Sri Lanka Institute of Information Technology

Hotel Management System
Project Proposal
Information Technology Project (IT2080)
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Abstract

Hotel "Kabalana" is the only hotel in Sri Lanka which inspired by most creative cultures of ancient place in Alexandria, Egypt. This hotel is managed by Mr. Ranjan who is the chairman of the director board. The hotel has around 80 employees as its staff and also has 45 rooms beginning from the price of 7500 Sri Lankan Rupees.

So, the hotel management board strictly needed an efficient hotel management system to function their daily activities such as managing the restaurant, manging the bar, managing the room reservation section, managing the inventory and suppliers. Currently, they don't have a system that fulfils their requirements. So, to access any information instantly they require an automated database. They also face lots of issues with manual data entering methods and they don't have any system to calculate their employee salaries. So, to overcome all these issues we develop a standalone java application using the derby as the database.

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01.<u>Introduction</u>

Hotel "Kabalana" is the only hotel in Sri Lanka which inspired by most creative cultures of an ancient palace in Alexandria, Egypt. "Kabalana" hotel provides a magnificent view of the Indian Ocean and stunning sunset. "Kabalana" hotel's location is known to many as the best surfing destination in down south. This hotel has around 45 room capacity with many categories and for desirable price ranges. The hotel has all the bar facilities, restaurant facilities and other luxurious facilities like outdoor swimming pools, halls, etc.

Currently, the hotel has an existing hotel management system to perform its usual functions but they don't use it much because of its complexity and sometimes it doesn't produce the outputs as they expected. So, they were asked from us to produce a system to do their work more accurately according to their specific requirements.

Problems

Hotel staff need to manage a huge number of guests and the management board of the hotel doesn't have an automated system that calculates the employee salaries of the hotel too. So, managing guest details, bills and their other details and managing employee salaries in an efficient manner are the main problems they faced right now.

- They must calculate employee salaries and store other details manually.
- They must store supplier details manually.
- In most cases the existing system is not user-friendly and not giving their expected output, because of that they need to insert details of the restaurant and other sections manually and calculate the outputs manually.
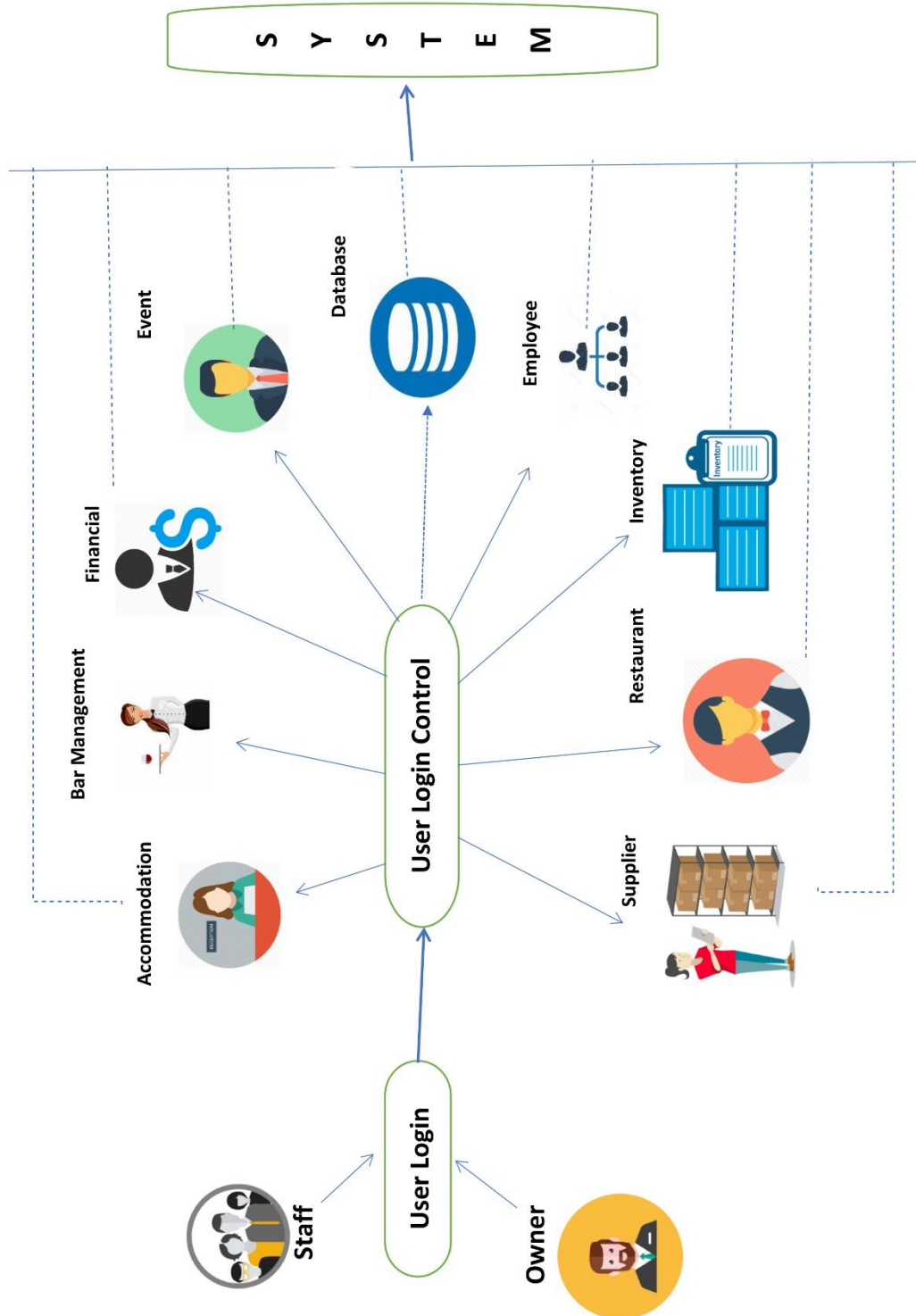
Solutions

- We developed an employee details management section in our software so they don't need to do it manually.
- We also designed a supplier management section in our system so they don't need to do it manually.
- Our system has been designed according to well-identified client requirements and we only implement the system after a successful user acceptance testing, because of these reasons they can do all their required tasks automatedly.

Benefits
- There will be fewer errors and accuracy will be high.
- Because of DBMS, we are using they can efficiently find details.
- Time will be saved
- Accuracy in the information or outputs that they get will be high.

Staff can use the system without doing any kind of time-consuming study of the system because of the system's user-friendliness.

02.System Overview Diagram

03.<u>System Functions</u>

Restaurant Management System

This function handles the items and menus management, order handling, table reservation handling and producing sales reports of the restaurant in the system. This function stores the item details and menu details of the system and manages the table reservation part in an efficient manner with less manual insertions. Finally, the function produces the sales reports too.

Financial Management System

Finance management handles the all financial details of our hotel management system. All the expenditures and income are calculated in order to produce the profit of the hotel. At the end of each month, reports can be generated. Financial manager can view the all financial details, add new finance details, update and delete the details, and also check the loss and profit comparison in our hotel.

Accommodation Management System

Accommodation is the one of the main functions in the hotel management system. It directly deals with customer. In this function receptionist do room reservation and check housekeeping.

In room reservation first receptionist check the availability of rooms as well as that available rooms are cleaned or not using check-in and checkout date. After that receptionist book the rooms. If customer is regular customer receptionist can check availability of that existing rooms and update booking using customer's NIC or passport number.

In the housekeeping section workers clean the rooms and enter to the system. After that receptionist can check whether rooms are cleaned or not while booking rooms for the customer.

Bar Management System

This function handles the stock of the bar, events and orders and POS. Need to control products that are in the stock. In events and order control, have to manage the orders from the daily customers and the orders from the events. And need to create a POS system to the cashier as the daily customers buy the liquors from the bar.

Supplier Management System

All the details of the suppliers are managed through this supplier management functions. Through this function, user can add new supplier details.

If user want to change existing suppliers' details, there is an option called update. User can update through this option.

If user want to remove a supplier from the system, there is an option called delete. User can delete supplier through this option.

When an inquiry comes from inventory management system, user have o place an order according to that quality. As mentioned above, user can also insert, update and delete order details.

Generate the report of monthly expenditures.

Employee Management System

Employee management system handles all the employee's details. This system function stores all employees' personal details, contact information, payroll management, leave management, Attendance management in the Hotel system at the end of each month. This function can give a better information to calculate the basic salary of each employee. Each employee attendance and leave management handle daily by this employee management system. Employee management manager can add employees store, each employee attendance and leave management update and delete the details of each employee.

Event Management System

All the information about guests are stored in this function.

This function can add a new event to the system. If the guest wants to change the details of an event, there is an option to update event details. If a guest wants to cancel an event, the delete option can be used to remove the details of the guest.

In event management function, it is also possible to make a report including all the events

Inventory Management System

All the information about stocks are handled in here. When supplier supplied goods, accountant update the quantities of goods in the system for each department. And also, accountant update month end stock count for each department and generate month end report. Further accountant can add or remove items from the system and send inquiries to supplier management system to order goods.

Depending on the departments, they can update daily usage of goods and break edges and wastages.

04.<u>Tools and Technologies</u>

Java

Java is an object-oriented programming language, similar to C++ high-level programming language and architecture neutral developed by Sun Microsystems in 1995 and later acquired by Oracle Corporation.

Java is a computing platform for application development. It is platform independent. We don't have to develop separate applications for different platforms. Java interpreters and runtime environments, known as Java Virtual Machines (VMs). Java does not support the use of pointers.

It automatically manages memory garbage-collection routine activated when the system runs short of memory. Java provides the most secure programming environment.

Derby

The Apache DB subproject Apache Derby is an open source database that can be completed in Java and is available under Apache, version 2.0.

Derby has a small space, about 3.5 megabytes for the machine and the JDBC drive. Derby is based on Java, JDBC, and SQL Forms. Derby provides a JDBC embedded drive that allows you to setup Derby into the Java process.

Derby also supports multiple users using the Derby Network Client JDBC Driver and Derby Network Server. It is Easy to install, deploy and use.

SQL

SQL stands for "Structured Query Language" which is a computer language for storing, manipulating and retrieving data stored in a relational database.

Raymond Boyce and Donald Chamberlin developed SQL at IBM in the early 1970s. It was created for getting access and modifying data held in databases. Initially, it was called SEQUEL (Standard English Query Language) but later needed to change its name because another business claimed that name as a trademark. After a while, SQL has turned into an official standard for the ANSI (American Structured Standard Institute) and ISO (International Organization for Standardization).

SQL is an exceptional reason programming language that is utilized to interface with databases. It worked by understanding and analyzing databases that include data fields in their tables.

Glassfish Server

Glassfish is an open-source application server project started by Sun Microsystems for the Java EE platform, then sponsored by Oracle Corporation, and now living at the Eclipse Foundation and supported by Payara Oracle and Red Hat. The supported version under Oracle was called Oracle Glassfish Server. Glassfish is free software and was initially dual-license (CDDL) and the GNU General Public License (GPL) with the class path exception. After having been transferred to Eclipse, Glassfish remained dual-licensed, but the CCDL license was replaced by the Eclipse Public License (EPL). Glassfish can manage Java EE applications(usually both servlet/JSP and JBs). You should use Glassfish for Java EE enterprise applications the need for a separate web server is mostly needed in a production environment.

NetBeans

NetBeans IDE is a free, open source, integrated development environment (IDE) that enables you to develop desktop, mobile and wen applications. The IDE supports application development in various languages, including Java, HTML5, PHP and C++. The IDE provides integrated support for the complete development cycle, from project creation through debugging, profiling and deployment. The IDE runs on Windows, Linux, Mac OS X, and other UNIX-based systems.

The IDE provides comprehensive support for JDK 7 technologies and the most recent Java enhancements. It is the first IDE that provides support for JDK 7, Java EE 7, and JavaFX 2. The IDE fully supports Java EE using the latest standards for Java, XML, Web services, and SQL and fully supports the Glassfish Server, the reference implementation of Java EE.

05.Gantt chart

Task	Start Date	End Date	Duration (Days)
Finding client	2019-06-17	2019-07-01	14
Meeting client and gathering requirments	2019-07-01	2019-07-07	6
Create project charter	2019-07-07	2019-07-14	7
Create project proposal	2019-07-14	2019-07-21	7
Get approval to the project proposal	2019-07-21	2019-07-22	1
Design GUI	2019-07-22	2019-07-30	8
Meeting the client	2019-07-30	2019-08-01	2
Do changes to GUI according to client	2019-08-01	2019-08-05	4
Create EER and design database	2019-08-05	2019-08-10	5
Coding	2019-08-10	2019-08-31	21
Error testing	2019-08-31	2019-09-04	4
User acceptance testing	2019-09-04	2019-09-07	3
Implementation	2019-09-07	2019-09-11	4
Create final report	2019-09-11	2019-09-13	2

06.Work Distribution

Group Member Name and ID	Function	Work Distribution
H.Y.D. Dahanayake IT18146202	Restaurant Management System	• All the customer payments and order details of the restaurant section managed by him. • He managed the table reservation in the restaurant section. • He managed the Items and menu management of the restaurant section too. • He managed the sales reports of the restaurant.
K.K.M.T. Perera IT18157024	Financial Management System	• All the financial details handling. • She has to calculate the all income and expenditures at the end of the each and every month. • By looking at the income and expenditures she has to overcome loss and profit comparison of the system. • She has to generate a report by including all the financial details at the end of every month.
Sathsarani B.G.K. IT18136234	Accommodation Management System	• She checks availability of rooms and whether rooms are cleaned or not. • She manages all the room reservation section.
Sudasinghe S.A.V.D. IT18146202	Bar Management System	• She needs to manage the stock of the bar such as add new liquors, update the liquors and remove existing liquors in the database. • She needs to handles the orders from the events and daily customers, it includes adding, updating and deleting the orders. • She also needs to create POS system for cashier.

Vedasinghe K.S. IT18161120	Supplier Management System	• She manages suppliers' details and order details of the system. • She can insert, update and delete both suppliers' details and order details.
N.Y.Abhayathunga IT18138146	Employee Management System	• Handle each employee personal details. • He has to store each employee attendance and leaving management each day. • He needs to store each employee basic salaries according to the attendance and amount of work done in each month.
Blingahawaththa M.C. IT18160062	Event Management System	• She managed The Information About Guests and Events. • She handled add event, update, viewing events and cancel unnecessary events of the Hotel. • She needs to make a report of all the events once a week.
Perera U.L.V.R. IT18133264	Inventory Management System	• He managed received goods from suppliers and add them into the stocks. • He handled add, remove item from the system. • He can generate month end reports. • He sent inquiries to order goods.