

# RESTAURANT MANAGEMENT SYSTEM

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## ABSTRACT:

The Restaurant Management system is a project which shows the all-in-one application about the challenges faced by top-rated restaurants. This application reduces the work-load of waiter by providing all the services in single application. The application is very user-friendly to all the customers. One will not feel any difficulty while using the application. The customers play a vital-role in this application.

Keywords: Management, Application, Vital, User-friendly.

## INTRODUCTION:

Restaurant management system is a computerised database system program which shows all the information about the Menu, Contact details of main members of the restaurant crew, Images of the Restaurant, Reservation table information. The system is implemented to reduce the manual work and enhances the accuracy of work in a restaurant. This system entirely reduces the unnecessary time [1].

The management will always update the application daily as per availability in restaurant for the customer satisfaction. The Customers need not to wait near the restaurant, they can directly book a reservation table in the restaurant The Restaurant Management System helps the restaurant manager to manage the restaurant more effectively and efficiently by computerizing meal ordering, billing and inventory control [5].

.During reservation of the table they can select as per their choice like if the customer want to reserve for duo, squad or family type. The main feature in this application will be CHATBOX. Chat-box will be used to order the food by providing the customer reservation table number and it is also useful for solving any issues if customer have any problem. Chat-box play important role in this application. The customers need not to wait for the waiter to come near the table they can just order the food during reservation also. And also if they want to add anything in the order after reservation they can just send a message the food item name in the chat-box with reservation number. An adequate suitable methodology would ensure a very detailed research work and ensure that a higher degree of accuracy and efficiency is adopted [3]. With this new application customers can easily book for the table reservation the customers would be able to order their food in their comfort zone.

This application is very time-saving for both restaurant management and customers. All the items will be displayed in the application so that the customers can choose from the application. Customers can also give instructions if they want to add anything in the ordered food items.

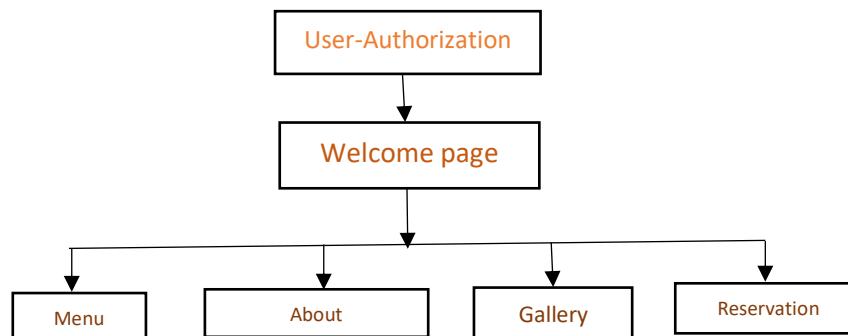


Fig: process of accessing website.

## LITERATURE SURVEY:

Restaurant management system is a website where customers can easily coordinate with Restaurant management. Customers can save their precious time without going to restaurant for a prior appointment. This website is very user-friendly website. The customers need not to waste their time waiting for the confirmation of the reservation.

In this website customers can make Reservation. The customers can add their interested food items in the instructions interface.

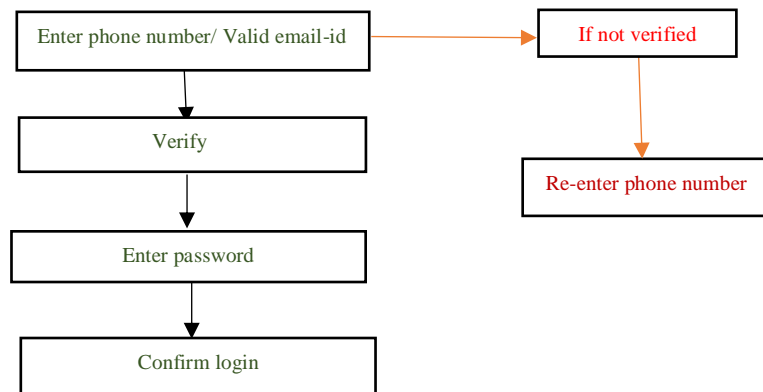
The customers can choose whether they want to pay the bill by cash or any other debit/credit card. This website can generate bills/invoice. The management will change the items daily as per the Demand going on daily.

Nowadays in the restaurant, technology has caused changes in the restaurant management, technology innovators are constantly finding solutions to make restaurant making it easier and more profitable, these changes in technology have led to exciting innovations in the industry and I can say that revolutionized the restaurant industry in general.

Here is some technology in restaurant that has caused changes in the restaurant management.

## METHODOLOGY / PROPOSAL:

Here, in this application we will first have to login into the page with username or email (optional choice for customers) then after logging in it will go to the main page of application there will be the dropdown menu for food items, reservation, contacts, images of previous events or parties done in the restaurant, and chat-box. Customers need to reserve the table prior without wasting their time to wait near the restaurant. They can order through the chat-box if they want to add anything in the food and can also give instructions with reservation table. If customers want to complete their payment in secure ways they can just send a message in chat-box that is STOP. The chat-box will automatically stops receiving orders with provided reservation table number. The chat-box will generate the bill and customers can easily do their payments in a secure way. A research methodology is a systematic programming approach of well-defined procedure that should be followed in carrying out a thorough research project.



Flowchart: Verification of phone number/ User authentication

First the customer had to login to the website and after logging in it will send OTP to keep the record of data. After logging the customer can see main page with various kind of titles like Menu, Contacts, Gallery, and Reservation.

Under menu we will have the food items list and its images, under contacts we will have the details of main management head details, under gallery we will have the images of the restaurant and the previous event images conducted in the restaurant and under reservation.

we have 3 categories that is reservation for duo, squad and family. Customer can also choose whether they want to dine in inside the restaurant or on the rooftop area.

We have used HASH algorithm in this project. From hash algorithm I have used SHA384.

SHA-384 belongs to the SHA-2 family of cryptographic hashes. **SHA-2 (Secure Hash Algorithm 2)** is a set of [cryptographic hash functions](#) designed by the United States [National Security Agency](#) (NSA) and first published in 2001. SHA-384 is identical to SHA-512, except that the initial hash values `h0` through `h7` are different (taken from the 9th through 16th primes), and the output is constructed by omitting `h6` and `h7`.

SHA3 84 initial hash value (bigEndian):

`h [0..7]: = 0xcbbb9d5dc1059ed8, 0x629a292a367cd507, 0x9159015a3070dd17, 0x152fecd8f70e5939, 0x67332667ffc00b31, 0x8eb44a8768581511`

It produces the 384 bit digest of a message. SHA-384 is roughly 50% faster than SHA-224 and SHA-256 on 64-bit machines, even if its digest is longer. Hashing algorithms can be used to authenticate data.

## IMPLEMENTATION:

The computerized restaurant management system is designed to handle the updates as per daily availability of food items.

The main technologies used in this project are HTML, MACHINE LEARNING and JAVASCRIPT.

Hypertext Markup Language(html) is the standard language for creating webpages and applications with Cascading style sheets. Web-browsers receive html documents from a web server or from local storage and render the documents into multimedia web page. html provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, link, and many other. Using html language we can create out website attractive so that it will look good for customers when assessing.

- Html tags like `<img/>` and `<input/>` directly introduce content into the page.
- The `<span>` HTML element is a generic inline container for phrasing content, which does not inherently represent anything.
- `<p>` is used to provide the information about document text that may include other tags as sub-elements.
- `<label>` tag in HTML is used to provide a usability improvement for mouse users.
- The `uname()` function shall store information identifying the current system in the structure pointed to by name.
- The `pass` statement is used as a placeholder for future code.
- `log()` method in HTML is used for writing a message in the console.
- Containers is used to add left and right padding.
- In reservation form we have used `button primary` as it gives the extra visual weight and it also identifies the primary actions.
- UTF-8 is the default character used in this project.
- We have also used `wrapper` as it holds unusual elements and content of page.
- `Span` is used to markup the text.
- `Section` is used to assign one or more Class-names.
- ARIA is accessible rich internet applications.

We use machine learning in the review part. When using machine learning in review place the software which we instructed will automatically gets changed on daily basis as per the reservations received and it also shows about the crowd present in-side the restaurant. Using machine learning in this website can handle multi-dimensional and multi-variety data. machine Learning algorithms excel at dealing with multi-dimensional and multi-variety data, and they can do so in dynamic or uncertain situations. it allows machines to make predictions and improve algorithms on their own because it gives them the ability to learn. Machine Learning can analyse enormous amounts of data and identify specific trends and patterns that people might miss. As a result of machine learning, we can improve our ability to investigate and coordinate data. Machine Learning algorithms are capable of learning from the data we provide.

During reservation or ordering some thing the customers can easily order their food items using Chat-box. Chat-box will be created using the machine learning technology. For creating the Chat-box we have used MULTINOMIAL NAÏVE BAYES algorithm. chatbots appear more human-like in their abilities. Because they use machine learning to develop their language skills, they are capable of remembering the things people say to them and recalling the information for future interactions. You don't have to wait for the waiter to approach the table and you can order while booking. Also, if you want to add something to your order after booking, just send a message with the name of the food in the chat box with your booking number. Proper and proper methodology guarantees a very detailed investigation work and ensures that a higher level of accuracy and

efficiency is adopted [3]. With this new application, customers can easily book table reservations and customers can order food in their comfort zone.

As new data is provided, the model's accuracy and efficiency to make decisions improve with subsequent training. machine learning algorithms to understand customer behaviour and boost customer engagement.

We have used JavaScript in this project JavaScript is commonly used to create web pages. This allows you to add dynamic Behaviour to your web page or add special effects to your web page.

In JavaScript we have libraries like jQuery, Popper, Bootstrap and Cloudflare. jQuery takes many common tasks that require many lines of JavaScript code to execute and wraps them in a method that can be called in one line of code. Popper is used as a library for managing web applications. Poppers js is a positioning engine that aims to calculate the position of an element so that it can be placed near a particular reference element. Cloudflare is an HTTP caching edge network with data centers all over the world, and it allows developers to write and deploy their own JavaScript at the network edge.

## RESULTS:

This system Improves customer relationships. Automatic analysis of order and gets the bill generated. Reduction of error while taking orders. Effective use of human resources. Quick and easy scheduling of reservation. If any changes or errors found in project can be easily rectify using html. Chat-box will be helpful for ordering the food and reduces the future time. The customers need not to wait in queues as their time is precious. Time saving application. Chat-box will be the new technology used in restaurant applications to reduce the efforts of waiters also.

## CONCLUSION / FUTURE SCOPE:

Restaurant management system brings tremendous benefits to everyone. this application helps customers by providing an easy and comfortable food ordering and payment experiences. If facilitates us to deal with the customers and reduces the work effort and less time. Making the application easy for customers to see the types of foods with all kind of images. The database can also be modified easily. The main software used in the design and database is HTML, MACHINE LEARNING, and JAVASCRIPT. The fast-growing use of internet confirms the good future and scope of the proposed project.

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