Online Accommodation and Food Application

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Abstract - This is an android application consultation service. Here we propose a system that helps migrants and travelers find the ideal place to stay during their trip. This app utilizes advanced technologies such as artificial and machine learning to provide personalized recommendations based on the user's preferences, budget, and location. The app offers a range of features, including user reviews, photos, and detailed information about each property. It also allows users to filter their search based on specific amenities, such as free Wi-Fi, pet-friendly options, and breakfast included. By providing accurate and relevant suggestions, this app can help travelers save time and make informed decisions about their accommodation and eatery. However, it's important to note that no app can replace the importance of conducting one's own research and due diligence when selecting accommodation for a trip. This project examines the aspects of the hospitality industry.

Key Words: Hospitality, Accommodation, Eatery, Migrant.

1.INTRODUCTION

Mobile devices are more present in our everyday lives than ever before and as such have also become an important factor in modern travel behavior. This paper argues that in particular the on-site travel experience is influenced by smartphones at large. The aim of this study is to identify how users can benefit from an enhanced on the go travel experience and how companies can explore yet widely untapped opportunities by examining current travel patterns of international travelers and challenging industry experts with the findings. As such, the results reveal that travelers are increasingly shifting travel-related activities that were usually conducted before or after the trip towards the experience stage, happening during the trip. The behavioral change of travelers being empowered to acquire information on the spot due to increased connectivity implies huge potential for a greater travel experience and new business models alike.

This app is for migrants and travelers is a mobile application designed to help migrants find suitable and affordable accommodation and food when they arrive in a new location. The app would provide a platform for property owners and landlords to advertise available properties for rent or lease, while also providing a range of tools and features to help migrants search, filter, and compare properties based on their preferences and requirements. It will help users to achieve quality lifestyle and solve day-to-day survival issues with help of our service-providers. The user can create a profile and specify their budget, preferred location, and other requirements. The app would then use this information to suggest a list of properties and restaurants that match their preferences, along with details such as rental costs, availability, and contact details for property owner or landlord or hotel.

2. PROPOSED SYSTEM

This application will fulfill users each and every need which will he or she will require after migrating to a new place. This application will target students and working people who are moving out to a new place for their education or work. These kinds of people need good service at lower cost. They will find a place where they can live peacefully. This system will help you in finding an accommodation in the main city around every possible facility is available. Other features of app could include the ability to view photos and virtual tours of properties, read reviews from previous tenants, and make sure secure online payments for rent and deposits.

Recommendation Algorithm: The application could use a recommendation algorithm to suggest suitable accommodations based on the user's preferences and budget. This algorithm could consider factors such as location, price, facilities, and previous tenant reviews.

Search Algorithm: The application could use a search algorithm to allow users to search for accommodations based on their location, price range, and other facilities. The search algorithm could use a variety of filters to narrow down the results and provide the most relevant options to the user.

Payment Processing Algorithm: The application could use a payment processing algorithm to securely process online rent and deposit payments. This algorithm could use encryption and other security measures to protect the user's financial information and other credentials.

Data Storage and Retrieval Algorithm: The application could use a data storage and retrieval algorithm to securely store and retrieve user's information, such as login credentials, profile information. This algorithm could use techniques such as encryption and access control to protect user data from unauthorized access.

Collaborative filtering algorithm - Collaborative filtering (CF) is a recommendation algorithm that uses the past behavior of users and items to recommend items that a user may like. There are two main types of collaborative filtering: user-based and item-based.

In user-based CF, recommendations are made based on the similarities between users. If two users have similar preferences for items, the algorithm will recommend items that one user has liked to the other user.

In item-based CF, recommendations are made based on the similarities between items. If two items are frequently liked by the same users, the algorithm will recommend one item to a user who has liked the other item.

Both types of CF rely on a matrix of user-item interactions, where each row represents a user and each column represents an item. The cells in the matrix represent the ratings or preferences that users have expressed for items.

Content-based filtering algorithm - Content-based filtering (CBF) is a recommendation algorithm that uses the characteristics or features of items to recommend similar items to a user. CBF relies on the idea that if a user has liked an item in the past, they are likely to be interested in similar items in the future.

K-nearest neighbors algorithm - The k-nearest neighbors (KNN) algorithm is a machine learning algorithm used for classification and regression tasks. It is a type of instance-based learning where the algorithm makes predictions based on the closest k-neighbors in the training data.

Linear regression algorithm - Linear regression is a statistical method used to establish a relationship between a dependent variable and one or more independent variables. The goal of linear regression is to find the best-fit line that can explain the relationship between the dependent variable and the independent variable(s).

Decision tree algorithm - The decision tree algorithm is a machine learning algorithm used for classification and regression tasks. It creates a tree-like model of decisions and their possible consequences, based on the input data.

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Payment gateway algorithm - A payment gateway algorithm is a software component of a payment gateway that manages and processes payment transactions securely between customers and merchants.
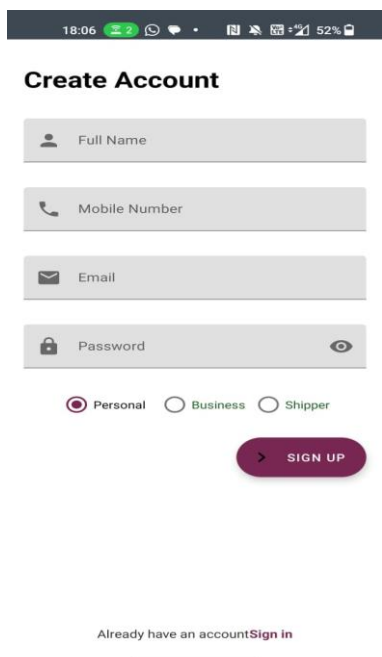
Hashing algorithm - A hashing algorithm is a mathematical function that converts data of arbitrary size into a fixed-size string of characters, known as a hash value or digest. The hash value represents the original data in a condensed and unique form.
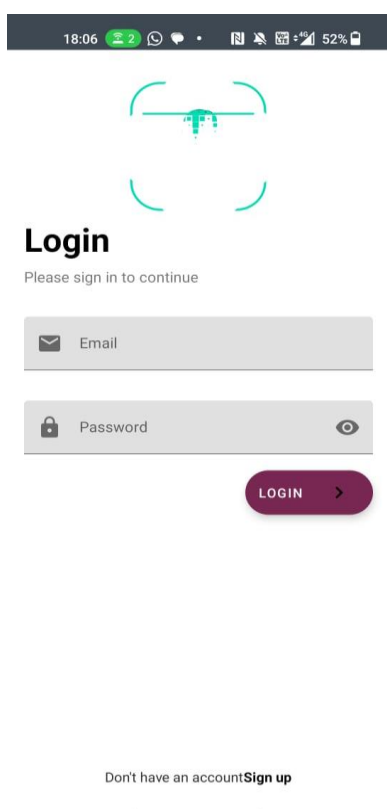
2.1 How to Access the Application?

1. Firstly, you will see a login interface. If you are a new user then you will have to create an account and if not then you can directly login by using you ID and password.
2. You can create your account by using an E-mail or a phone number. You will have to fill some basic information such as full name, mobile number, e-mail address and will have to create a password.
3. Then user have to select his/her location. After signing in you can manage your profile, can see history, share this application to their friends, and you will see a sign out option.
4. The login credentials of an user and basic details such as username, password, mobile number, e-mail number, and current location will be saved in our database securely.

3. MODULES

1. Login Module: Login module is divided in two different pages which are:
   a. Sign Up or Create an Account: This page is for new users who will create a new account by filling some information such as name, mobile number or e-mail address and by creating a password.

b. Sign In: This page is for an existing user which will allow users to redirect themselves to main page by just entering their login credentials.

2. Accommodation: When you move to a different city it is very difficult to find a safe and affordable place to live. In this module user have to choose the location in which **city** he/she is searching for a stay. Then the application will show some options to the user**.** There

they will have different options available like 1BHK, 2BHK, 3BHK of homes, if the user is a student then we will provide them some options like a dormitory or paying guests kind of homes where they can share the rent with the people living there or their friends as per their preferences. This app will show them all the facilities whichever these properties are providing like wifi, water-filter, wardrobes, etc. We are trying to provide an environment which is suitable for work as well as for studies.

3. Food: People who stay away from their home miss the taste of home-made food. They face a lot of struggle while finding their meal. It is not possible to eat fast-food daily. It will affect their health, they are unable to find healthy, hygienic and good-quality food at minimal rates. We are going to provide the service form the people who are willing to give them home-made, healthy food at a very minimal cost. If the user wants, we have an option to deliver the food at the user's door-step, so that they can have food at the comfort of their place. We have specific options of the different menu according to users taste and requirements, it is totally customizable, all the instructions of the user are going to be followed by service providers. If the user want to come they can come and take the food with them, if they wish they can have food in the mess sitting itself. We have different combinations of service packages available. If a user wishes to take three times a meal from the service provider we will give them different discount coupons according to the package selected. Users can take advantage of the coupons available.

4. PROS

1. Convenience: This app will provide a convenient way to search and book accommodations from anywhere at any time. This means you can book your accommodation at your convenience, without having to physically visit multiple locations or call different place.
2. Cost-effective: You can easily compare prices with other stays it will allow you   to find you a best deal for your desired accommodation. You can also filter your search by price range to find accommodation options fit your budget. I will save your money.
3. Wide selection: This app will offer you a wide range to of selection of accommodations types, including hotels, hostels, vacation rentals, and apartments. This means you can easily find the type of accommodation that suits your needs.
4. Reviews and ratings: This app will provide reviews from previous tenants, giving you an idea of a quality

of the accommodation and the level of the service provided.

Overall, this app can save your time and money, provide you with a wide selection of accommodation options, and help you make informed decisions about where you stay.

5. FUTURE SCOPE

The future scope for this app is vast, as the demand for travel accommodation and food continues to grow. Here are some potential areas for future development and growth:

1. Personalization: As technology advances, this app could use machine learning an AI to provide more personalised recommendations to user's travel habits and preferences and suggest accommodations that match their preferences.

2. Virtual Reality: This app could use virtual reality technology to provide users with a more immersive experience when searching for accommodations. Users could virtually tour the accommodations and get a better sense of what it would be like to stay there.

3. Integration with other services: This app could integrate with other travel-related services, such as flight booking and car rental services. This would allow users to book their entire trip in one place, making the travel planning process more seamless.

4. Sustainability: As sustainability becomes increasingly important to travelers, this app could prioritize sustainable accommodation options and provide users with information about the environmental impact of different accommodations.

5. Expansion to new market: This app could expand to new markets and offer accommodations in a wider range of locations, including emerging tourist destinations.

Overall, the future scope for this app is promising, with opportunities for innovation and growth in a variety of areas.

6. CONCLUSIONS

This app can be a valuable tool for migrants and travelers looking for the perfect place to stay and eat during their trip. By leveraging advanced technologies such as artificial intelligence and machine learning, such an app can provide personalized recommendations based on the user's preferences, budget and location.

Some key features that an app could include are user reviews, photos, and detailed information about each property. It could also offer filters for specific amenities, such as free Wi-Fi, pet-friendly-options, and breakfast included.

Ultimately this app can help travelers and migrants save time and make informed decisions about where to stay and eat, enhancing overall travel experience. However, it's important to note that no app can replace the importance of conducting your own research and due diligence when selecting accommodation for your trip.

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