Abstract. The RAMRSP Airplane Ticket Sales System Design is an exploratory study aimed at developing an airplane ticket sales platform to enhance efficiency and integration in the flight ticket booking process. This system presents solutions that encompass a variety of outstanding features, such as accurate route search capabilities, ticket choices from various airlines, secure payment methods, as well as integration with travel agents and various payment options. Moreover, the system also pays attention to purchase notifications and confirmations, along with customer data management, to ensure an optimal ticket booking experience. At its core, the emphasis in this system design lies in stringent data security aspects, scalability capabilities, and a user-friendly interface. By adopting this holistic approach, it is expected that the system will deliver an integrated and secure experience for users throughout the airplane ticket booking process.

Keywords. Customer data management, Data security, Scalability

INTRODUCTION

In the era of rapid development of technology and communication, the aviation industry has become one of the sectors that has undergone significant transformation. Increasing public demand and mobility, as well as advances in information technology, have encouraged the development of a more efficient and integrated ticket sales system. In the aviation industry, the ticket sales system plays an important role in providing access and convenience for passengers in ordering and buying airplane tickets. With the rapid development of information technology, designing an effective and efficient ticket sales system is becoming increasingly important in facing increasingly competitive market demands. This journal aims to discuss the design of an innovative and integrated flight ticket sales system.

The design of the Ramrsp ticket sales system involves several stages that must be considered carefully. The first stage is a needs analysis, in which the identification of the wishes and expectations of prospective passengers as well as the internal needs of the Ramrsp airline is the main focus. In addition, the technical and budget constraints must also be well understood. The next stage is system design, which involves designing the overall system architecture and functionality. Selection of the right technology and programming language, a reliable database structure, and an intuitive and responsive user interface are an integral part of this design (Guskani, A., & Muthia, DA (2022)).

The database is also a key component in designing this system. The database must be able to store information about flight schedules, seat availability, ticket prices, user data, and other relevant information. This will ensure that system users can easily search for flights based on certain criteria and get fast and accurate results. The Ramrsp ticket sales system must also be equipped with payment integration that makes it easier for users to make flight ticket payments online. Of course, security is a top priority in designing this system. Protection of user data and ticket purchase
transactions must be guaranteed by security mechanisms such as data encryption, user authentication, and transaction security (Pujohardiyanto, A., & Rofiah, S. 2019).

System testing is an indispensable stage prior to the full implementation of a system. In this process, various scenarios and situations are tested to ensure that the system functions as expected and remains free from bugs or errors that could disrupt its functionality. This testing involves simulating different conditions, including load testing to ensure that the system can handle high levels of traffic without experiencing significant performance degradation.

After navigating through the implementation and launch phases, the Ramrsp ticket sales system will become a dependable tool for users. However, implementation does not mark the end of this journey. It's important to remember that the world of technology is constantly advancing, and user needs can evolve over time. Hence, continuous system maintenance is key to ensuring optimal performance and seamless services. Beyond rectifying any bugs or issues that might arise, maintenance also entails updates to align with the latest technological developments and functional adjustments to meet new requirements (Guskani, A., & Muthia, DA 2022).

In the rapidly evolving landscape of technology, adaptability is a crucial attribute for IT systems such as the Ramrsp ticket sales system. The pace of change in the digital realm necessitates systems that can seamlessly adjust to shifts in various aspects. These alterations might encompass transformations in the demands of the business environment, the introduction of novel technological innovations, or even modifications in user expectations and preferences. To remain effective and relevant, the Ramrsp system must possess the ability to gracefully embrace these changes without compromising its functionality or user satisfaction.

Maintaining the capacity to navigate these shifts demands more than just initial design considerations. It requires a systematic approach that goes beyond implementation, focusing on the long-term sustenance of the system's efficacy. By consistently updating and enhancing the system through appropriate maintenance, the Ramrsp ticket sales system can remain at the forefront of delivering exceptional services. Additionally, the flexibility embedded within the system's design ensures that it can swiftly adapt to accommodate new features, integrations, or alterations in workflows that the ever-changing technological and business landscape may demand.

This adaptability not only safeguards the system's competitive edge but also positions it to proactively address potential challenges on the horizon. The foresight to anticipate and embrace forthcoming changes allows Ramrsp to preemptively address user needs and industry trends. As technology continues to shape the way we conduct business and interact with systems, an adaptable IT infrastructure like that of Ramrsp becomes an invaluable asset, enabling the system to evolve in harmony with the industry's dynamic nature and continue to deliver optimal results to its users (Irawan, F. 2022).

Achieving design success and ensuring compatibility with the dynamic advancements in the aviation industry necessitate a robust and seamless collaboration between various stakeholders. The development team, consisting of skilled engineers and experts, must work closely with the company's management and system users. This synergy of expertise ensures that the aviation system's design aligns with the organization's strategic goals while meeting the practical needs of those who will be using it on a daily basis. Regular feedback loops between developers, management, and end-users enable the identification of potential design issues early on, facilitating
timely adjustments and enhancements. This collaborative approach guarantees that the final product is not only technically sound but also effectively addresses real-world challenges (Nurachim, I. 2010).

In the fast-paced aviation industry, remaining relevant and competitive is crucial for sustainability. Periodic evaluations of the aviation system are essential to assess its performance and adaptability to changing market trends and technological advancements. Regular reviews provide an opportunity to identify any areas that may require updates, enhancements, or modifications. These evaluations also allow for the incorporation of valuable insights from end-users who are directly impacted by the system's functionalities. By continuously monitoring the system's effectiveness, the aviation company can proactively implement necessary changes, ensuring that the system remains cutting-edge and capable of meeting the ever-evolving demands of the industry (Guskani, A., & Muthia, DA 2022).

In conclusion, close collaboration between the development team, company management, and system users is a cornerstone of successful aviation system design. By fostering a strong working relationship and maintaining open lines of communication, the design process can be fine-tuned to meet both strategic objectives and practical user needs. Additionally, periodic evaluations play a pivotal role in keeping the system up-to-date and competitive in the dynamic aviation landscape. This collaborative and adaptive approach ensures that the aviation system remains a valuable asset for the company and an effective tool for navigating the challenges and opportunities in the industry.

**Literature Review**

Airline ticket sales system design has become the focus of attention in the aviation industry to improve efficiency and customer experience. Various previous studies have proposed different approaches and technologies to create a more sophisticated and efficient ticket sales system. According to Smith and Johnson (2018), it is important to create an intuitive and responsive user interface in designing an airplane ticket sales system, so that prospective passengers can easily search for flight schedules and purchase tickets without difficulty (Irawan, F. (2022).

In a study by Lee et al. (2019), they emphasize the importance of integrating the airline ticket sales system with online payment services to facilitate an easy and safe payment process for users. This integration allows passengers to pay directly for airplane tickets through various electronic payment methods, such as credit cards, bank transfers, or digital wallets. In addition, Rizaldi and Nurul (2020) stated that data and transaction security is important in designing an airplane ticket sales system. Security mechanisms such as data encryption and user authentication must be implemented to protect users' personal information and prevent fraudulent activity.

Several other studies have also highlighted the importance of optimizing search algorithms in the airline ticket sales system. For example, a study by Chen et al. (2021) presented an approach to improve the performance of flight search systems by optimizing the response time and accuracy of search results.

However, even though there have been significant efforts in designing an airline ticket sales system, there are still some knowledge gaps that need to be addressed. Several studies have not fully paid attention to aspects of integration with complex flight backend systems, which can affect the availability of real-time flight data. In addition, there is potential to incorporate the latest technologies such as artificial
intelligence (AI) to improve the user experience by providing flight recommendations tailored to the preferences of potential passengers (Nurachim, I. 2010).

**METHOD**

This section will explain the development of an effective and efficient online flight ticket booking website system. The development process from scratch (Custom Development) uses the "Build from scratch" method, also known as "custom development." This method involves building a website from scratch using programming languages such as HTML, CSS, and JavaScript. The development team uses a text editor or Integrated Development Environment (IDE) such as Visual Studio Code or Sublime Text. This method provides full flexibility in designing and developing websites according to the desired needs. However, it should be noted that this method requires a significant investment of time and resources, considering that the team has to build all elements of the website from scratch. Therefore,

In addition to the development process, another initial step is "creating a database." Before creating a website, it is important to create a database that will store data neatly in the possession of the website owner. Next, the step "legalization or website registration" is carried out so that the website can be accessed by the public. This process involves registering domains through purchasing or utilizing free means of making the web accessible to the public. The system will involve two main types of users, namely "users" and "employees."

**User**

Users will start the "registration" process by entering their email and password as the first step to access the system. After successfully logging into the system, users will have access to several activities, including viewing and changing their "account profile", creating or changing "user ID" and "new password" to increase security, entering personal data according to "identity". their personal account, view the list of available "Airline Tickets", and select "Type of Payment" according to their preferences. All of these features are designed to provide a user experience that is comfortable, safe, and according to their individual needs in using the system (Heildayana, I. (2021)).

**Employee**

When employees successfully log into the system by entering their email and password, they will get special access rights to carry out the following tasks: first, they can "process tickets" for flights that have been booked by users, ensuring all related processes run smoothly. Second, they can "update flight schedules" according to the latest developments to provide users with accurate information. Furthermore, employees are responsible for managing the "payment methods" used by users so that transactions can be carried out efficiently and safely. Finally, they can "create a list or list of consumers" who have used the airline ticket booking service, making it easier to monitor and manage user information systematically. With this access right,

With a meticulously structured system and a suite of pertinent features, the aspiration is for this flight ticket booking website to offer users effective and efficient services, streamlining the often complex process of reserving plane tickets online. By incorporating intuitive navigation, accurate search functionalities, secure payment gateways, and seamless integration with travel agents, the platform aims to provide a user-friendly experience that enhances convenience and expedites the ticket booking procedure.
RESULTS AND DISCUSSION

Results

This application system has been designed with several different pages, including the user login page, the employee data page, and the main user page. The user login page functions as the main page that appears when the user opens the flight ticket booking application, as shown in Figure 4. This login process requires the user to fill in the previously registered email and password. In this page, security features have been implemented to ensure the legitimacy of user information. After successfully logging in, the user will be directed to the user's main page which presents various features and information related to ordering airplane tickets.

The main user page is designed with an intuitive and user-friendly interface, making it easier for users to search for flights, select flight classes, and browse various ticket options from various airlines. Advanced search capabilities also allow users to filter preferences such as departure dates and other criteria, to generate search results that better suit their needs. Up-to-date flight schedule information and real-time ticket availability are also clearly presented, ensuring users get the most up-to-date information. With these complete and integrated features, it is hoped that this application system will provide users with a more enjoyable and efficient flight ticket booking experience.

Figure 1. login page

The Login Page is a page within a system or platform that provides access to users who have registered accounts. On this page, users are prompted to enter credential information, such as a username and password, to identify and authenticate their identities before gaining access to further features or limited information. The Login Page is often used as a gateway for users to enter protected system environments. Upon successful entry, users are usually directed to the main page or their personal area within the platform. This is a crucial step in maintaining the security and privacy of user data and ensuring that only authorized individuals can access sensitive information or specific features within the system.
Official Data Page

This page contains RAMRSP employee biodata. The bio contains the employee number, full name, address and telephone number of the employee, as shown in the image. Each of this information is important to facilitate employee data management and ensure the completeness and accuracy of recorded data. With this biodata, the process of identification and contact with employees will be more efficient and organized. RAMRSP is committed to maintaining the confidentiality of employee information in accordance with applicable rules and policies. We hope that with the availability of this biodata, the service and management of human resources at RAMRSP can be better and more focused.

Aviation Employee Data refers to information related to individuals working in the aviation industry. This encompasses various details such as personal identification, educational qualifications and training, work experience, as well as job responsibilities associated with aviation operations. This data may include information such as pilot licenses, aircraft technician certifications, placement within the aviation organization, and possibly records of safety training and competencies required in the highly regulated and intricate environment of the aviation industry. The maintenance and security of employee data in the aviation field are crucial to ensuring safety and operational efficiency across this sector.

Home page

This page contains preliminary information on the RAMRSP website. The main purpose of this page is to provide a brief overview of what users can access on the RAMRSP website. By presenting various information menus, it is expected that users can easily find and access the information they need.

The RAMRSP website is designed in a user-friendly manner, so that users can quickly adapt and feel comfortable when interacting with the various information menus available. The various information displayed includes health services provided,
doctors' schedules, the latest health articles, hospital profiles and history, as well as information about medical facilities and technology available at RAMRSP.

In an effort to provide the best user experience, the RAMRSP website also provides an efficient search feature, so that users can easily find specific information without having to manually surf through these menus. In addition, RAMRSP is also committed to regularly updating and improving the content on this website, so that users always get the latest and most relevant information every time they visit this page.

With all the facilities and information available on the start page of the RAMRSP website, it is hoped that users will feel satisfied and assisted in fulfilling their information needs regarding health services and all matters related to this hospital.

On this page, users are usually introduced to a summary of content, navigation, and available feature choices within the platform. The Home Page plays a crucial role in guiding users on how they can explore and utilize various sections or services offered by the website or application. The design and content of the Home Page are typically arranged to create a positive first impression, communicate essential information, and facilitate easy access and intuitive navigation within the platform.

**Discussion**

The design of the "Ramrsp" airline ticket sales system is an important step in creating an efficient and easy-to-use platform for users to search, book and pay for airline tickets. These systems need to be carefully designed to meet the needs of businesses and users, while prioritizing security and optimal user experience.

The first step is to conduct a needs analysis to understand the required business requirements. Features such as flight search, booking, payment, user account management and ticket issuance must be clearly identified so that they can be properly integrated in the system. System architecture is also a crucial thing in design. Selection of the right technology and infrastructure will ensure the system runs smoothly and is able to handle high user traffic. In addition, designing a strong and...
secure database will be the main foundation for storing flight information, tickets and user data.

In the design of an airplane ticket sales system, the user interface aspect plays a pivotal role. An interface that is crafted to be intuitive, responsive, and user-friendly will have a positive impact on the overall user experience. Within this interface environment, users are expected to easily conduct flight searches, choose options that align with their preferences, and execute payment processes with optimal speed and smoothness. In the pursuit of delivering a seamless ticket shopping experience, a design that supports intuitive interactions and provides clear information is of paramount importance.

Equally critical is security in the design of the airplane ticket sales system. Recognizing that users will input personal information and financial transaction data, the system must possess a robust security layer. This entails employing state-of-the-art encryption technology to protect sensitive data during transmission and storage. Furthermore, mechanisms such as two-factor authentication and stringent access controls should be implemented to secure the system against unauthorized access. The responsibility to uphold user information privacy and security is a primary obligation of this system in creating a safe and trusted environment.

By merging a user interface that supports ease of use with robust security, the airplane ticket sales system is expected to provide an optimal experience for users. By streamlining the flight search and purchase processes and ensuring the security of personal data and transactions, this system establishes an environment that enables users to focus on the essential aspects of travel without concerns about technical issues or security risks.

Thorough testing is a fundamental prelude to the launch of any system, and it holds particular significance for the Ramrsp flight ticket sales system. By subjecting the system to rigorous testing procedures, potential bugs, glitches, and issues can be identified and rectified before they affect users. This proactive approach ensures a high level of functionality and user satisfaction upon launch. However, the commitment to quality doesn’t end there; continuous regular maintenance and updates are essential to uphold the system’s operational excellence over the long term. Regular updates can introduce new features, improve security measures, and optimize performance, ensuring that the system remains reliable and up-to-date.

An overarching concern in the design process is scalability – the ability of the system to gracefully expand to accommodate an increasing number of users and transaction demands. The Ramrsp flight ticket sales system should be engineered to handle growing traffic without sacrificing performance. Simultaneously, adherence to industry compliance standards is paramount. Given that the travel industry operates within a regulatory framework, the system must meet all legal requirements and ensure data privacy, security, and transparency. Striking a balance between scalability and compliance is crucial to guarantee both efficient growth and regulatory adherence.

The meticulous design of the Ramrsp flight ticket sales system aims to provide users with a seamless and enjoyable experience when shopping for flight tickets. This is not only about quick and intuitive ticket booking; it also encompasses creating an environment where users can effortlessly navigate the platform, explore options, and complete transactions with confidence. A positive user experience contributes significantly to user retention and satisfaction. Furthermore, the system is not only customer-centric but also business-focused. A well-designed system can enhance
business operations, improve efficiency, and contribute to business growth by streamlining processes and optimizing resources.

In conclusion, the Ramrsp flight ticket sales system embodies a holistic approach to system design, encompassing rigorous testing, continuous maintenance, scalability considerations, compliance adherence, user experience enhancement, and business efficiency. Through these efforts, the aim is to provide a platform that not only meets user needs but also propels the business toward sustainable growth. The integration of these elements will result in a comprehensive and powerful system that benefits both users and the company alike.

CONCLUSION

In this research, we succeeded in designing a comprehensive ticket sales system by utilizing the latest technology. The design of this system aims to facilitate the process of selling airplane tickets to customers efficiently and accurately. Our system includes a user-friendly user interface, enabling customers to easily search and select flights according to their preferences. In addition, we have integrated a secure payment system and a wide selection of payment methods for customer convenience. The advantage of this system lies in its ability to provide flight schedule information that is always updated in real-time, ensuring customers get access to the most recent information. In addition, this system also allows our employees to easily process ticket orders, manage payment methods, and maintain customer lists efficiently. With the adoption of the latest technology, this ticket sales system is expected to increase customer satisfaction and bring the flight ticket booking experience to a better level.

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