ICT helpdesk to track tickets

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***Abstract*- A pleasant work atmosphere boosts employee enthusiasm, productivity, and growth. To have a healthy working environment, a company must maintain its departments linked and be able to rectify anything if something goes wrong. If something goes wrong on one side, it will have an impact on the other, thus it must be corrected as soon as possible. To discover a solution as of now, you'd have to call the person in charge of repairing it, which is sometimes both difficult and time consuming. We've developed a system that allows you to open a ticket with almost a single click of your laptop. If you have a problem that needs to be fixed, you will login to our website, go to the department in charge, and then file a ticket. You will be notified when the person in charge has examined your ticket and will shortly update it when he is finished addressing it. This is convenient since you won't have to search for the person in charge or phone him to get a solution.**

***Index Terms* - Help Desk, Ticket Tracking, Efficiency and streamlining.**

I. INTRODUCTION

Every business owner should understand the crucial role that customer and employee satisfaction plays in creating a positive work environment. To achieve the desired results, all departments within the company must work together. One effective way to improve customer service is to have an efficient and well-organized help desk.

A help desk is a service that utilizes technology to assist businesses in providing quick and effective responses to their customers. This support system helps businesses resolve customer issues more quickly and effectively, as all interactions are consolidated into a single interface, giving a comprehensive context to the customer experience.

The ICT help desk has three main users: customers, technicians, and administrators, each with different levels of access to the website. Customers can only raise issues and provide a brief description of the problem to the technician in charge. Technicians can view and update tickets as they work on them, while administrators have full control over the page.

Having a help desk in place provides numerous benefits for businesses, including faster service for customers, as they do not have to physically go to the technician or make a phone call to resolve their issue. This not only improves customer satisfaction but also makes the support process more efficient and streamlined.

II. LITERATURE REVIEW

The importance of help desk support has led to a significant amount of research in this area, with the goal of enhancing the methods for providing help desk support. One of the early studies in this field was conducted by Mr. Schubert Foo and his team in 2002, who developed a Web-based intelligent help desk assistance environment called Web Hotline for a multinational company's customer care center [1]. The subject of "what skills best prepare new individuals working in information technology helpdesk positions" is addressed by Flynn (2014), who also tries to provide an answer [11]. Another study, "Help Desk Management System" by Roel P. Mansongsong and his team, addressed the challenge of determining the support resources available to customers and the help desk and determining the performance metrics to assess the proposed work. The outcomes of this strategy were found to be encouraging [2].

Izzat Hafifi worked on the development of a Help Desk System that uses an online and mobile platform, along with the System Development Life Cycle (SDLC) methodology [3]. Nour M. Sharkasi's study, "Technical Support Helpdesk Performance in the Academic Environment," focused on the benefits of helpdesks in academic settings and the development of questionnaires to measure user satisfaction and service quality and help desk staff job satisfaction [6].

Iain A. Middleton and a colleague conducted a study on the academic help desk, entitled "In Need of Support: The Academic Help Desk," to understand the challenges faced by assistance centers. Another study, "The role of the help desk in the strategic management of information systems" by Iian Middleton and Rita Marcella, explores the potential of help desks to collect data for organizations on system use, planning, and implementation [5].

Finally, the use of artificial intelligence to support help desk management was the topic of a paper by Ian Stinton, titled "Helping the Help Desk." The numerous studies in this field show the ongoing efforts to improve help desk support and make it more effective and efficient [7].

A few studies have been published in the literature regarding the provision of intelligent or agent-based helpdesk systems. Roth-Berghoth (1999) conducted research on the creation and implementation of HOMER, a case-based helpdesk support system [9]. Kang et. al. (2002) aimed to create an information retrieval system for a help desk that could be utilized by a broad range of users and could be easily maintained. The prototype they developed, which could be used on the World Wide Web, merged case-based reasoning and keyword research to deliver fast access to relevant help information and support for users who are uncertain about the right keywords. Other research that Examples of the use of case-based reasoning include studies by Kolodner (1985) and Kriegsman and Barletta (1993). Logan and Kenyo (1992) detailed the development and deployment of a helpdesk software solution, which was introduced in US West Communications and prioritized user empowerment [8].

III. MODELING OF HELPDESK TRACK TICKET

The helpdesk ticket tracking Use-Case Diagram depicted in Fig. 1 serves as a visual representation of the functionality and outcomes of the helpdesk system. It illustrates the interactions and actions that can be performed by the technician, staff and administrator including logging in, viewing tickets, and answering tickets. The use case diagram provides a comprehensive understanding of the system's capabilities.

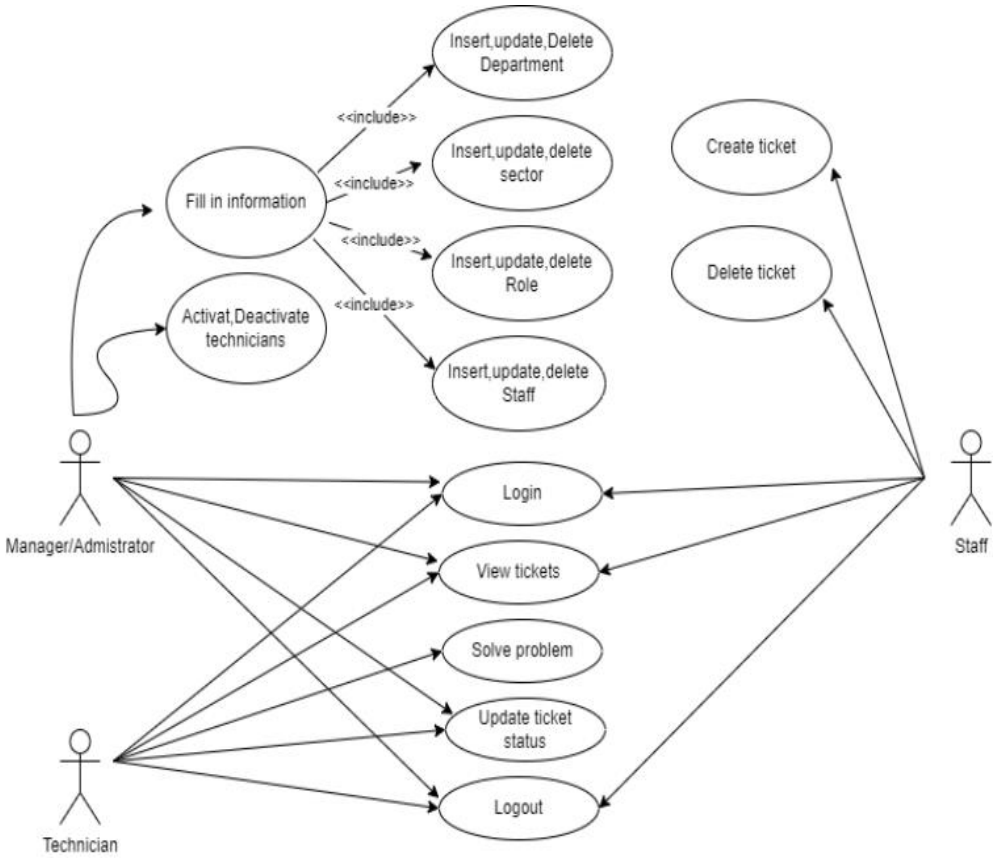

Fig. 1. Use Case for Technician, Staff and Administrator

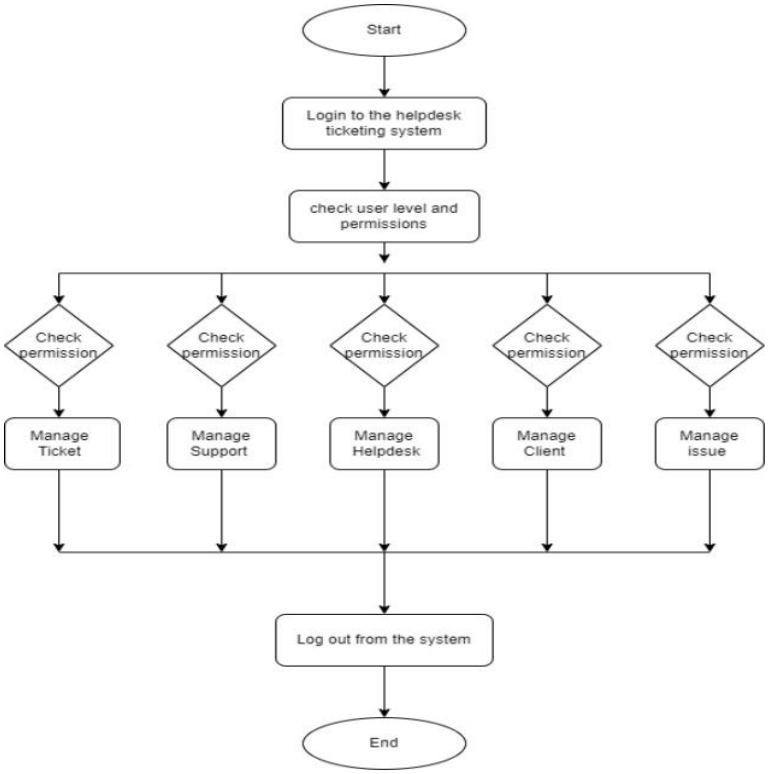

FIG. 2. ACTIVITY DIAGRAM

The Activity Diagram in Fig. 2 showcases the steps taken by staff, technicians, and administrators to report and resolve ICT issues. The Sequence Diagram in Fig. 3, on the other hand, shows the communication between the helpdesk administrators and the system, starting with the homepage and ending on the login page depending on a successful login.

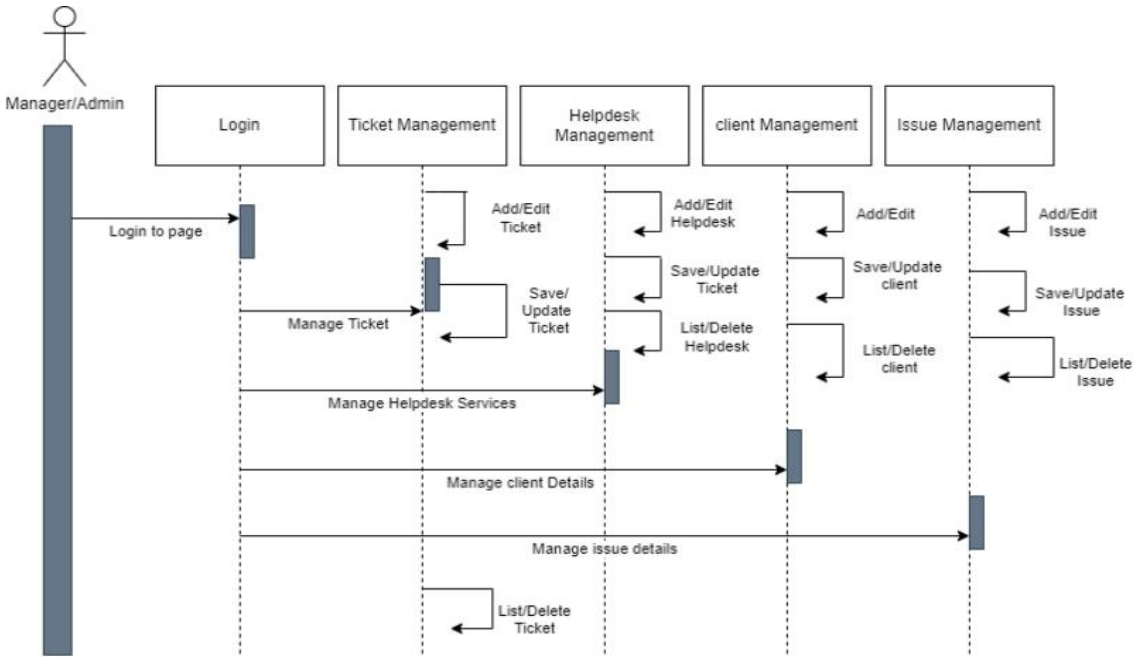

Fig. 3. Sequence diagram for Administrator

IV. IMPLEMENTATION OF HELPDESK TRACK TICKET

The objective of this research was to create a system for managing operations and technical issues in institutions efficiently and effectively. To accomplish this goal, the following tools were utilized in the system's creation: HTML, CSS, and JavaScript for the front-end part; the system is equipped with XAMPP as the web server, using PHP as the server-side programming language and MySQL as the database management system. This solution can be utilized by any organization looking to utilize technology to simplify their ICT support process.

Organization using this web app will provide login profiles for their staff, technicians, and Administrator by using their credential.

The Login page (Fig. 4) includes a form that asks for “staff /technician and administrator” to login to access the system. The data inputted in the login page will be checked against the stored login credential in the database. The staff part (see Fig. 5) allows the staff members to Generate support requests or "tickets", and check status and report issues. The admin page (fig. 6) and staff page (fig. 7) allows them to see which ticket is created if it is done or not and to check status update.

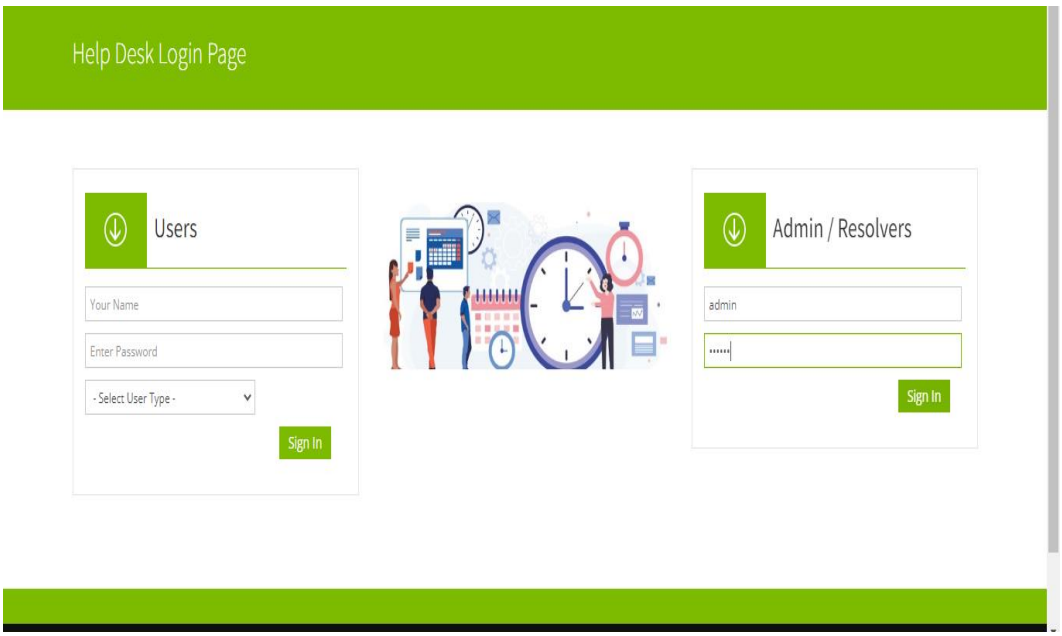

Fig. 4. Register Page

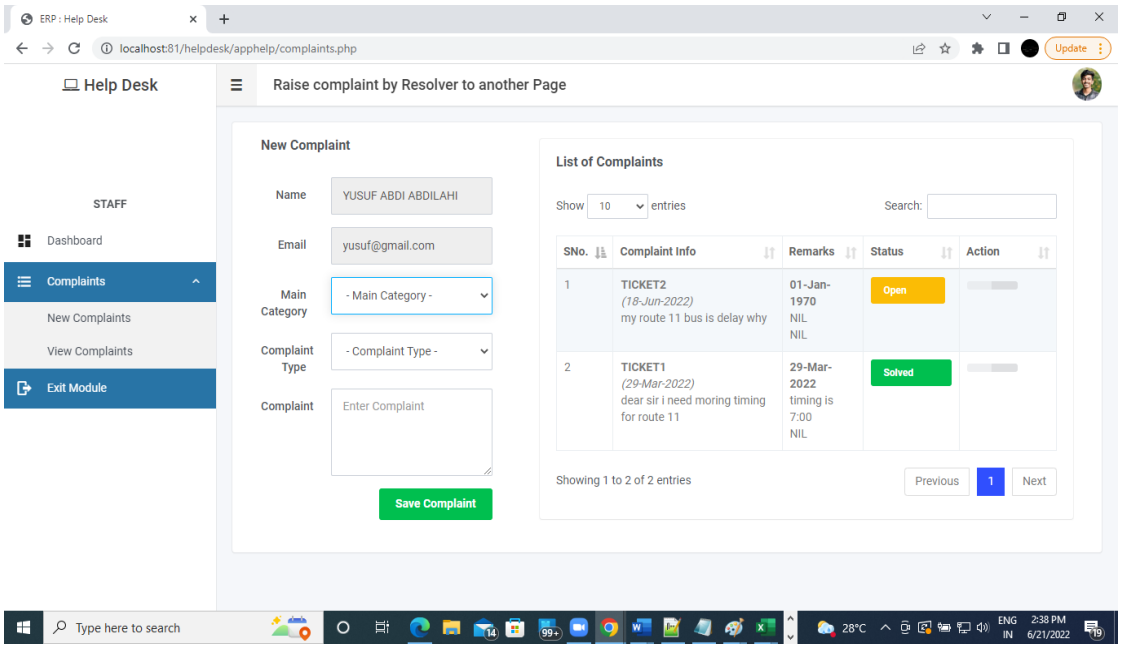

Fig. 5. Staff Page

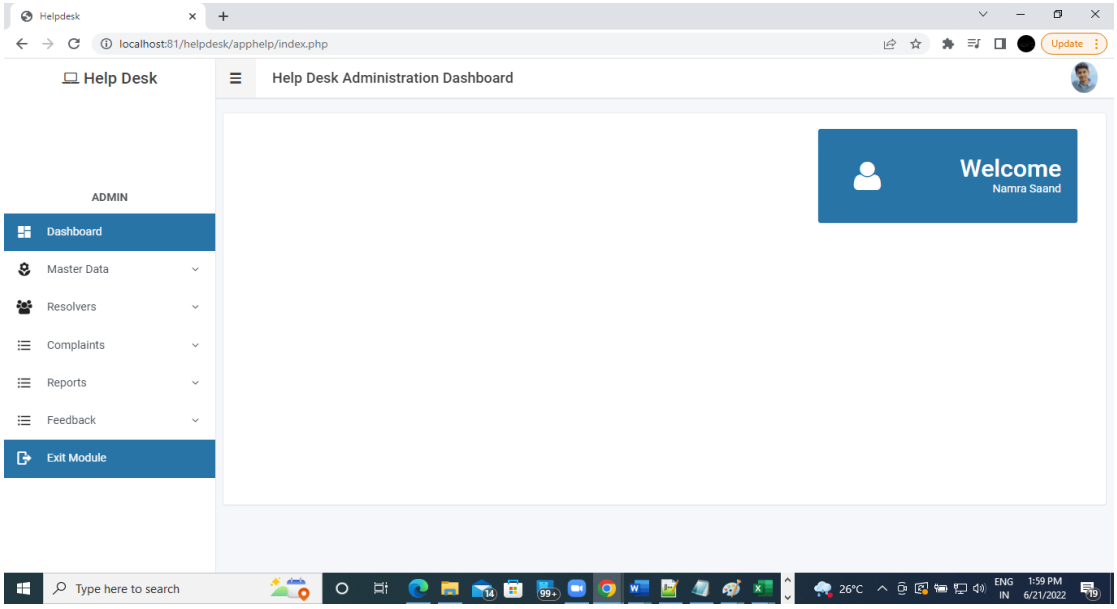

Fig. 6. Admin Page

V. RESULTS AND DISCUSSION

The web-based helpdesk system is an innovative solution that provides a platform for administrators, staff, technicians, and department heads to actively participate in the administrative and support process. This system streamlines their work and resolves problems with ease, making it an indispensable tool for any organization. The goal of this system is to significantly decrease manual administrative tasks and improve the utilization of computer systems within the workplace, resulting in less downtime. By reducing the need for paper-based processes, this solution also helps to speed up the resolution time for ICT-related problems.

In order to test the effectiveness of this solution, a few tests were conducted within a small environment. The results were impressive, indicating that the ticket tracking web application is incredibly useful, user-friendly, and saves a significant amount of time, thereby increasing productivity. This means that the system can be scaled up to fit any type of support system as it is designed to facilitate communication and interaction between managers/administrators, clients/customers/staff, and technicians/support providers.

In summary, the web-based helpdesk system is an innovative solution that provides a platform for efficient and effective communication and interaction within an organization. Its benefits include reducing manual administrative tasks, improving the utilization of computer systems, and reducing downtime. Moreover, it is user-friendly and saves a significant amount of time, making it an ideal solution for any type of support system.

CONCLUSION:

In conclusion, implementing an ICT helpdesk system to track tickets in an organization's web application project can bring numerous benefits to the company. The helpdesk system provides a single interface for consolidating all customer interactions, which

enhances the customer experience by giving a comprehensive context to their issues. With all information in one place, the help desk ensures that customers receive faster service, as they can raise issues and track the progress of their tickets online. This reduces frustration and provides a transparent way of managing customer queries.

Moreover, the helpdesk system improves the efficiency and effectiveness of the support process. Technicians and administrators have access to the same information, enabling them to work together to resolve customer issues quickly and effectively. This reduces the time spent on resolving issues and allows staff to focus on other tasks, thus improving productivity.

Overall, having a well-organized and efficient ICT help desk can play a crucial role in improving customer and employee satisfaction. By providing timely and comprehensive support to customers, the helpdesk system helps to build trust and loyalty, which is crucial for any business. Additionally, employees benefit from an organized system that enables them to work effectively, leading to a supportive and productive workplace atmosphere. In conclusion, implementing an ICT helpdesk system is an excellent investment for any organization looking to improve customer and employee satisfaction while increasing productivity and efficiency.

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