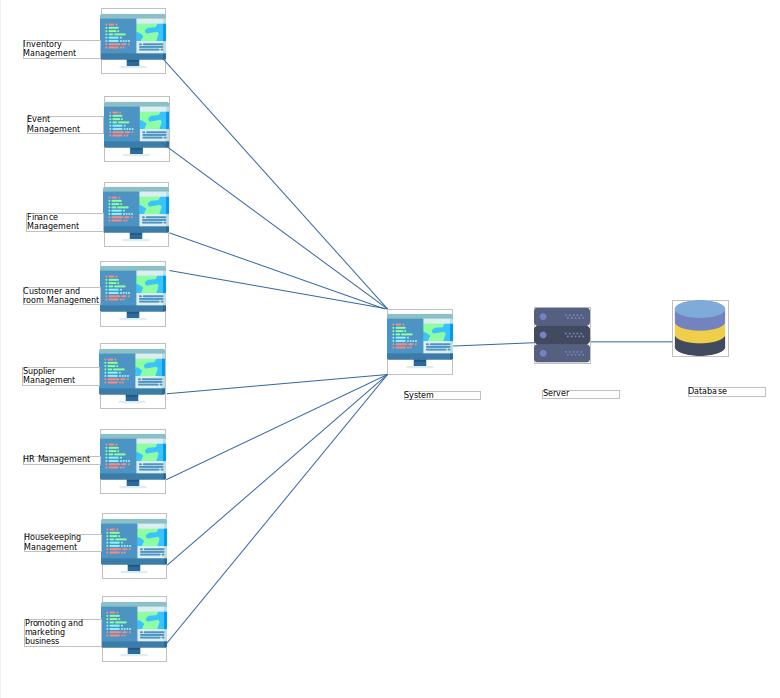
All other people such as customers and suppliers involved will be handled using the system in a section that manages information regarding their individual roles and commitments. The effective sections of the system will handle critical matters of financial related work which includes billing, calculating salaries, handling the necessary expenditures and incomes.

Moreover the new system will have a simple and a attractive graphical user interface in order to ensure a proper system management . There will be smooth transition to the new system. Also there will be database backup which ensures that there is no loss of data , work in progress after system breakdowns. Automated reports will be produced on annual and daily basis. The entire project is broken down in to eight sub sections and these will be explained later in the document.

**Benefits**

* Privacy of hotel details are more secured. The hotel details can access in different user levels. All the members in the hotel cannot access to those secured details without permission of the owner (our client).
* There are reports produced on each sub division where this will lead to more frequent communication between the seniors and the lower level employees.
* Users have direct access to the latest information in any time. The data is always up to date.
* Can accessible anytime, anywhere, via a PC with an internet connection, that who has access to the system.
* Efficiency in store management. It shows, what are the products that in and not in the stores and about the quantities. And also, automatically notify when the stock levels go down.
* Adding, updating, deleting data for employees, suppliers, products, machines, stocks is possible without making issues and time consuming.
* High accuracy in calculating salaries, other expenditures and payments by eliminating the human errors.

**System Overview Diagram**

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System Functions

Front Office Management

Front office is the first department noticed by the guests whenever they enter the hotel. So this function is the major source of guest information and is responsible in maintaining guest records. Thus , the role of the front office is to reserve, receive, allocate rooms to guests and act as a continuous of information to guests through the period of stay in the hotel.

**Basic Operations :**

* Reserving the rooms as per the request.
* Shifting of rooms as per the guest requests.
* Receiving the guest and completing the registration form.
* Providing the information to the guests and deals with the emails and messages .
* Handling the guest complains.
* Prepare the guest arrivals , departures and guests in house lists.
* Update cancellations and no shows by the guests.
* Add and Update configure rates , packages in the hotel etc.

The above mentioned operations are done under the following sub sections in the front office management function.

* **Reservations and Basics**

Reserving accommodations for the guests for particular period , shifting the services and rooms for the guests in house and handling the complaints by the guests by informing the necessary departments in the hotel are the main operations in this section.

* **Registration**

Receiving the necessary details from the guests and register them is the operation done under this section.

* **Information section**

Giving all the necessary information for the guests and Updating the cancellations , guests in house , configure rates , packages in the hotel , preparing arrival lists , departure lists and guest in house lists are the basic operations done under this section.

* **Front office cashier**

Receives payments for guest stay in the hotel. This is the point where all the charge vouchers generated by the guests are received to be included in the overall bill. A close connection between the finance management and the front office cashier is imperative.

The main departments where the front office of the hotel keeping connections are,

* Customer and Room Management department
* Housekeeping Management department
* Finance Management department

Event Management

The event manager is responsible for all hotel’s event spaces. Event manager plans and organize conferences, seminars, parties and etc. Manage the whole process from the planning stage to run the event successfully.

Event management involves identifying the target audience, formulating the event concept, planning the overall logistics of the event and conducting project management of the event as a whole.

**Functions of Event Management:-**

**Managing event space:-**

Managing availability of event space. Update information of event spaces such as date, time, place, decorations and number of guests.

**Managing information of menus: -**

Update foods in menus, delete menus, add new menus

**Managing woods in event spaces: -**

Managing the woods that necessary for events such as plates, cups, cutlery and other woods.

**Managing staff for events: -**

Managing number of staff for each events. Such as chefs, waiters, event planners and hotel managers.

Finance Management

Finance management is a collection of budgeting, accounting, controlling expenditure and reporting.

Finance management is an elaborate process of gathering available funds to best supremacy for long period.

To keep stable level in finance management, administrator is responsible for earning maximum profits for the hotel and forecast the financial decisions and plan well.

Finance management should diffuse finance properly among other departments as well calculate the salary and bonus for the staff who works for the hotel.

Create: Administrative staff can create new financial plans.

Read: Administrative staff can log into the system and search about other staff members salary

update: Administrative staff can update the budget of the hotel

Delete: delete outdated plans from the system.

Generate reports: including profits which gains hotel in a month and this can be update monthly

Customer and Room Management

* This function is responsible for online room reservation and management of the rooms and guests in the hotel.
* Customers should be able to visit the hotel management system web application from their home, search & book rooms in the hotel by entering the necessary personal, reservation and payment details. This customer information will be saved in the hotel database.
* When assigning rooms for the reservations, the availability of the rooms in the hotel should be checked. If rooms are available, they can be reserved for the customers. Once a reservation has been made, the relevant details will be updated in the system database like the customer details, room details, reservation details and payment details etc.
* The system should calculate the bill and show the amount to be paid for the customer's reservation.
* The total amount to be paid by the customer depends on several factors:
  + Type of the booked room
  + Number of nights the reservation is made
  + With food or without food
  + Any other extra/special services provided by the hotel like guiding and transportation etc.
* Manager of the hotel should be able to login to the system as an administrator and confirm bookings made by the customers online.
* Administrator can perform CRUD operations on the customers, such as insert customers, update customer details, delete customers and retrieve information about a relevant customer or guest if necessary.
* The Peter's Place Hotel currently consists of ten rooms of three different types:
  + Single Bedroom : A room assigned to one person. Contains one bed.
  + Double Bedroom : A room assigned to two people. Contains one or two beds.
  + Family Bedroom : A room assigned to three or more people. Contains two or more beds.
* Administrator should also be able to perform CRUD operations regarding the rooms in the hotel such as insert rooms, delete rooms, update room details and retrieve details about a specific room.
* The system should also be able to generate reports using the information stored in the Hotel Management System database, such as the availability of rooms in the hotel, room occupancy and the guests and payment details of the room reservations etc.

Supplier Management

Suppliers are the independent legal entries that exist outside the boundaries of one’s own organization. Suppliers Management is the process of obtaining and managing of product or services that are needed to operate the system.

Objective of the supplier Management is to ensure that contacts with suppliers support the needs of the business. This is also responsible for making sure that all suppliers meet their contractual commitment .Functions of the Supplier Management are as follows. .

* **Evolution of New Suppliers and Contracts**

To evaluate prospective suppliers in accordance with the supplier stratergy and to select the most suitable suppliers.

* **Processing of Standard Orders**

To process orders for products and services to order pre-defined items within the boundaries of existing contract frame work.

* **Contact Renewal or Termination**

To carry out regular renewal of contracts, to asses it those contracts are still relevant and to terminate contracts which are no longer needs.

HR Management

Employee is the essential part of the company. Therefor as a group we are implementing HR management function . HR management is the process of recruiting hiring , deploying and managing an organization’s employees. This function will be developed by PHP.

In addition this will give better performance evaluation . Moreover employee will have quicker service from this system. Below functions will be implemented by this .

* **Request for leave**

All employees can apply a leave through this system . The owner can check weather it’s acceptable or not. And send response mail to relevant employee. This process will improve decision making skill and will seriously affect in increasing the efficiency in requesting a leave .

* **Employee Status**

All employees will recode to the database with in a relevant category . So that combine all these elements in a center location that make all employees information accessible to owner with in a less time .

Moreover owner can ADD employee , DELECT employee and UPDATE employee details easier .Some time employees can change specifics information for a example telephone number.

This part will help to get better performance evaluation .

* **Address Employee**

This will create direct communication path between owner and employees .

If owner want to send some announcement to all employees then he can use

this function .This message will display on the employees page .

* **Generate report**

The data from the employee database will be use to generate a reports and provide the best platform to get proper performance evaluation of the employees .

* **Mark Attendance**

All the employees will get proper ID number to input their worked hours , entered time and etc . So that helps to keep daily attendance and that can see from the owner page . It will use for calculate salary and etc .

House Keeping Management

* **Assign task to housekeeper**
* **Update room status**
* **Provide clean/dirty room list**
* **Handle request for housekeeping**
* **Search room status**

Hotel cleanliness is the number one feature that guests are looking for. The functionality of housekeeping will help keep hotel property running smoothly.

Housekeeping management function provide,

* **Assign task to housekeeper**

Through this interface user can assign housekeeper to clean certain rooms and

Optimized cleaning schedules.

* **Update room status**

Once housekeeper complete their work and confirm about it, can simply select room status as cleaned.

* **Provide clean/dirty room list**

List of clean and dirty rooms will be provide to user,

This helps to identify which rooms are cleaned and which are dirty,

so can greatly reduce front desk queues and fast access to clean rooms.

* **Handle request for housekeeping**

When receive housekeeping request Optimized housekeeping Schedules can create in minute

* **Search room status**

Promoting and Marketing the Business

* In the business environment, promotion and marketing plays a crucial role for the effective business development
* This function is for customers to share the hotel details with their experience in social media platforms
* Administrator should also be able to run some ads/offers about the hotel in social media
* Administrator can view the visitors who come from the social media clicks
* **Admin can generate a report about the visitors.**

**Procedure**

**Flow of the Project**

**Feasibility Study**

Feasibility studying is to determine whether the project is financially worthwhile and technically feasible. Here we also have considered whether the project is worthy of our team’s effort and the time. Here we have specifically considered that if the project has a realistic goal. So, in the first week of the project team met the client and discuss the feasibility in terms of time, cost and resources.

**Requirement Gathering**

During this phase the current system was studied by our team since they are using data entry books to handle the process. The team interview the client and gathered information about drawbacks of current data entry system. And, our team was tried to abstract the new functionalities that they are expecting in the system. Our entire team took a tour around the hotel and interviewed some employees and gathered information about working procedures and workflow to understand the process correctly as much as possible. Finally, we collected necessary copies of their forms which are using to store data.

**Requirement Analysis**

After gathering the requirements, we organized the requirements and build up functional and non-functional requirements from the information that we collected. In that process we have faced several difficulties such as some unclear requirements. So, we had to clear them up by talking to our client. After all the clarifications, the whole system was divided into eight main functions according to their functionalities and carried out a further analysis on those sub parts separately. While we are analyzing main functions furthermore we thought of a solution which is giving more accurate, faster and efficient service.

**Designing**

In this phase the technologies which are going to be used to develop the system was decided and identify interfaces needed and creating wire frame models of interfaces. Following Steps are included in this phase.

A common theme for the software will be decided. Entire system was divided into sub parts in the requirement analysis phase and those sub parts were assigned to each member in the team to implement. The team members were advised to choose interfaces which are user friendly, attractive and more importantly simple and clear.

Parallel to the interface the team will prepare Enhanced Entity-Relationship (E-ER) diagram for the system in order to design the relational model for the database. Thereafter the relational model will be a used to do the schema refinement and normalization. This will allow us to create the database using MySQL.

**Function Implementation & Unit Testing**

After the Designing phase a prototype will be implemented and presented to the client. According to the client’s feedback, necessary changes will apply to the prototype and then the implementation of the actual system will be started . Here all the team members will contribute their effort in coding in parallel. Each team member will be responsible for their assigned function and they will implement and test the module separately. Here team members will be advised to test their function to find technical and logical errors.

**Integration and System Testing**

After Function Implementation & Unit Testing of their own functions, all functions will be integrated one by one. During the integration, if there are any errors, Integrated modules will be corrected and tested again. Afterward, the complete final system will be tested for several times to ensure all the requirements met. Finally, the complete system will be handover to the client and tested for one last time with actual data at the client’s premises.

**Software and Hardware requirement**

**Software and Hardware requirements to implement the system**

**Software:**

* Tomcat/Apache
* MySQL

**Hardware:**

* CPU: Core i3 or more
* RAM: 4 GB or more
* Graphic : Intel HD Graphics or more
* Display Resolution: 1024×768 is minimum.
* Disk Space : 10GB

Back-end: PHP, JavaScript , MySql

Front-end:HTML , CSS , Bootstrap

Work breakdown Structure

|  |  |  |
| --- | --- | --- |
| **Function** | **Name and IT number** | **Brief Description about the function** |
| Front office Management | IT18143614  Kavindi Gunasinghe U.L.D | * **Reservations and Basics**   Reserving accommodations for the guests for particular period , shifting the services and rooms for the guests in house and handling the complaints by the guests by informing the necessary departments in the hotel are the main operations in this section.   * **Registration**   Receiving the necessary details from the guests and register them is the operation done under this section.   * **Information section**   Giving all the necessary information for the guests and Updating the cancellations , guests in house , configure rates , packages in the hotel , preparing arrival lists , departure lists and guest in house lists are the basic operations done under this section.   * **Front office cashier**   Receives payments for guest stay in the hotel. This is the point where all the charge vouchers generated by the guests are received to be included in the overall bill. A close connection between the finance management and the front office cashier is imperative. |
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| Finance Management | IT18140262  Visna Oshani Jayasinghe H.W | * Create: Administrative staff can create new financial plans. * Read: Administrative staff can log into the system and search about other staff members salary * update: Administrative staff can update the budget of the hotel * Delete: delete outdated plans from the system. * Generate reports: including profits which gains hotel in a month and this can be update monthly |
| Customer and room Management | IT18149654  Rajapaksha T.N | 1. Administrator performing CRUD operations on guests  2. Administrator performing CRUD operations on hotel rooms  3. Checking room availability in the hotel  4. Customers booking the hotel rooms online  5. Calculating the total amount to be paid by the customer and handling payment details of room reservations  6. Generating reports related to hotel rooms and guests. |
| Supplier Management | IT18124590  Parana Liyanage T.L | * Add new supplier and contractor details. * Delete old and useless supplier and contractor details. * Send requests and orders * Update and manage the supplier and contractor reports |
| HR Management | IT18153682  Gajasinghe A.N | 1. Request for leave  Employees will be able to request a leave easier and owner can consider about that quicker  2. View employees details  Owner can see all the employees details just in one click  3. Address employee  Owner will be able to inform upcoming events and special announcement quickly.    4.Generate report  The data from the employee database will be use to generate a reports and provide the best platform to get proper performance evaluation of the employees .  5.Mark Attendance  All the employees will get proper ID number to input their worked hours , entered time and etc . So that helps to keep daily attendance and that can see from the owner page . It will use for calculate salary and etc . |
| Housekeeping Management | IT18093124  D.H.L.Amarasinghe | * Assign task to housekeeper * Update room status * Provide clean/dirty room list * Handle request for housekeeping * Search room status |
| Promoting and marketing business | IT18151770  C.A.J.P.Chandranath | * Managing the Feed backs and ratings for the hotel. * Cross promoting the business on other social networks. * Posting good quality content consistently and offer incentives and host contests. * Add and update the posts and invite the contacts and add links to Facebook on website and emails. |

Gantt Chart

