

## The Pink Loft – System Design

### **Company Description**

The Pink Loft is a hotel that caters to the need of their guest. Starting out as a Bed and Breakfast Establishment the Pink Loft grew along with their great guest list. The Pink Loft currently has one location with the desire to build one more location within the next year. The Pink Loft is a Hotel business that provides overnight stay, meal and smaller services with its own twist for travelers. The hotel currently has about 100 employees which are split between management, maintenance, House keeping, guest services and the kitchen.

The Pink Loft generates majority of the revenue from the overnight accommodations at the hotel, and smaller revenue from transactions from the restaurant, bar, room service, private space rental, etc. The revenue from the overnight stay range depending on the size of the room that the clients booked and the length of the stay. The smaller revenue comes from the transactions from the bar, the restaurant, room service and the Pink Space which is a large space guest can reserve for any private events. Although most revenue comes from the guest who stay at the Pink Loft, we also have Clients from other businesses who reserve the Pink Space for their business events as well. After further review and gathering of information, the company has realized that because of the increase in business and customer interaction, The Pink Loft needs a faster, newly updated computer system that not only is flexible and easier for the employees and business partners who supply the hotel inventory but also easier for the customers.

### **Scope Definition**

The Pink Loft originally started out as a small Bed and Breakfast business. Although they grew as a company, they never switched the manual system and everything was done on a paper trail. The company needs a new computerized system because it would increase the quality of service, performance, efficiency, security, and easier and faster access for the guest. Currently everything is done manually, (check in/Check out, booking, service add- on, etc.) If the paper trail for these transactions are lost there is no way to backtrack and recover anything. Also manual system has an increase in human error which can be a costly mistake to the business. This new system would add for easier input and last minute change from the customer and also within the job ex: Front Desk, Kitchen, Housekeeping, easier and faster updating, easier access to documents for check-in/checkout and other customer fees and add on.

A new information system would be a digital system used for easy access for guest to book and pay for services. It also includes a system for the employees to access guest information and make changes to guest reservations and other requested guest services within the hotel. The system would also contain an employee portal for scheduling and accounts for business partners who supply the hotel as well. It would include a digital data base for guest information and hotel data. The system will take about 10 months to design implement and install. It would cost about \$200,000 and about eight to ten people for the development, installation and implementation.

## **Problem analysis**

Currently with the manual management system used, A few major issues that are constant that will be greatly affected by the new system are: Time to Locate Customer Data, Data Security, Lost of Data, Storage and Un-Organization.

### **1. Time to Locate Customer Data**

Currently Once a guest makes a reservation of any kind and the document is filed, if there are any changes that need to be made to that file, time has to be set apart to locate that data and then once it is located you can then re contact the guest in order to makes those changes.

System improvement objective: On the new system, everything is computerized and in the event of a change or a need to access a file at any time, you can easily within seconds access a file and make the necessary adjustments. Fast access also improves guest satisfaction.

### **2. Data Security**

Because all data is filed in storage and then after it is no longer need the files are packed away, the current use of data storage I unsecure and easily assessable for anyone with malicious intent.

System improvement objective: With the new system, data can be secured within a system database and only those with the necessary credentials would have access to to customer data and the company data as well.

### 3. Lost of Data

Physical Data storage is a disaster waiting to happen. As the company grows so does the physical Storage. Because all the data are physical documents for the Pink Loft a downfall is the lost of some files.

System improvement objective: All Data would be stored within the computerized system with data backup in the event of a computerized malfunction.

### 4. Storage

Because the current system is a physical system, every document has a paper trail. With an increase in company size there is also an increase in storage of the files.

System improvement objective: The new system would input all the details of the physical storage into a database for the Pink Loft and eliminate the maximum paper trail.

### 5. Un-organization

A Physical storage space with years of data also comes with a bit of un-organization, and needs a great amount of time to locate the proper files.

System improvement objective: The New system removes the financial cost of the extra physical storage space. It Also builds a Computerized Database which helps to easy access of documents and digital organization. The system would also set the security to the files and only an authorized user can access the files.

## **Requirements analysis**

Features used by the clients:

- (a) Booking Services – Booking the stay and the details of the stay which may include room type, length of stay, name, Dates of exact stay, etc.
- (b) Services request – Guest request for room service, housekeeping, addition room necessities, etc.

Features used by the Suppliers:

- (a) Billing Services – Suppliers are able to send a detailed bill for Pink loft thru their own login portal.
- (b) Miscellaneous feature – Used to Send to The Pink Loft In the case of an out of stock of requested supplies or to provide information of new supplies the company may now service.

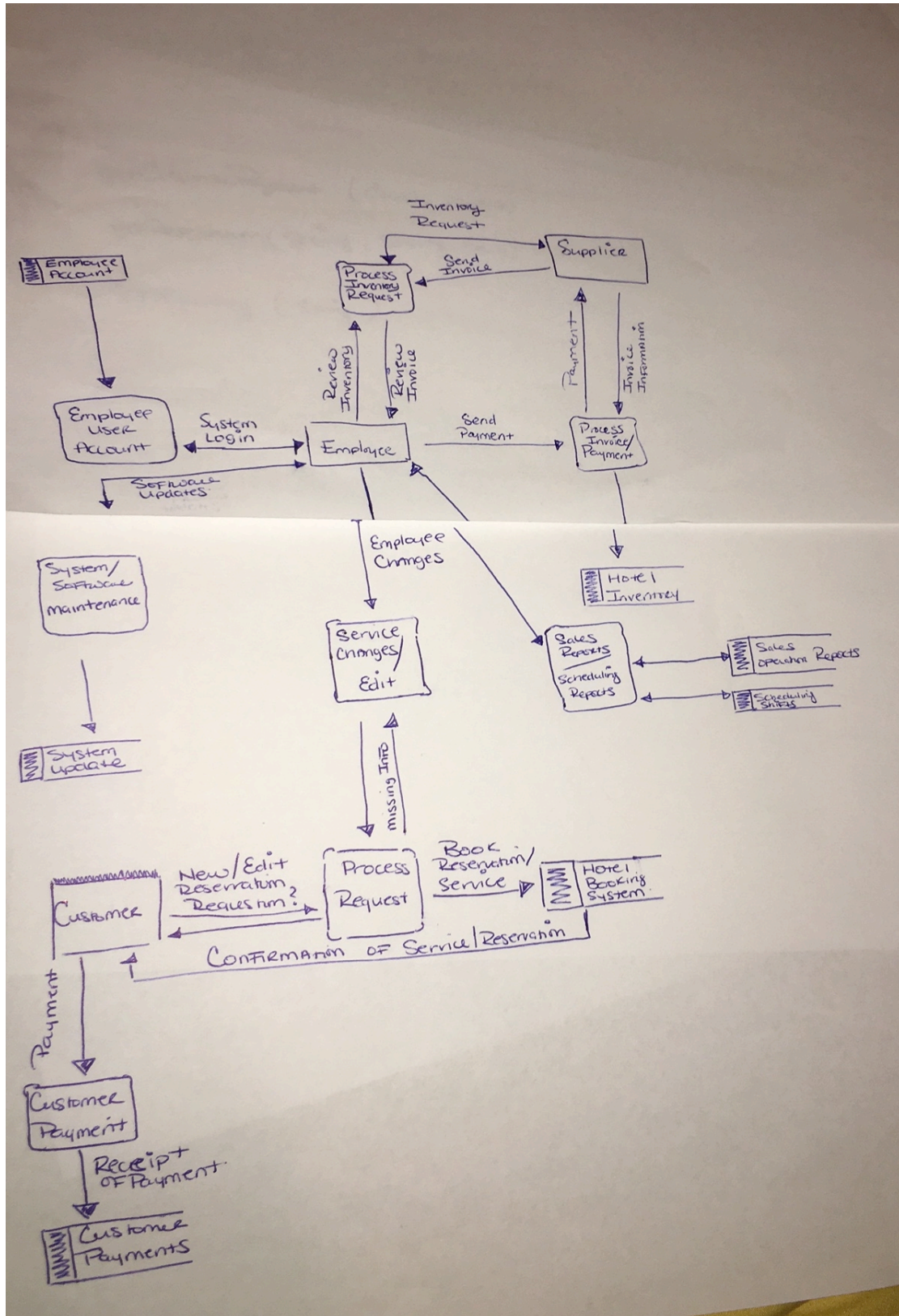
Features used to Administer System:

- (a) Account credentials – Setting up accounts and who has access and restricted access.
- (b) Updating of software – Upkeep of the software and making sure the system is up to date.

Features to Analyze Company Operations:

- (a) Revenue Reports – Daily, Monthly, Annual Reports based off Company transactions.
- (b) Scheduling Overview – Scheduling review on who is who is working and the time of the shift.

## Logical Design



## **Decision Analysis**

### **Technical Feasibility**

The proposed technology is a mature and practical system. Various business's in the hotel industry use a simple booking system for users to easily access booking and services whether it is online or within an app. For this system the hardest part would be to customize it for the needs of "The Pink Loft".

Currently the Pink Loft doesn't have the technology on hand for the proposed system. Everything is based on paper and the technical devices that are used are out of date. We can get access to the needed technology to build and implement the system. The financial cost need to gain these devices are within budget of building the new location ad system.

In this age of technology, we do have the necessary technical expertise for the new system. Not only would it be easy access for the users who are the generation of technology, but also for the employees who are using it on a daily basis.

### **Operational Feasibility**

The operational feasibility of the system is estimated to cover every functional requirement. The system is estimated to make daily work for employees faster and more efficient and also the ease the way customers access our system to book the reservations and other inquiries they may need.

### **Economic Feasibility**

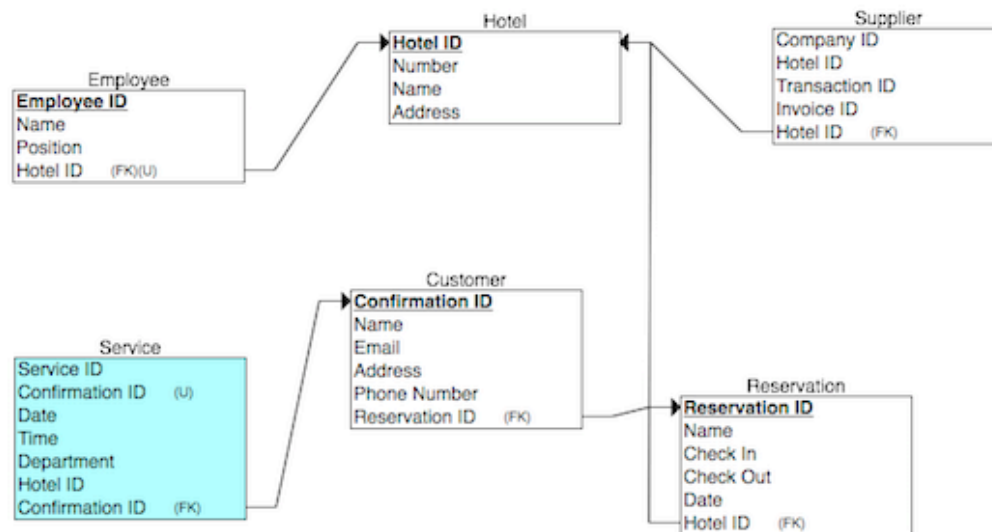
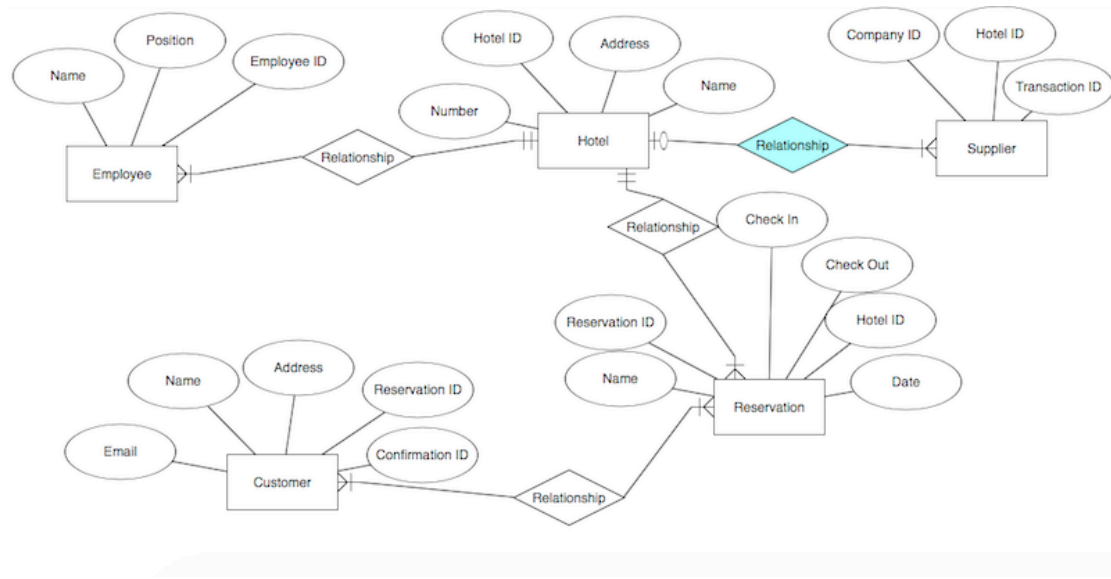
The New system for the Pink Loft would cut the cost of current physical storage space and implement the Digital database system. The cut of paying for physical space increases revenue to channel finances into another direction. The cost benefit is that the system increases ease and flexibility for employees which increases customer satisfaction for customers, overall which would increase revenue. The new system changes the dynamics of the way we handle the business.

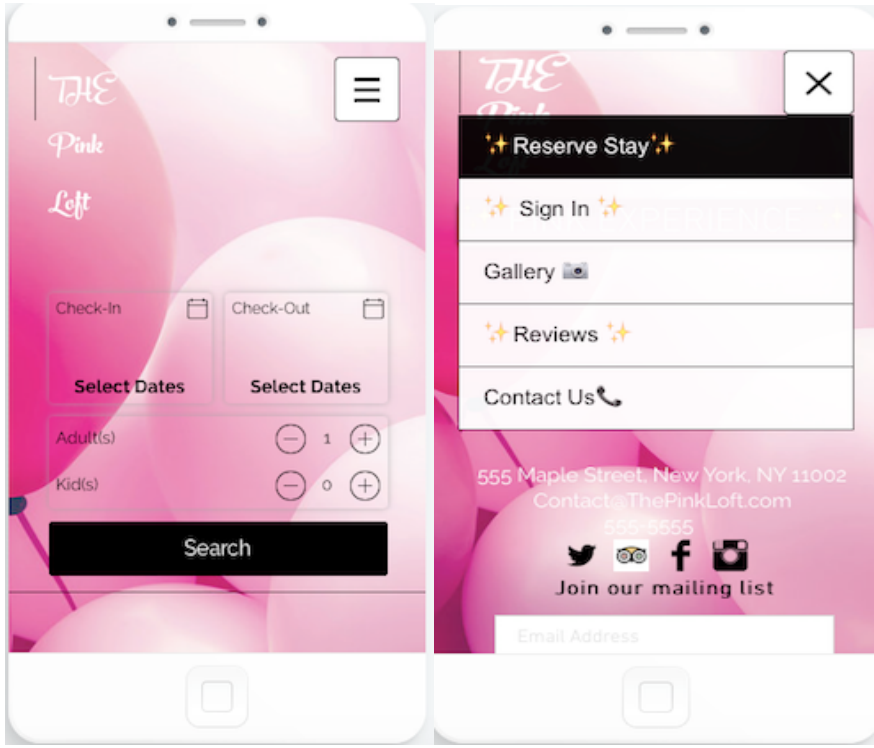
### **Schedule Feasibility**

The new location for the Pink Loft is not to open for another year, the timeline of the new system to be built is 10 months. Because the system isn't going to be used until the new location opens up, we have an extra two months for the system to be tested and make sure all the requirements are met and everything it sup the to the necessary standard.



## Physical & Design Integration





## Table Definitions

### Employee Table

- Employee ID (Char)
- Name (char)
- Position (Char)
- Hotel ID (Char)

### Hotel Table

- Hotel ID (Char)
- Number (Char)
- Name (VarChar)
- Address (VarChar)

### Supplier Table

- Company ID (Char)
- Hotel ID (Char)
- Transaction ID (Char)
- Invoice ID (Char)
- Hotel (ID)

### Service Table

- Service ID (Char)
- Confirmation ID (Char)
- Date (Date)

- Time (Date)
- Department (Char)
- Hotel ID (Char)

#### Customer ID

- Confirmation ID (Char)
- Name (Varchar)
- Email (Char)
- Address (Varchar)
- Phone Number (Char)
- Reservation ID (Char)

#### Reservation Table

- Reservation ID (char)
- Name (VarChar)
- Check In (Date)
- Check Out (Date)
- Date (Date)
- Hotel ID (Char)

## **Construction & Testing**

Using Test Driven Development, each process should be tested to make sure each function works together. Because This system would be implanted in a hotel environment, unit testing each process first would be very beneficial.

One way of using TDD for this system would be to test the accuracy of the supplier system and its communication between the hotel and company. For this test we could test the accuracy of the inventory request by sending a negative number for the inventory and see if the system would let you send any number or recognize and invalid number. This would help to know how the system recognizes numbers and help for accuracy between supplier and the hotel. Also setting a limit on only being able to send inventory request only to a company recognized within the system. We could input an invalid company code to see if the system would still process the inventory requests.

Another test we could run is Boolean test against the reservation system. If A day is not available, the system should reject the processing of the reservation. We could set multiple days to unavailable and make sure the system fails to process those requests.

Doing these test would ensure accuracy between each process and ensure quality of the system.

## **Installation & Delivery**

In terms of functional requirements, in the new system Employees will login the system with an employee ID and password. With the system employees would be able to access customer reservation and other files in the case they need to change a guest reservation or add or remove something from a customer's files. Depending on the level of access the employee has, they should also be able to access scheduling data, revenue reports, sales and the maintenance of the system. Employees have a direct database of customer information used for reservation and are able to access past guest files for future booking in case a client calls over the phone.

Guest would easily access the system online and just can book online or send an inquiry for us to reach out to them. For guest who do book online, they would receive a confirmation number upon completing their reservation. That confirmation number would be used while they are within the hotel to easily add on other services (food, spa, bar, room service, etc.) to their bill without having to call guest helpdesk for these services. All they would need to do is access the site enter the password, room number and confirmation number and Boom! Request any service or extra. Upon checking out the guest would review anything they added to the bill and can pay either on the site or at the guest check in.

Similar to employees, suppliers have a Contract code and password for their internal access to the system. Suppliers login to view request for inventory from the Hotel as well as send an invoice for goods delivered to the hotel. Suppliers access all documents regarding all deliveries and transactions made between the Pink Loft and themselves. The paper trail is removed and the system becomes a quick site for everyone.