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KING WILLIAMS HOTEL

DATABASE MANAGEMENT SYSTEM

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King Williams Hotel

Database Management System – Deliverable #2

Presented To

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INTRODUCTION

The King Williams Hotel is one of Canada's treasured historic hotels built in 1923 and is now a popular Ontario tourist destination. The hotel is ensured a high occupancy rate throughout the year due to its location however, the hotel management and staff have encountered many problems with the current manual system for booking reservations. Presently, the manual system in place for keeping track of reservations is prone to errors leading to over-booking and under-booking of rooms. Sometimes, records are not modified correctly when reservations are changed which cause more confusion. Although the old system may have worked in the past, a rapidly expanding number of guests checking in to the hotel requires a more modern approach that will be more responsive to the needs of the hotel.

The objective of our database management system (DBMS) presented in this document is to provide a solution to the number of deficiencies identified within the present system and to meet or exceed the requirements noted for the new system. Our system will better support the King Williams Hotel staff by tracking guest, employee, reservation, services, rooms, and restaurant transactions. Additionally, our system will better manage guest bills and room reservations in order to reduce over and under-booking of rooms. Finally, in order to accomplish the goals listed, we have taken a systematic approach by creating a normalized data structure that will improve on the present system by sustaining data integrity and eliminating data redundancy allowing for a more efficient and useful system.

We look forward to maintaining an open communication in order to contribute to a more effective data structure that the hotel may benefit from.

MISSION STATEMENT

The purpose of the King Williams Database Management system is to provide hotel and restaurant staff with a more robust and flexible system in order to better manage reservations, billing, and tracking changes.

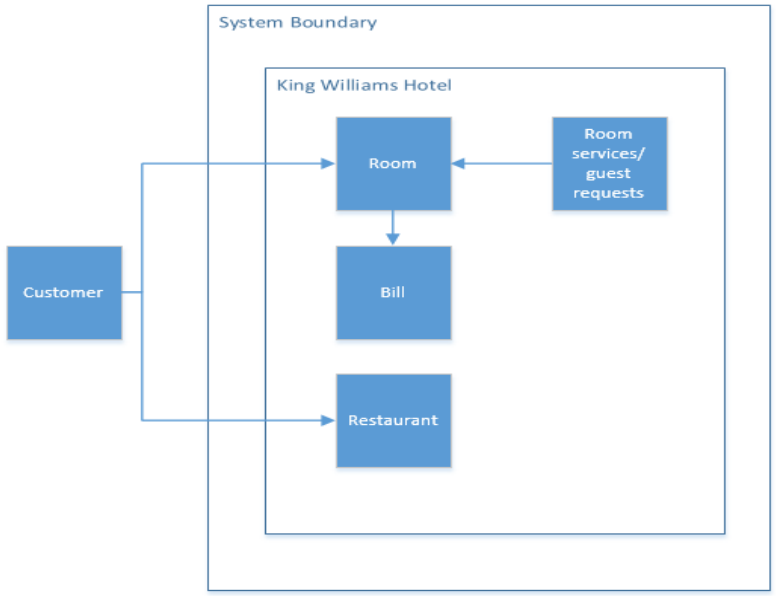
OBJECTIVES

- Maintain (Update, delete, insert) data on guest information
- Maintain (update, delete, insert) data on employee information
- Maintain (update, delete, insert) data on guest bills
- Maintain (update, delete, insert) data on room information
- To track transactions
- To track room-readiness
- To track room reservations
- Report on guest bills including restaurant charges
- Report on room utilization

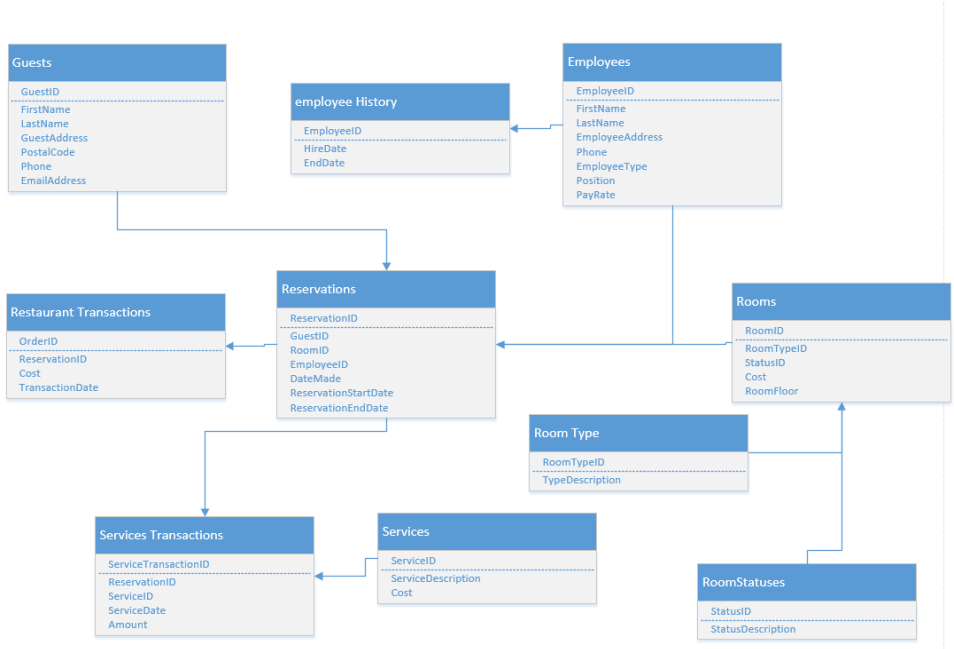
SYSTEM DEFINITION

To better understand the issues with the current system and to more easily identify a solution to the problems presented, we have prepared a system boundary diagram. This diagram represents the overall process of a customer (or guest) making a stay at the hotel and or getting a meal at the restaurant.

As shown, a customer is presented with a room where they can opt for room services or guest requests where finally, they will make a payment at the end of their stay. Additionally, customers have the option of visiting the restaurant which is currently based on a pay as you go system.



ENTITY RELATIONSHIP DIAGRAM



NORMALIZATION

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GUESTS TABLE

GuestID, GuestFirstName, GuestLastName, Address, PostalCode, Phone, EmailAddress

RESTAURANT TRANSACTIONS TABLE

OrderID, ReservationID, Cost, TransactionDate

RESERVATIONS TABLE

ReservationID, guestID, roomID, employeeID, DateMade, ReservationStartDate, ReservationEndDate

EMPLOYEES TABLE

EmployeeID, EmployeeFirstName, EmployeeLastName, EmployeeAddress, Phone, EmployeeType, Position, PayRate

EMPLOYEE HISTORY TABLE

EmployeeID, hireDate, endDate

ROOMS TABLE

RoomID, RoomTypeID, StatusID, Cost, RoomFloor

ROOM TYPE TABLE

RoomTypeID, TypeDescription

SERVICES TRANSACTIONS TABLE

ServiceTransactionID, ReservationID, ServiceID, ServiceDate, Amount

SERVICES TABLE

ServiceID, ServiceDescription, Cost

DATA DICTIONARY

Table Name	Column Name	Contents	Type	Length	Range/Values	Req'd	Key	Remarks
tblEmployee	EmployeeID	Unique employee ID	VARCHAR	6		y	Primary	
	FirstName		VARCHAR	128		y		
	LastName		VARCHAR	128				
	EmployeeAddress		VARCHAR	150		y		
	Phone		VARCHAR	10				
	EmployeeType	What type of employee they are.	VARCHAR	9	Seasonal / permanent	y		
	Position	What level of staff they are.	VARCHAR	15				
	payRate		MONEY					

Table Name	Column Name	Contents	Type	Length	Range/Values	Req'd	Key	Remarks
tblEmployeeHistory	EmployeeID		VARCHAR	6		y	Primary	
	hireDATE		DATE			y		
	endDATE		DATE					

Table Name	Column Name	Contents	Type	Length	Range/Values	Req'd	Key	Remarks
tblGuests	GuestID	Unique guest ID	VARCHAR	6		y	Primary	
	FirstName		VARCHAR	128		y		
	LastName		VARCHAR	128		y		
	GuestAddress		VARCHAR	150		y		
	PostalCode		VARCHAR	6		n		
	Phone		VARCHAR	10		y		
	EmailAddress		VARCHAR	128				

Table Name	Column Name	Contents	Type	Length	Range/Values	Req'd	Key	Remarks
tblReservations	ReservationID	Auto generated ID for the Reservations	INT	n/a		y	Primary	
	GuestID		VARCHAR	6		Y	foreign	
	RoomID		VARCHAR	4		Y	foreign	
	EmployeeID		VARCHAR	6		Y	foreign	
	DATEMade	The day the reservation was created	DATE			y		YYYYMMDD
	ReservationStartDATE		DATE			y		
	ReservationEndDATE		DATE			y		

Table Name	Column Name	Contents	Type	Length	Range/Values	Req'd	Key	Remarks
tblRestaurantTransactions	OrderID	Auogenerated INT	INT	n/a		y	Primary	
	ReservationID		INT	n/a		y	foreign	
	Cost		MONEY			y		
	transacationDATE		DATE			Y		

Table Name	Column Name	Contents	Type	Length	Range/Values	Req'd	Key	Remarks
tblRooms	RoomID		VARCHAR	4		y	Primary	
	RoomTypeID		VARCHAR	1		y	foreign	
	StatusID		INT	n/a		y	Foreign	
	Cost		MONEY			Y		
	RoomFloor		INT			y		

Table Name	Column Name	Contents	Type	Length	Range/Values	Req'd	Key	Remarks
tblRoomStatuses	StatusID		INT	n/a		y	Primary	
	description		VARCHAR	50		y		

Table Name	Column Name	Contents	Type	Length	Range/Values	Req'd	Key	Remarks
tblRoomType	RoomTypeID		VARCHAR	1		y	Primary	
	TypeDescription		VARCHAR	128				

Table Name	Column Name	Contents	Type	Length	Range/Values	Req'd	Key	Remarks
tblServices	ServiceID		INT	n/a		y	Primary	
	ServiceDescription		VARCHAR	128		y		
	Cost		MONEY			y		

Table Name	Column Name	Contents	Type	Length	Range/Values	Req'd	Key	Remarks
tblServicesTransactions	ServiceTransactionID		INT	n/a		y	Primary	
	ReservationID		INT	n/a		y	foreign	
	ServiceID		INT	n/a		y	foreign	
	ServicesTransactionsDATE		DATE			y		