

---

## HOTEL MANAGEMENT SYSTEM

Mounika Nandiraju<sup>\*1</sup>, Salluri Rachana<sup>\*2</sup>, Shaik Chandini<sup>\*3</sup>,  
Sandhu Srilatha<sup>\*4</sup>, G.Sabitha<sup>\*5</sup>, Seema Nazneen<sup>\*6</sup>

MBA Final Year Student, Anurag Group of Institutions, Venkatapur, Hyderabad  
Asst. Professor, Dept. of MBA, Anurag Group of Institutions, Venkatapur, Hyderabad

---

### ABSTRACT

This project examines the aspect of the hospitality industry which is Hotel management. In the 21<sup>st</sup> century the use of the internet, computers and other electronic devices have made handling different jobs and aspects of management very easy. This project is the design and implementation of an electronic hotel management system that provides proper management of data and transactions in a centralized and organized manner and also provides a user friendly interface with which the user can interact easily with the just little or elementary knowledge of operating computers.

This project is designed to create a platform that allows both the user and administrator to keep track of transactions like room reservations, room booking, financial administration of the hotel, staff record keeping, online reservation and other day to day activities involved in the running and management of a hotel. The implementation is based on the requirements for a hotel management system. The project work is divided into five major categories which are; Front Desk, Accommodation, Catering, Finance & Account and Personnel Staff Record (Human resource management).

This project accomplished the task of building a system that ensures accurate record maintenance which was done through proper identification of customers and the proper designation of user functions with most of the processes being done automatically. An electronic hotel management information system is required to assist management of data in the hospitality industry and also to make the entire hotel management process easier.

The project was designed with the use of Microsoft visual Studio which is an integrated development environment made by Microsoft. It can be used to develop console and graphical user interface applications along with windows form application websites. The database system was created using Microsoft SQL server (MSSQL).

**Keywords:** Hotel Management System, Modules, Enterprise resource planner, Hotelogix

---

## I. INTRODUCTION TO HOTEL MANAGEMENT SYSTEM

Hotel Management System is a software system where the management of entire hotel is computerized. The hotel management system is designed using VB.net as the rich GUI for front end and SQL Server as the secured back-end database.

In this project the details are maintained like customer details, reservation details, booking details and billing details the reservation process of reserving rooms for the customers, canceling the reserved rooms, booking the rooms vacating the rooms, the restaurant management, billing process, etc. all are computerized and the management is done without any difficulty

The reports can be viewed completely and the head of the management daily or weekly or monthly can review it. For company auditing it will be more useful. This Proposed System will be interactive, faster and user-friendly for the end users. Using the hotel management system, the following activities can be performed.

- Room Service
- Check In
- Check Out
- Staff Master
- Staff Attendance
- Login

### 1.1 Need of the study

Today, even the smallest run hotels have a hotel management system in place to meet each task of managing their hotel. In order to complete on a large scale. A hotel need an efficient system to be effective. Management system, once exclusive to large scale chains, have been adapted to accommodate the needs of smaller hotels. Nut with so many options available, you need to consider these three basic aspects when deciding to implement or change systems.

1. **Simplicity:** the system with all the bells and whistles available might seem like the number one choice. However, remember the system should be simple enough to understand that anyone can use it efficiently. The design should be attractive and user friendly. your staff should be able to understand how to use the program smoothly.
2. **Flexibility:** not every hotel is a like there are different room types, cleaning services guest types, etc. The system must be able to adapt to the characteristics and peculiarities of each hotel.
3. **Accessibility:** small and independent business owners might need to access hotel information at any time. Whether the your in office or on the road, you should able to access all activity within your hotel.

### 1.2 Objective of study

The aim of the proposed system is to provide solutions to the problems stated above and help the user to manage the hotel effectively and efficiently through:

**Adequate Record Keeping :**To eliminate manual record keeping and install an electronic record keeping thereby ensuring adequate record of transactions are kept. This ensures a centralized system where all necessary data and information can easily be accessed, Tracked, and monitored

**Reduced Incidence of Fraud :** The program is envisaged to reduce the incidence of fraud both by staff and outsiders through proper record keeping, tracking and monitoring of transaction operations in the organization.

**Maximum Accountability:** To Instill accountability in the process of management in the hotel organization by not only reducing incidence of fraud, but also eliminate wastages.

**Provide Data Security:** The study will install security measures by providing different access levels to various staff.

**Effective Resource Management:** The Human Resource module (HR) and Finance & Account (F&A) module will enable effective utilization of financial and human resources by comparing the accounts receivable with the account payable and complete record of personnel through the nominal roll module will enhance staff deployment and productivity.

**Increased Profit Line for The Organization:** when there is reduced incidence of fraud this and proper management of resources this will enable increased profit line for the organization

**Reduced Time Consumption:** A good search algorithm will be implemented on the web application to enhance the search facility whereby users of the system can search for all kinds of data using various criteria.

The system can be handy to the user in the following ways:

- To automatize the work such as gathering information, gathering Hotel Staff information, Workers' roster, food ordering and Hotel administration in general.
- To atomize different types of reports.
- Removal of Data Redundancy.
- To create a centralized system where all necessary data and information can be accessed easily.

### 1.3 SCOPE OF STUDY

The study is focused on the critical operations carried out within the hotel administrative system. These major operations include

- Front-desk operations (customer management, room allocation, cashier posting)
- Accommodation (Hotel room management, staff schedules, inventory).
- Assets management (Fixed, Floating asset).
- Staff record Management.
- Restaurant & Bar operation.
- Staff payroll (Pay slip).
- Accounts Receivable & Payable.

The goals are achieved based on ability of the computer to store large amounts of data which is very useful to store information regarding the transactions of Sacoba Hotel. The study is limited to the following:

**RECEPTION MODULE:** The Reception module covers all the customer allocation and booking with the sub-fields (Customer Details, Room Allocation, and Cashier Posting).

**ACCOMODATION MODULE:** The Accommodation covers all Room Maintenance, Housekeeping Schedules and room inventory.

**FINANCE & ACCOUNT:** Covers the staff payroll, assets register, accounts receivable and accounts payable.

**CATERING MODULE:** Covers the food ordering maintenance and bar transactions.

**ADMINISTRATION & GENERAL SERVICES:** Covers Personnel staff record keeping and the stores with inventory.

### 1.4 LIMITATION'S OF THE STUDY

As earlier mentioned the project study covers Reception, accommodation, finance and account, catering, food ordering, administrative, security, and general services transactions in the Hotel management.

However the project has limitations based on these facts

- The “finance and account” aspect of the HMIS will not capture the budget function; it only captures the accounts receivables and accounts payable.
- Another limitation of the system is that customer’s signature will not be captured. This process might make procedures cumbersome, which is what the study hopes to eliminate; however it captures full details of the customer.
- The system does not have an online payment option on the online room reservation menu.
- The system is not designed to run off-line.
- Due to time constraints certain fields were not included; the software was therefore reduced to covering critical aspect of hotel management.

These limitations were encountered in the course of the study, and appropriate techniques have been applied to ensure the system functions properly thereby eliminates the “stale mate”

### 1.5 RESEARCH METHODOLOGY

This section involves Area of study, the data quality controls provided for the study. It also illustrates how the data was analyzed and presented.

The visual aspect refers to the method to be used to create the graphical user interface with Visual basic application. Rather than writing numerous lines of code describe the appearance and location of interface elements, you simply drag and drop pre-built objects into a place on screen.

Visual Basic revolves around ready-made objects and it is event-driven that is all the activities in a program are triggered by one event or another. Each object has its own properties, determining its size, colour, appearance and nature of its text and much more. Each object also has its own event-Handling procedures. Visual basic also handles images, menus, dialog boxes, drive and directory list and much more. The application will be web-based using the ASP.NET platform to eliminate system compatibility issues, and ensure it run on all systems provided with web-Browsers.

MS-SQL is used as the backend where Customer Record and Transactions are stored. It serves as the Database.

To do this, a proper search algorithm must be incorporated; the method involves using specific search criterion to select information from sources. The overall methods which are used while gathering information are:

1. Interviewing
2. Record Inspection
3. Observation

## II. LITERATURE REVIEW

In the literature review we consider and examine the work done by other scholars and researchers who have broached on this particular topic (Hotel Management System)

Technology has made a considerable impact on the Hospitality industry in recent years and will continue to do so with the increasing use of computer, controlled equipment and the growth of information technology in general” (Jones and Lockwood, 1989, p.6) Really in the last two decades, technology has become far more advanced and far more widely used throughout all types of industry. The tourism and hospitality industry is no exception. Indeed, many tourism and leisure establishments rely on technological systems for the vast majority of their operations.

They use a range of computer programs from everything to bookings, communications, security and payments. If a hospitality establishment does not use some sort of advanced technological system in its operations, it is deemed to be out of date and disorganized. Indeed, James Bardi begins to outline the importance of these programs by claiming that “a well-organized reservation system allows hotels to ensure a steady flow of guests into their properties”. Furthermore, “Profitable business ventures rely on effective marketing, which includes reviewing people who require hotel products and services, determining their specific needs, developing products and services that meet those needs, and making a profit on the sale of those products and services” (Bardi, 2010).

Part of the reason why hotels utilize technological systems in their operations is because it keeps them up to date in terms of where they are placed in the market. It makes work easier for staff members, allowing them to work more efficiently and taking away time consuming activities which can be carried out by the technology. In some hotels, the utilization of technological systems mean that fewer staff members are needed and this saves considerable costs. For others, especially luxury hotels, this is not the case but it means that the staff can be free to attend to customers on a more personal basis, thus upholding high standards. Therefore, it is understandable that 5 star hotels must ensure that they employ the most advanced technology available. This is because their priority is maintaining their position and status as a luxury brand, rather than cutting costs, which would be more of a priority for budget hotels which cater to a lower end market. Therefore luxury tourist establishments rely on top quality technological systems.

It is clear that technology used in hospitality establishments it is also used to make customers’ lives more convenient. Peacock notes “automated hospitality enterprises will become an increasing feature of the industry, particularly at the budget end of the market, but the main use of information technology will be in enhancing customer service, rather than

replacing it". For example, many hotels use technological booking systems which make it easy for clients to book online and to have all the information they need about the rooms available to them. They also use technology within the hotel to benefit the customer during their stay. For example, many have advanced communications systems installed in the rooms which means that those on business trips can continue with their work while they are guests at the hotel. Once again, in 5 star hotels, it is all the more important to provide these facilities; customers pay a lot of money and so expect to have a certain amount of facilities and quality additions provided for them (Peacock, 1995, p.21).

### III. SYSTEM ANALYSIS AND DESIGN

In this chapter we are taking a look at the management system, the processes, methodology and the steps taken to create the system, we will evaluate the research methodology and elaborate on the basic functionalities of our management system. This approach will be used in order to overcome the challenges highlighted in the previous chapter.

The system is created as an interactive web-based application to replace the current manual system of transaction. This Automated system requires full control on all hotel operations or activities. It is essential due to the fact that the electronic means is more efficient in utility than the manual system.

The Project work will ensure reservation of hotel rooms, staff management, and resource management. A "Use Case" scenario is the room search for room reservation. Users may face difficulties searching between available and booked rooms, but the automated system would search more efficiently with the proficient search algorithm. All details of the rooms are stored in the database servers and can be retrieved or modified with very little stress. Another "Use Case" is the accounts receivable and payable field of the F&A module. The accounts receivable simply captures all funds coming-in with their sources and dates while the accounts payable displays the money going-out of the organization with their destination. The business flow is quite simple; however, to accomplish all these tasks is burdensome for both the customer side and the hotel side without an efficient and integrated hotel management system.

With the HMIS (Hotel Management Information System), Restrictions and access levels can be stipulated to prevent unauthorized or unwanted personnel from any point of operation i.e. workers cannot have access to areas not pertaining to their roles as set by the administrator. The administrator can also decide what operations can be carried out where on the application. For example a staff with the role "Housekeeping" should not be able to modify the schedule set for him/her for the month by the House keeping Manager, and the catering staff should not have access to the "cashier posting" of customer accommodation.

Staff Payroll can be generated and added to records with details from the staff record (HR) and accounting computation. ie specific details from the staff record will be brought up during the preparation of staff salaries and the gross and net pay will be calculated. The Assets Register will enable record keeping of both the fixed asset and floating asset in the organization.

The project simply serves as an ERP (Enterprise resource planner/ Management System) for the hotel organization and should function effectively if utilized properly.

### IV. REQUIREMENT ANALYSIS

In Order for the goals of the automated system to be achieved the design of the HMIS takes the following into consideration:

- The system must make the hotel services fully known to the customer such as the room details and pricing.
- The system must be able to search databases or records to provide quick result based on users query.
- The system should ensure data consistency and no duplication of data no matter how small.
- The system must be accessed only by authorized persons and should indicate the user at any point in time (User Authentication).

- The design (Graphical) must be comprehensible and not clumsy to the user; easy to use, and easy to understand.
- The system should be able to generate reports and print out information on users demand.
- The system must have access levels based on user roles such as Manager-Administrator-Accountant-Other staff.

## SYSTEM DESIGN

This is the process and art of defining the Architecture, components, modules, interface, and data for a system to satisfy specified requirements by the stakeholder or customer.

The Project is designed in phases to ensure that all necessary fields are covered in the management of the Hotel system. The design entails room reservation which is a crucial aspect of the system, administrator operations which control the entire system, and user activities (Other Staff) and data retrieval.

## V. STUDY ON HOTEL SUCCESS STORY

Arch 39 Hotels, Thailand

Thailand's Arch39 Hotels witnesses a 18% spike in its revenue with Hotelogix Cloud Hotel PMS

“Hotelogix has helped us with efficient property management since day 1 of its implementation. Its centralized platform works well for a chain entity like us. Creating and managing guest invoices have become much easier and error-free now.”

### About Arch39 Hotels

Arch39 Hotels is an emerging chain hospitality brand in Thailand. With 4 properties – Arch39 Art & Craft Hotel, Arch39 The Wall, Arch39.17 The Camp Nimman and Arch39 Minimal, the group operates across several tourism destinations in Thailand.

### Scenario and Challenges

Before adopting Hotelogix Cloud Hotel PMS, the management at Arch39 Hotels used an on-premise system to handle operations at all of its properties. However, in due course of time, they realized that the on-premise system is no longer catering to their technological needs.

Some of the most crucial issues they faced with the previous system were:

- It was not an all-in-one system
- They couldn't access the PMS from remote locations
- It couldn't get integrated with a channel manager solution
- The application was not easy to use
- It didn't help them collect guest feedback
- They couldn't send reservation confirmation mails to their guests

### Solution

In their attempt to do away with these operational bottlenecks, the management at the Arch39 Hotels started looking for a better solution. After carefully evaluating some cloud-based Hotel PMSs, they decided to go with Hotelogix.

Here are the solutions that Hotelogix offered them:

All-in-one and enterprise-grade Hotel PMS for efficient property management

Remote access to the Hotel PMS to stay informed about hotel operations at all times

Hotel PMS and Channel Manager integration for real-time inventory distribution on OTAs

TripAdvisor connect to help with guest feedback collection

Email tool integration to help them send reservation confirmation emails to guests from the Hotel PMS

## VI. RESULTS

Arch39 Hotels has been using Hotelogix since 2018 and in this period, they have seen many benefits, such as:

- Around 18% increase in overall revenue thanks to increased room sales
- More than 4 hours of staff time saved, owing to a higher degree of operational automation
- Increased online visibility with channel manager connect
- Enhanced online reputation and ratings

### 3.1 DATA FLOW DIAGRAMS

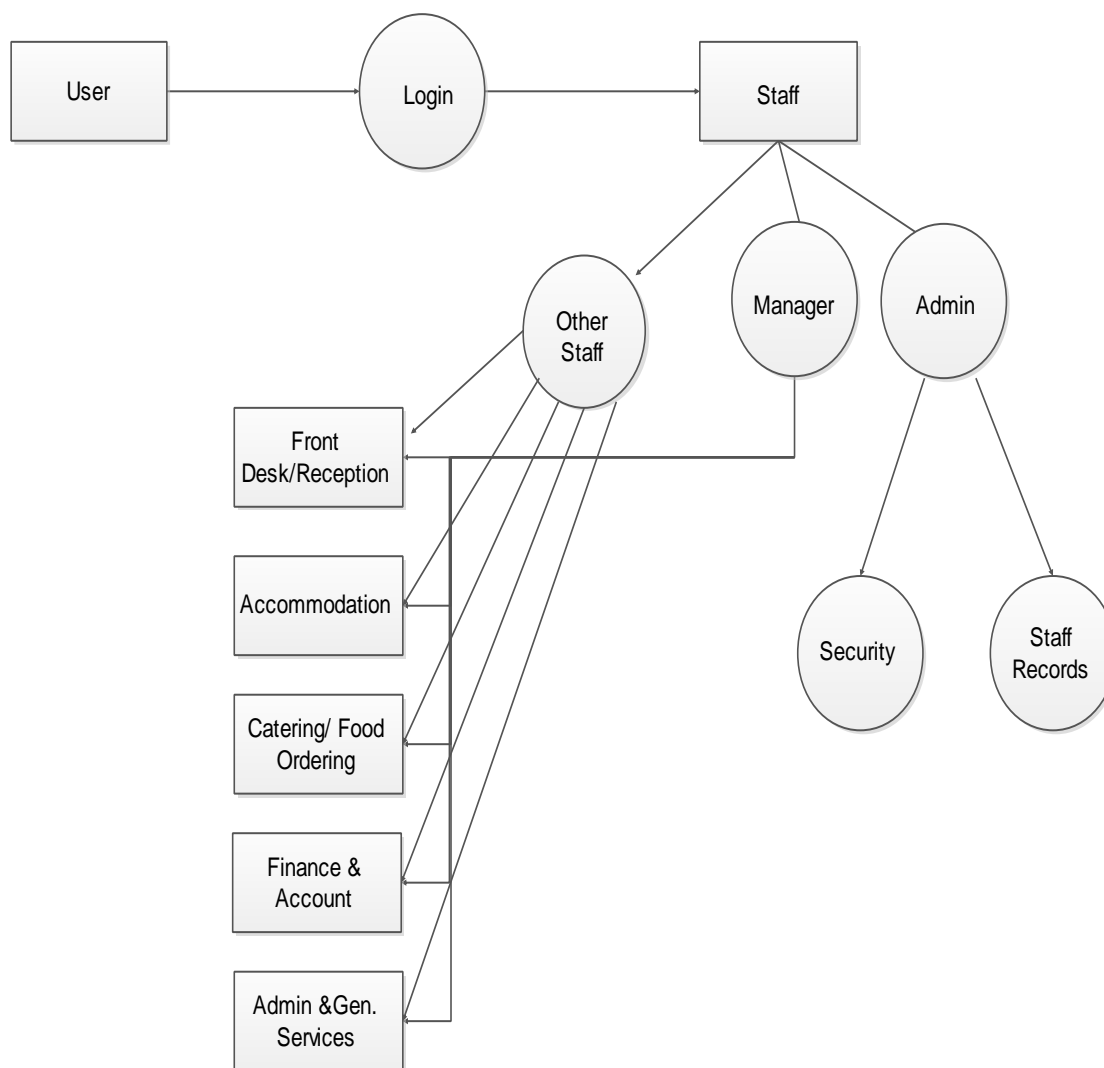
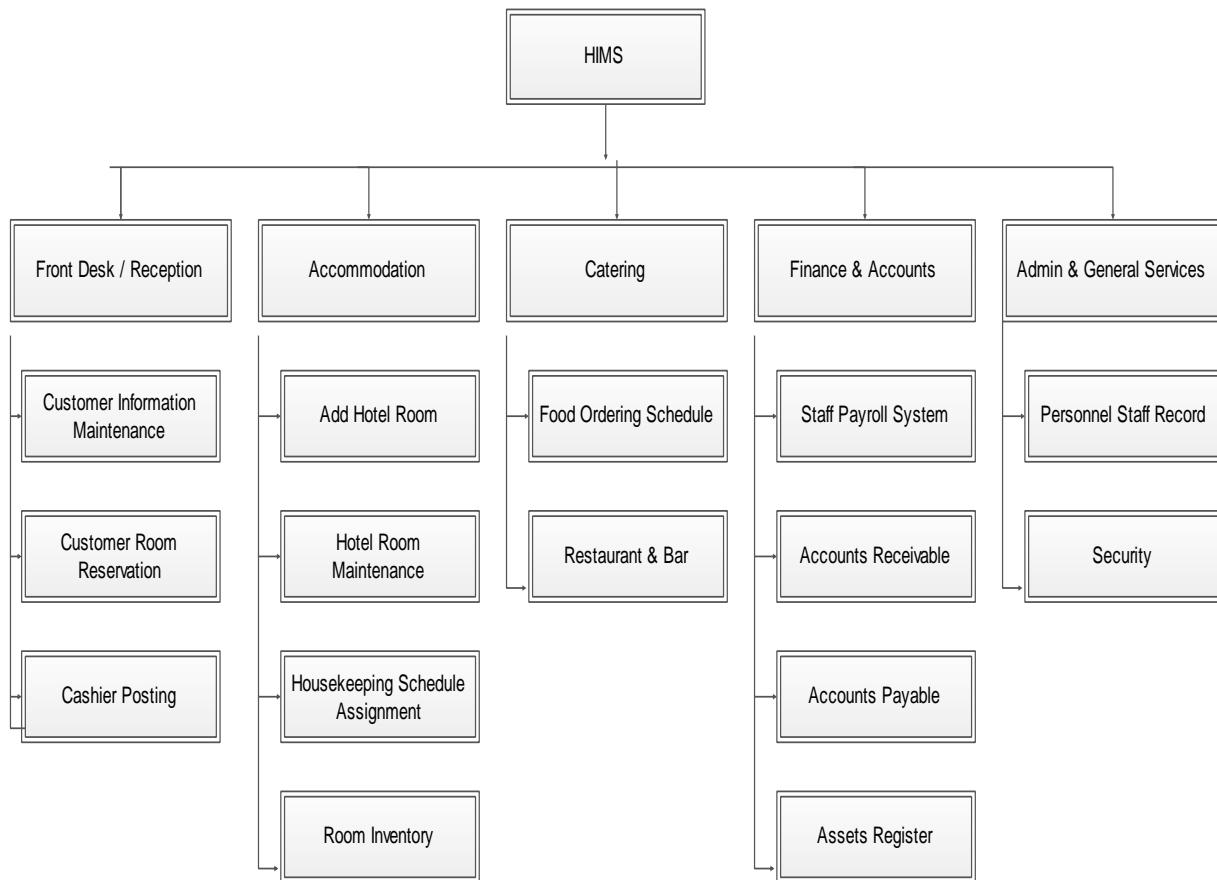


Figure 1: Data Flow diagram for Hotel Management System



### 3.2 PROJECT ARCHITECTURE



## VII. SYSTEM IMPLEMENTATION

### HARDWARE REQUIREMENTS

The following are the necessary hardware requirements necessary for the proper implementation of the Hotel Management Information System:

- A 32-bit 2.2GHz processor
- Windows Xp and upwards operating system
- Web Browser (internet explorer recommended)
- 1 GB RAM processor

### IMPLEMENTATION

Implementation is the stage in the project where the theoretical design is turned into a working system. It involves careful planning, investigation of the current system and its constraints on implementation, design of methods to achieve the changeover, an evaluation of change over methods. Apart from planning major task of preparing the implementation are education and training of users. The implementation process begins with preparing a plan for the implementation of the system. According to this plan, the activities are to be carried out, discussions made regarding the



equipment and resources and the additional equipment has to be acquired to implement the new system. In a network backup system no additional resources are require. The most critical stage in a achieving a successful new system is giving the users the confidence that the new system will work and be effective. The system can be implemented only after thorough testing is done and is found to be working according to specification. This method also offers the greatest security since the old system can take over if the errors are found or there is an inability to carry out a certain transaction while using the new system.

## VIII. SYSTEM DOCUMENTATION

### The Home Page

The Home page of the Hotel management Information system basically consists of five modules which include; the front desk/reception module, Accommodation /Room Allocation module, catering (Restaurant and Bar) Module, Finance and account module and Administration and General Services. It also includes the “Log out” option and an i-frame which posts back all clicked options.

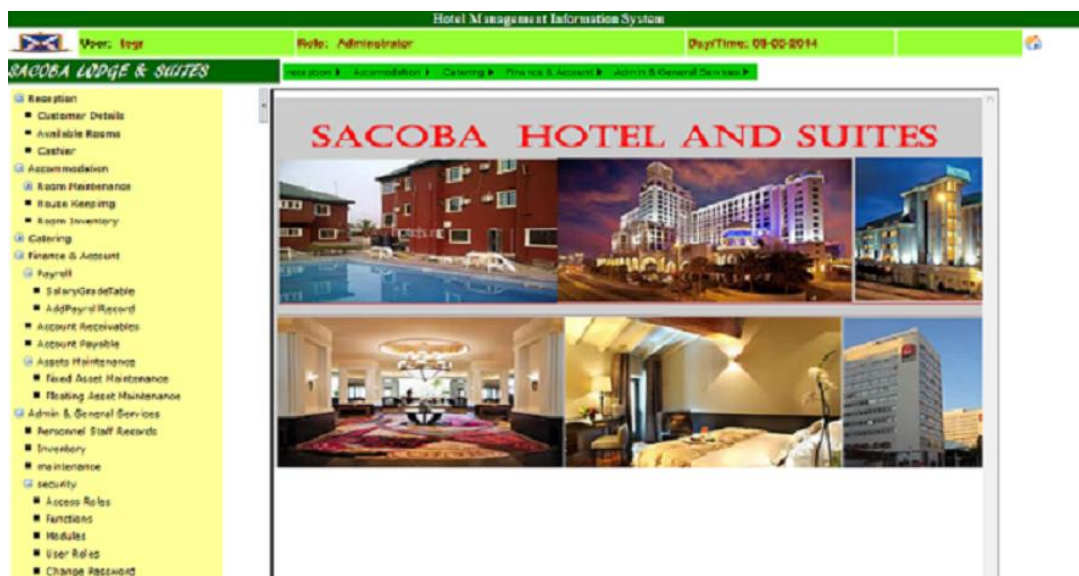


Figure 2: Home page

### The “Log in” Page

The log in page for the HMIS comprises of a dialog box which allows the user to input their User name and password. It also includes a log in button and a retrieve password for users who forget their password. It was developed using session (user id) to save the user name and password in order to save the user name and password for future references or uses. The input will be validated when user keys in a value for either of the two required values and when both are deemed correct or validated it advances to the menu page of the application else a message stating that the username and/or password will be displayed.

Select The Company

**SACOBA LODGE & SUITES**

**User Login**

<b>Division</b>	<b>Hotel &amp; Suites</b>
<b>User Name</b>	<input type="text" value="HK002"/>
<b>Password</b>	<input type="password" value="*****"/>
<input type="button" value="Log In"/>	
<a href="#">Retrieve Password</a>	

HMS

**Figure 3: User Login**

**Front Desk**

In the front desk module, customer details will be captured, allocation of customers to a specific room and cashier posting of transactions will take place.

**Personal details of customer**

When a customer arrives at the front desk, the first procedure will be to take down the required details which include His/her full name, number of nights, address, phone number, arriving from and destination, and occupation. This page has also been designed to throw back error messages when certain fields are left blank or unfilled. Added items can be updated (edited), deleted and viewed by authorized staff. A search field has been included to locate specific entries in this record or register.

**Personal Details Of Customer**

Add New Customer

<b>CustomerId</b>	<input type="text"/>	<b>NO OF NIGHTS INTENDED</b>	<input type="text"/>
<b>NAME</b>	<input type="text"/>	<b>OCCUPATION</b>	<input type="text"/>
<b>ADDRESS</b>	<input type="text"/>	<b>PHONE NO</b>	<input type="text"/>
<b>ARRIVING FROM</b>	<input type="text"/>	<b>TRANSITING TO</b>	<input type="text"/>

**Figure 4: Customer Form**

**Room Allocation of customers**

Once personal details of customers have been registered the next procedure will be to allocate the customer to the room of his or her choice (Deluxe, Standard, VIP and Chalet). The page requires most importantly the name of the customer which is selected from the dropdown menu and the room is selected from the list of available rooms in the drop down menu. Entries can also be viewed, edited and deleted. The dropdown list only shows vacant rooms and as each room is allocated to a particular client the room status table is updated to occupy hence excluding the room from the list of available rooms until it is then manually updated to a vacant status.

This page simply keeps stock of each room and the state of the room.

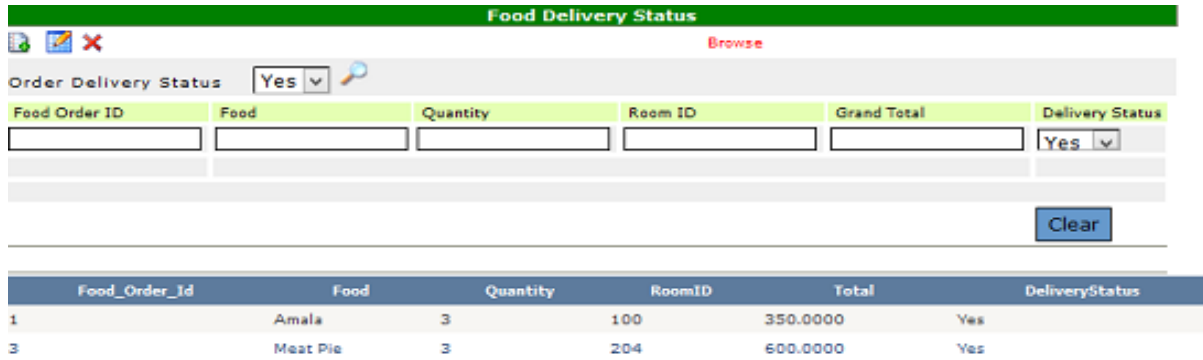
**Room Inventory**

InventoryID	Room No	Item(s)	Unit(s)	State/Condition	Staff Name	Date
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
					<input type="button" value="Save"/>	<input type="button" value="Cancel"/>

**Figure 5: Room Inventory**

**CATERING MODULE**

This keeps a record of the food orders of customers in the Hotel. It has entries detailing the food, quantity and selected destination/room. It generates a food order Id on its own and also allows the user/administrator to confirm whether the order/food has been delivered or not.



The screenshot shows a web application window titled "Food Delivery Status". At the top, there are navigation icons and a "Browse" button. Below that is a search bar for "Order Delivery Status" with a dropdown menu set to "Yes" and a magnifying glass icon. The main area contains a table with the following columns: Food Order ID, Food, Quantity, Room ID, Grand Total, and Delivery Status. The table has two rows of data:

Food Order ID	Food	Quantity	Room ID	Grand Total	Delivery Status
1	Amala	3	100	350.0000	Yes
3	Meat Pie	3	204	600.0000	Yes

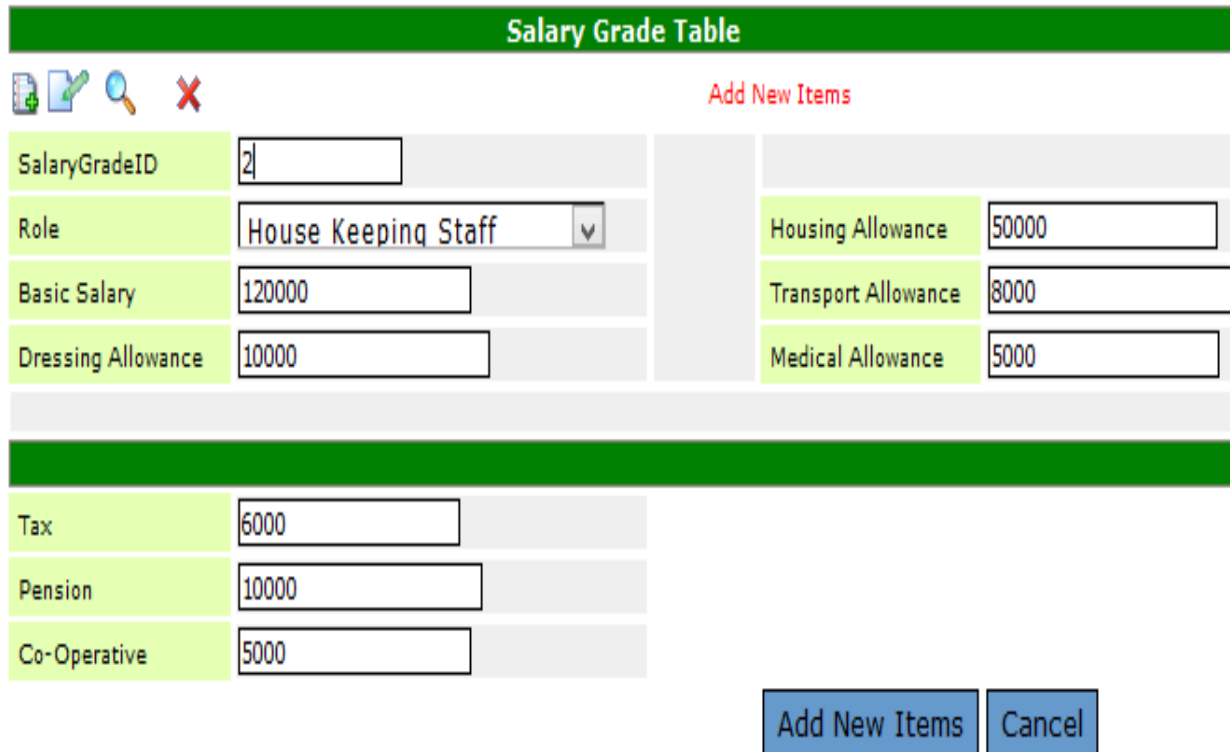
Below the table is a "Clear" button. At the bottom, there is a summary table with columns: Food\_Order\_Id, Food, Quantity, RoomID, Total, and DeliveryStatus.

Food_Order_Id	Food	Quantity	RoomID	Total	DeliveryStatus
1	Amala	3	100	350.0000	Yes
3	Meat Pie	3	204	600.0000	Yes

**Figure 6:** Food Ordering and Delivery

**FINANCE AND ACCOUNT**

This page allows the Manager to input the Salary, allowances and grade of each employee for references and worker's pay check.



The screenshot shows a web application window titled "Salary Grade Table". At the top, there are navigation icons and an "Add New Items" button. Below that is a form with the following fields:

- SalaryGradeID:
- Role:
- Basic Salary:
- Dressing Allowance:
- Housing Allowance:
- Transport Allowance:
- Medical Allowance:
- Tax:
- Pension:
- Co-Operative:

At the bottom right, there are two buttons: "Add New Items" and "Cancel".

**Figure 7:** Salary grade Table

**Payroll Record**

On this page the administrator can supply all of the employees' earnings and deductions and calculate the total salary of each employee.

**Hotel Management Information System**

Role: Administrator Day/Time: 05-05-2014

Reception > Accomodation > Catering > Finance & Account > Admin & General Services >

**STAFF INFORMATION**

Add New Print

Staff ID: PO-125

Full name:	Designation	File-number	Gender	Bank	Salary Level	Account Number	image
Albert Felarin Tolulope	Rec	11952	M	Eco-Bank		2256748104	

Current Month: March Current Year: 2014

**MONTHLY SALARY CALCULATION**

EARNINGS		DEDUCTIONS	
BASIC SALARY	4000.0000	PENSION	2000.0000
HOUSING ALLOWANCE	3500.0000	TAX	1400.0000
TRANSPORT ALLOWANCE	500.0000	SALARY ADVANCE	0.0000
MEAL SUBSIDY	0.0000	UNION DUES	0.0000
MEDICAL ALLOWANCE	500.0000	MOTOR VEHICLE	0.0000
DRESSING ALLOWANCE	1000.0000	CO-OPERATIVE	2000.0000
LEAVE ALLOWANCE	0.0000	OTHERS	0.0000

Calculate

GROSS PAY: 9500.0000 TOTAL DEDUCTIONS: 18000.0000

NET PAY: 77000.0000

### Asset Maintenance

This comprises of fixed asset maintenance; the coordination and maintenance of all assets which cannot be easily converted into cash and floating asset maintenance; care and coordination of movable assets.

**Fixed Asset Register**

AssetNo ITEM NUMBER DATE VALUE Browse

AssetNo	ITEM	NUMBER	DATE	VALUE

Clear

---

AssetNo	Item	Quantity	Dateofacc	Value
2	Hiace Bus	4	13/12/2014 00:00:00	7200000.0000
4	Mikano Generators	2	13/12/2014 00:00:00	3800000.0000

---

**Floating Asset Register**

AssetNo ITEM NUMBER DATE VALUE Add New

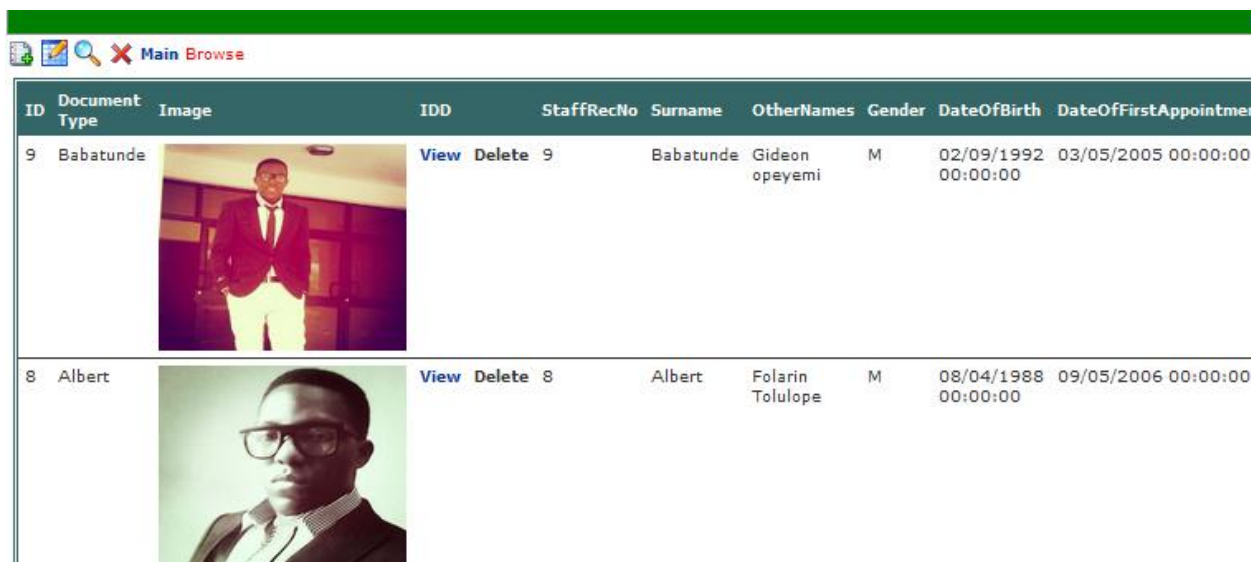
AssetNo	ITEM	NUMBER	DATE	VALUE

Add New Items Clear

Figure 8: Asset maintaining

### PERSONNEL STAFF RECORD

This page allows the administration keep record of all personnel staff in the hotel organization.it captures various details about each individual such as Full name, Next Of Kin, Date Of Birth, Role, ID-Number , Address, File Number, Department, Bank , Account Number as well as passport. All entries can be viewed and deleted.





ID	Document Type	Image	IDD	StaffRecNo	Surname	OtherNames	Gender	DateOfBirth	DateOfFirstAppointment
9	Babatunde		<a href="#">View</a> <a href="#">Delete</a>	9	Babatunde	Gideon opeyemi	M	02/09/1992 00:00:00	03/05/2005 00:00:00
8	Albert		<a href="#">View</a> <a href="#">Delete</a>	8	Albert	Folarin Tolulope	M	08/04/1988 00:00:00	09/05/2006 00:00:00

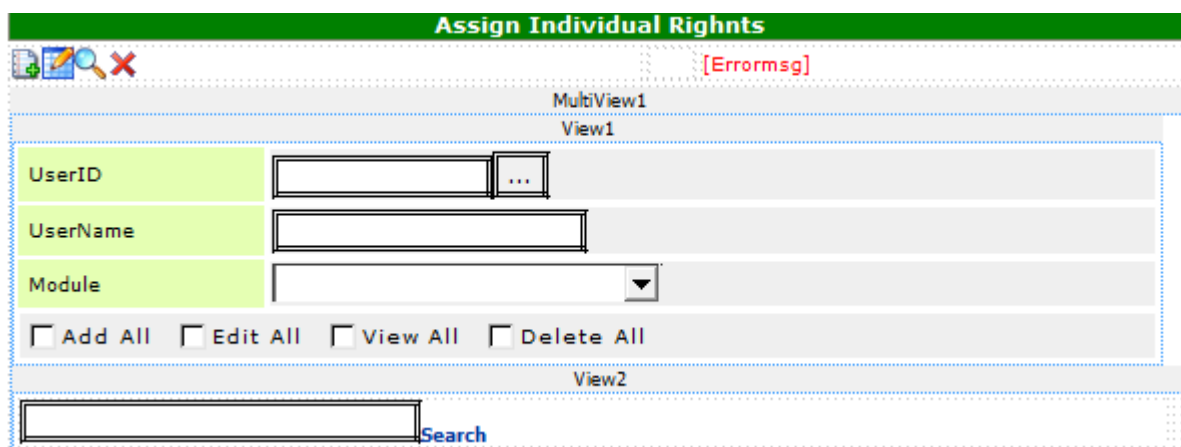
Figure 9: Personal staff record

### SECURITY

The security of the application is the most crucial aspect of the application as it provides restriction to modules based on authorization. This security entails

- Assign Group Rights: assign specific group to various modules.
- Assign Individual Rights: assign specific individuals to various modules.
- User Profile: Grants access to individual user into the system.
- Change of a Password: Enable change of login parameters into the system.

These pages allow only the System administrator and General Manager to assign group rights and individual rights on the system. For instance a group like the “Front Desk” can be prevented from viewing entries in the “Finance & Accounts” module however a specific user in the group (Front Desk) will be allowed to view entries in the “Finance & Accounts” module.



**Assign Individual Rights**

[Errormsg]

MultiView1  
View1

UserID	<input type="text"/>
UserName	<input type="text"/>
Module	<input type="text"/>

Add All  
  Edit All  
  View All  
  Delete All

View2

[Search](#)

**UserAccess**

UserId	<input type="text"/>
UserName	<input type="text"/>
Password	<input type="text"/>
RoleId	<input type="text"/>

**User Profile**

Add New Customer

User ID	<input type="text"/>	Staff Name	<input type="text"/>
User Name	<input type="text"/>	Role	<input type="text"/>
Department	<input type="text"/>	Access Group	<input type="text"/>
Password	<input type="text"/>		
Disabled <input type="checkbox"/>		This is a global user <input type="checkbox"/>	

Figure 10: Securities

**User Role Type**

Add New Customer

RoleID	<input type="text"/>
RoleDescription	<input type="text"/>
Disabled	<input type="text"/>

Figure 11: User role type

### SYSTEM MAINTENANCE

Maintenance involves the software industry captive, typing up system resources. It means restoring something to its original condition. Maintenance follows conversion to the extent that changes are necessary to maintain satisfactory operations relative to changes in the user's environment. Maintenance often includes minor enhancements or corrections to problems that surface in the system's operation. Maintenance is also done based on fixing the problems reported,

changing the interface with the other software or hardware enhancing the software. Any system developed should be secured and protected against possible hazards. Security measures are provided to prevent unauthorized access to the database at various levels. An uninterrupted power supply should be so that the power failure or voltage fluctuations will not erase the data in the files. Password protections and simple procedures to prevent the unauthorized access are provided to the users. The system allows the user to enter the system only through proper user name and password. After designing and coding the application it only runs in the visual studio environment in order to make the application stand alone and employable to other computer systems it needs to be compiled into an executable format (.exe). Visual studios have an inbuilt program that allows for a one-click solution for this.

### **ANALYSIS OF RESULTS FROM THE IMPLEMENTATION OF THE WORK**

The work was designed based on the methodology stated in the previous chapters and the implementation is based on the requirement for a hotel management system. The project work has four major aspects which include the Reservation of rooms, retrieval of records, user's activities and administrator's activities. The result from the implementation of the work is explained in various sections below.

#### **Reservation of Rooms**

As a tradition in hospitality management sector, anyone who wished to lodge in a hotel must go for reservation of room within the time such person wishes. This is necessary so that such room is not given to another within the reserved date.

Therefore, in this phase, we are able to reserve a room each customer based on the day he/she wished to check in and out. This is done by collecting some information from the customer such as arrival date, departure date, customer name, country, state, town, phone number, including number of adult and children. With the acceptance of these data the system display available rooms and compute the changes after which the system accepts the prepaid amount and the store in the database. The above process is depicted in figure 4.7 showing the reservation form. After the first reservation the system is able to identify the customer when next he comes for reservation by entering his/her number. The system ensures data room reserved with the specified data is not made available during reservation for another customer

#### **Administrator's Activities**

The administrator controls all the activities of the hotel. The administrator access the system by authentication. After login the administrator can perform some function such as to reserve room for customer, view information that are stored in the database as well as granting privilege to access the system to various users and retrieving it from users. The system is flexible as more rooms can be added to it.

The administrator supplies room details such as room name, room type, room description, room number, rate amount, adult charge and child charge after which it saved in the database. The administrator can also perform some other function such as data retrieval.

#### **User's Activities**

Some people apart from the administrator can access the system to perform some function. The function performed is based on privilege granted to them by the administrator. Here, the user login to the system as shown in figure 4.2. The user after login tom the system can also reserve rooms for customers. Also, the user takes control of checking in and out of customers through accepting the balance of the customer when checking in as shown in figure 4.4. Similarly, the user can also display data stored in the database.

#### **Retrieval of stored Hotel Record**

Another tradition in hospitality sector is to find stored data of the hotel information in the database. In this phase, we are able to get the list of customers, list of rooms available in the hotel, list of reservation, check-in details as well as check-out details. Figure 4.8, shows all the list of reservation with respect to customer's data displaying information about them at a glance. Also the record of rooms available in the hotel can also be displayed. The record of check-in and nut details of customer can also be displayed in the same manner.



### Discussion on the Observation from the Implemented work

From various result obtained from the implementation of the work; we have been able to avoid collision in the allocation of rooms and also ensure proper management of data through authentication thereby disallow unauthorized person from gaining access to the system. Also, duplication of records is avoided. The customer's data and other information about the hotel are retrieved almost immediately. In a nutshell, we have been able to achieve the aim of the work stated in the beginning of the work. The project can be implemented on real time basis and had numerous benefits some of which are highlighted below.

- **Performance:** The manual handling of the hotel record is time consuming and highly prone to error. This work will improve the performance of the Hotel management system, due to fast retrieval of data and coordination of data in a centralized manner.
- **Efficiency:** The project work enhances efficiency in the activities of the Hotel since there is division of labour through the privilege granted other users.
- **Control:** The complete control of the electronic system is under the hands of authorized person who has the password to access this project and illegal access is not supposed to deal with. All the control is under the administrator and the other members have the rights to just see the records not to change any transaction entry.
- **Security:** Security is the main criteria for electronic hotel management system. Since illegal access may corrupt the database and ensure protection of stored data. Therefore this project work ensures security of data.

In summary, the result obtained from the implementation of the work and various benefit incurred from the system is enough to entice all hotels and these will go a long way to improve the quality of service provided to the customer. It is therefore suitable for all hotels where high performance of service is of prime importance.

### FINDINGS

1. Most used applications are reservation management, POS and CRM (guest management)
2. Housekeeping is most often accessed from mobile devices.
3. Mobile access is increasing, through desktop and laptops still remain the most used devices.
4. The top benefits of a hotel management system according to user are increased revenue and the opportunity to organize guest data and personalize the services.
5. 38% of respondents plan to increase their spending for software in 2017. While 55% plan to among those who plan to invest more 70% want software upgrades.

### SUGGESTIONS FOR FURTHER WORK

- Biometric measures such as fingerprint, retinal scan etc. should be included in the system to ensure good security of the system thereby avoiding impersonation and unauthorized access to stored data thereby preventing loss of vital information.
- Implementation of a multi modal hotel management control system in delivery of service to customers.
- Implementation of more modern online facilities that might help prospective customers interact (limitedly) more with the system and the Hotel in general such as PayPal for making online transactions.
- Adequate provision should be made for customers to interact with authorized users of the hotel for reservation using their mobile phones.

## IX. CONCLUSION

In conclusion we believe this project if properly utilized will save time, reduce the amount of work the administration has to do, and will replace the stationery material with electronic apparatus. The system should also serve as a major tool to improving the efficiency in Hotel management. Hence a system with expected results has been developed but there is still room for improvement.

In terms of experience gained through the duration of this project study, the students have been able to have broader knowledge about the management of Hotel organization using manual and automated procedures. The students have also been able to improve their knowledge in developing enterprise applications. We believe this project will serve the university efficiently in their efforts to automate the Hotel management process of the “SACOBEL LODGE”.

## **X. REFERENCES**

- a) Wikipedia.org,
- b)Google scholar.com