School of Information Technology and Engineering

Proposal For Database Project

On Hotel mangment and booking System

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Abstract

This paper contains our project idea for database. We took an inspiration from Trivago which a Germany based company to these project. We wrote a bit about the company. The company got successful in offering hotel services in different countries and trying to do similar in Ethiopia. If it got successful it will solve problems of visiting other cities, tourist difficulty in finding a hotel and many more. But there is no database to implement this service. Hotels are not integrated, there is no booking sites for hotels, hotels themselves does not have a website. Our objective is to create a database for this kind of system. By collecting data from different hotels making it available for use. We believe this will solve many of us and visitors face.

Introduction

Trivago is an online hotel search platform that allows users to search and compare and book hotels. It gathers data from different OTA (online travel Agencies) third party platform and provide information to its customers as wells as ratings, pictures, review and picture. This service is widely used in developed countries and one the successful platform which solved problems. Even though Its difficult In this proposal we will try to solve the problem our country face in implementing such systems. A highly integrated database is required for effective use of this service. This paper gives explanation about the problems, objective and how our database will work. A more detailed model about the database has been done by using ER diagram in the last section. The ER diagram shows how our database will be implemented in the project will do. Each relationship between the entities is the attributes they have is listed.

This database will include not just big hotels also small guesthouse. The database connects customers or users with trivago and hotels. User can create account and update their profile hence using the account to access information and use the service trivago gives. Trivago platform needs it own database for managing it employees and process. As they are the main database owners the control and give access to users and hotels. The hotel database can be updated by different hotel owners. But Trivago has the responsibility to check the data updated by the hotel is correct.

History and profile of the company

The company we picked is not based on our country. It a company based in Germany which offers services related to hotel, travel and tourism. This company is called TRIVAGO which was launched by in 2005 in Germany. It was started in a garage and now has more than 5000employee and serves more than 190 countries. When it was launched it was the first hotel search engine in Germany. Since then it expanded to different countries and markets. The main reason for the company to be founded is to solve problems related hotel searches, bookings, getting the best price, finding travel agencies. To do, this Trivago collects data from large hotels to little organization and describe these to customer in a clear form. It has also currently partnered to more than 150 OTAs (online travel Agencies) to serve ongoing on requirements. The website has more than 120 million traffic and analyzes 900,000 monthly.

The company has value propositions which are Accessibility, Customization, convenience and Brand. Accessibility give customers and users the access to contribute descriptions, comment and more toward the content of the app while customization allows registered Hotels and property owners to customize their profile and brand. These things make the website to be highly informant. Partnership with other booking sites and travel agencies also made them to offer a lot of services.

Trivago started offering this easily accessible service through their app and website and our country is one the serving destination. In Ethiopia hotel like Radisson Blue Hotel, Sheraton Addis, Jupiter International Hotel, Skylight hotel, Hilton Hotel, Nexus hotel, Harmony hotel, capital hotel and other big hotels. Trivago in Ethiopia mostly give services for foreign tourists. But Ethiopians mostly don't use them. Trivago services basically designed to serve the foreign tourists. There are other related platform which are based in our country. But their popularity is not that much and they don't have a well organized system.

Statement of the problem

In our country there many problems related to getting a desired hotel and travel service. Most people when they visit other cities it is difficult to the right hotel based on their desire. They don't even have any idea where they going to book. Hotel prices, services, exact location aren't know. There is no way these people can get information about these hotels. The government doesn't even have much information about the hotels.

There are a lot hotels which fit the standard of everyone in our country. But It is not being accessible to everyone. Because of these most hotels are losing brand and value. There is not an efficient business model which attract customer. Even for governments its hard to track and tax them properly. An integrated database for all these hotels is needed. But there is not one.

Trivago gives Hotel booking service in Ethiopia. But it only includes big luxuries hotel which is not for everyone. The service they give in Ethiopia is not same and good as the do it in a developed countries. They need a database for small hotels at different cities. These is the problem we are trying to solve.

Objective

When we think of big companies there is always a massive amount of data stored behind in the database of the company. Those data are very important for efficient implementation of their task and fast services for their clients. It is very difficult to imagine such huge companies with such unorganized and unstructured way of data storage in their databases which makes access and management of data very difficult and almost impossible. That is why we intended to do this project proposal and design the database of this company. This does not mean that this company stores its data in unorganized way, we are just trying to create database for this project proposal purpose.

The purpose of this project is that to create a well-organized and structurally efficient database that makes management and access of data very easy. Everything is done with a limited time frame and space. In such huge service provider companies giving fast services is expected by users. Storing data in relational tables makes the process fast.

Beside the essence of giving fast service structured databases are very important for good and effective management system of data. When errors, deletion and changes occur on data it can be handled easily. The purpose of our project is generally to make access, implementation and management of data easier for users.

Methodology

We have been looking at many sources to gather different information and used different methods of data collection to do this research proposal. It is not as such easy task to acquire those data so that our research will be more efficient. Basically we used internet as a **primary source** of our data collection and different FAQs about "Trivago" company. We tried to investigate and systematically describe the characteristics and attributes of the service under this company. To do so we used both **qualitative** and **quantitative** data expressed in both numerical and in word presentation respectively. Such as the numbers of hotels registered under this company, number and types of utility of the service and countries including Ethiopia that trivago is giving its service. It was also necessary to collect some data from **secondary sources** that are already recorded to make our project proposal more reliable. We haven't actually made a direct observation and experimental data collection since we have no a direct contact with it.

The database of this company is very large but we only selected some of the basic and essential entity types and their attributes using those **methodological approaches** discussed above. We were required to make sure that actually our collected data are reliable and enough to construct the database. So we used the official site of the trivago company to get reliable information. When we design the proposal of this project we are intentionally trying to make the access and implementation of data easier for both database designers and end uses. This is done by searching for possible relationships between entities in database. Those relationships may be

dependency, association or any other things. We have considered those things as method of analysis for our collected data and their attributes.

Scope of the project

Our project deals with how to create a system that includes hotels in Ethiopia and making their price and information available so that customers could choose a hotel of their desire. The system provides services throughout the booking process by enabling the customer to select a room and facilitate the reservation between the customer and accommodation providers. It provides information for the users based on their hotel search. The information is different types of accommodation like hotels, holiday homes, places of wedding and ceremonies, etc. as well as travel areas and services associated with travel.The recently working trivago in our country accommodates only big hotels which are not affordable by many average Ethiopians due to their economic difficulties and also it doesn't include many hotels in the country because of their limited quality. This causes limitation on people to travel and enjoy wherever they could afford because the hotels of their ability is not available. Therefore our project tries to accommodate all available hotels and make their service available to all the users according to their purchasing abilities and desire.

Considering these factors our project encompasses customer information, booking information, hotels and their services and rooms. Customer info includes his/her identity (name, id, and age), address (phone number, email) and hotel in which he/she will reside. Booking info related with the customer gives information about booking id, the booked hotel, check in and checkout date, room type and number. Hotels table gives detail information about the hotels like their name, id, address (city, email, telephone, and fax), rooms (room type, number of rooms). Services providing detail about a service like service type, hotel, and service price. These all are managed by trivago. Trivago has employees (name, address, role, and salary), shareholders (name, share number, bank number/ account, and year), history (number of customers, number of shareholders, number of employees, profit, expenses, and year)and expenditure table through which its costs are managed consisting reason of expense, expense amount and date of expense.

Below we drew an ER diagram for the database of the Trivago Company. It contains 12 Entities each having several attributes. Their relationship has been expressed within the standard form. We tried to show the cardinality ratio of each entities.

Entities, Attributes, and Relationships

expenditure (double rectangle) — reason, amount, expense_type, date
- spends → Trivago

Trivago — No_of shareholder, anuual_profit, year, No_of_customer, No_of_employee, annual_cost

revenue — commission, hotel, date, No_of customer
- gains → Trivago

employee — phoneNumber, employee ID, address, sallary, email, name, role, dateOfBirth, age
- manages → division

division — office_No, div_head, div id, div_name, No_of_emoployee

has → share holders

share holders — email, name, address, phoneNumber, bank account, share amount, shareholder ID

hotels — email, fax, name, No_of_hotel, hotelid, address, telephone, hotel_rating
- contains → Trivago

rooms — room_type, room No, desctiption, status
- has → hotels

service — serviceID, service_type, hotelid, hotel_name, payment
- give → hotels

Customer — hotel_name, cust_name, customerID, address, phoneNumber, email, hotelid
- registers → hotels
- books → booking
- pays → payment

booking — hotelid, booking date, bookingID, room type, customerID, checkout, checkin, room No

payment — pay_id, serevice type, booling id, date, amount