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ITITIU13170

Thesis report

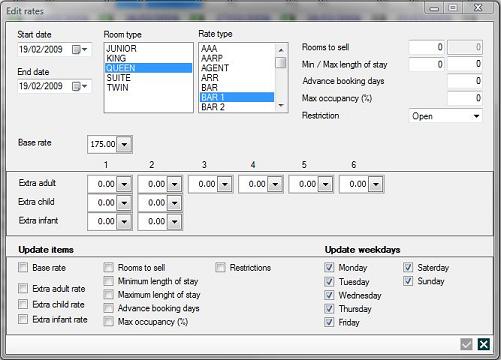
Introduction

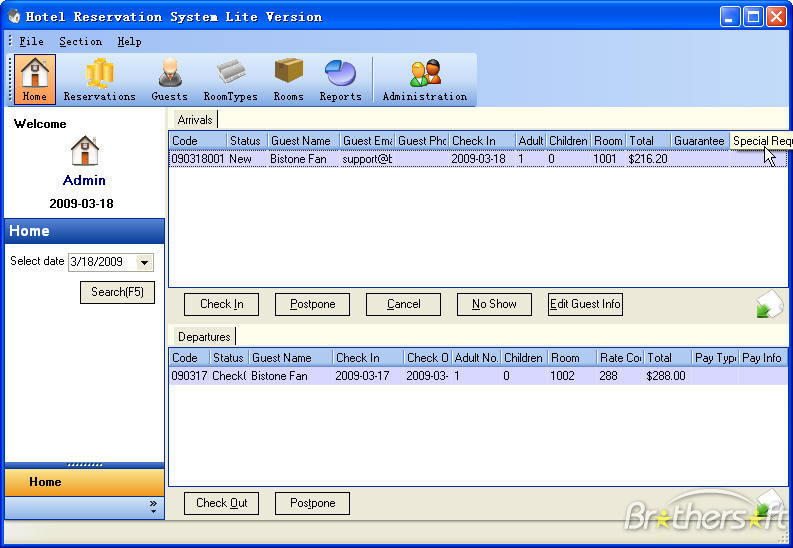
Many years ago, in hotel business, the guest who really wanted to book a room had to come directly to the hotel and the reservation process had to be done before booking the desired room completely. In fact, if the huge number of guests came to hotel for booking at the same time, this hotel would be crowded. Then the customers had to wait for another booking, made a queue and wait for own turn. It wastes a lot of time and is very uncomfortable.



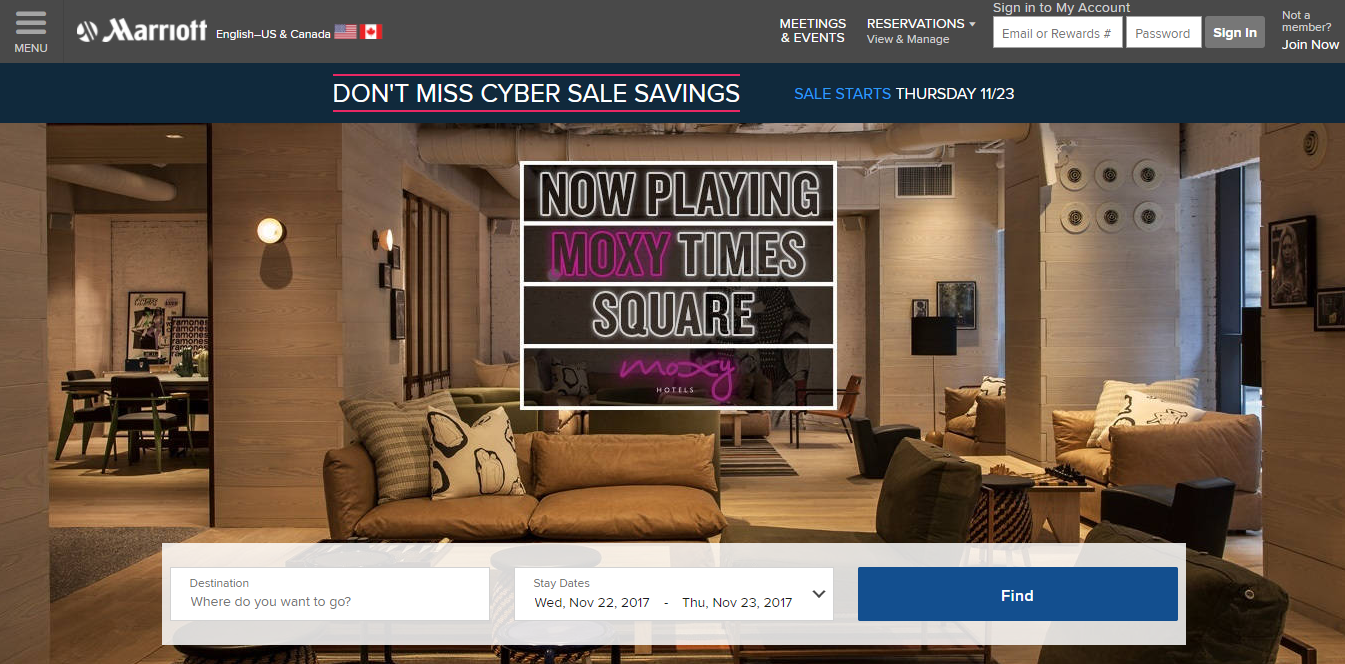
Moreover, in many enormous hotels, management was very difficult and booking based on pen and paper was not convenient for both the customers and the receptionists. Besides, the reservations might cause a lot of risk such as invalid information of customers, wrong information of rooms and booking.

Therefore, many applications had been released with lots of features to support hotel booking. However, at that time, performance of these systems might be very bad. They could overload or run extremely slow when a huge number of users was accessing at the same time. Moreover, the look and feed of these software user interfaces might not be designed beautifully. It leads to situation that many customers or even the administrators who manage the system were not pleased to use those systems.





To solve these problems above, many deluxe hotels or five-stars hotels in the world such as **Marriott International, Hilton Worldwide or InterContinental Hotels Group** already have their own hotel booking systems. In developing technology industry, their systems were improved so much with friendly user interface, high performance and especially the ability to track the behavior of customers. With this tracking customers feature, the administrators, the managers or hotel owners could know what customer had done on their websites. They would know which pages customers clicked on, how long customers stayed at each page, which rooms, which services that customers had searched, booked, ordered or send the feedbacks. Based on the data collection, the systems will automatically suggest what customers may like, recommend which rooms customers should book. Moreover, the hotel owners can improve their hotel business based on the information collected by their systems.



Keep up with current trends in hotel business industry, I will build a Hotel Booking and Reservations System which includes some inherited features from those five-stars hotel booking systems. The main architecture of my system is using MEAN stack technology and J2EE with Spring MVC framework. Applied MEAN stack technology, my system becomes an online single page application with high performance and dynamically loading thank to Angular 2 and RESTFULL web service which is built by Nodejs and express framework. Furthermore, the administrator’s system is built by Spring MVC, the most powerful java framework so it becomes a cross-platform system and runs well with all operating system. With dynamic webpages and friendly user interfaces, customers will be very comfortable when booking rooms on my website and the administrators can manage the whole system easily.

Besides, my application supports almost features for hotel bookings as well as reservations management. My aim is to develop two websites that support many common features for reservation and booking rooms of a hotel. With two servers are running at the same time, each server doesn’t have to do a lot of job.

Hence, there are many features that my system support for each role:

Firstly, the guests can view introduction and gallery of the hotel, send reservation form, contact with administrators. They can also view, search the rooms or the items in the restaurant which they would like to see more details. And they can register an account to become a customer as well.

Secondly, when became a customer, you are able to do anything which the guests can do. You can login to the system to book room or cancel it. You can also rate the room, send feedback, check your profile and view your transaction. With data collection feature, customers were tracked and therefore the system can suggest the recommendation rooms for the customers.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Feature** | **User** | **Begin** | **Finish** | **Duration** |
| *<no>* | *<name of topic to present>* | *<user who use feature>* | *<mm/dd/yyyy>* | *<mm/dd/yyyy>* | *<number*  *of day>* |
| 1 | Register | Guest, Admin | 09/06/2017 | 11/06/2017 | 2 |
| 2 | Login | Guest, Admin | 11/06/2017 | 13/06/2017 | 2 |
| 3 | Logout | Customer, Admin | 13/06/2017 | 15/06/2017 | 2 |
| 4 | View Rooms | Guest, Customer, Admin | 15/06/2017 | 17/06/2017 | 2 |
| 5 | View Restaurant | Guest, Customer, Admin | 17/06/2017 | 19/06/2017 | 2 |
| 6 | Search for Room | Guest, Customer, Admin | 19/06/2017 | 23/06/2017 | 4 |
| 7 | Search for Food, Drink | Guest, Customer, Admin | 23/06/2017 | 25/06/2017 | 2 |
| 8 | View gallery of hotel | Guest, Customer | 25/06/2017 | 26/06/2017 | 1 |
| 9 | View introduction of hotel | Guest, Customer | 26/06/2017 | 27/06/2017 | 1 |
| 10 | Filer rooms | Guest, Customer, Admin | 27/06/2017 | 29/06/2017 | 2 |
| 11 | Filer food or drink | Guest, Customer, Admin | 29/06/2017 | 01/07/2017 | 2 |
| 12 | Send contact | Guest, Customer | 01/07/2017 | 04/07/2017 | 3 |
| 13 | Send reservation form | Guest, Customer | 04/07/2017 | 08/07/2017 | 4 |
| 14 | Book room | Customer | 08/07/2017 | 12/07/2017 | 4 |
| 15 | Cancel room | Customer | 12/07/2017 | 15/07/2017 | 3 |
| 16 | View profile | Customer, Admin | 15/07/2017 | 18/07/2017 | 3 |

Finally, the administrator cans login to the website and go to their dashboard to manage the hotel, he cans check his profile, add, update and delete rooms or other services in the restaurant. he cans also receive the request of customers and reply them with several available email templates. Moreover, administrator is able to manage the users, view information and activity of users or ban them if they did something unacceptably. Besides, thank to follow-users feature, administrator is able to see which page customers clicked, how long they stayed in each page, which keyword they used to search, which image they used to click on and view the chart with the statistics of visitor from country.

The below table will clearly show the list of features and the estimated time to finish them:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Feature** | **User** | **Begin** | **Finish** | **Duration** |
| 17 | Edit profile | Customer, Admin | 18/07/2017 | 22/07/2017 | 4 |
| 18 | Change password | Customer, Admin | 22/07/2017 | 26/07/2017 | 4 |
| 19 | View activity | Customer | 26/07/2017 | 28/07/2017 | 2 |
| 20 | Send feedback | Customer | 28/07/2017 | 02/08/2017 | 5 |
| 21 | Dashboard management | Admin | 02/08/2017 | 09/08/2017 | 7 |
| 22 | Receive notification | Admin | 09/08/2017 | 15/08/2017 | 6 |
| 23 | Send message | Admin | 15/08/2017 | 18/08/2017 | 3 |
| 24 | View users | Admin | 18/08/2017 | 22/082017 | 4 |
| 25 | Manage users | Admin | 22/082017 | 25/08/2017 | 3 |
| 26 | Ban users | Admin | 25/08/2017 | 29/08/2017 | 4 |
| 27 | Add new room | Admin | 29/08/2017 | 02/09/2017 | 4 |
| 28 | Delete room | Admin | 01/09/2017 | 05/09/2017 | 4 |
| 29 | Update room | Admin | 04/09/2017 | 07/09/2017 | 3 |
| 30 | Add food or drink | Admin | 06/09/2017 | 08/09/2017 | 2 |
| 31 | Remove food or drink | Admin | 08/09/2017 | 11/09/2017 | 3 |
| 32 | Update food or drink | Admin | 11/09/2017 | 15/09/2017 | 4 |
| 33 | Update profile image | Admin | 15/09/2017 | 16/09/2017 | 1 |
| 34 | Follow users | Admin | 16/09/2017 | 23/09/2017 | 7 |
| 35 | Send feedback & rate hotel | Customer | 23/09/2017 | 30/09/2017 | 7 |
| 36 | Send feedback & rate room | Customer | 30/09/2017 | 07/10/2017 | 7 |
| 37 | View customer activity | Admin | 07/10/2017 | 14/10/2017 | 7 |
| 38 | View statistic of visit times | Admin | 14/10/2017 | 21/10/2017 | 7 |
| 39 | View recommendation room | Guest, Customer | 21/10/2017 | 28/10/2017 | 7 |
| 40 | View related room | Admin | 28/10/2017 | 04/11/2017 | 7 |
| 41 | View top of rooms | Guest, Customer, Admin | 04/11/2017 | 11/11/2017 | 7 |
| 42 | Email template | Admin | 09/11/2017 | 18/11/2017 | 7 |