

Hotel Room Reservation System

Final Report

EECE 351: Computing Networks & Services

Fall 2022-2023

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**I. Introduction:**

Name of hotel: The Chalamabbassy Hotel

Our hotel is located at Mt Fuji, Yamanashi, Japan, which is the most beautiful place in the country. It has 7000 rooms, a humungous pool, and an amazing view that gives an outstanding view of the place.

As workers of the Chalamabbassy Hotel, we are ordered to work on a website to aide and facilitate easy reservations to this hotel. Thus, we are tasked to construct a website that implements a hotel reservation system which:

1- Allows our hotel guests to create accounts via a neat front end interface and helps them navigate through it till they yield a successful reservation.

2- Record their information in a trustable database in an orderly manner.

3- Verify room availability by implementing functions that take previously recorded data (currently reserved rooms) as input and returns a table of “room availability” as output.

**II. Brief Overview of the Code’s Structure:**

Framework & Languages: We decided to use Flask since it covers all the needed requirements to build the project. It has a built-in database and is a solid tool for web development.

Main.py has the code for running our website server via the function: create\_app().

The structure of our code is segmented in to 3 parts in the folder “website”:

***Front-end***: The front end of our website is implemented in the corresponding files:

{

Templates folder: which consists of HTML files that implement the design of our website and everything the user can see in a clear and simple manner.

We have the:

base.html: implements and declares the fundamental design of our website which all other HTML files inherit.

All other HTML files such as (“rooms.html”,” signUp.html”,” user.html” …) extend base.html (implement/initialize any declared function/blocks) and add further necessary code appropriate to the target site.

}

{

views.py: define the routes {/, /rooms, /about} which render and return the corresponding defined HTML files in the templates folder, when the user navigates through them.

auth.py: define the routes {/sign-up, /login, /user, /profile, /logout} which render and return the corresponding defined HTML files in the templates folder, when the user navigates through them. (Mainly this file contains all routes related to the user)

}

{

\_\_init\_\_.py: registers all routes to the web application at the instance it gets created and returned to main.py.

}

***Back-end:***

***Database:***

**III. Database Design:**

## Username: contains all the usernames with their profile information

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Id | First Name | Family Name | Email | Age | Password | Phone Number | Address |
| 1 | Yasmeen | Lamaa | Yasmine@hotmail.com | 19 | H@kh! | 03333333 | Rouche Australia Street |
| 2 | Nader | Masri | nader@hotmail.com | 20 | 09ten$ | 03111111 | Brazil, hmm Street |
| 3 | Reem | Jaber | reem@hotmail.com | 21 | Pok688 | 03111112 | Msaytbeh, BBS Street |
| 4 | Ayman | Sharaf | ayman@hotmail.com | 18 | Dr@yman12 | 03111113 | Rouche Australia Street |
| 5 | Khaled | Charaf | khaled@hotmail.com | 25 | MU6ix! | 03111114 | Rouche Australia Street |
| 6 | Mariam | Abbas | mariam@hotmail.com | 21 | n@m87@$ | 03111115 | Abu Dabi, cinching Street |

History of Users Reservations: contains all the user’s reservations; it acts as a history for the hotel.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Username id | Username Name | Reserve Room id | Reserve Room Number | Reserve Room Type | Start Date | End Date |
| 1 | Yas | 2 | 422 | Queen Suite | January 12, 2023 | January 22,2023 |
| 5 | Khaldoun | 3 | 105 | Royal Suite | December 2,2022 | December 12,2022 |
| 3 | Reemo | 7 | 12 | Royal Suite | December 17,2022 | January 12, 2023 |

1. Room Availability & Options:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Room Id | Room Number | Room Type | Capacity | Price ($) | Sea View | Pool View | Request Extra Bed | Breakfast Included | Total Price |
| 1 | 422 | Royal Suite | 3 | 1,200 | Yes | No | Yes | Yes | 1,250 |
| 2 | 105 | Queen Suite | 4 | 800 | No | Yes | Yes | No | 900 |
| 3 | 200 | Family Suite | 6 | 1,300 | Yes | No | Yes | Yes | 2,500 |
| 4 | 12 | Queen Suite | 4 | 800 | Yes | No | No | Yes | 800 |

1. History Table of Each User’s Reservations: the below table represents the reservations of one user only. Each user has this table in order to navigate through his/her old reservations.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Room Type | Room Number | Start Date | End Date | Review | Amount Spent | Sea View | Pool View | Request for Extra Bed | Breakfast included |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

**IV. Features of the Code and Decisions Taken:**

**Set up Your Profile feature:**

In order to distinguish between our guests, we have to record for each one of them a unique ID, and that is an email. Thus, we created the Sign-Up page which pops up once the user clicks on the “sign up” button.

The user has to input his email and a strong password (to ensure the safety of his account).

In Addition, the user has to enter his age, phone number, and home address while creating his profile. If he’s underage or entered an invalid phone number, he won’t be able to create his profile.

After submitting his information, we check our database to ensure that no account has been created using this email.

If all conditions are met, the user has successfully created a chalambassy account, otherwise he’ll be addressed according to the condition he violates. For example: “The password you entered is less than 7 characters”.

**Log-in feature:**

If a user signs out of his account, he’ll eventually need to log back in later. Thus, we created the Log-in page which pops up once the user clicks on the “Log-in” button.

The user has to input his username and password.

After submitting his information, we search our database to check if the corresponding username and password are found/correct.

If so, the user has successfully logged in, otherwise he’ll be addressed accordingly.

**Forget Password feature:**

If a user has forgotten his password, it would be troublesome to have him contact the hotel every time. Thus, we created the Sign-Up page which pops up once the user clicks on the “Forget Password” button.

The user has to input his email, and then he’ll receive an email containing a verification code in at most 15 seconds.

The site will prompt the user to insert the received verification code.

If the code is correct, we admit him to change his password, otherwise he’ll be prompted to request for another email.

(Assuming he gets admitted)

After submitting his information, we update the password associated to his username to the new inserted password.

**Types of rooms feature:**

In Chalambassy hotel, we have a variety of rooms with different prices. In order to allow our guest to have a look at this variety, we route the guest to a site which allows him to select the type of room he’s interested in, after pressing the button “book now”.

**Select room features feature:**

After selecting the room, he desires, we show the user a list of additional features that he can add to his room (Sea view, Pool view, Breakfast …). After selecting his features and the date of his reservation (From …, to …), the user will be prompted to press the “check availability” button, which searches our data base to check if any rooms are available at that time.

**Reserve feature:**

Assuming that the check availability function returns True, the user will be routed to the “Reserve Room” site, which kindly asks him to input his billing information, so that the room is booked.

Additionally, a total price tag will appear at the top of the page.

If all conditions are met, and the billing information is valid, a confirmation email will be sent to confirm his booking.

If he confirms, the reserved room is added to the table of reserved rooms associated to the user’s ID in the database.

The user will then be redirected to the room space to book more rooms if needed.

Note: The price tag is calculated by accumulating the prices of the selected room, duration of reservation, and the additional features added to the room.

**Facilities feature:**

­­The Chalambassy hotel is known for its beautiful, and relaxing chacha spa and many other facilities. In order to absorb our guests and increase our chances of having them in our hotel, we created a facilities site which appears upon pressing on the “Facilities” button, at the top corner of the page.

This site presents images of the amazing facilities our hotel provides with an “out of shekel” description that describes them. ;)

**About me feature:**

In case our beloved guests had any queries about anything related to the hotel, we created a site that presents all our contact information, in addition to some photos that our guest can swipe through to have an idea of our hotel.

**Google Location feature:**

In case our guests were interested about our location, we’ve provided a button on the top right corner of the page that opens our location on google maps when pressed on.

**V. Group Members’ Contribution and Conclusion**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Workers** | Front-end | Back-end | Database |  |  |  |  |
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| Mariam Abbass |  |  |  |  |  |  |  |
| Mohamad Khaled Charaf |  |  |  |  |  |  |  |
| Mohamad Ayman Charaf |  |  |  |  |  |  |  |

Conclusion:

Problems we faced:

1- Learning about web development and how to implement a project using a framework from scratch.

2- Creating a database and linking it to our project.