

Project Documentation

Topic: Hotel System(including a Bookstore & Restaurant System)
linked with Drone Delivery System

Dear Non-IT person, this is for you,

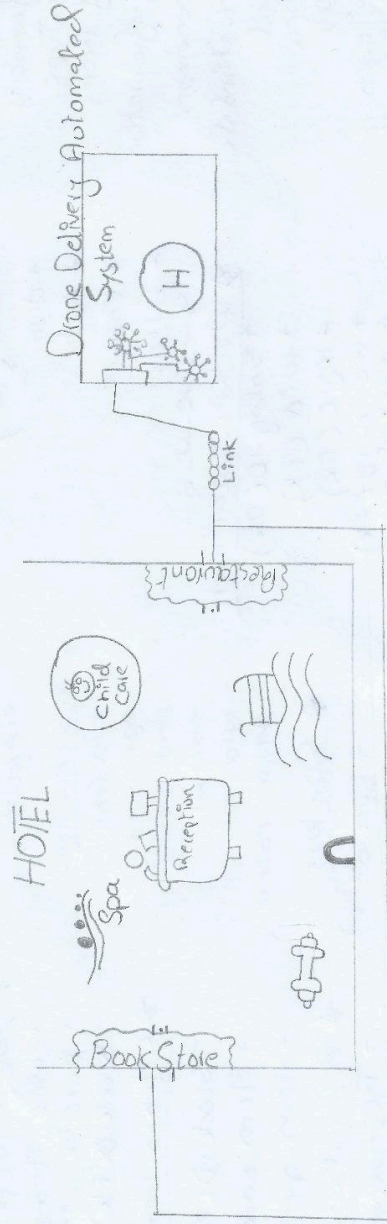
So, we are writing this documentation while keeping in mind that the person reading this has no technical knowledge regarding such systems, so we assure that there is no technical language used in this, but the gist of the project will be understood.

The goal of this project is to create a hotel management system which has a restaurant and a bookstore in it and furthermore the delivery systems of the restaurant and bookstore are connected to an automated drone delivery system.

So, in more detail, what's happening in this system is that there is a hotel which has all the required functions of a hotel such as room reservations, extra activities such as pools,gym,childcare and spa. Furthermore, the hotel clients have an option for getting hotel membership that includes integrated restaurant and bookstore benefits , this way all the transactions of the bookstore and restaurant will be redirected to the hotel checkout receipt at the end of a customer's hotel reservation. Another operational view of the project is that the restaurant and bookstore can operate standalone if the customer is a walk-in customer and has no reservation in a hotel or hasn't bought the hotel membership,this way the order transaction will take place on the spot, whether in a bookstore or restaurant. Moreover, to be a walk-in customer of the bookstore, first the customer needs to physically visit the bookstore and subscribe to the bookstore subscription, only then he will be allowed to make online deliveries later on. The third and last operational view is that the customer is a person sitting in his home and has ordered a home delivery through online medium, for this method the restaurant and bookstore will send the parcels to a drone, and feed the necessary details of it to the drone database system, so it can automatically perform the door transaction and provide the required time for delivery. Moreover as a logical check we have not allowed hotel reservation customers to make online orders(Home deliveries). Furthermore, in this entire system we have used soft copy deletion(flags for record deletion, the record can be bought back and won't be permanently deleted).

Entities,Attributes,key relation below

Entities & Mind Map



* Hotel Entities

- Room-logs
- Pool-logs
- Gym-logs
- Childcare-logs
- Spa-logs
- Reception-logs
- Membership-status
- Walker Entities:-
 - 1) Walker-details-h
 - 2) Walker-logs-h
 - 3) Walker-reviews-h
 - 4) Walker-salaries+fringe-h

- Customer Entities:-
 - 1) Customer-Details-h
 - 2) Customer-logs-h
 - 3) Customer-reviews-h

* Restaurant Entities

- Kitchen-inventory
- Reservation-records
- Order-Feed (ongoing/pend/compld)

- Walker Entities:-
 - 1) Walker-details-r
 - 2) Walker-logs-r
 - 3) Walker-reviews-r
 - 4) Walker-salaries+fringe-r

- Customer Entities:-
 - 1) Customer-details-r
 - 2) Restaurant-checkout-r

* BookStore Entities

- Book-inventory
- Membership-records

- Walker Entities:-
 - 1) Walker-details-b
 - 2) Walker-logs-b
 - 3) Walker-salaries+fringe-b

- Customer Entities:-
 - 1) Customer-details-b
 - 2) Bookstore-checkout-b

* Drone Delivery Entities

- Drone-Details
- Drone-order-Details

* = Table + = Attribute

Attributes and Relations:-

★ Customer_details - n

- + Cname
- + CCNIC (PK)
- + No. of members
- + Room Type
- + No. of Rooms
- + Days-of-Elavation
- + Phonenumbr
- + ReservationDate
- + email
- + Address
- + DOB
- + Service-charge
- + is-active-c-h

★ Checkout Receipt

- + ReceiptID (PK)
- + CCNIC (FK)
- + Checkout-price

★ Room logs

- + ReservationID - H
- + Appointed Worker - H
- + Room no.
- + Room inventory

★ pool logs

- + pool pass ID
- + W2D (FK)
- + checkout/checkout time

★ Worker_details - n

- + wname
- + wid (PK)
- + DOB
- + Address
- + phone no
- + designation
- + is-active-w-h

★ Worker_Salaries - n

- + Salary-ID (PK)
- + wid (FK)
- + logID (FK)
- + ReviewID (FK)
- + Worker-achiev
- + Bonus-achiev

★ Worker_logs - n

- + logID (PK)
- + arrival time - (device hours worked)
- + departure time - (device hours worked)
- + W2D (FK)
- + CCNIC (FK)

★ Worker_reviews - n

- + Review ID (PK)
- + W2D (FK)
- + Total points (Evs)
- + Review scale (1-5)

★ Membership_Status - n

- + MembershipID (PK)
- + CCNIC (FK)
- + Restaurant membership [B]
- + Bookstore " [B]

★ Gym logs

- + GymID (PK)
- + worker
- + checkout

★ Childcare logs

- + cid (PK)
- + age limit 3
- + gender (opt)
- + checkout
- + wid (FK)
- + guiding phone no

★ Spa logs

- + SpaID (PK)
- + WorkerID (FK)
- + Package Type
- + CCNIC (FK)

★ Customer_details - r

- + tname
- + CCNIC (PK)
- + no. of members
- + Phonenumbr
- + temail (optional)
- + Order-method (online/online in from respective database)
- + Restaurant_checkout + isactive - c - r

+ tcnic (FK)

+ order-receipt (PK)

+ order-ID (PK) [Backend]

+ CCNIC (FK) [Backend check]

+ Price (determined by order-ID) (in case of membership price=0)

★ Order_Feed

- + order-status (ongoing, completed, top loaded) (is-active)
- + Order-ID (PK)
- + order_items + item-availability
- + price of order
- + StockID (FK) + weight (in case of online order)

★ Kitchen-inventory

- + StockID (PK)
- + item-name
- + item-quantity

★ Reservation-records

- + ReservationID - K (PK)
- + WorkerID - K (FK)
- + Checkin-checkout
- + Table no.
- + No. of persons
- + CCNIC (FK)

★ Worker_details - r

- + Same as in hotel, but treated as a different attribute, FKs pickal from respective database.

★ Customer Entities - BS

Customer details

name
phone num
Bcnic(pk)
address
email

order method (online/physical)

→ is-active - C-BS

→ Bookstore checkout:

→ Issue ID (pk)

→ receipt id (pk)

→ membership id (fk)

→ Book name

→ number of books

→ issue date

→ due date

→ Hotel membership id (fk) [Backend]

→ Discount (on membership)

→ Bcnic (fk) [Backend]

→ weight of parcel (for online order method)

★ Bookstore Entities

Book inventory

→ Book ID (pk)
→ Book Name
→ Book price
→ number of books
→ type of books + is-active-books

★ Membership Details

membership id (pk)

Bcnic (fk) [for backend check]

Bcnic (fk)

address + is-active-membership

★ The worker entities and the attributes are same as hotel and restaurant but treated differently

★ Done - Details

+ Done-ID (pk)

+ Model

+ Type

+ Availability-status (is-active)

→ is-active

★ Done-order-details

+ LaunchID (pk)

+ DoneID (fk) [Backend working]

+ KOrder ID (fk) [11]

+ Receipt ID (fk) [11]

+ Weight

+ Price (determined from Korder/Receipt ID)

+ Bcnic (fk) [to pick address]

+ Bcnic (fk) [11 11]

+ Address [determined above]

+ Delivery Status (is-active)