

A Comprehensive Online Tourism Management System Revolutionizes Travel

Mahmood Jawad Abu-AlShaeer
Al-Rafidain University College
Baghdad, Iraq
dean@ruc.edu.iq

Hiba Abdulameer Hasan
Al-Turath University College
Baghdad, Iraq
hiba.abdulameer@turath.edu.iq

Salama Idris Mustafa
Al-Noor University College
Nineveh, Iraq
salama.ideis@alnoor.edu.iq

Dmytro Khlaponin
Kyiv National University of
Construction and Architecture
Kyiv, Ukraine
khlaponin_dy@knuba.edu.ua

Kateryna Krasovska
Taras Shevchenko National
University of Kyiv
Kyiv, Ukraine
katerina.krasovska@knu.ua

Abstract— Background: As vacations and tourism become more important in contemporary society, better management systems are needed to handle trip planning and booking. Digital solutions provide improved processes, but many travel businesses have yet to use them fully.

Objective: This study introduces an online tourist management system to fill deficiencies in the travel and tourism industry. This platform centralizes booking and information transmission to improve the customer experience and corporate productivity.

Methods: The prototype uses HTML and PHP for a front end and Microsoft SQL Server 2008. It helps global clients book activities, lodgings, and places by providing thorough information. However, administrators may provide hotel and travel agency vacation packages. Customers may see their booking information in "my booking" after confirmation.

Results: The integrated platform centralizes passenger information and booking. It streamlines vacation planning and gives travel businesses a good way to market their packages. This program may eliminate mistakes, improve the user experience, and boost travel and tourist efficiency.

Conclusion: This new tourist management system should simplify trip planning and booking for end-users and service providers. This technology might revolutionize the travel business, making it more accessible and pleasurable for everyone.

I. INTRODUCTION

More and more individuals are venturing out of their homes for vacations, business trips, or other purposes, contributing to expanding the travel and tourism sector. With the proliferation of digital media and the ease of online research, vacationers may find almost whatever they need to organize and finalize their plans. Nonetheless, it may still be difficult and time-consuming to plan and book a holiday, despite the information available.

Due to this, there is a pressing need for an improved customer system to centralize and simplify all aspects of the vacation planning and booking process. This research aspires to fill this gap by developing a centralized platform for managing travel and tourism-related operations, including an internet-based tour reservation system. The objective of this platform is to provide visitors with a centralized location from which they can get detailed information about available tours, lodging

options, and other tourist hotspots, as well as a straightforward method for making reservations.

The system's front end will be developed in HTML/PHP, while the back end will be developed in Microsoft SQL Server 2008. Our choice of programming languages—HTML and PHP—will ensure that our site displays correctly in any contemporary web browser. The system's administrator will be able to create tour sites that feature vacation packages from associated hotels and travel firms. The user-friendly central site will allow customers to access this data and make reservations from anywhere globally.

The administrator can verify a reservation on the control bookings page once it has been made. The verification will then be shown in the "my booking" area, making it easy to see and manage the user's reservations in one place. The holiday planning and booking process will be simplified by having passengers access all the necessary information in one convenient location [1].

The construction of this platform will have far-reaching effects on the travel and tourism sector. It will be a central hub for all aspects of a traveler's journey, from research to booking, saving time and effort over many other sites and services. Travel firms and hotels will also gain from the system since it will provide them with a place to advertise their vacation packages.

A. The Aim of the Article

The article aims to develop a tourism and travel management program and an online booking system for trips to increase productivity and convenience in the tourist and travel business. The technology will consolidate a traveler's search for relevant information and reservations into a single location, making the whole trip-planning process more efficient. Travelers, tour operators, and hotels will benefit significantly from this system's deployment since it will standardize their experiences on a single, streamlined platform.

The objective is to develop a tourism and travel management system that will automate the various processes involved in planning and executing a journey. The current manual system, which is prone to inaccuracies and delays, will be replaced by a highly automated solution. The proposed system will provide users with accurate and timely information, making the process

of planning a vacation faster and more efficient. The system will be designed with a HTML-PHP front end and a Microsoft SQL Server back end, ensuring compatibility with all modern browsers. The user-friendly interface will allow administrators to quickly access and manage customer details, payment information, and other important aspects of the travel experience. With this innovative solution, the travel agency can improve its overall efficiency, customer satisfaction, and competitiveness in the market.

B. Proposed System

The proposed tourism management system aims to streamline the entire process of planning and booking a vacation, from the initial search for information for the final confirmation of the booking. The system is designed to be more efficient than traditional manual methods, automating many of the tasks that are currently performed manually, such as form transactions and reports. With the use of a computer-based application, the system can easily search and display thousands of records in a short amount of time. The goal is to create a user-friendly and convenient booking and information-gathering hub for all travelers, making the process of planning a vacation faster and more efficient.

C. Existing System

One of the main drawbacks of the manual system is the lack of accuracy in the results. With a manual record keeping, there is a greater chance of human error, leading to incorrect information being recorded and stored. This can result in incorrect itineraries being created for travelers, causing confusion and frustration. Additionally, manual record keeping is a time-consuming and labor-intensive task, which can take away valuable time and resources that could be used more effectively elsewhere. The reliance on pen and paper also makes it difficult for travelers to access their itinerary information on-the-go, leading to difficulties in making changes or modifications while they are traveling. These challenges highlight the need for a more efficient and accurate system to manage the travel industry, which is where the proposed computer-based system comes in.

The benefits of Implementing Modern Tourism Management:

- **Increased Efficiency:** The proposed system automates manual tasks, reducing the time and effort required for each task.
- **Improved Accuracy:** The computerized system reduces the chance of human error, resulting in more accurate results.
- **Increased Productivity:** The system streamlines the process and reduces the time required for each task, increasing productivity.
- **Cost Effective:** The proposed system eliminates the need for manual labor and reduces the cost associated with it.
- **Accessibility:** The system can be accessed from any location, providing convenience and flexibility to travelers.

- **User-Friendly:** The system is designed to be user-friendly, with an intuitive interface and easy-to-use features.
- **Scalability:** The system is scalable, allowing it to be easily adapted to accommodate increasing numbers of users and transactions.
- **Time-Saving:** The proposed system eliminates the need for manual data entry, saving time and reducing the risk of error.
- **Better Data Management:** The system provides a centralized location for data storage and management, improving organization and access to information.

II. LITERATURE REVIEW

The tourism industry has witnessed a significant transformation in recent years, largely driven by advancements in information technology. Developing and implementing comprehensive online tourism management systems have revolutionized how travelers plan, book, and experience their journeys. This literature review explores key research studies and concepts related to creating such systems and their impact on the travel industry.

One fundamental aspect of modern tourism management systems is their ability to leverage technology to enhance tourism experiences. Zhang [2] discussed the utilization of the Internet of Things (IoT) in optimizing agricultural tourism management, particularly in mountainous regions. This study highlights the potential of satellite IoT in collecting real-time data and improving decision-making processes for tourism management [3]

Machine learning and artificial intelligence are crucial in developing intelligent tourism information systems. Xuan Gao's [2] study introduces a Tourism Information Management System driven by neural networks and particle swarm optimization (PSO) models. Such systems leverage advanced algorithms to personalize travel recommendations, enhance user experiences, and streamline travel planning processes.

Data mining algorithms are another key component in intelligent tourism information systems. Jia Du's [3] study explores the use of data mining algorithms in creating intelligent tourism information systems. These algorithms enable the extraction of valuable insights from vast datasets, helping tourism providers tailor their offerings and marketing strategies to meet customer preferences.

Geographic Information Systems (GIS) have also found application in tourism resource evaluation. Zhao et al. [4] discuss using GIS to assess forest tourism resources from the perspective of tourism experience. Such tools provide valuable insights into the spatial distribution of resources and their potential for tourism development.

Consumer psychology and decision-making processes are integral to understanding travelers' choices. Linlin Jin and Bin Hu's [5] investigates the factors influencing online product decision-making in the context of tourism economics. Understanding consumer behavior helps design more effective online tourism platforms and marketing strategies.

Personalized route recommendation algorithms contribute to healthier and more enjoyable travel experiences. Du et al. [6] present a personalized route recommendation algorithm to improve travelers' well-being. By considering individual preferences and health factors, such systems create itineraries that align with travelers' needs and interests.

In the era of smart tourism, technology-driven experiences significantly impact travelers' loyalty and intention to revisit. Pai et al. [7] examine the role of smart tourism technology in shaping tourists' perceptions and revisit intentions. This research underscores the importance of seamless and enjoyable technology experiences in retaining customers.

Circular economy business models have also gained traction in the tourism industry. Vecchio et al.[8] discuss the case of Ecobnb, a platform that promotes sustainability and eco-friendly accommodations. Such initiatives reflect the growing awareness of environmental responsibility in travel management.

The influence of site personalization and first impressions on consumers' loyalty to tourism websites is critical for online tourism management systems. Martínez-González and Álvarez-Albelo [9] investigate how personalized website experiences and first impressions impact young consumers' loyalty. Tailoring websites to user preferences and providing positive initial interactions can increase customer retention.

Recommendation systems are pivotal in assisting travelers in making informed decisions, such as selecting hotels that align with their preferences. Wang et al. [10] propose a cloud-based multi-criteria group decision support model for hotel selection. These models consider various traveler preferences, streamlining the hotel selection process.

Lastly, trust and perceived risk are crucial in predicting online travel purchase behavior. Mohd Sadiq et al.[11] examine the role of trust and perceived risk in influencing travelers' decisions to purchase online. Building trust and mitigating perceived risks are essential to successful online tourism management systems.

The literature reviewed here demonstrates the multifaceted nature of online tourism management systems and their significant impact on the travel industry. From leveraging advanced technologies like IoT and AI to understanding consumer behavior and promoting sustainability, these systems are at the forefront of reshaping travel experiences and enhancing the efficiency of tourism management. The future of tourism lies in the seamless integration of technology and data-driven insights, offering travelers personalized, sustainable, and unforgettable journeys.

III. METHODOLOGY

The methodology for the development of the Tourism Management System involves several stages, including [14]:

- **Requirements Gathering:** The first step in the development process is to gather the requirements for the system. This involves working closely with stakeholders to understand their needs and requirements for the system.
- **System Design:** Based on the gathered requirements, the system is designed. This involves creating a detailed design specification that outlines the functionality and features of the

system, as well as the technical specifications for its implementation.

Implementation: The next stage is the implementation of the system. This involves writing the code for the system using HTML, PHP, and Microsoft SQL Server 2008.

Testing: After the system is already built, it is tested extensively to make sure it satisfies all criteria and operates as intended. Tests at the unit, integration, and system levels must be carried out.

Operation: After all bugs have been squashed and the system has already been thoroughly tested, it is released to the live environment.

Maintenance: After the system has been deployed, ongoing maintenance and support are provided to ensure that it continues to function as expected and to address any issues that arise.

Evaluation: The final stage is the evaluation of the system, which involves assessing its performance and making any necessary improvements. This may include conducting user surveys, analyzing usage data, and making changes to the system based on feedback from stakeholders [15]

The methodology used for the development of the Tourism Management System is iterative, meaning that it is an ongoing process that continues even after the system has been deployed. This allows for continuous improvement and refinement of the system to keep it up-to-date with what users want and what stakeholders need, and to provide them both the greatest experience possible [4, 16]

A. Software Requirements

To create and maintain the online booking system for travel and tourist services, we use the aforementioned software tools and technologies, including Java, MySQL, PHP, XAMPP, [12]and PHPMyAdmin. People now depend greatly on holidays and other types of tourism, and the use of technology in the tourist sector has become more crucial to streamline the booking process, enhance the customer experience, and increase efficiency for both consumers and companies.

The system's front-end application is written in Java to provide users a familiar and straightforward means of interacting with the back end. The lodging, activity, and location data is only some of the examples of the types of information that MySQL is used to store and manage. As a server-side programming language, PHP is utilised to instantly respond to user input and display updated hotel and location information. To save time and effort before deploying to the live server, XAMPP is used to set up a local server environment for development and testing purposes. Maintaining a reliable and up-to-date MySQL database is accomplished with the help of PHPMyAdmin [13].

An online booking system for travel and tourist services that is efficient, user-friendly, and dependable is developed using these software tools and technologies in order to cater to the demands of contemporary society [14].

a) Java

To create a TMS, you may use Java, which is a popular programming language. Java's many advantages for this kind of program include:

To put it simply, Java is an object-focused programming language, which implies that it is predicated on the idea of objects and classes. This makes it simpler to represent real-world scenarios and interactions, which is essential for a Tourism Management System which needs to handle data regarding tours, hotels, flights, and consumers.

Scalability: Java is recognized for its virtualization, which implies that it can handle massive volumes of data and sophisticated activities. This is vital for a Tourism Management System, which has to handle a huge number of tours, hotels, flights, and consumers [15].

Java may be executed on any operating system, including Windows, Mac OS X, and Linux, since it is platform neutral. Because of this, it is a viable option for a Tourist Management System that requires support for many operating systems [16].

Java's extensive API and component library makes it ideal for building a TMS in a short amount of time. Libraries for data management, graphical user interfaces, and communication via networks all fall under this category.

Security: Java is recognized for its security capabilities, which may assist you secure sensitive information, like as client data, in a Tourist Management System.

In conclusion, Java is a viable language for constructing a Tourist Management System owing to its object-oriented [17] programming, portability, platform independence, large library, and security features [18, 19].

b) MySQL database

MySQL is a widely used relational database management system that is well suited for developing a Tourism Management System. In a Tourism Management System, a database is used to store information about tours, hotels, flights, and customers, among other things [20].

Tour Information: MySQL can be used to store information about tours, including tour name, location, duration, price, and number of seats available. For example, a table in the database could be created to store this information and would have columns such as "Tour_ID", "Tour_Name", "Location", "Duration", "Price", and "Seats_Available".

Hotel Information: MySQL can be used to store information about hotels, including hotel name, location, number of rooms, and room rates. For example, a table in the database could be created to store this information and would have columns such as "Hotel_ID", "Hotel_Name", "Location", "Number_of_Rooms", and "Room_Rate".

Flight Information: MySQL can be used to store information about flights, including flight number, departure and arrival times, and flight duration. For example, a table in the database could be created to store this information and would have columns such as "Flight_ID", "Flight_Number", "Departure_Time", "Arrival_Time", and "Flight_Duration".

Customer Information: MySQL can be used to store information about customers, including name, contact information, and travel history. For example, a table in the database could be created to store this information and would have columns such as "Customer_ID", "Name", "Contact_Information", and "Travel_History".

Booking Information: MySQL can be used to store information about bookings, including the tour, hotel, flight, and customer information. For example, a table in the database could be created to store this information and would have columns such as "Booking_ID", "Tour_ID", "Hotel_ID", "Flight_ID", and "Customer_ID".

Payment Information: MySQL can be used to store information about payments, including the payment amount, payment method, and payment status. For example, a table in the database could be created to store this information and would have columns such as "Payment_ID", "Amount", "Payment_Method", and "Payment_Status".

Inventory Management: MySQL can be used to manage the inventory of tours, hotels, and flights. For example, the database could be used to track the number of seats available for tours, the number of rooms available for hotels, and the number of seats available for flights .

Reporting: MySQL can be used to generate reports about the Tourism Management System. For example, reports could be generated to show the number of bookings for a specific tour, hotel, or flight, or to show the total revenue generated by the system.

Data Analysis: MySQL can be used to analyze the data stored in the Tourism Management System. For example, data analysis could be used to identify trends in customer behavior, such as the most popular destinations or the most common payment methods.

MySQL can be used to store and manage information in a Tourism Management System. By using tables and columns to store different types of information, it is possible to organize the data in a way that makes it easy to query and retrieve the information needed for the various functions of the Tourism Management System.

c) PhP Language

The popular server-side programming language PHP may be used to develop a TMS. PHP works well in certain situations:

PHP-generated web pages are dynamic because user input may change their content. This enables a Tourist Management System to respond to user input and offer timely data.

MySQL is the most prevalent database system for Tourism Management Systems, which may be used with PHP. It lets the system access the database and display information on the webpage. Hosted and processed on a remote server, PHP can swiftly and reliably compute tour prices without user input. Since PHP is open-source, users may customize it for free. A Tourist Management System might save money and flexibility with this feature [21].

PHP may create a search bar that returns tours, hotels, and flights based on location, vacation dates, and price. PHP can verify tour, hotel, and airline availability and handle payments. PHP allows account creation, login, profile, itinerary management, and user administration. Also, can generate reports and analyze data, such as tour, hotel, and airplane bookings or consumer behavior patterns.

PHP's web development strengths (dynamic web pages, database integration, server-side processing) and shortcomings (open-source nature) make it a good candidate for a Tourist

search for their desired destination and the available tours and packages. The system provides comprehensive information on the available options, including the cost, duration, and inclusion of each package.

Booking: After selecting their preferred tour or package, the customer can make a booking. The system will prompt the customer to provide the necessary details, such as the number of travelers, travel dates, and payment information.

Confirmation: Upon receiving the booking, the system will confirm the reservation and provide a confirmation number to the customer. The confirmation will also be displayed in the customer's "My Bookings" section.

Tour Management: The administrator of the system can access the "Tour Management" section to create new tours and packages, manage existing tours, and track bookings

Payment Management: The system also includes a payment management module to process customer payments and keep track of the transactions.

Reports: The system generates various reports to provide insights into the performance of the travel agency and the bookings made through the system. These reports can be used to analyze the trends and make informed business decisions.

Customer Support: The system provides customer support through various channels, such as email, phone, and live chat, to assist customers with any queries or issues they may have.

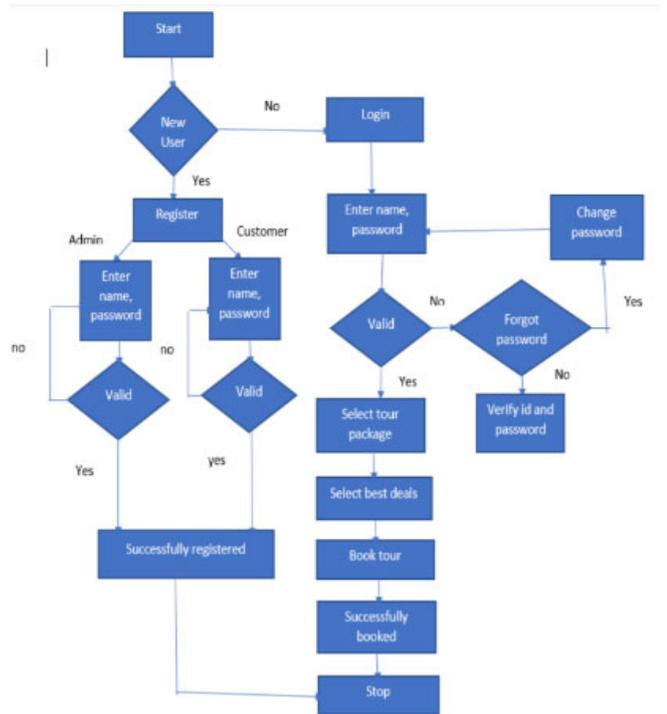


Fig. 2. Management of Tourism Process Flow Diagram

The TMS is a user-friendly and easy platform for both clients and administrators, simplifying the whole holiday planning and booking process.

IV. RESULTS

The web page contains six modules, each with a specific function (Fig.3).

Admin authentication: This module verifies the admin's username and password to allow them to proceed with the process. All actions are done under the control of the authenticated admin (Fig. 4).

User Registration: This module manages the registration process for users, who can add their personal details such as name, password, email, and other information. After registering, users can sign in using their username and password.

Package Creation: The admin can create travel packages by adding details such as type, price, and place information. These packages will be displayed on the user's homepage.

Package Booking: In this module, users can book travel packages by selecting from a variety of options and adding comments.

Booking Confirmation/Management: This module confirms the booked packages and allows the admin to manage the bookings, including the ability to cancel them (Fig. 5. And Fig.6).

Issue Ticket: This module issues tickets for the booked packages, which are only accessible through the user's homepage (Fig. 8 and Fig. 9).

The steps provided outline the process for setting up and running a web-based application on a local server. The first step involves copying the TMS folder to the root directory of the local server, such as the 'htdocs' folder for XAMPP or the 'wamp' directory.

Next, the XAMPP control panel must be opened, and the Apache and MySQL services must be started. To import the TMS database, the user must access the PhpMyAdmin page and create a new database named "tms." The 'tms.sql' The resulting file may then be transferred into the system.

Finally, the user can access the application by opening a web browser (Fig. 3) and navigating. This will allow the user to run the application locally on their own machine, rather than through a remote server.



Fig. 3. Open browser

Database Configuration:

Username: admin
 Password: Test@123
Login Details for user:
 Open your browser put inside browser "<http://localhost/tms/>"
 Username: anuj@gmail.com
 Password: Test@123

With Input Design, we can convert information meant for humans into formats that computers can understand. Incorrect input data is the primary cause of processing errors. A mechanism is in place to limit the impact of typographical mistakes made by the operator in the input setup. When designing an input, the goal is to minimize user effort, confusion, and typos during data entry. Everything in the recommended system is done through menus. It's a practical resource for creating dynamic user experiences. It aids the user in realizing the breadth of available options and protects them from accidentally picking the wrong one. Every single one of the welcome displays is a clickable, interactive wonder. It was developed with the user's limitations and needed in mind. To safeguard the integrity of the information provided, input designs often include many levels of validation checks. Input design may contain a validating statement to ensure a date is submitted in the correct format and within a specified range, for instance, if a timestamp field is mandatory.

Furthermore, the input design may have several controls—including a drop-down menu, button, checklists, and other UI elements—that simplify and streamline inputting data. The input layout may also have alerts informing the user that they've

provided invalid or insufficient data.

In short, input design facilitates rapid, accurate, and error-free information entered into a computer system. The quality and accuracy of the report are improved as a result, which is essential for the efficient analysis and processing of data.

Some other features included are:

The proposed system includes several key features for improved output design, including:

- Clearly stating the purpose of the form in the form title
- Providing adequate space for data entry
- Implementing data validation to eliminate duplicate entries

Outputs are critical for providing information to customers and management, and effective output design can enhance the system's relationship with users and aid in decision-making. Results can also serve as a permanent record for later consultation. The quality of the outputs generated by the system is often used to evaluate the performance of the system.

Many considerations were made to guarantee the efficacy of the output design, including:

- identifying the most important outputs to be shown to the system user;
- distinguishing between outputs to be shown on screen and those to be printed;
- the output presentation format.

The system's outputs are formatted such that they may be easily integrated into preexisting manual reports. Works may be seen on screen or printed off, with the latter being preferable for archival purposes.

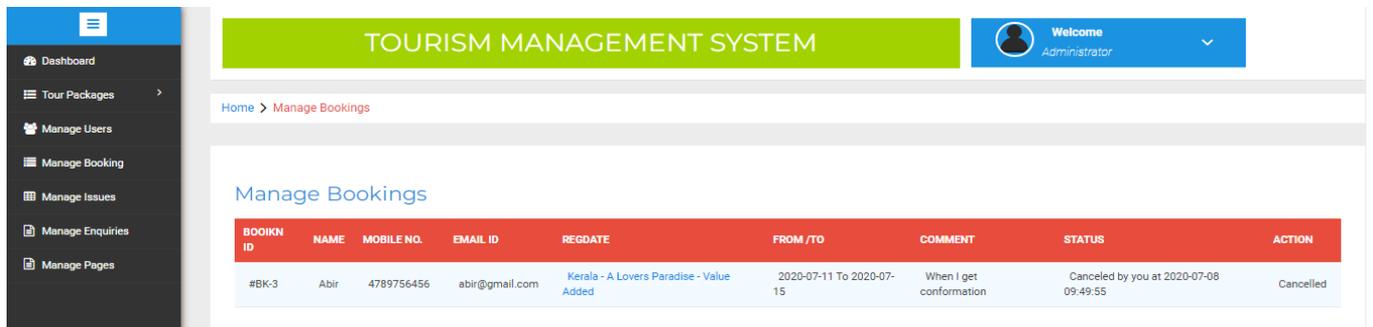


Fig.4. Admin creating package

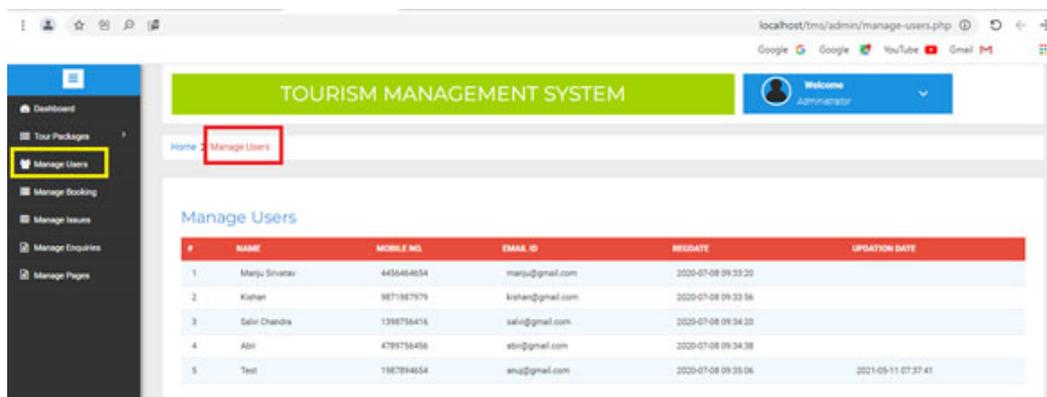


Fig. 5. Manage booking approve or cancel

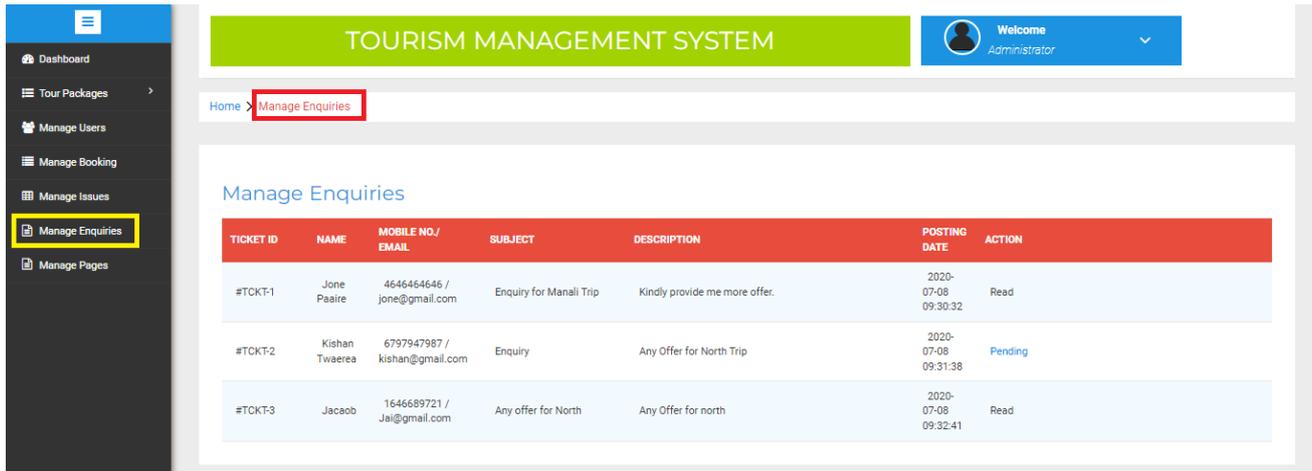


Fig.6. Manage Issus's

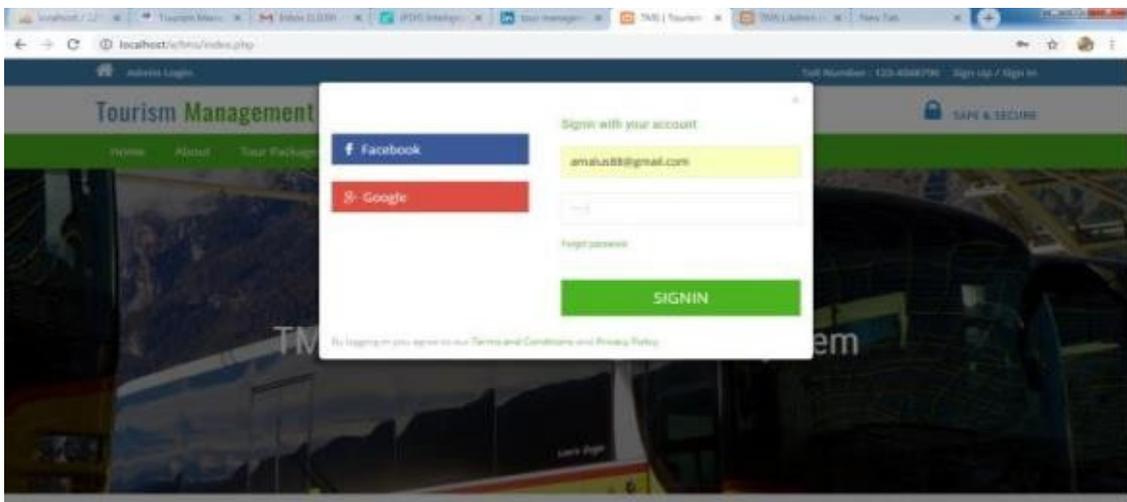


Fig. 7. Authentication of user

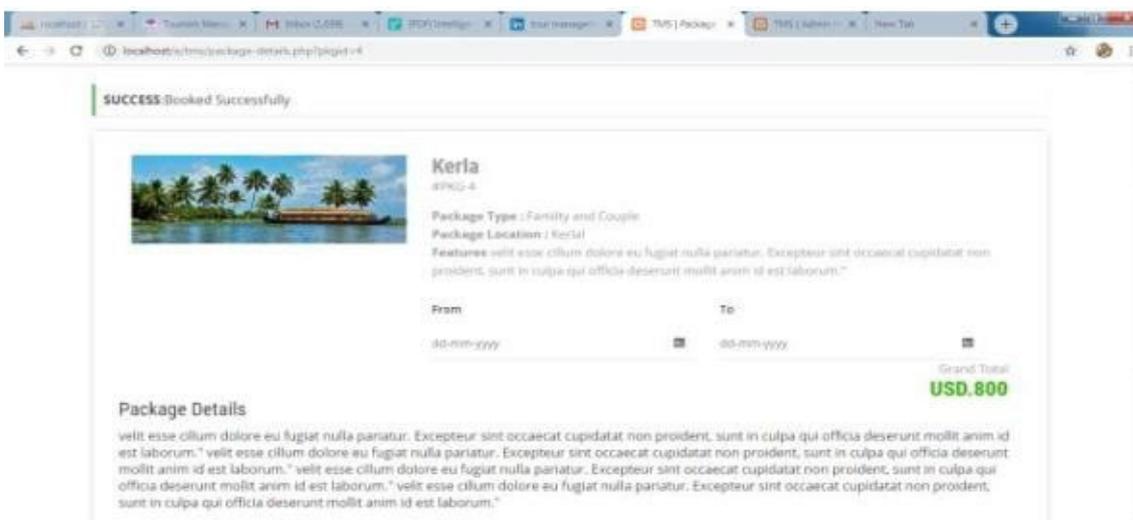


Fig. 8. Package offers for users

#	Booking Id	Package Name	From	To	Comment	Status	Booking Date	Action
1	#BK12	Kerala	2019-10-16	2019-10-24	sadjbasnmd	Confirmed	2019-10-09 10:44:06	Cancel
2	#BK13	Coorg : Tour Packages	2019-10-23	2019-10-22	cvbbcvb	Pending	2019-10-09 10:45:56	Cancel
3	#BK14	Keda	2019-10-22	2019-10-14	I want to book this tour	Pending	2019-10-09 10:57:50	Cancel
4	#BK15	Kerala	2019-10-23	2019-10-21	I want to book this tour	Pending	2019-10-09 11:53:53	Cancel

Fig. 9. Package reservations made by users

Although we were able to successfully complete the project by tracking down the project code across a number of different sites, we ran into a number of issues with the design of our web pages while using the multiple open-source codes and the XAMPP Control Panel application. The problem was isolated and fixed; now we can run the design on the computer without access to the wide web or any specialized software, and once we've verified that everything is running smoothly, we can pay the necessary publishing fees and put the site up under the name of any business we choose.

To this day, tourism is acknowledged as a worldwide sector that, like any other, is expanding rapidly. At its core, tourism revolves around the availability of reliable sources of information. The suggested project on the Tourist Management System makes an attempt to close this gap by considering the perspective of the visitor. So, the purpose of this project is to create a system that will facilitate visitors' access to numerous trip destinations. The project also aided in imparting information on cutting-edge technology utilized in creating web-enabled apps and client-server technologies, both of which would be in high demand in the not-too-distant future. It's important to note that this project work is up for additional improvement, with the hope that it becomes more solid and better enriched, eventually including every possible tourist attraction. For the improved system, the user needs just to log in to the application to locate the routes, prices, hotels, adventure sports, and transportation, and then book instantly and finish the booking process. Tourism has benefited from the proliferation of online resources, which have increased accessibility to details on destinations, lodging options, modes of transportation, shops, restaurants, festivals, and other points of interest.

V. DISCUSSION

The article introduces a study that centers on creating and assessing a novel system designed to augment tourist experiences and facilitate effective management. The study

utilizes a variety of sources to build a strong basis and structure for the design and execution of the system [1], [4], [8], [12].

The study commences by delineating user-centric benchmarks for web pages, emphasizing the significance of website usability and user satisfaction within tourist management [11]. Given the objective of enhancing tourist experiences, it is essential to have a comprehensive knowledge of consumers' preferences and requirements. This observation is consistent with the conclusions drawn from other studies about the impact of website personalization and first impressions on customer loyalty towards tourist websites [11].

This study investigates the effect of the internet on personality, specifically examining how people's online behavior and preferences might affect their travel choices and interactions with the proposed system [7]. This observation may be valuable in customizing the system to accommodate different personality types and user expectations. This statement pertains to examining variables that influence online product decision-making in the context of the tourist economy, focusing on consumer psychology [7].

The examination of the current status and future potential of LTE technology in relation to integrating the Internet of Things (IoT) has significant importance in deploying the tourist management system [3]. The Internet of Things (IoT) revolution across several sectors necessitates a thorough comprehension of its possible implications within the tourist industry. This knowledge may provide significant insights for developing a complete and integrated management system. It is analogous to the development of a system that combines the Internet of Things (IoT) and Building Information Modeling (BIM) to create an automatic alarm system for monitoring thermal comfort in buildings [17].

The suggested tourist management system acknowledges the importance of customer satisfaction research, which emphasizes the need to provide a pleasant and satisfactory user experience

[9]. By incorporating customer satisfaction concepts into the system's architecture, it has the potential to attract a larger user base and improve the entire tourist experience for individuals. It aligns with the investigation of return intention predicated on the perceived experience of smart tourism technologies [9].

The assessment of website quality's impact on customer satisfaction and purchase intent has significant importance in the context of the article [13], particularly given the anticipated integration of online platforms and interactions within the tourist management system. Guaranteeing a website of superior quality that aligns with consumer expectations may result in heightened user satisfaction and, therefore, elevated purchase intentions. This aligns with the scholarly investigation of the factors influencing individuals' intentions to book hotels online, specifically focusing on website quality, social presence, emotional commitment, and e-trust [19].

The study of how website structure and personal variations influence user experience yields significant insights for customizing the system to accommodate a wide range of user preferences and attributes [26]. By comprehending the correlation between website design and user psychology, it is possible to tailor the tourist management system in a manner that successfully resonates with particular users.

Including cultural factors in analyzing emotional reactions toward online shop signals is also a valuable contribution to the development and execution of the tourist management system [15]. The influence of cultural subtleties and sensitivities on tourist experiences is considerable, and by considering these elements, the system may provide more tailored and culturally appropriate services.

The article discusses the adoption of environmental management systems within the context of small and medium-sized hotels. Although the tourist management system may not directly correlate with hotels, there may be shared concepts about sustainable tourism practices [10]. Integrating these concepts into the system may foster eco-friendly tourist alternatives and encourage responsible travel.

The article provides a comprehensive and well-researched analysis of the evolution of a tourist management system. By synthesizing data from several sources, including user preferences and technology breakthroughs, the suggested system has the potential to be all-encompassing, centered on user needs, and culturally attuned. The article's references provide a robust foundation for future study and advancement in tourist management systems, facilitating enhanced efficiency and satisfaction in the global tourism experience.

VI. THE NOVELTY OF THE SYSTEM

The novelty of the tourism management system lies in its comprehensive integration and use of modern web technologies to enhance the travel experience. It revolutionizes travel by providing a centralized platform for various travel-related services. Key innovations include:

- 1) Global Booking Capabilities: Enabling users to book travel and accommodations worldwide through a single system.
- 2) Improved Corporate Productivity: Streamlining operations for travel agencies and related businesses.

- 3) Integrated Passenger Information: Offering a unified system for managing traveller details and preferences.

These features, developed using HTML, PHP, and Microsoft SQL Server, significantly make travel more accessible and enjoyable for users.

VII. CONCLUSIONS

Due to the widespread acceptance of vacationing as a standard operating procedure rather than a luxury, tourism has become an essential driver of economic development in many nations. There must be strong communication and cooperation between travel agencies, tour operators, and travelers for the tourism business to thrive. Destinations, attractions, sites, lodging, and other services are the backbone of the tourist industry.

We created a Tourism Management System in response to the industry's requirement for an all-encompassing and adaptable means of tour management. This approach allows visitors to search for itineraries that best suit their interests. The goal is to encourage responsible and exciting travel, where visitors can learn about and appreciate various cultures.

The Tourism Management System is an online program that streamlines a tour operator's operations. Its purpose is to make trip preparation and execution easier for consumers. This fully autonomous system will replace the manual one that tracks client information and payments. The public's opinion of the travel agency will improve due to this. All information is stored on the server, which has built-in backup features thanks to the system being built on SQL Server. Clicking a button on the app will take you to all your customers' records.

Thanks to the application's development and testing, all administrative, tourist packages, booking, and tour information are safely maintained in the database. The system made all required outputs, and their quality was deemed adequate. The functionality and aesthetics of the app may be enhanced to make it more appealing and convenient to use. The system has been rigorously tested, and any issues found have been fixed. Also, the technology facilitates the exchange of files containing helpful information.

In conclusion, a travel business may benefit significantly from automating its processes with the help of the Tourism Management System. That will be a great advantage if just a few companies adopt it. Our comprehensive testing revealed that the application is up to par with all the specs you've provided.

REFERENCES

- [1] X. Ferrás, et al.: "Smart Tourism Empowered by Artificial Intelligence: The Case of Lanzarote.", *Journal of Cases on Information Technology (JCIT)*, 22, (1), 2020, pp. 1-13
- [2] X. Gao, Y. Qi, Y. Chai, C. Lei, and J. Wang: "Tourism Information Management System Using Neural Networks Driven by Particle Swarm Model", *Computational Intelligence and Neuroscience*, 2022, pp. 6386360
- [3] J. Du: "Research on Intelligent Tourism Information System Based on Data Mining Algorithm", *Mobile Information Systems*, 2021, 2021, pp. 5727788
- [4] Y. Sun, Zhao, Z., Jiang, D., Tong, X., Tao, B., Jiang, G., Kong, J., Yun, J., Liu, Y., Liu, X., Zhao, G., & Fang, Z. (2022). : "Low-Illumination Image Enhancement Algorithm Based on Improved Multi-Scale Retinex and ABC Algorithm Optimization. ", *Frontiers in Bioengineering and Biotechnology* 10, 2022

- [5] L. Jin, and B. Hu: "Influencing factors of online products decision-making oriented to tourism economy under the guidance of consumer psychology", *Frontiers in Psychology*, 13, 2022
- [6] S. Du, H. Zhang, H. Xu, J. Yang, and O. Tu: "To make the travel healthier: a new tourism personalized route recommendation algorithm", *Journal of Ambient Intelligence and Humanized Computing*, 10, (9), 2019, pp. 3551-62
- [7] C. Pai, S. Kang, Y. Liu, and Y. Zheng: "An Examination of Revisit Intention Based on Perceived Smart Tourism Technology Experience", *Sustainability*, 13, (2), 2021, pp. 1007
- [8] P. del Vecchio, C. Malandugno, G. Passiante, and G. Sakka: "Circular economy business model for smart tourism: the case of Ecobnb", *EuroMed Journal of Business*, 17, (1), 2022, pp. 88-104
- [9] J. A. Martínez-González, and C. D. Álvarez-Albelo: "Influence of Site Personalization and First Impression on Young Consumers' Loyalty to Tourism Websites", *Sustainability*, 13, (3), 2021, pp. 1425
- [10] X.-k. Wang, S.-h. Wang, H.-y. Zhang, J.-q. Wang, and L. Li: "The Recommendation Method for Hotel Selection Under Traveller Preference Characteristics: A Cloud-Based Multi-Criteria Group Decision Support Model", *Group Decision and Negotiation*, 30, (6), 2021, pp. 1433-69
- [11] M. Sadiq, N. Dogra, M. Adil, and K. Bharti: "Predicting Online Travel Purchase Behavior: The Role of Trust and Perceived Risk", *Journal of Quality Assurance in Hospitality & Tourism*, 23, (3), 2022, pp. 796-822
- [12] M. Valinejadshoubi, O. Moselhi, A. Bagchi, and A. Salem: "Development of an IoT and BIM-based automated alert system for thermal comfort monitoring in buildings", *Sustainable Cities and Society*, 66, 2021, pp. 102602
- [13] L. Ma, M. Iqbal, and K. Cengiz: "Realization of Agricultural Machinery Equipment Management Information System Based on Network", *International Journal of Agricultural and Environmental Information Systems (IJAEIS)*, 12, (3), 2021, pp. 13-25
- [14] M. Amin, K. Ryu, C. Cobanoglu, and A. Nizam: "Determinants of online hotel booking intentions: website quality, social presence, affective commitment, and e-trust", *Journal of Hospitality Marketing & Management*, 30, (7), 2021, pp. 845-70
- [15] E. Purnaningrum, and M. Athoillah: "SVM Approach for Forecasting International Tourism Arrival In East Java", *Journal of Physics: Conference Series*, 1863, (1), 2021, pp. 012060
- [16] S. Sukmadi: "THE PENTAHHELIX MODEL IN SYNERGIZING SECTORS TOURISM IN WEST JAVA TO IMPROVE LOCAL ECONOMY", *International Journal of Social Science*, 2, (4), 2022, pp. 1873-78
- [17] X. Li, R. Law, G. Xie, and S. Wang: "Review of tourism forecasting research with internet data", *Tourism Management*, 83, 2021, pp. 104245
- [18] N. Qasim, Y. P. Shevchenko, and V. Pyliavskyi: "Analysis of methods to improve energy efficiency of digital broadcasting", *Telecommunications and Radio Engineering*, 78, (16), 2019
- [19] O. I. Yurii Khlaponin, Nameer Hashim Qasim, Hanna Krasovska, Kateryna Krasovska: 'Management Risks of Dependence on Key Employees: Identification of Personnel', in Editor (Ed.)^(Eds.): 'Book Management Risks of Dependence on Key Employees: Identification of Personnel' (CPITS, 2021, edn.), pp. 295-308
- [20] T. Raluca-Florentina: "The Utility of Blockchain Technology in the Electronic Commerce of Tourism Services: An Exploratory Study on Romanian Consumers", *Sustainability*, 14, (2), 2022, pp. 943
- [21] S. Migliorini, D. Carra, and A. Belussi: "Distributing Tourists among POIs with an Adaptive Trip Recommendation System", *IEEE Transactions on Emerging Topics in Computing*, 9, (4), 2021, pp. 1765-79
- [22] U.-K. Lee: "Tourism Using Virtual Reality: Media Richness and Information System Successes", *Sustainability*, 14, (7), 2022, pp. 3975
- [23] N. S. Muhammad Soffian, M. Soffian, N. Mohd Rosli, M. Azrul, and A. Kashfi: "Development of Tourism Database Management System: Creating ER Model", *International Journal of Academic Research in Business and Social Sciences*, 11, 2021
- [24] T. Hou: "Research on Management Efficiency and Dynamic Relationship in Intelligent Management of Tourism Engineering Based on Industry 4.0", *Computational Intelligence and Neuroscience*, 2022, 2022, pp. 5831062
- [25] M. Mariani, S. Bresciani, and G. B. Dagnino: "The competitive productivity (CP) of tourism destinations: an integrative conceptual framework and a reflection on big data and analytics", *International Journal of Contemporary Hospitality Management*, 33, (9), 2021, pp. 2970-3002