Asian College of Higher Studies (ACHS)

(Tribhuvan, University)

Dhobidhara, Kathmandu

Project Proposal of Room Reservation System for Friends' Hotel

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1. Introduction

Hotel businesses are one of the top running businesses all over the world. The hotel business has emerged with massive growth over the last decades. Hotel industries are also one of the main reasons for tourism growth. The section of the service industry that deals with guest housing and lodging are the hotel business. The Internet has become an important distribution channel in the hotel industry [1]. Unlike traditional hotel booking through travel agents, online hotel booking offers benefits to consumers such as accessing more photos and videos, a full description of the hotel property and location, better pricing, and no additional booking fees [2]. Hotels are defined as institutions that provide overnight accommodation, meals, and other services. However, it does not usually include long-term or permanent forms of accommodation. All those services are exchanged on behalf of monetary transactions. Friend's hotel is one of those hotel businesses for whom we are going to develop a system to make reservations by the customers.

Friends' Hotel business is one of the hotel businesses using a manual system for hotel reservations, bill settlement, and others. Managing the task manually can be very hard and time-consuming. There comes the role of the Room reservation System. The room reservation system helps the customers to reserve the hotel rooms from anywhere at any time with the medium of internet.

The room reservation system for this hotel works as the mechanism through which guests can create a secure online reservation. The Room management system is capable of handling various activities like Guest details, Reservation details, invoice details, and many more. This system provides good information sharing to both customers and staff of the hotel. The room reservation system will be the means to eliminate the manual system which then provides faster and efficient operation in the hotel. The Room reservation system is also considered to offer an efficient, informative, and user-friendly website. Customers will be able to easily make accommodation reservations, for different types of rooms, and select rooms within their range simply by going to the hotel website.

2. Problem Statement

The problem that our system might face are:

a) Lack of hotel and hotel website promotion.
b) Inability to match guest expectations.
c) As guests can arrive directly to hotels and reserve rooms and if the admin forgets to set the room reserved in the system it can create confusion and problems.
d) If the admin does not view the guest reservation and acknowledge them guests might have to wait for a long period to assure if their reservation is successful.
e) Guest cannot access every detail of the hotel.
f) Guest does not know what the surrounding of the hotel looks like.
g) Technical problem like server down maty be another problem.

3. Objectives

The room reservation system will be involved in the following actions:

a. To avoid manual and repetitive work.
b. To keep track of available rooms and reservations.
c. To create a database where every customer's detail is recorded.
d. To secure all the data and records.
e. To provide speed reservation and registration service.
f. To retrieve records simply whenever necessary.
g. To authorize the users to have access to the records.
h. To generate a proper invoice.
i. To inform the availability of rooms in real-time.
j. To provide the ability to reserve rooms anytime from anywhere with internet access.

4. Methodology

For our project on the room reservation system, we will be using the waterfall method as it is easy to manage because of its rigidity. This model has the advantage of dividing the life cycle into phases that are easily understood by management. The waterfall model describes a development method that is linear and sequential. So, each phase in the waterfall model has specific deliverables and a review process. As we already know the requirements for the system it will be easy for us to develop the system using this method. Also, the requirement for the development of the system is clear and as the environment is stable this model is very useful for our system development process. The scheduling of the development phases can be set with deadlines so that the system can be delivered in time. [3]

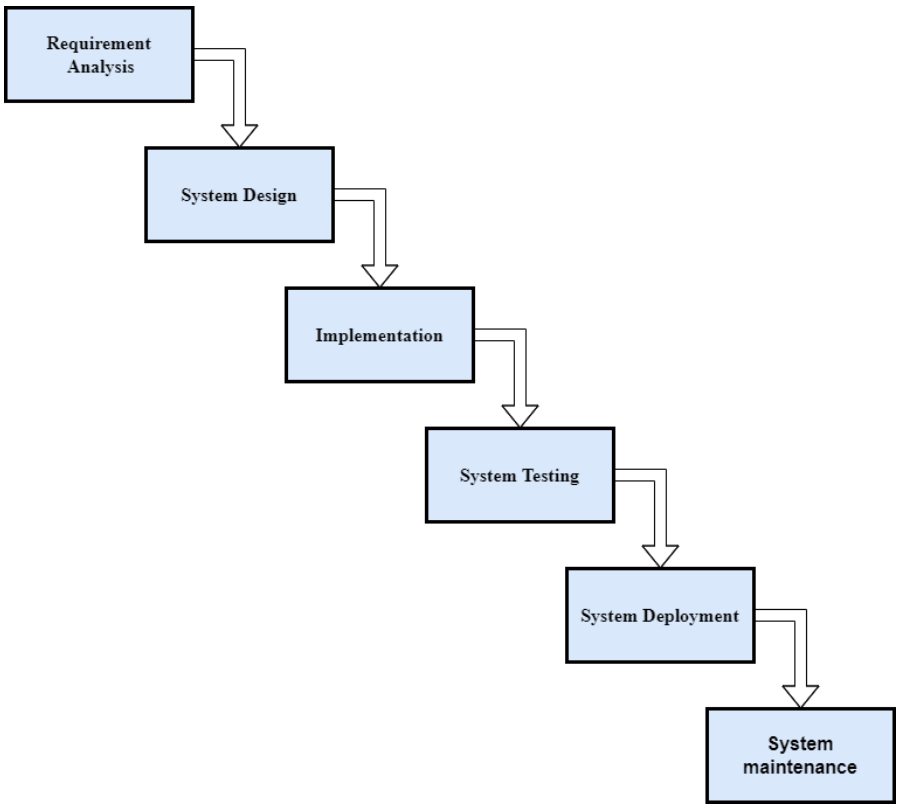

Figure 1: Waterfall model

4.1. Requirement identification

4.1.1. Study of the existing system

The current system of hotel management is fully based on paperwork. All the records of customers and rooms which are available in the hotel are managed by the hotel management through paper. There may be some problem or delay for allocating rooms and providing services by a human. Manually handling the hotel rooms records, customers details, and other management is hard and time-consuming. While all the records are kept in files they may get torn out, lost, or get damaged due to water or fire. Calculation done by staff may not be accurate sometimes. And even transferring the records or finding records is a big problem and also creates a mess. The manual system of room reservation is also time-consuming as a customer have to visit the hotel first and ask for available rooms then inspect those room then only if customers like it, he will take the room or else he won't and for all these processes cost a lot of time.

There are also many hotels booking websites but those websites create competition among the hotels. Those websites also create confusion for customers to choose between many hotels. Those websites may also charge some fee for linking up the hotel site. Those websites may also take paid promotions from the big hotels and refer only those hotels to the customers.

Disadvantages of the existing system:

a. Time-consuming system for making reservations and recording data.
b. Mixing of two or more customers' records.
c. Recording of data manually is not consistent.
d. A lot of spaces can be taken from paperwork.
e. It may face the problem of human errors.
f. Possibility of losing customers' records.
g. Unwanted duplication of the record.
h. Difficulty in maintaining file security and standard.
i. Easy access to guest information by unauthorized users.
j. Reusing and retrieves of guest records are extremely difficult.

4.1.2. Requirement Collection

4.1.2.1. Functional requirement

a. Administrator can check the information of users.
b. Users have to register and log in.
c. System accepts the user registration only if the required fields are correct.
d. Users can search and book rooms according to their choice.
e. Booking confirmation should be sent to the user's email and contact.
f. Confirmation of room reservations should be stored in a database.
g. Users can also cancel the booking without any failure.
h. System will be able to display the available room.
i. System allows the customer to check the room.
j. Displaying their charges and other utilities.

4.1.2.2. Non-Functional requirement

a. It is easy to use, efficient, and accessible.
b. It will be developed in such a way that the system is available both day and night.
c. Any modification like insert, delete, update, etc. for the database can be synchronized quickly and can only be executed by the administrator.
d. System payment will be accepted via various methods.
e. The system must recover easily from any kind of issue.
f. The system must be protected from unauthorized users.

4.2. Feasibility Study

A room reservation system is a system that is highly feasible for these kinds of hotels. This system is being developed after a high-level study of the entire system analysis and design process which helps the hotel in every aspect. The system being developed will be flexible to support the hotel to acquire more guests. There are three types of the feasibility study we kept in our mind for the development of the system for this hotel.

4.2.1. Technical feasibility

The proposed system of room reservation is very technically feasible as we are going to develop the system using existing technology. The required hardware and software for the development of the system are available. The software developed for the hotel management system is used in a client-server architecture where HTML, CSS, and JavaScript are used as front end and PHP is used as the back end for this project. With every knowledge of working with programming languages, we are going to develop the system.

4.2.2. Operational feasibility

The room reservation system is very feasible regarding the operation of the hotel reservation. The system is just an advancement of the manual system. The main purpose of the system is to provide an online reservation service to guests which is easy to operate and staff to handle that reservation easily. The system helps to promote the hotel and also creates a user-friendly environment for room booking that saves time. The system helps in recording the details and providing invoices for both guests and the staff without having to deal with time-consuming paperwork.

4.2.3. Economical feasibility

The system will help reduce the traditional record-keeping style which will eventually reduce the expense of hotels for registers and files. Keeping records in a digital format is less costly yet reliable. The system also does work alone that requires two or more people to do. The cost for the development of the system is also one time cost as the system is reliable for the long run.

4.3. High-Level Design of System (system flow chart/ methodology of the proposed system/ working mechanism of the proposed system)

ER diagram

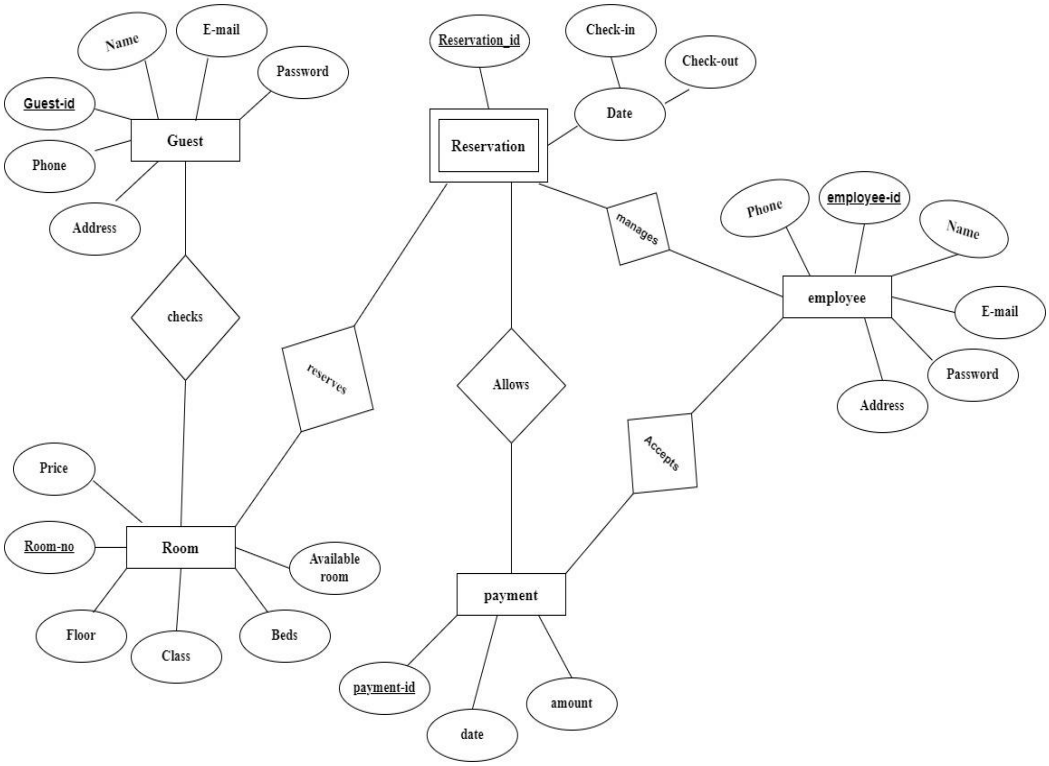

Figure 2: ER diagram

The above figure is of ER diagram, this figure shows the relation of one entity with the other. Here there are 5 entities with their respective attributes. The guest entity checks for the room while the reservation of the room is made if he/she likes the room. Reservation can only be made if the room is empty so reservation is a weak entity. Payment is allowed when the reservation is made. The employee manages the reservation and also is responsible to check if the payment has been received or not.

Use case

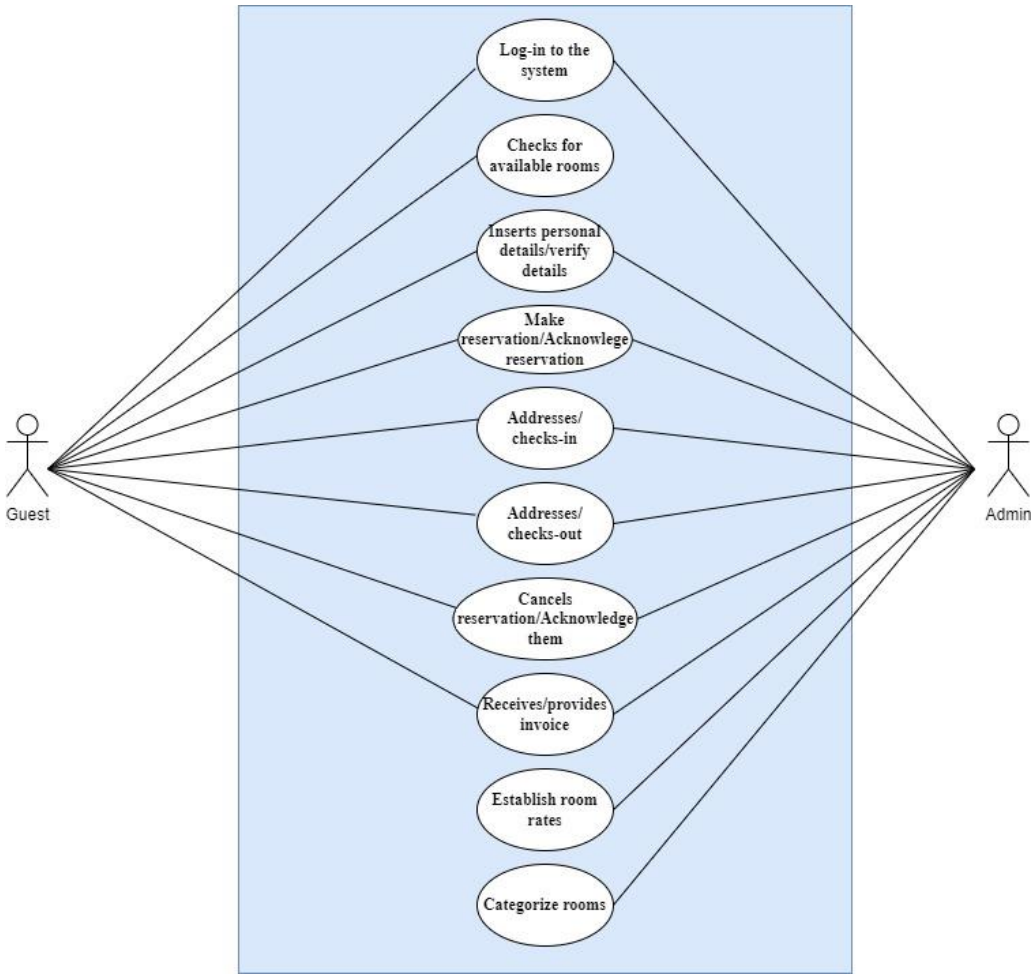

Figure 3: Use Case

In the figure above, the guest and admin are the actors, and gives are the actions performed by them in the system. Both of them have to log into the system for performing any task. The guest has to insert their details while booking the room which will be verified by the admin when the guest checks in the hotel. Whenever the guest makes or cancels the reservation admin has to acknowledge it. Guests always check for the rooms before making a reservation. The guest receives the bill and the admin should provide him the bill. Admin is responsible to establish room rates and also categorize the rooms.

Flowchart diagram

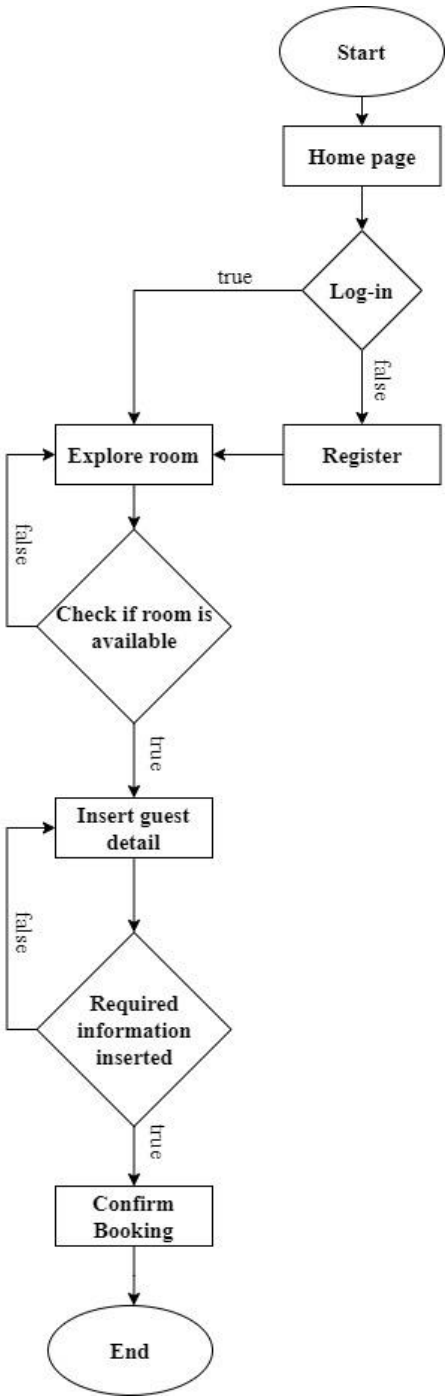

Figure 4: Flowchart diagram

The above diagram shows the flowchart of the user logging into the system for the reservation. When the guest visits the website, he/she see the home page from where he/she can log in. If the guest is not registered in the database, he/she have to register first then only they can explore the room information given on the website. If he/she likes the room they check for its availability. If the room is available, they have to insert their details to confirm their reservation.

5. Gantt chart

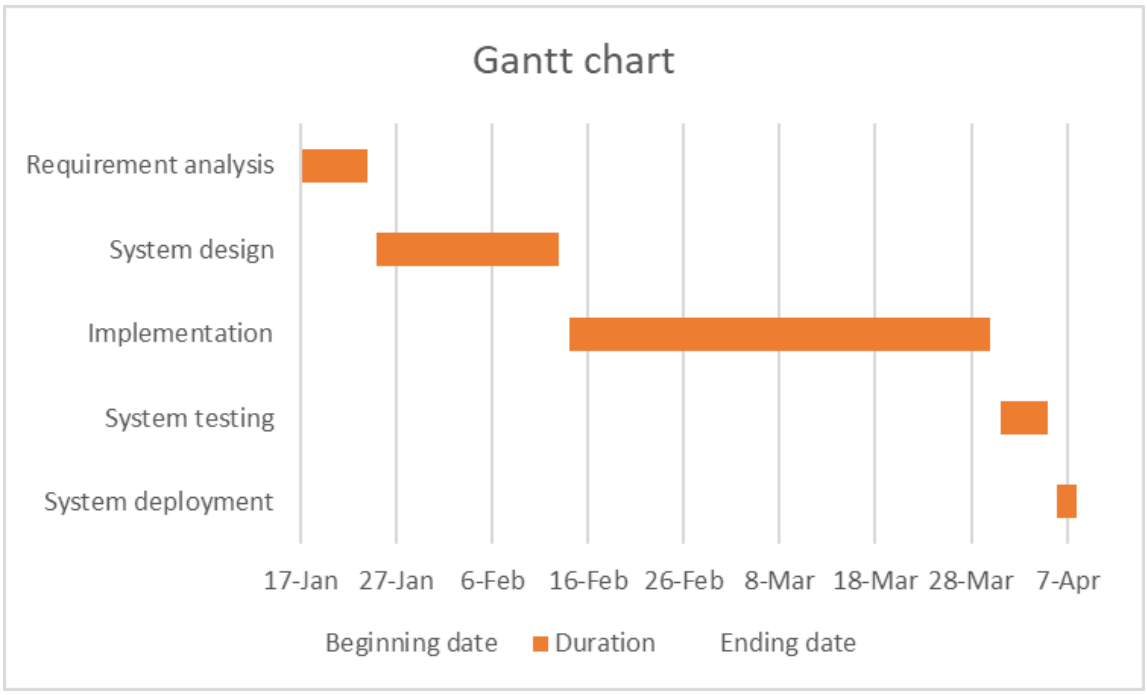

Figure 5: Gantt chart

According to the above figure, we have planned to start our project on 17th January 2022. The first phase of our project is requirement analysis which will be done in 7 days starting from 17th January to 24th January. The next phase is system design which starts from 25th January to13th February. This means we will take 19 days for designing the system. The implementation phase starts from 14th February to 30th March. This means that our implementation phase must be completed in 44 days. System testing is done from 31st March to 5th April which is 5 days of time and our system deployment shall be done from 6th April to 8th April.

6. Expected Outcomes

When the project is completed then the users can register and log in to their account in this application and can easily book their choice of rooms in the hotel. This system also helps to minimize the work of the staff by digitally storing records. It also increases the reservations of the hotel. People can book rooms at the hotel from anywhere at any time. The invoices are printed within a second with full accuracy. From this system, we expect to introduce the hotel internationally. The well-developed website creates a user-friendly environment which makes it easy to use the website.

7. References

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[2] P. a. F. A. O'Connor, "An Evaluation Methodology for Hotel Electronic Channels of Distribution," *International Journal of Hospitality Management,* pp. 179-199, 2004.

[3] L. Sherrell, Waterfall Model, Springer, Dordrecht, (2013).