

Sri Lanka Institute of Information Technology

**Hotel Management System**

Project Proposal

Information Technology Project 2016

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Submitted by:

|  |  |
| --- | --- |
| Athithan. V | IT 13 0549 46 |
| Gamlath. G.R.B.V | IT 14 1398 40 |
| Jaffoor. T.I | IT 14 1461 52 |
| Marikkar. N.A | IT 14 5377 52 |
| Madushanka. A.S | IT 14 0503 36 |
| Nesendranath. A | IT 14 1287 14 |
| Thushanth. P | IT 13 0687 38 |
| S.N Walpola | IT 12 025640 |

Submitted to:

…………………………..

[Mr. K.P. Dhammika H. De Silva](http://courseweb.sliit.lk/user/view.php?id=7350&course=1)

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**Abstract**

A Hotel Management System for Hotel Ancient Village, Topawewa , Polonnaruwa is a fully computerized system,

in which all the process and functions are created to enhance their current methods in managing the hotel & restaurant.

This Hotel Management System focuses on many aspects of the Hotel’s main procedure such as reserving room, managing employee, maintaining stock and inventory, event management, restaurant and bar management, vehicle and customer management including administrative facilities.

By the use of this new system, the Hotel Ancient Village could perform their tasks in an effective and sufficient way than the existing file based recording and account system.

This Hotel Management system saves time, energy, expenses and benefits the hotel with more advantages by producing greater results.

# Table of Contents

[**Abstract** II](#_Toc330011717)

[**Table of Contents** II](#_Toc330011718)

[**1.** **Introduction** 2](#_Toc330011719)

[**1.1** **Problem Specification** 2](#_Toc330011720)

[**1.2** **Solution Outline** 2](#_Toc330011721)

[**1.3** **Key Benefits** 2](#_Toc330011722)

[**2.** **Objectives** 2](#_Toc330011723)

[**3.** **Procedure** 2](#_Toc330011724)

[**3.1** **Flow of the Project** 2](#_Toc330011725)

[**3.2** **Project Plan** 2](#_Toc330011726)

[**4.** **Personnel and Facilities** 2](#_Toc330011727)

[**5.** **Software and Hardware Requirements** 2](#_Toc330011728)

[**6.** **Budget** 2](#_Toc330011729)

[**7.** **References** 2](#_Toc330011730)

[**Appendix** 2](#_Toc330011731)

**1.Introduction**

Hotel Ancient Village is one of the growing hotels in North Central Province-Srilanka. It is an approved hotel by Sri Lankan Tourist Board which was established on 2014. The hotel is located on Topawawa, Polonnaruwa and currently one of the well-known and most recommended hotels in polonnaruwa district by the tourists. Currently Hotel Ancient Village contains room services, restaurant and bar, hall and conference facilities with many other exciting options for its guests, such as swimming pool, sports and other entertainment activities. People from various places around sri lanka including foreign guests are tending to spend their vacation in Hotel Ancient Village because of its lowest price deals and facilities. With a good reputation among people and the frequent growth, a computerized system seemed essential for Hotel Ancient Village to maintain their activities, which led to the inauguration of this project.

The system required by the Hotel Ancient Village mostly concerns on making several important functions to be performed quicker than the present way and it requires an effective way to keep records of the activities for future uses. The hotel keeps a record for room reservation/cancelation, check in, check out and for queries about availability including billing method which is made depending on the facilities used by the guest. The hotel manages employee details and salaries by calculating the time of the work in a daily basis. Its inventory and stock control system is used to monitor and calculate the incoming and outgoing stocks such as raw food materials, liquor and other beverages including the cost of maintenance. Restaurant and bar is also available for normal customers and guests, which includes food & liquor orders/whole sales/retails. The Vehicle system serves as a transportation facility where all the available vehicles, drivers, maintenance costs are calculated including the payment depending on the distance traveled by the customer.

## **Problem Specification**

Currently Hotel is using a system which is mostly based on records and account books which is anxious and vulnerable in many ways.

Storing and maintaining all the records on order and retrieving information are done manually which costs times and energy.

Chances of possible mistakes are high and most of the process is done with great cost of money in the traditional way. Using records to maintain customer details makes the reservation related functions to be done with less efficiency. Maintaining a whole list of all the stocks and inventory information including payment and charges in a book based system takes more time and energy to calculate the total value of the stock.

Services such as laundry and transportation are still being done in the traditional way which makes the billing process more difficult and maintaining Restaurant & Bar’s payments among room guests, normal customers and orders using book based system is problematic.

Managing events which uses many facilities of the hotel is done with records which make the payment process more complicated.

By the use of the system all the functions will be recorded/edited/maintained in a computer based system which will increase the efficiency and saves time, energy and money.

## **Solution Outline**

By analyzing the issues faced by Hotel Ancient Village our group members suggested to come up with an automated system to manage the entire process of the restaurant. All manual processes that are currently handled will be automated. Our focus is to develop a system that can only be handled by the administrator.

As the restaurant needs to manage records for each and every activity, our group suggested some ideas to maintain records for each project separately. Reservation management, event management, vehicle pool management, laundry service, restaurant & bar management, inventory and stock controls, employee management are the main functions that we are aiming to automate in this system.

## **1.3 Key Benefits**

* Quicker reservation process.
* Proper data entry, back-up and maintenance.
* Effective and secured payment system.
* Easy stock management.
* User Friendly GUI.
* Report Generation and administrative support.
* Restaurant and Bar payments are done with ease.
* Maintaining employee details and salary calculation is done effectively.

# 

# 2. Objectives

**Staff Management**

**Create profile : -** Creating profiles for employee who joined as new to the Hotel. Here all important details should be added. Employee’s fingerprint also recorded at the time to maintain attendance record and confirmation.

**Update Profile : -** While having profile for the employee, system allows them to update their details. More over system allows changing their position according to their promotions.

**Calculate Salary : -** By considering the working time, salary will be calculated and if the employee has over time hours, that also added. Employee’s attendance will be maintained by their fingerprint recorded time.

**Maintain profile : -** Employee allows taking medical leave, according to the leave taken by them and the profile will be updated.

**Stock Management**

**Inserting stocks: -** Stocks supplied by suppliers will be entered into the system. This includes stock type (Food / other items), item, quantity, value, date and supplier information.

**Updating Stocks:** - Depending on the use in different services of the hotel, stock levels of each item will be updated and at a certain level of availability, a notice will be sent to suppliers for replenish of the supply. If the stock is damaged/expired upon receiving it will be send to supplier, or it will be taken into inventory account as damaged good.

**Cost & Value: -** Cost of all the stocks is calculated depending on the quantity and storing methods (such as refrigerating & other methods).

**Stock payment: -**. The Payment amount, date, items, and other information will be stored.

**Restaurant Management**

**Manage sales : -** Manage all Restaurant sales details

**Manage Restaurant Incomes: -** Get all Restaurant and bar income details and send it to the accounts management system

**Accounts Management**

**Manage Incomes: -** Get all income details and sorting them according to its department (it can be an income from hotel, restaurant, transport or bar)

**Salary Report: -** Salary report is generated according to employee’s profile. This can be generated based on monthly or yearly.

**Employee’s Report: -** Generate reports for every employee for their working periods. This contains their salary details, leave details and other extra activities.

**Stocks report : -** This can be done by considering available stocks and expired stocks. Also it includes its costs

**Event Reports: -** Generate event report for all the events. It includes hall charges, guest details, and additional usages.

**Transport System**

**Add vehicle: -** Adding new vehicle to the system by inputting all essential vehicle details

**Remove vehicle: -** Vehicle can be removed by considering its services / damages.

**Add driver: -** Assign driver for vehicle by contacting employee table.

**Check availability: -** Check available vehicle and drivers. (Tracking by vehicle number and driver ID)

**Add travel cost: -** travel charges will be automated with vehicle meter reading. So the final charges will be added to the system. It will be added to guest’s table by specifying their transport usage and added to vehicle table too. Final trips will be paid at dropping.

**Database backup & Restore**

**AutoSaves: -** All the databases including all details will be saved at a specific time to drive. It will be done automatically.

**Backup: -** When data erased under any circumstances, it will be able to get backup from AutoSaves.

**Customer Management**

**Reserving Rooms: -** Rooms can be reserved depending on availability on date and time. Customers can select the room type such as luxury or semi luxury and number of beds.

**Check In: -** Confirmation receipt will be provided when the guest booked the room. It includes room charges and additional costs depending on their needs. On that time, they need to pay an advance or full payment. However, the Guest is allowed to get more facilities that are not mentioned in the receipt

**Guest Records**: - Information gathered from guests will be saved to database. It the guest record is already existing in the system it will be updated.

**Editing reservations**: - If the guest requests any changes in reservation, it will be edited.

**Check out: -** While checking out from the hotel, prices for all the services and facilities accessed by the customer will be calculated and a final payment slip will be provided.

**Events Management**

**Hall availability: -** Halls / Conference rooms can be booked for special events and occasions depending on time / date schedule and availability

**Booking and Event History: -** Details about events such as, event type (E.g- Weddings, Parties, Exhibitions, etc.), date and time, host/customer details and charges will be entered for booking and maintained for event history purposes.

**Additional Services:** - If an event is successfully booked, food / beverage orders will be taken for the event if required and additional service such as advertising, special lighting, speakers and furniture are provided.

**Supplier & Inventory Management**

**Inserting stocks: -** Stocks supplied by suppliers will be entered into the system. This includes stock type (Food / other items), item, quantity, value, date and supplier information.

**Updating Stocks:**- Depending on the use in different services of the hotel, stock levels of each item will be updated and at a certain level of availability, a notice will be sent to suppliers for replenish of the supply. If the stock is damaged/expired upon receiving it will be send to supplier, or it will be taken into inventory account as damaged good.

**Cost & Value: -** Cost of all the stocks is calculated depending on the quantity and storing methods (such as refrigerating & other methods). **Supplier and payment: -** Supplier details will be entered into the system, if the supplier is new .This process requires supplier company name, address, and contact details.

# 3. Procedure

## 

## **3.1 Flow of the Project**

**1. Feasibility Study**

The project team conducted special interview to get an overview of the main requirements and the scope of the system.

In addition, the team members analyzed the company’s existing system and the hardware resources they currently have. Also we considered about the timeline we have. Once this initial interview was successfully conducted, a feasibility study of the system was carried out with respect to Technical Feasibility.

The technologies used to develop the system

* Microsoft Visual Studio 2010
* My SQL Server.
* Crystal Reports.

**2. Requirement gathering**

It is very essential to identify the problem of the system of the company before come up with a solution.

Since our hotel didn’t have a computerized system before, we had to get an idea about their requirements Therefore firstly we went through their manual system. Since our project group gathered information’s from higher level company personal to lower level Employee, our team was able to clarify many of the problems they currently face that are mentioned in the above problems specification section.

**Requirement Gathering Methods**

• **Interviews**

A meeting of people face to face, especially for consultation. We interviewed the client and gathered the informations

• **Discussions**

The action or process of talking about something in order to reach a decision or to exchange ideas. We had a small discussion with the client to find what is the main problem

• **Observations**

The action or process of closely observing or monitoring The Hotel Management system for the hotel ancient village

Before move on to the next phase we finalized all the requirements and understood their explicit requirements, implicit requirements and exciting requirements. We are hoping to convert these requirements to the SRS.

**3. Designing phase**

In this stage the requirements that are specified in the SRS documentation will be transformed in to a suitable form for implementation in a programming language.

System design: -

Mainly for the software design derived from SRS document will be done using Function oriented method approach. Structured analysis is carried out using data flow diagrams and structured design will be carried out using structure charts.

Database design: -

An E-ER diagram is used to model a conceptual view of the database (Conceptual Design) and later mapped into relations (tables) (Logical Design).

**4. Implementation and Unit Testing**

After implementation of the Data Base we would start to code the system. Each module of the system is going to be implemented independently as a standalone unit. After each module is completely implemented we test them independently to make sure that they are working as a single unit. We’ll get a set of independently working modules as the final outcome of this process. Then we can start the Integration and the System testing Phase.

**5. Integration & System Testing**

In this phase we are going to merge the modules that are created in the previous phase and give those modules to interact with each other. In the beginning of this phase, first we merge the very basic modules and after doing a black box testing (in black box testing take some inputs and check whether the merged modules are providing the expected output) we make sure that the module works correctly like that whole system will be integrated.

**6. Installation**

First we will install the system in the Administrator’s computer and the physical Data Base will be installed and configured. Then the system will be installed in the system with the server.

**7. Maintenance**

Even though we develop, tested and delivered the system to the client, there are possibilities that there can be some error that we were unable to detect while testing phase. Such errors have to must be identify and correct as soon as possible

**3.2 Project Plan**

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# 4.Personnel and Facilities

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| --- | --- | --- | --- | --- |
|  | **Name with initials** | **Function in charge** | **Brief Description** | **Resources** |
| 1 | Aththithan V | Staff Management. | 1. Managing employee details & creating and updating employee profiles. 2. Employee salary, time organizing and OT calculating. 3. Maintaining employee’s medical and other leave allowance. 4. Generating salary slips | Visual Studio 2010  MS SQL |
| 2 | Gamlath.G.R.B.V | Stock Management | 1. Managing stocks includes, inserting stock details, updating stock details and transferred stock details (Includes Bar & Restaurant stocks) 2. Stock purchases and cost calculation. 3. Supplier and their payment details. 4. Storing and other stock maintenance expenses (Refrigerating, Drying charges) 5. Automatic notification on stock low levels. | Visual Studio 2010  MS SQL |
| 3 | Jaffoor.T.I | Accounts Management | 1. Managing details of Hotel Utilities, Security and Maintenance expenses. 2. Manage discounts, promotional offers and select customer criteria. 3. Staff user account creating and supervising. | Visual Studio 2010  MS SQL |
| 4 | Marikkar.N.A | Restaurant Management | 1. Reserving tables for dinner / lunch / breakfast depending on client’s / guest’s request. 2. Maintenance of menu 3. Generate invoice (dine –in or take away) | Visual Studio 2010  MS SQL |
| 5 | Madushanka A.S | Transport System | 1. Maintenance of vehicle details (add, delete or modify vehicle details) 2. Vehicle transportation charges according to meter reading (Includes single and both way transportation). 3. Vehicle maintenance cost includes vehicle damages cost, fuel cost and other additional services cost (repairing). 4. Manage vehicle schedule time and assign drivers. (vehicle fleet management) | Visual Studio 2010  MS SQL |
| 6 | Thusanth P | Reservation Management | 1. Check rooms and availability, room type, based on date and time. 2. Editing / Modifying confirmed reservations on user request (If any modification is needed) and Handling Queries (Providing customers with information) 3. Check-in and providing a price information document. 4. Check-out and invoice generating. (Includes swimming pool, parking and other entertainment charges) | Visual Studio 2010  MS SQL |
| 7 | Nesendranath.A | Events Management. | 1. Halls / assembly room / meeting room booking depending on schedule and dates. 2. Maintaining hall charges and customer details .(even history) 3. Additional Technical arrangement charges. (Special lighting, speaker charges and furniture) 4. Generate invoice for the event (includes hall charges, food & beverages, advertising) | Visual Studio 2010  MS SQL |
| 8 | S.N. Walpola | Supplier Management | 1. Adding Updating and Deleting Supplier Details 2. Sending the Arrived items to the Stock Management 3. Making New Contracts with the supplier 4. Sending the payments to the supplier via Accounts Management 5. Generating Invoices and Monthly Reports 6. Adding and updating the Received items | Visual Studio 2010  MS SQL |

# Software and Hardware Requirements

Software Requirements

Our Hotel Management system is Desktop application system. So we decided to use C# for our main coding. Further we are going to use Microsoft SQL for database and Crystal Report for generating reports. Additionally, we planned to do our designing jobs with Photoshop.

# OS : Windows 7, Windows 8 or 8.1,10

# Framework : Microsoft Visual studio 2010, Crystal Report

# Database : Microsoft SQL 2012

# Designs : Photoshop CS6

# Documents : MS offices ( Word , Access , PowerPoint )

# Hardware Requirements

# According to our goal to develop the system we need some Hardware & devices.

# PC (with1Ghz or Higher, 1GB ram, 10 GB of free space)

# Printers & Scanner

# Fingerprint Scanner

# 6.Budget

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Description** | | **Rupees in amount** |  |
| **01** | **Stationeries** | |  | **1080.00** |
|  | 1.1 | Paper Bundle | 570.00 |  |
|  | 1.2 | Transparent File X 2 | 100.00 |  |
|  | 1.3 | Demy Sheet X 5 | 50.00 |  |
|  | 1.4 | Note books and other writing pad | 360.00 |  |
| **02** | **Traveling expenditure** | |  | **2700.00** |
|  | 2.1 | Transport cost | 2200.00 |  |
|  | 2.4 | Other Expenditures | 500.00 |  |
| **03** | **Communication** | |  | **950.00** |
|  | 3.1 | Reloads to mobile phones for client communication | 300.00 |  |
|  | 3.2 | Internet usage | 650.00 |  |
| **04** | **Printing** | |  | **450.00** |
|  | 4.1 | Project charter Printing (including Rough work) | 200.00 |  |
|  | 4.2 | Project Proposal Printing (including Rough work) | 350.00 |  |
| **05** | **Binding** | |  | **500.00** |
|  | **Total** | |  | **5680.00** |

**7. References**

**Books**

1. Gantt Charts - Software Engineering I textbook, SLIIT
2. Class Concepts - Software technology II textbook, SLIIT
3. ER Diagrams, Normalization - Data Base Management System I textbook, SLIIT

**Web**

* <http://www.youtube.com> :-Video Tutorials (C# , MS SQL & Crystal Report )
* <http://stackoverflow.com> :-C# Coding, MS SQL

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