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Cruise Ship Management System

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Abstract: The Cruise Ship Management System (CSMS) is a comprehensive software solution designed to streamline the operational processes of cruise ship management. This system integrates various aspects of cruise ship operations, including booking management. By utilizing a centralized database and user-friendly interfaces, CSMS aims to enhance operational efficiency, improve customer satisfaction, and ensure smooth day-to-day functions aboard the vessel.

IndexTerms – Cruise Ship, Database, Management.

I. INTRODUCTION

Only voyagers can use the cruise ship facilities. When a ship's requirements are ordered through a walkie-talkie or telephone during a voyage, it is referred to as a time voyage. When this device had problem that time voyager have to go and directly buy their requirement sin several department. To overcome this we had developed system that enhanced the voyager can order items through online. Each voyager has unique Id and Password. So, voyager login this system they can order their requirements and acquire their supplies directly. As a result, this method improved the ability of passengers to order things online. Every voyager has a distinct Id and Password. As a result, once a voyager logs in, they can place their orders. This system allows voyagers to place catering and station reorders'. They can also reserve the Beauty Salon, the Fitness Center, and the Party Hall. Voyagers can order catering items and stationary items through this system [1]. And they can book Catering, Beauty Saloon, Fitness Center and Party Hall. Catering items ordered by voyager that includes snacks items, food items, drinks items and so on. A stationary items order means they can order gift items, candy items, and story books and so on. In catering a voyager select type of food from restaurant. There are several types ocean view, balcony view, corridor view and lounge booking. Fitness center booking means they have to select their exercise equipment through this system. And they can also book their gym work timing. I this system Party hall booking facilities are available. Here also type of halls is their voyager have to select their require hall [2]. There are birthday parties, marriage party, engagement party, business party, get-to-gather parties and so on. Head-cook view catering items and passing order to deliver that item to several department [2]. Supervisor view stationary items and passing order to deliver that item to several customers.

II. LITERATURE REVIEW:

A literature review on cruise ship management websites would involve examining existing research, studies related to the design, usability, and effectiveness. Here is an outline to help you structure your literature review through this video we had learned how to develop login page using various tags. From this video we got to know about sidebar menu and used that for creating our website. Before we don't have any idea about creating flexible website. After watching this video we got to know about some tags and by using those tags we had implement website that are flexible in mobile, laptop view too. Whatever doubts occurred regarding the

tags and parameter values we clarified by viewing syntaxes from geek for geeks. From courser we had learned some information for creating an attractive webpages.

PROBLEM IDENTIFIED IN EXISITING SYSTEM:

Existing system: The existing system is associated to maintain Ship details, Shipment details, and Stock details and work order details. These details are maintained manually which is time consuming process and the orders are taken one by one manually so, queue management is required .Due to this queue waiting time for each person is more. Thus the existing system does not provide multi-user support. It is having lots of manual work.

Drawbacks of the system:

- The Customers facing lot of problems to know their schedule details[2].
- It is very difficult to know Employee work order details[2].
- It is very difficult to know the stock details and available status immediately [4].
- The present system is very less secure [3].
- It is difficult to maintain Phones.

III. PROPOSED WORK

OBJECTIVE

- To reduce management efforts and time taken.
- To provide easier access to voyagers.
- To reach cruise administration easily.
- To provide the best services within less time.
- To reducing visit to cruise administration for every enquiry.
- To reduce the manual work for giving services everyone can use our website

PROPOSED SYSTEM

To overcome the problems occurred in existing system we had developed system. That enhanced the voyager can order items through online. Each voyager has unique ID and Password. So, voyager login this system they can order their requirements and acquire their supplies directly. As a result, this method improved the ability of Passengers to order things online. The flow of the project is as follows:

System Modules:

1. VOYAGER

- User name and password
- Sign In
- Ordering catering items
- Ordering stationary items
- Booking beauty salon
- Booking fitness center
- Booking party hall

2. ADMIN

- User name and password
- Sign In
- Manager
- Head cook
- Supervisor

3. MANAGER

- View booked beauty salon
- View booked fitness canter
- View booked Party hall

4. HEAD-COOK

- View ordered catering items

5. SUPERVISOR

- View ordered stationary items

SIGN UP

The main activities in this application are the user login for user. The other modules are followed by the login page. This module records only user id and password of the user.

Voyager

It depends on voyagers only. When one ship during voyage time voyages requirements are ordering through walkie-talkie or telephone [5]. This method or device had any problem occur means voyages have to go and directly buy their requirements in several department. So this system enhanced voyages order items through online [6]. Each voyager has unique Id and Password. So, voyager login this system they can order their requirements [6]. Voyagers can order catering items and stationary items through this system [5]. And they can book Resort-Movie tickets, Beauty Saloon, Fitness Centre and Party Hall. Catering items order means voyager can order snacks items, food items, drinks items and so on.

ADMIN

Admin maintain menu items for this system. Admin can insert, update and delete for menu items. Then admin only allocate voyager registration details. So admin use these details and create login id and password for voyages. Then admin can provide login Id and Password.

MANAGER

Manager view all the booking items. If voyager booking or ordering items on the time tickets are not available means “currently not available” message will be displayed in this system.

HEAD-COOK

Head-cook view catering items and passing order to deliver that item to several department [6]. Supervisor view stationary items and passing order to deliver that item to several departments [6].

SUPERVISOR

Supervisor view all the stationary items. If customer booking order on the time is not available means “Ordering items are currently not available” message will be displayed in this system.

USER

User wants to register all details after that only sign in that page [6]. After sign in the page it shows Catering and Categories [6]. To select our need and purchase all those products [6]. There are several Types Ocean view, balcony view, corridor view and lounge booking [6]. Fitness center booking means they have to select their exercise equipment through this system [6]. And they can also

book their gym work timing [5]. Party hall booking facilities available in this system [6]. Here also type of halls is their voyager have to select their require hall [6]. There are birthday parties, marriage party, engagement party, business party, get-to-gather parties [5].

User-Friendly Interface:

- A visually appealing and intuitive design with easy navigation and clear menu structures.
- Responsive design to ensure optimal viewing experience across different devices (desktop, tablets, smartphones).

SCOPE

- This site can be further updated into new versions as being in the technology we can add AI based Chabot as Admin
- This system needs stable internet connectivity otherwise problems will occur while using the website.
- In catering for searching the food you can add microphone.
- If there are more orders from different sections that time admin will have more pressure.

IV. REQUIREMENT ANALYSIS

SOFTWARE REQUIREMENT

When it comes to website development, software requirements can vary based on the specific technologies and frameworks used. However, here are some common software requirements for website development.

Client Side:

Here are some common client-side software requirements for a cruise ship management. Web Browsers: The website should be compatible with popular web browsers such as Google Chrome, Mozilla Firefox, and Safari etc.

It is essential to ensure cross-browser compatibility to reach a wider audience [7]. Compatibility with Older Browsers: While it's essential to support modern web browsers, it's also important to ensure basic compatibility with older browser versions that may still be in use. This can involve using fall-backs or poly fills to provide a functional experience for older browsers.

Server Side:

Here are some commonly used server-side software requirements for website Development.

Server-Side Programming Languages:

- PHP: Popular server-side scripting language for web development [8].

Database Management System (DBMS):

- MySQL: Open-source relational database management system.

Server Operating System:

- Windows Server: Microsoft's operating system for web server environments [9].

Server-Side Scripting:

Use server-side scripts for form processing, data validation, and server interactions

HARDWARE REQUIREMENT

Client Side:

Processor (CPU) – Intel core i3

Processor Memory (RAM) -128 MB

Hard disk -1TB

Internet Connectivity:

A stable and reliable internet connection is crucial for accessing the contact.

Operating System:

- Windows: Popular choice for web servers.

Server Side:

Processor (CPU) - 4 x 1, 6 GHz CPU

Memory (RAM) -7GB

Hard disk -1*40 GB

V. DETAILED DESIGN

DATA FLOW DIAGRAM

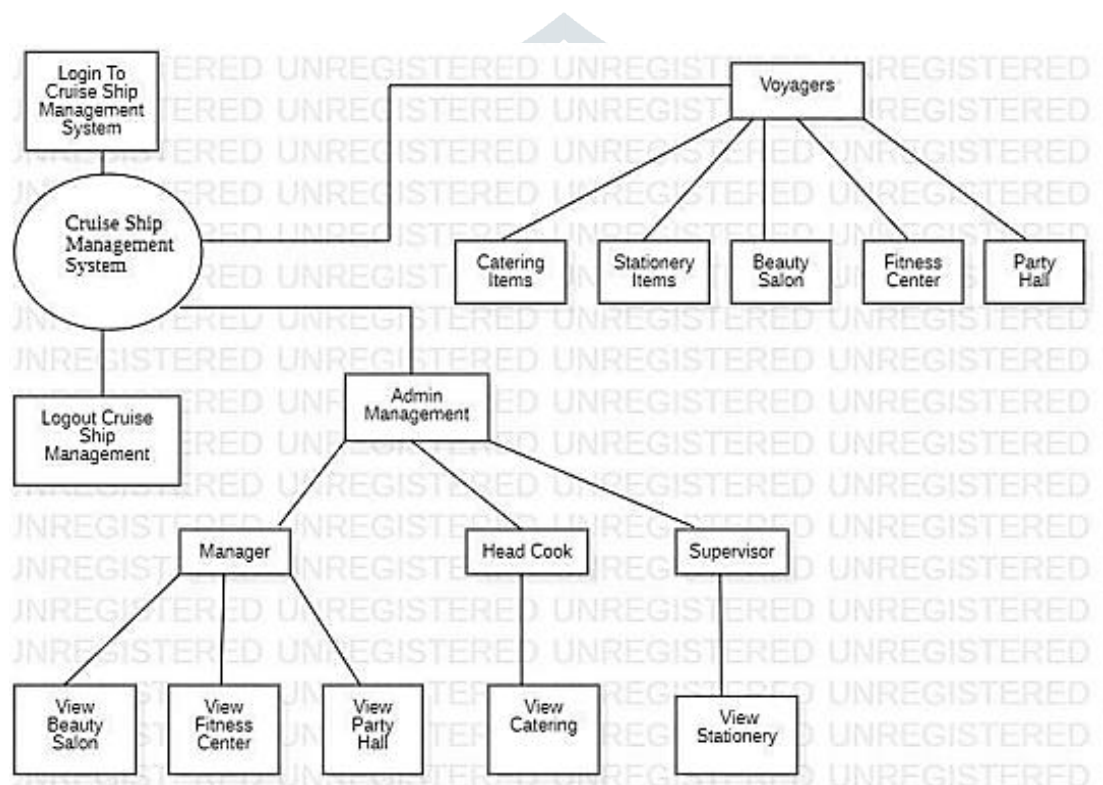


Fig 1: Data Flow Diagram of Cruise Ship Management

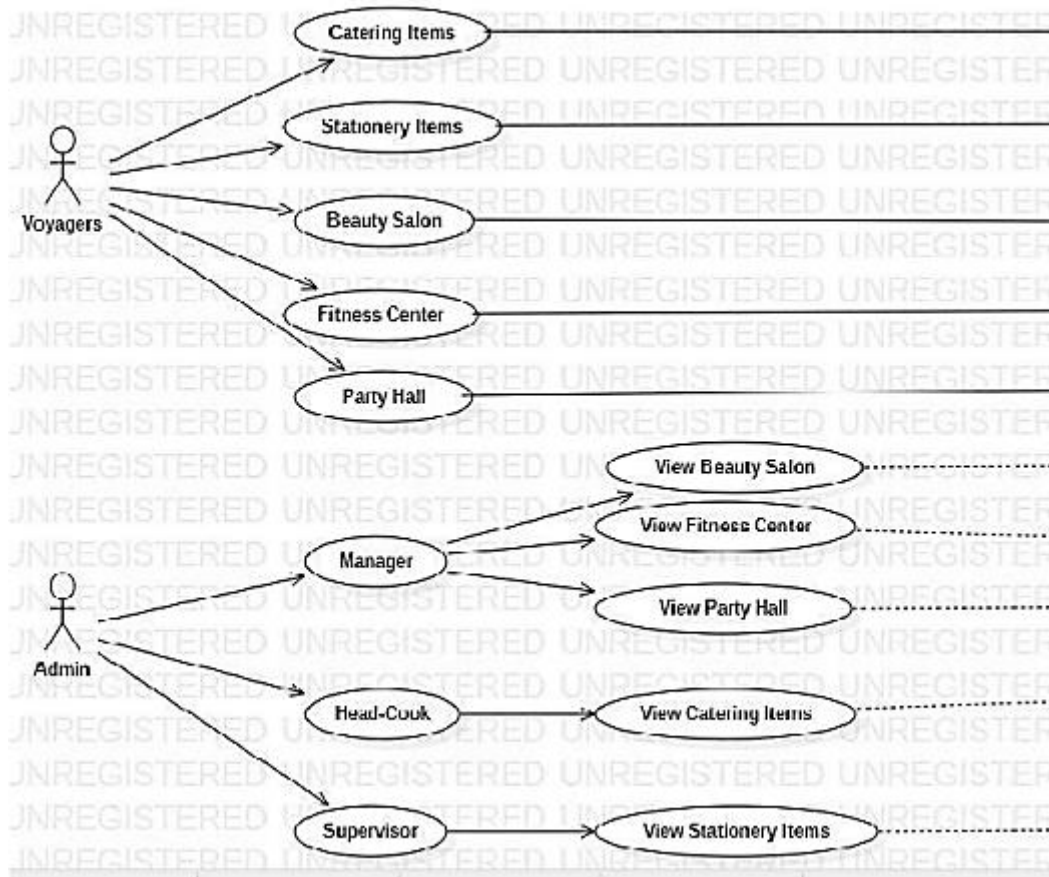


Fig.2: Use Case Diagram for cruise ship management Website

VI. IMPLEMENTATION

IMPLEMENTATION FOR FRONT-END:

1. HTML (Hypertext Mark-up Language): The standard mark-up language for creating the structure and content of web pages.
2. CSS (Cascading Style Sheets): Used for styling and formatting web pages, including colors, fonts, layouts, and responsive design.
3. JavaScript: A scripting language used for client-side interactivity, dynamic content, and enhancing user experience.

FOR BACKEND:

Popular server-side languages include:

PHP: A widely-used scripting language for website development.

1. Database: For storing and retrieving data, commonly used databases include: Relational Databases- MySQL
2. XAMPP- Cross-platform, Apache, MySQL, PHP and Perl XAMPP is a software distribution which provides the Apache web server and MySQL Database.
3. Web Servers: MySQL server.

MODULE DESCRIPTION

In our system each voyager has unique Id and Password. So, voyager login this system they can order their requirements and acquire their supplies directly. As a result, this method improved the ability of passengers to order things online. Description of each module is as follows:

Home:

An attractive and informative homepage featuring key travelling quotes, welcome lines.

About Us:

- An overview of the cruise ship with the cruise image.
- Information about the cruise ship.

Voyager:

- Voyager is travelers.
- Voyager can have different sections like party hall, catering, fitness center stationery, beauty spa.
- Voyager can order from those sections as per their choice.

Admin:

- Admin manages 3 sections that are Head cook, Supervisor, and Manager.
- Admin can view the booking and gives the instructions to Head cook, Manager, and Supervisor.
- Head cook- manages the catering section
- Manager- View's beauty salon, fitness center, party hall and maintains these all.
- Supervisor- Views stationery order and maintains stationery.

Contact Us:

- Location of the cruise ship and contact details of the ship.
- Quick Access links for instant access of website features.

TESTING**Unit Testing:**

Unit testing is an essential practice in software development, including the development of a cruise ship management website. It involves testing individual units or components of the website's code to ensure they function correctly in isolation [10].

The units we have tested is

- Front end validation
- Voyagers
- Manager
- Admin module
- Supervisor
- Head Cook

Integration Testing:

Integration testing is a crucial step in the testing process for a cruise ship management website. It focuses on verifying the correct interaction and behavior of various components, modules, and subsystems when integrated together.

Component Interface Testing:

Component interface testing is an important aspect of testing a cruise ship management website as it focuses on verifying the correct behavior and interaction between individual components and their interfaces. Here's an overview of how we have done the component interface testing can be applied to a cruise ship management website:

- Identify Components:

Identify the key components or modules of the cruise ship management website that have well-defined interfaces. Front-end components (e.g., navigation, footer, map, menus, forms, buttons) and back-end components (e.g., APIs, database connectors)

- Test Case Preparation:

Based on the interface specifications, create test cases that cover different scenarios and test the component's behavior when interacting with other components or systems. Ensure that the test cases validate the component's inputs, outputs, and any associated data transformations.

- Error Handling and Boundary Conditions:

Pay special attention to how components handle unexpected or invalid inputs, as well as boundary conditions that may affect their behavior

- Integration with Mocked Components
- Analyze Results and Debug.

System Testing

System testing is a comprehensive testing approach that focuses on testing the entire cruise ship management website as a system to ensure its functionality, performance, and reliability. We have done the testing of website as a whole, including its various components, subsystems, and interactions.

VII. DEPLOYMENT

HOW TO EXECUTE AND USE:

To execute and use a cruise ship management website, you need to follow these general steps:

1. Hosting and Deployment:

Ensure that the Cruise ship management website is properly hosted and deployed on a web server or hosting platform. This involves configuring the necessary server settings, uploading the website files, and ensuring that the required dependencies are installed.

2. Accessing the Website:

Once the website is deployed, we can access it through a web browser by entering the website's URL or domain name.

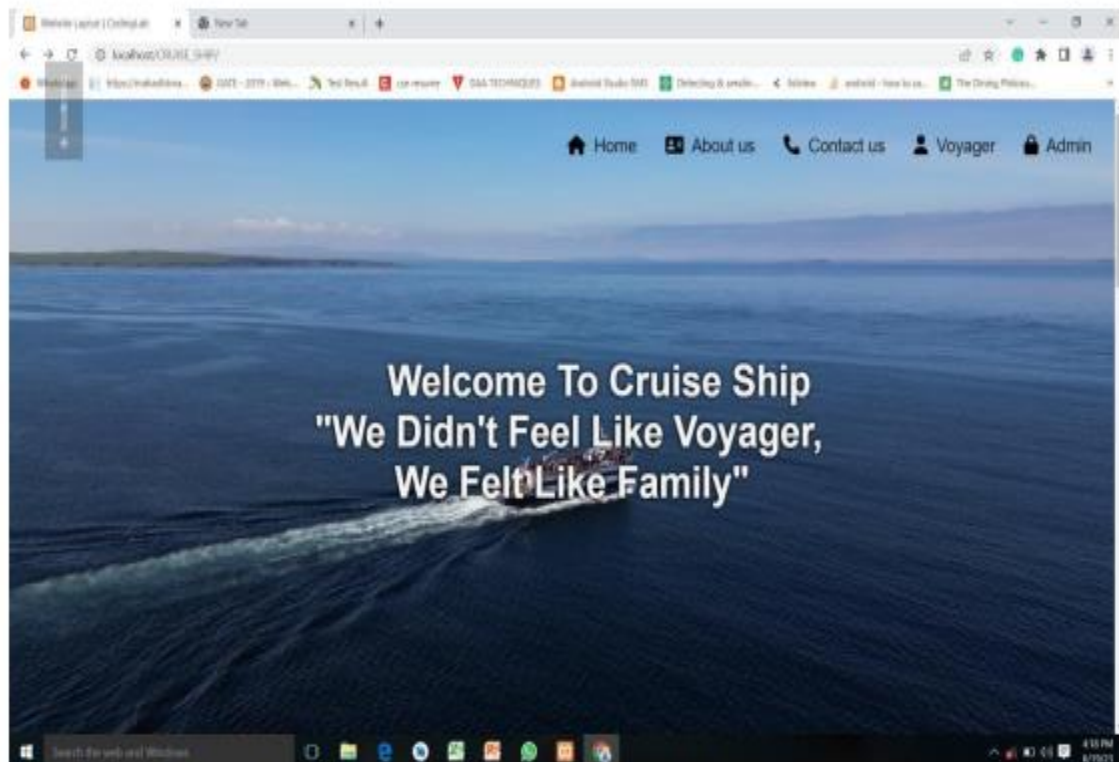
3. Administration:

Log in to the website using your credentials for insert, update, and maintain the website content.

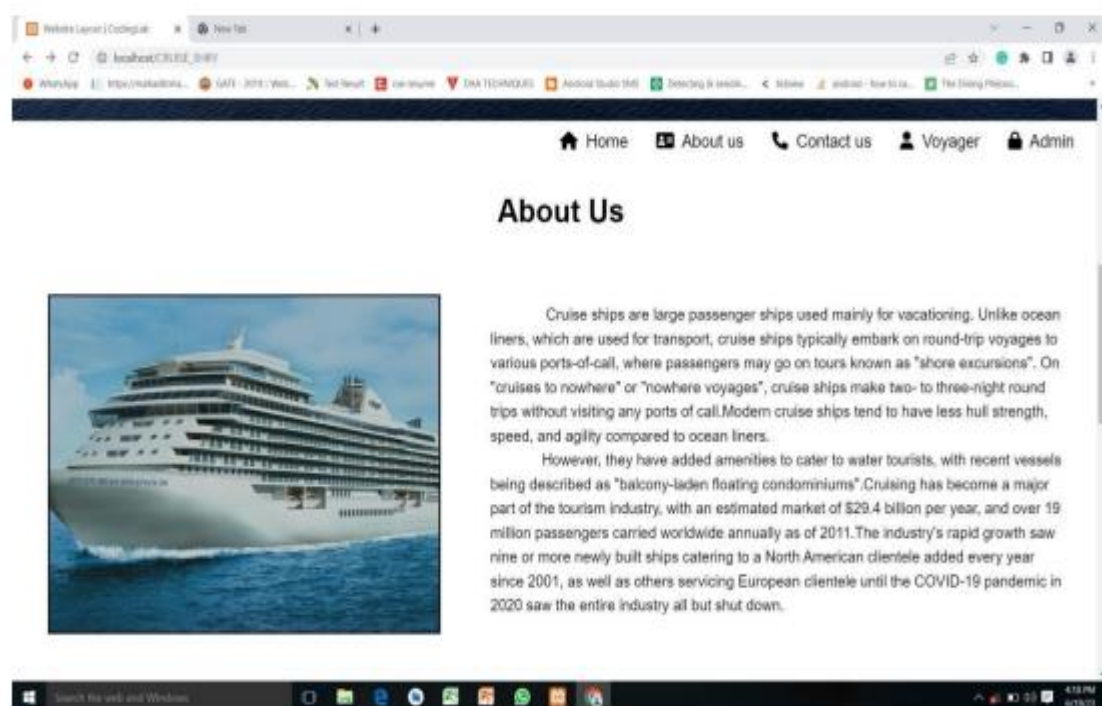
STEP FOR USING THE SYSTEM:

1. Voyager must have laptop with stable internet connectivity.
2. Enter into website and login.
3. As you can see different sections are there choose which you want.
4. Suppose you have chosen beauty salon. After entering into that you can have Homepage, about us, offers section as well as contact and review page.
5. By viewing all the information you can order.
6. After the order click to the back.
7. Now you can see the voyager page.

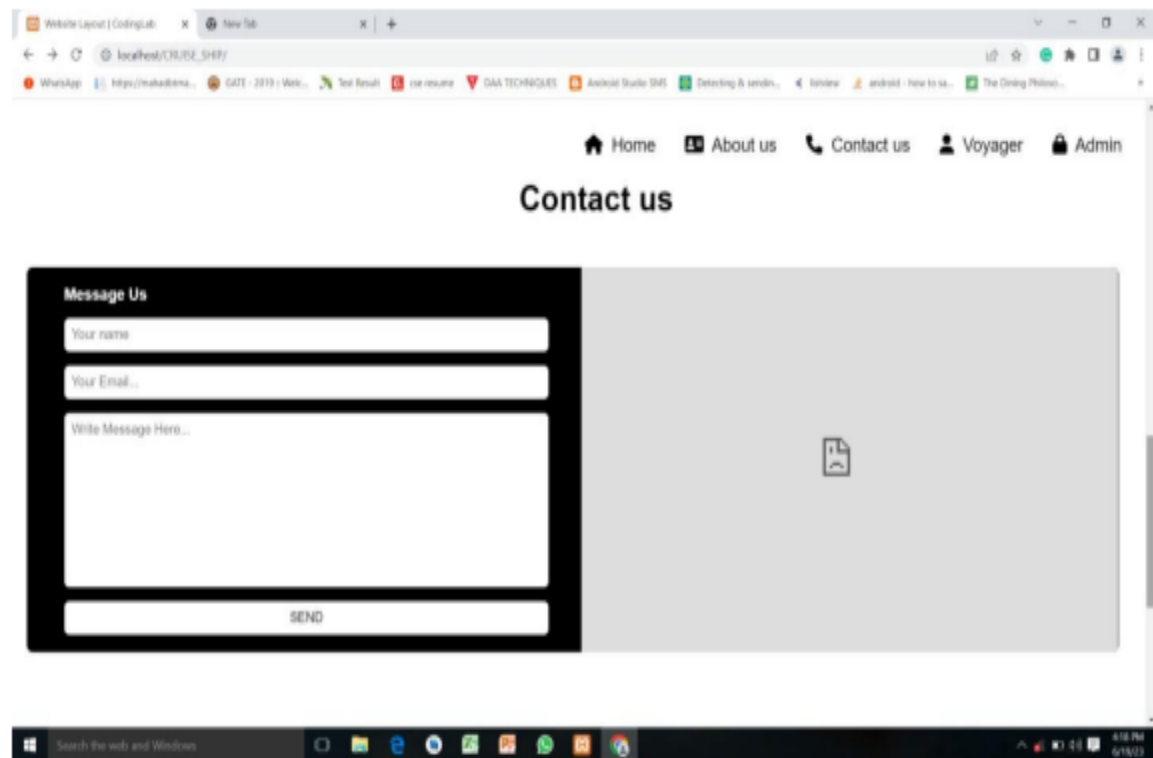
Output.



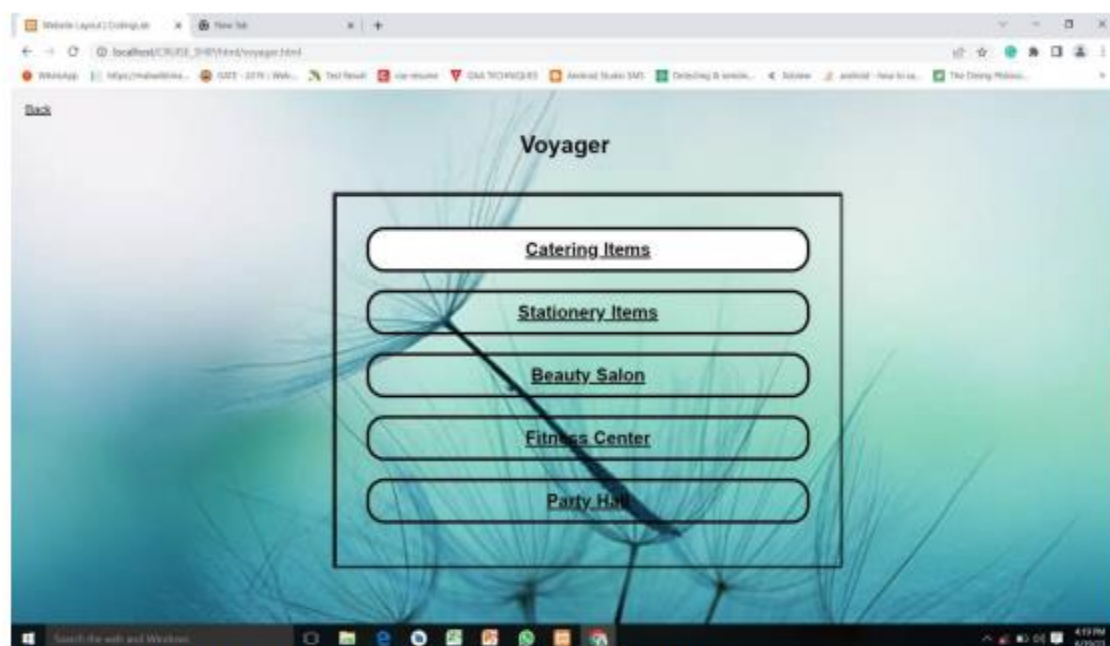
This image shows the Homepage of our project. In that you can see an welcome quote.



This image shows the about us page and the information about our cruise ship.



This image is contact us page and it shows the contact details and location map.



This image shows the different sections of our system.

VIII. FUTURE SCOPE

- In future this project can be updated and used by another cruise ship too.
- Whatever the issue regarding the network that will be removed by setting router into cruise ship.
- In our project voyager selects their section rather than if microphone is added then it will be easy to voyager.
- Further admin can be replaced by AI Chabot. It will help to take orders firstly.

IX. CONCLUSION

Cruise ship management promotes convenience for both passengers and crew. Is the process of managing all aspects of operation under the cruise lines and providing services to the voyagers such as beauty salon, party hall, fitness center, catering, guest service relations and communications? After providing the services taking feedback to provide better experience to the customers by knowing their need and opinions.

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