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CS 353 Project Proposal

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1. Project Description

In our project we aim to create an online accommodation system similar to that of AirBnB which we will call CnS (Crash and Sleep). The system that we propose will bring together travellers who want to rent a room or a house and the hosts who want to rent their houses or rooms. The system will do this by storing information about users, houses, rooms, offerings and user reviews.

Hosts will be able to make offerings to rent their houses or rooms, review the guests that they have accommodated, accept/refuse guests based on their ranking, withdraw their offers. Likewise, guests will be able to search for houses or rooms, according to the city and the dates between which they will be staying. Guests can also use certain filters that specify the room or house's quality such as number of beds, number of wardrobes, whether it has a private bathroom or not, whether there is a kitchen or not, availability of TV, Wifi, ethernet internet connection, dryer, iron, hangers, washers, free parking. The guests will also be able to see the rank of the host, and make their choice accordingly. After staying in a place, they will be able to review the room or the house alongside the host.

1.1. Requiring a Database System

This project aims to provide a fast way of connection between hosts and guests. Since large amount of data about users, offerings and rented accommodations have to be stored and maintained, a database system fits the project's purpose well. Moreover, as the project utilizes user input such as offerings, this data needs to be easily changeable. By the help of a database system, storing and maintaining information will be handled quickly and easily, and the changes that need to be done to the system will be handled efficiently.

2. Requirements

2.1. Functional Requirements

There are two main types of actors, or users, that will use the proposed system. CnS will allow the users to be both hosts and guests. For a specific case, users can be either hosts or guests depending on their choices. They will each be able to do the following functionalities.

2.1.1. Hosts

- Hosts should be able to make an offering that specifies the qualities of the place they are willing to rent.
- Hosts should be able to add/remove offerings.
- Hosts should be able to change the qualities of the place they are offering.
- Hosts should be able to accept/decline the guests that want to make a reservation.
- Hosts should be able to view the ranks of the guests and view the reviews about them.
- Hosts should be able to rank the guests that they accommodated.

2.1.2. Guests

- Guests should be able to search for accommodation through the offerings made by the hosts, specifying the date and the cities.
- Guests should be able to use certain filters during their search, such as the type of the accommodation, e.g. a room or a house, wifi, ethernet connection, TV, availability of a kitchen, availability of items like dryer, iron, hangers, washer, and free parking.
- Guests should be able to view the rank of a certain host.
- Guests should be able to view the reviews of a certain place.
- Guests should be able to view the status of their reservations (rejection or approval).
- Guests should be able to make reservations.
- Guests should be able to rank and review their accommodation, with the review consisting of a rating, an optional description, optional pros and cons fields, and a “Would you Recommend this offering to a Friend” question.

2.1.3. System Requirements

- System should be able to sync the booked rooms/houses and exclude them from the search results.
- System should be able to compare current date with the end of reservation dates to check if guests can rank their accommodation.
- System should update the ranks of the user after each review, by taking the average.

2.2. Nonfunctional Requirements

2.2.1. User Friendly Interface

The proposed system should be user-friendly and easy to use. The users should be able to search for a place easily, with as minimum buttons and complications as possible. The interface should be simplistic, without clusters, and functional.

2.2.2. Easy Maintenance

The database systems that all the necessary information are to be kept in should be easy to maintain.

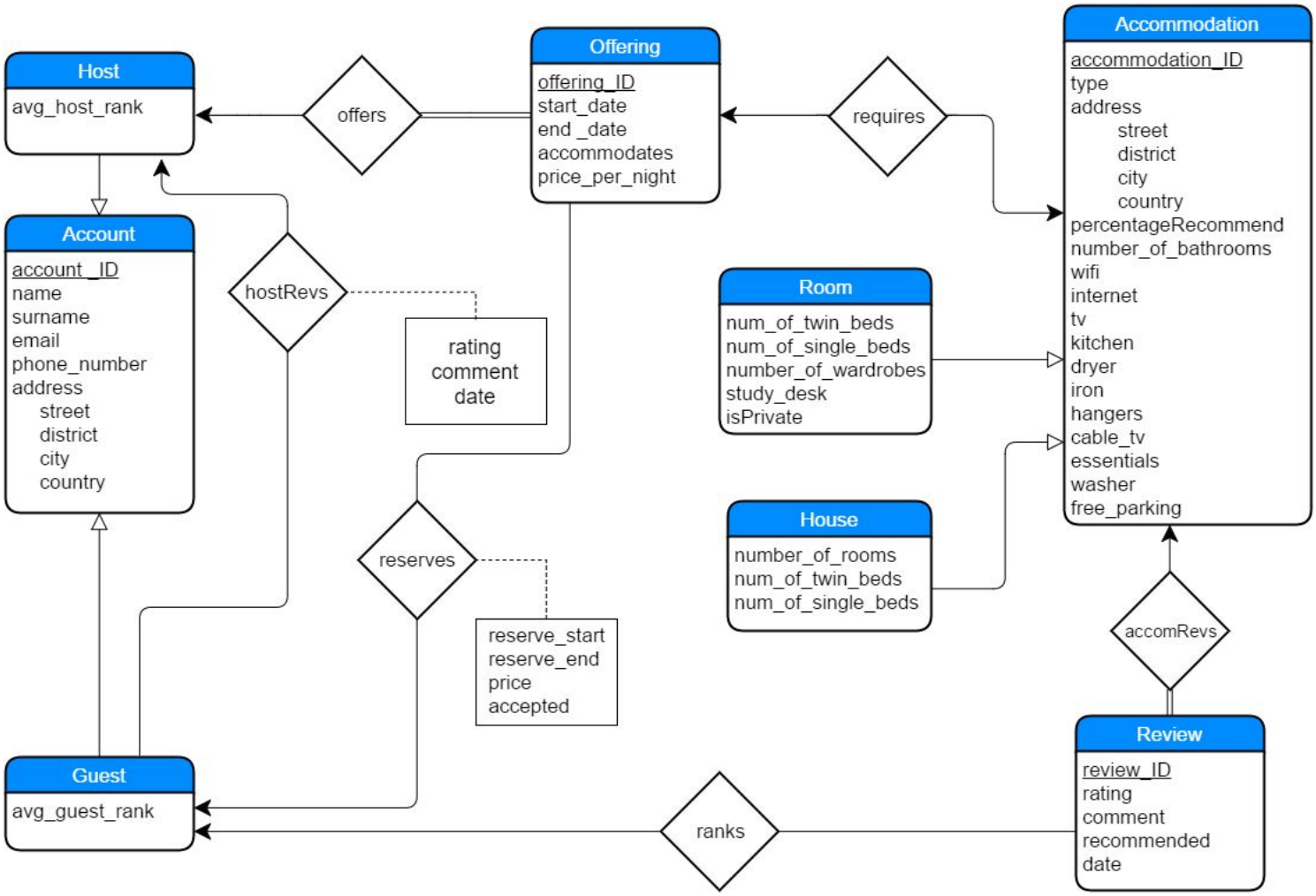
2.2.3. Quick Response Time

Since the proposed system operates on the interactions of the users, there will be a lot of changes in short time periods, and the databases should update accordingly so as not to interfere with the searching experiences of the other users. Furthermore, since there will be a big amount of data that is utilized in the webpage, the waiting times should be kept to a minimum, in order to prevent long response time while searching or adding offerings.

3. Limitations

- Guests cannot rank and review their accommodations until the end of their reservation.
- An offering can be added only after specifying the room/house to be rented.
- After a guest rents or reserves a room/house, it will not be shown in the available accommodations unless it is rejected by the host. This means that only one user can rent or reserve a single room/house.
- If the host offers their house, not rooms, only the entire house can be rented. The individual rooms are not up for rent.
- The host cannot remove the offering which has been rented already.
- An accommodation can be deleted only if there are no current guests staying there.

4. Entity Relationship Diagram



5. Webpage

https://github.com/AbdullahWali/CS-353-Project

6. Conclusion

Crash and Sleep is a web-based system that allows users to efficiently find or offer accommodations around the world. The system stores plentiful data on the listed offerings to help guests find their desired accommodation using various filters. CnS takes user opinion seriously and uses a rating system to highlight trustworthy users, thus improving its own dependability.

In this report, we first described our online accommodation system and analyzed the reasons it requires a database system. Secondly, we defined the functional and nonfunctional requirements of the system to illustrate what the system should do and how the system should perform. Finally, we decided on the limitations of the system and constructed an Entity Relationship Diagram to showcase our database design.