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Restaurant Table Reservation System

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Abstract: ***In India with a population of 1.39 billion, the diners have also increased in the recent years. For a restaurant which has limited tables, it's difficult to manage the sizable amount of people and this covid-19 pandemic situation. In every popular restaurant people need to await a minimum of for 10-20 minutes, which increases the frustration or crowd among the diners. To manage the rush and eliminate the matter of waiting time, social-distancing, we've designed and proposed an application for the customer to pre-book the table at specific time.***

To satisfy and enhance the experience of the customer we've predict time using intelligent algorithm for managing table for customers.

It not only help the customer but also help the restaurant to manage and serves customer easily. The system also will notify the customer if tables are reserved/free or delay by the restaurant, it'll help the customer to re-schedule their reservation. Client can see the history and also like wise delete, share and replica data. the only objective of the proposed system is to to avoid physical walking to the hotel or eliminate the wait time of the customer.

Index Terms: Restaurant Reservation, Mobile Application, GPS, Time-Series Prediction, Intelligent Algorithm.

I. INTRODUCTION

Long wait time for tables can turn the customers away or can create revulsion towards the restaurant, many of people even argue that the restaurant make them wait unnecessarily [3]. "DINEAZY" give a proper solution to the problem by allowing them to pre-book the table online.

While it is appropriate to give customer a chance to look at the menu and decide their order, but it is not ideal if they feel like they are being ignored when the staff is too busy to attend them [3]. This creates a dislike towards the restaurant. Our proposed application will reduce the load of the staff to attend them by taking order online [4] at the time of booking. A reservation is a promise between the diner and the restaurant.

Sometime customer show up late for their table and the restaurant cancel their reservation, the customer have to wait for another table to available even after they have reserved. "DINEAZY" will inform the restaurant if there is a change or delay in the reservation from the customer side.

II. BASIC CONCEPT

Dineazy have many features that make it useful and timesaving too.

The features are described below:-

1) Our proposed system will help both the customer and the restaurant by allowing the customer to pre-book the table online. It will help the customer to have a comfortable and a pleasant experience. To pre-book the table customer have to login via application and have to select the restaurant. If a table is available at desire time of customer [7], the table will be booked at the restaurant side. If a table is unavailable at the desired time of the customer, the application will suggest some times at which the customer can book the table.

2) Our proposed application will help the customer to choose the food which they want to eat at the time of booking the table. The customer can also choose to order at restaurant if they haven't decided what to order yet. Allowing some space between ordering and food arrival is acceptable but too much wait time will irritate hungry customer. While the time required to cook food is often unavoidable, this gap can be fixed by ordering the food online.

3) Our proposed application will have the option for customer for change or delay in the reservation through notification. The change or delay in reservation will be proceeded if the table in the restaurant is available.

III. DINEAZY APPLICATION

Dineazy is a mobile application for customer and a website for restaurant. Customer can pre-book the table, preorder the food, Make a change in reservation and etc. Whereas restaurant will receive the detail of the customer, reservation details, ordered food. The Application provides following functionalities to the customer and the restaurant.

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1) For Customer

a) Ability to Search a Restaurant.

b) Food type (Chinese/Italian/Indian) - The customer can specify the type of food [6] they prefer and can search based on their choice.

c) Location - The app uses GPS to locate the customer's location and recommend restaurants near to them [5].

d) Approximate cost per person- The customer can specify the amount they want to spend, based on their amount our application will suggest some restaurants.

2) Reserving preferred table or a group of table depending on the number of people.

a) The customer can book the table depend on their choice. e.g: A.C. / No A.C. / Preferred Table

b) The customer can request to set multiple tables into a single table for a large of people. (i.e Family dinner, birthday party and etc)

3) Ability to pre-order food online at time of booking table.

a) The customers have a choice to order food online or they can order when they are present in the restaurant [8] [9] [10].

b) The customer can pre-order their food at time of reserving the table.

c) When the customer arrive the restaurant the food will be prepared for them.

4) The customer can specify when a particular dish should arrive after they reach the restaurant.

a) The Customers have a flexibility to specify which dish should be served first and which dish should later.

5) Ability to make online payment

a) The Customers have ability to pay online or pay at the restaurant.

b) The Customer can make payment online after pre-ordering the food.

c) The Customer can select different payment option depending on their choice. (i.e, credit card, debit card and etc.)

6) Option to cancel the reservation.

a) The Customers have the ability to cancel the reservation.

b) The Customer will get full refund if they have paid online except the booking amount which was charged for pre booking the table.

A. Features For Restaurant Owners Are

1) Setting different prices for different tables

a) The Restaurant can set different prices for the food, for different type of table. (i.e. Premium / Basic)

b) They can also set different prices for the food, for different type of section.(i.e. A.C. / Non. A.C.)

2) Ability to add the menu

a) The Restaurant have the ability to add and modify their menu. Menu consist of dish name, description, ingredients and nutrients present in the food [6].

b) The Restaurant can mark the dish in the menu as unavailable if raw materials required to make the dish is unavailable.

3) Give loyalty bonus to customers based on their history

a) The Restaurant would also get to know customer visits and amount of money spent on their own restaurant.

b) Based on their visit restaurant can avail discount or can serve some complimentary drinks / beverages.

4) Ability to select and change the number of tables available for online reservation

a) The Restaurant can set number of table they want for reservation

b) The Restaurant have ability to increase or decrease number of table for reservation.

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5) Ability to set timings as of when a particular table will be available to book
a) The Restaurant can specify the time from which they want to start taking the reservation [7].
b) They can also specify the time at which they want to stop taking the reservation.
6) Ability to cancel reservations due to some reasons
a) The Restaurant has the ability to cancel the reservation of the customer in some circumstances or in some emergency.
b) The Restaurant has to specify the reason behind the cancellation.
c) The Customer will be informed about the cancellation of their reservation and the reason behind the cancellation.

IV. CONCLUSION

This Paper introduces a replacement system for restaurant also as users to conveniently reserve table at preferable time over the cloud. Restaurant are going to be benefited by having proper time management. Moreover, customers could pre-order the food, which would save time for restaurant as they might have food prepared and customers wouldn't need to wait at restaurant to select the food to order, which successively allows the restaurant to accommodate more customers throughout the day

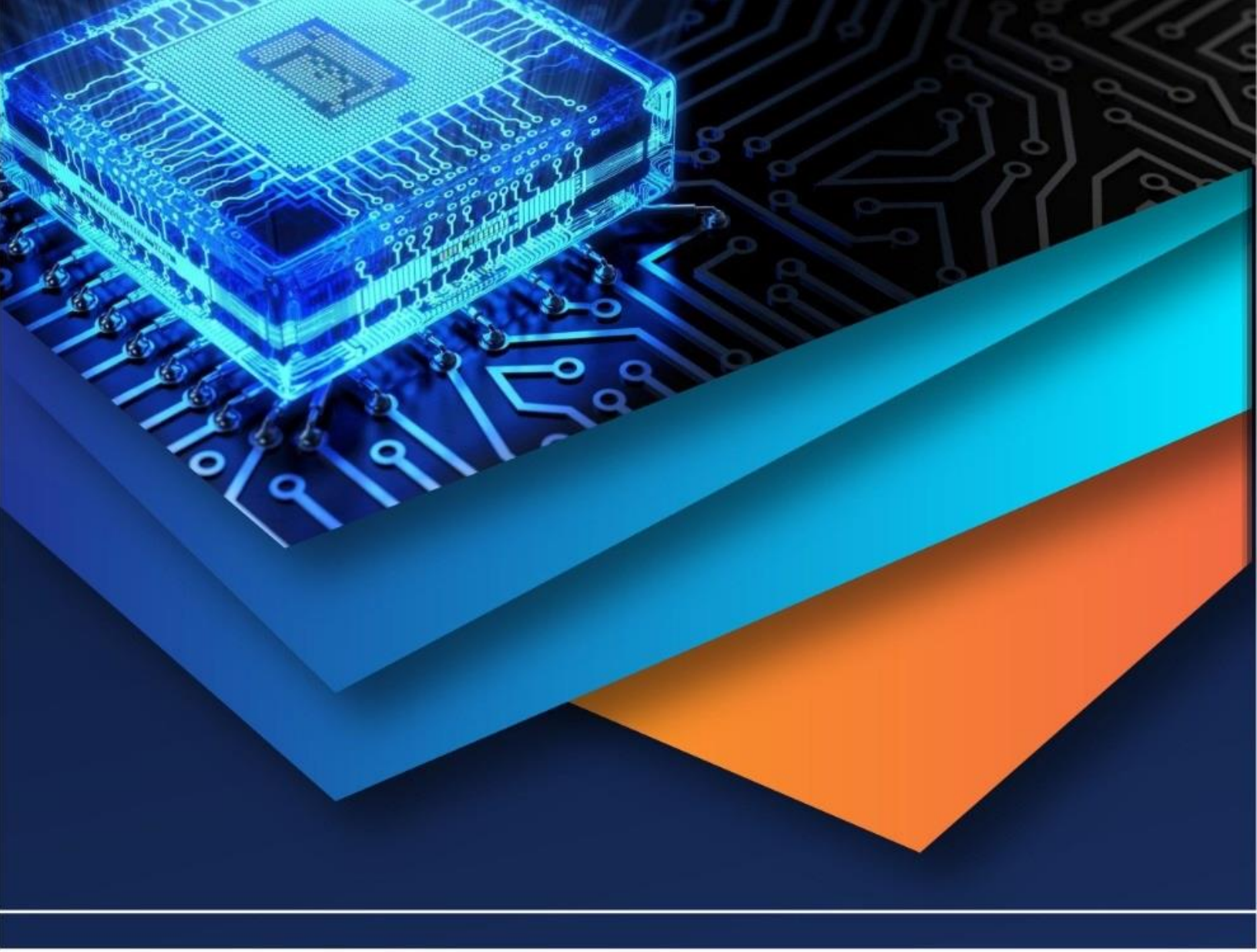
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