MEDBAY THERAPY AND LEARNING CENTER MANAGEMENT SYSTEM

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ABSTRACT. This study aims to develop a web-based management system for Medbay Therapy and Learning Center to address challenges with its current software, such as a lack of user-friendly interface, local currency support, and online enrollment. Data gathering procedure was done through an interview in the center involving the administrator. The proposed system simplifies operations by offering features like a user-friendly interface, local payment options, online enrollment, appointment scheduling, and progress tracking for clients. The system was developed using HTML, CSS, JavaScript, and Bootstrap for the front-end, Python Django for the back-end. The system is accessible through the web using computer and digital devices. In this study, a software evaluating tool was used to measure usability through a modified survey questionnaire based on the System Usability Scale (SUS). A System Usability Scale final score of 75 places the Medbay Therapy and Learning Center Management System within the "Good" usability range. The results reflect a general positive experience from the various types of users in the system, including clients, therapists, educators, and administrators. Feedbacks from the participants of the study gave their suggestions such as inventory and payroll modules, a mobile application version of the web system, and multi-factor authentication. These recommendations are intended to make the Medbay Therapy and Learning Center Management System get better and ready for future improvements and growth.

Keywords*: Web-based Management System;*

1. INTRODUCTION

Therapy and education are among the most essential needs of people of all ages experiencing struggles with their mental and physical health issues, as therapy and educational services continue to evolve with advanced technology, their benefits are significantly enhanced. Web-based therapies, in particular, offer a powerful solution to increase accessibility and reduce the costs of delivering mental health care to those in need [1]. Medbay Therapy and Learning Center, a small facility established by occupational therapists in 2019, is located in Iligan City, prioritizes giving quality therapy and education, including occupational therapy, speech therapy, special education, and tutorial services for children and people of all ages in Iligan City. However, Medbay Therapy and Learning Center faces challenges with its current management software. According to the researcher's interview, currently, the center relies on a third-party management system. While the system supports some of the center's needs, it presents multiple issues that hinder operations. Admin and clients report difficulties navigating with the system because it lacks a user-friendly interface. The system doesn't support local currency and it is displayed as Canadian dollars in their system, making it inconvenient for processing payments. Lastly, the current system has no online enrollment feature, leading to delays and increased administrative workload.

The researchers have acknowledged these issues and aim to create a web- based management system for Medbay Therapy and Learning Center with the goal of solving the issues being faced. This system aims to simplify tasks at Medbay Therapy and Learning Center with user-friendly interface, seeks to boost data handling in the enrollment process, automate manual administrative tasks, and promote smooth interaction among educators, clients, and therapists. With its key features like user and resource management, appointment scheduling, progress tracking, online enrollment, online payment options, and an integrated chat box feature for seamless communication between clients and the center.

2. OBJECTIVES OF THE STUDY

This study's objective is to design and develop a web-based system for Medbay Therapy and Learning Center, focusing on improving user interface usability, implement a billing system that accommodates local currency and comply with local payment options, creating an online enrollment feature to reduce delays and administrative workload, and testing the system's effectiveness through user testing and feedback.

3. METHODS

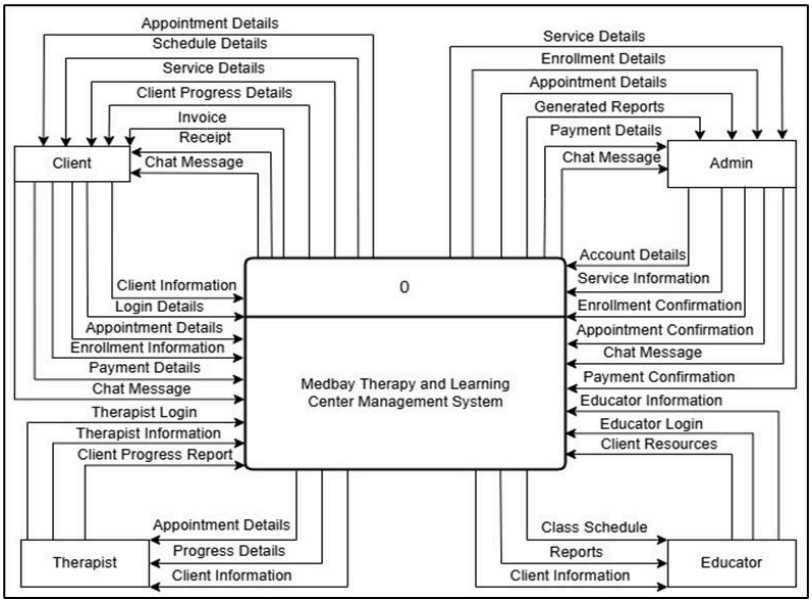

Figure 1. Context Diagram

Figure 1 shows the Context Diagram. That will be used in the development of the system. It shows the flow of data between the system and its external components. The system acts as a central hub, facilitating data exchange between these four entities involved in the MedBay Therapy and Learning Center's operations.

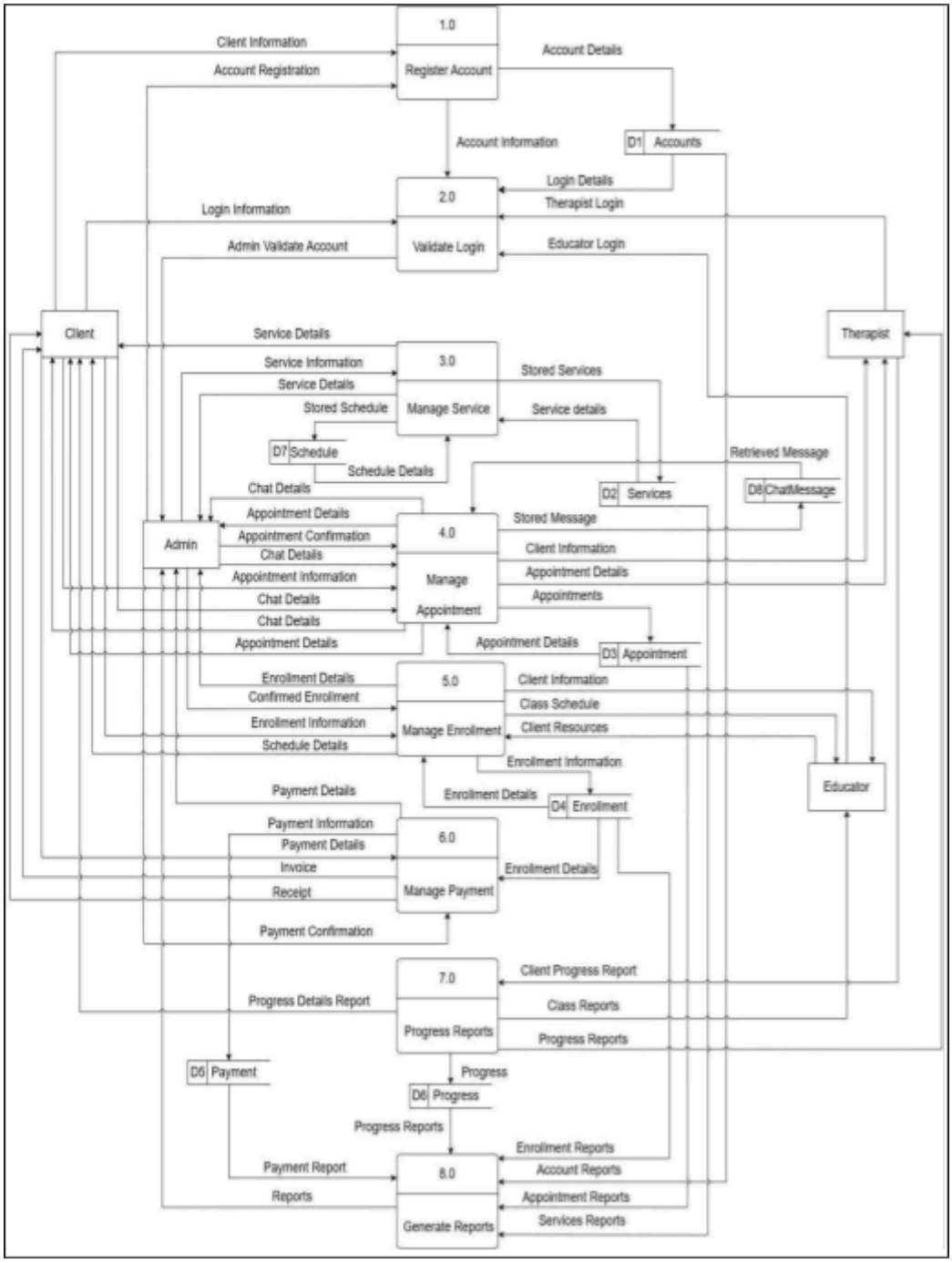

Figure 2. Data Flow Diagram

Figure 2 shows the Data Flow Diagram, this data flow diagram shows how information moves among the system's main processes, data stores, and external users (Client, Admin, Therapist, and Educator). Each process (e.g., Register Account, Login, Service Details, Appointment Details, Payment Information, Enrollment, Progress Reports) interacts with corresponding data stores (like Account, Chat Messages, Appointment, Payment, Enrollment, Progress) to create, retrieve, update, or delete information.

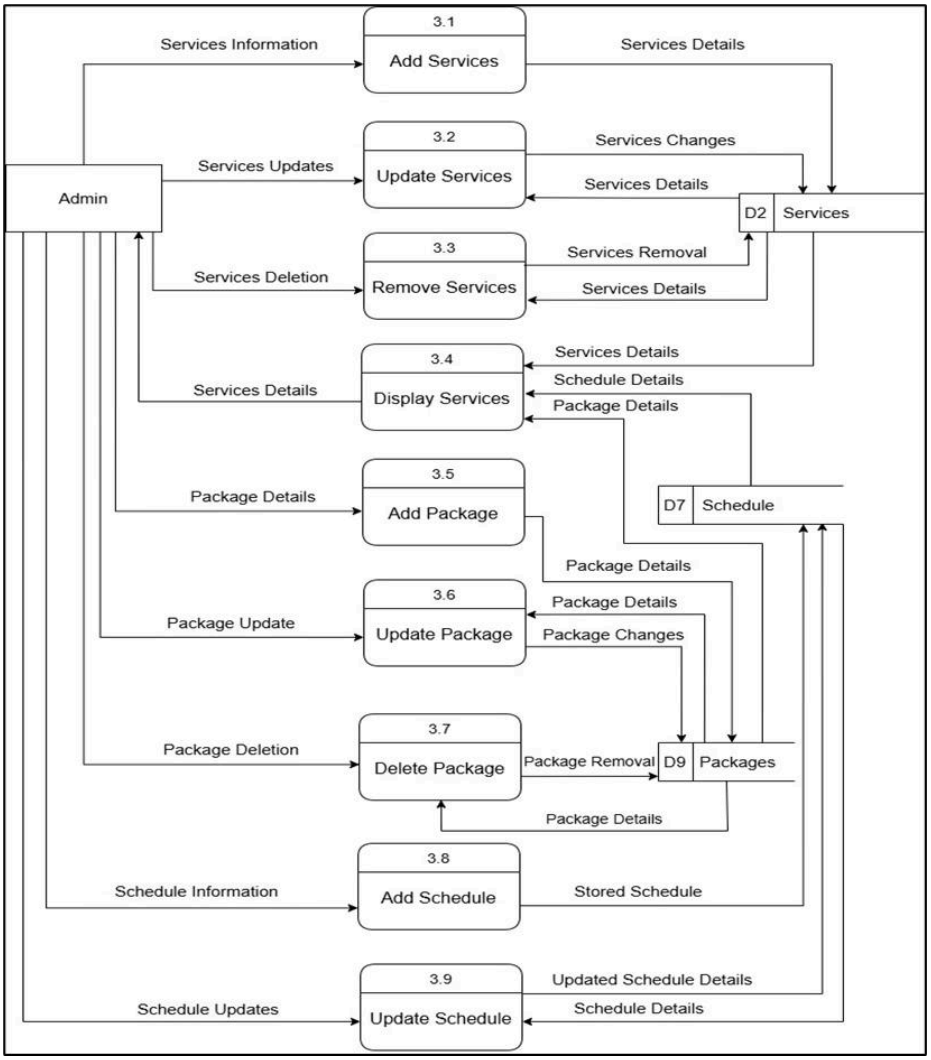

Figure 3. Process 3 Decompose

The diagram shows the decomposition of process 3. Manage Services has nine processes involving add services, update services, remove services, display services, add package, update package, delete package, add schedule, and update schedule.

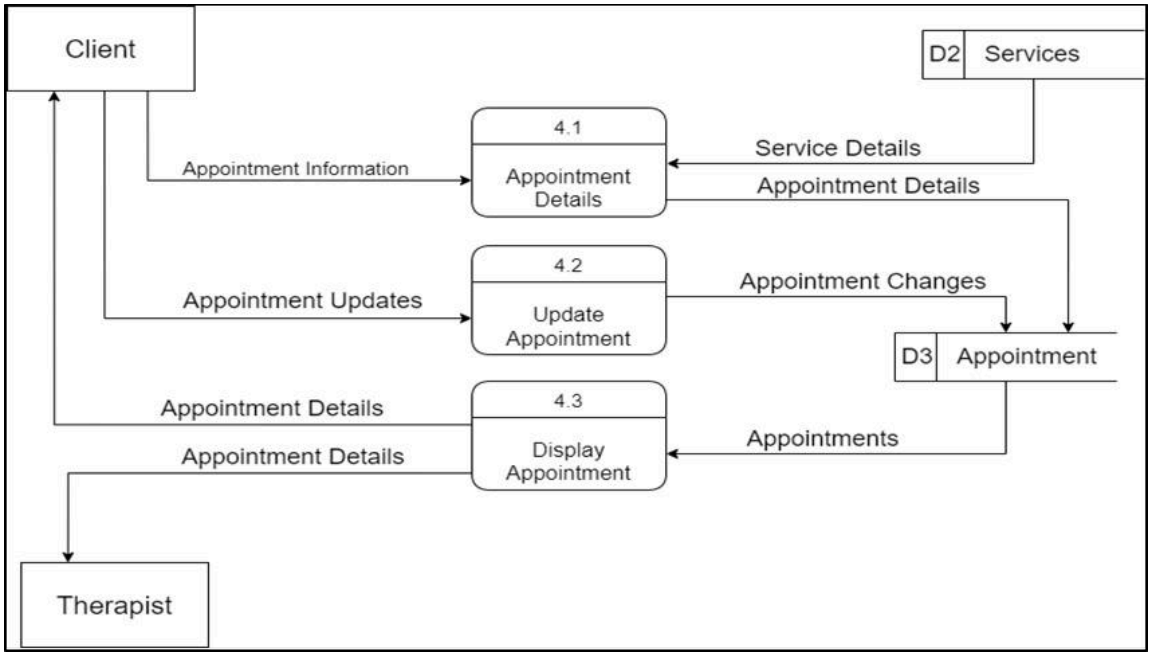

Figure 4. Process 4 Decompose

The diagram shows the decomposition of process 4. Manage Appointment has three processes involving appointment details, update appointment, and display appointment.

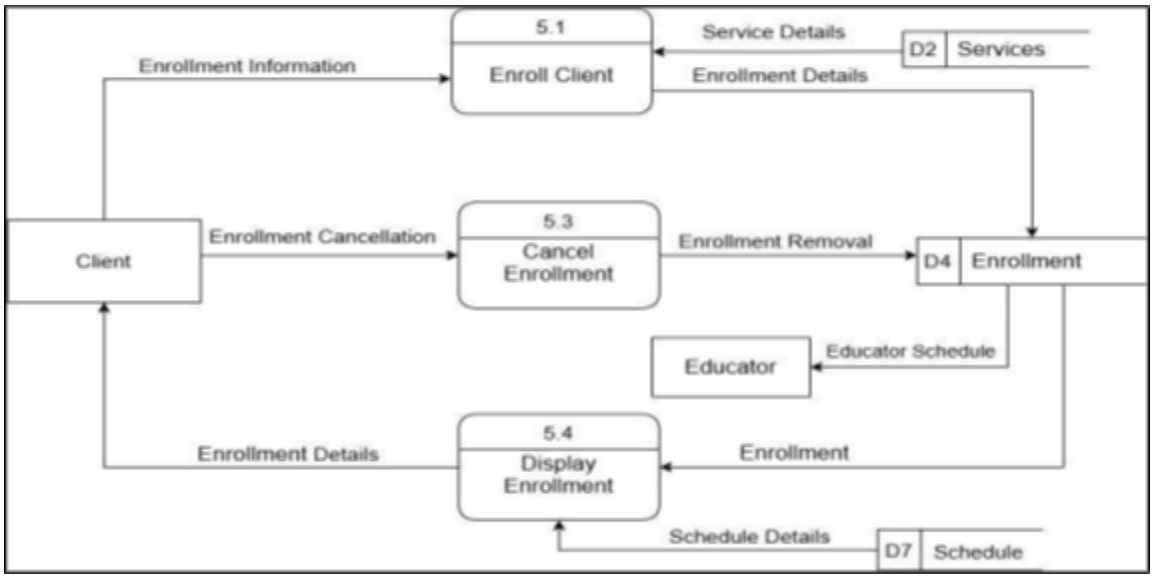

Figure 5. Process 5 Decompose

The diagram shows the decomposition of process 5. Manage Enrollment has four processes involving enrollment details, update enrollment, cancel enrollment, and display enrollment

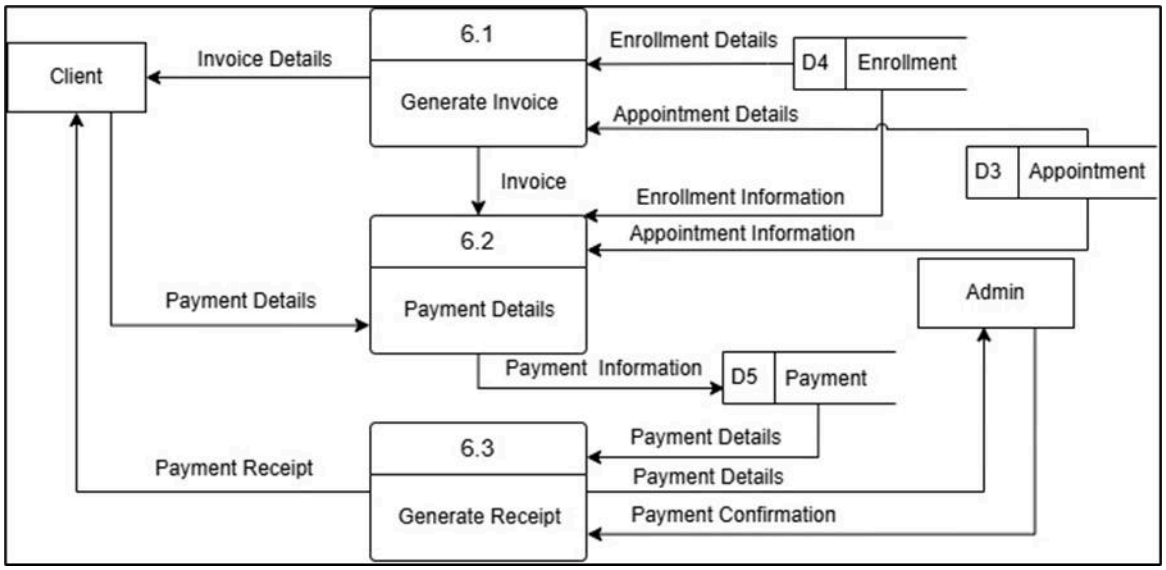

Figure 6. Process 6 Decompose

The diagram shows the decomposition of process 6. Manage Payment has three processes involving generating invoice, payment details, and payment report.

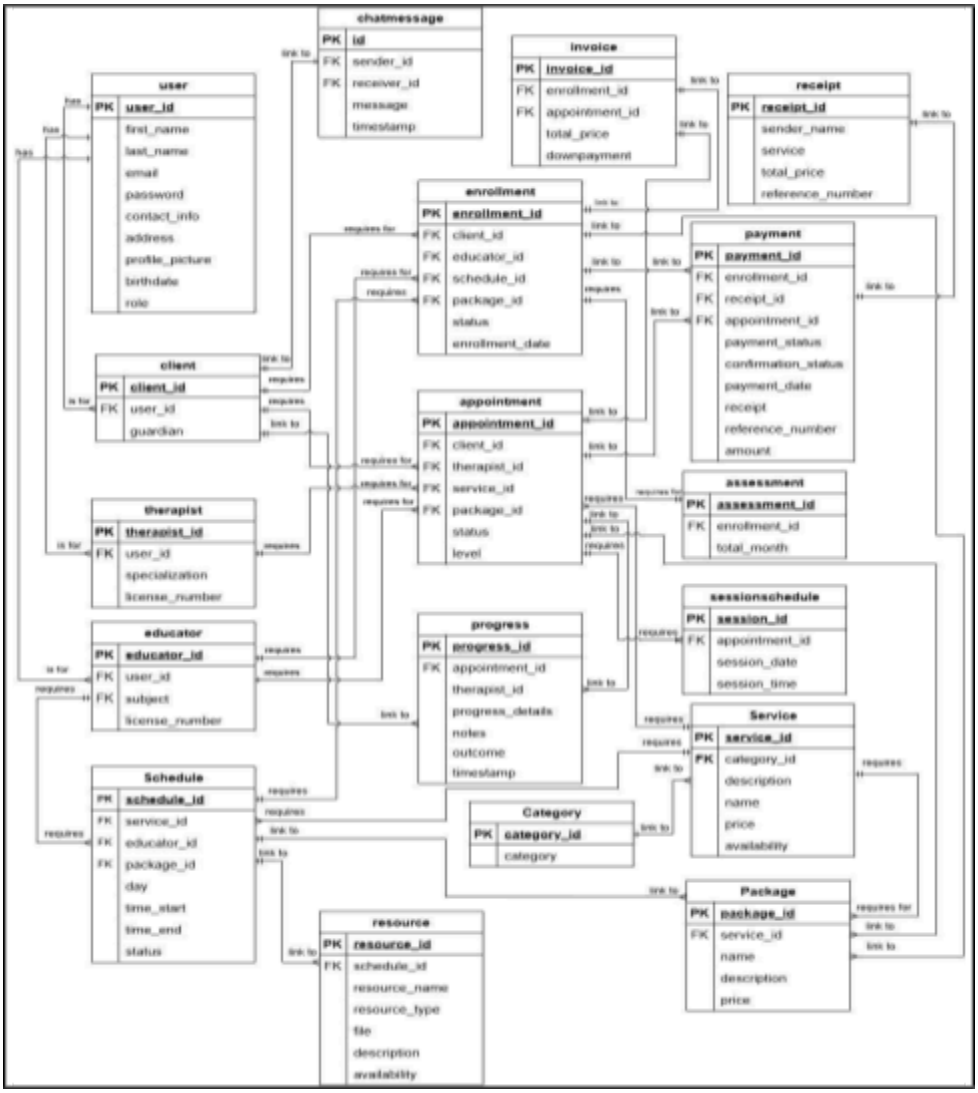

Figure 7. Entity Relationship Diagram

The diagram shows the Entity Relationship diagram. There are eight (18) entities: user, client, therapist, educator, schedule, chat message, enrollment, appointment, progress, category, resource, invoice, receipt, payment, assessment, session schedule, service, package.

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4. RESULTS AND DISCUSSION

Validating System Usability

A software evaluation procedure was conducted to measure the extent of perceptions of usability of the developed system. The System Usability Scale (SUS) was used as a tool to evaluate the system's usability, learnability, and overall user satisfaction. The survey was administered to the system's primary users, including the Medbay Admin, Therapists, Educators, and Clients.

Table 1

Usability of the Customer Satisfaction Survey System

SUS Questions	SUS Score
I think that I would like to use this system frequently.	95
I found this system unnecessarily complex.	50
I thought the system was easy to use.	90
I think that I would not need the support of a technical person to be able to use this system.	55
I found the various functions in this system were well integrated.	85
I thought there was no inconsistency in this system.	52
I would imagine that most people would learn to use this system very quickly.	85
I found the system very easy to use.	48
I felt very confident using the system.	95
I need not to learn a lot of things before I could get going with this system.	70
Final SUS Score:	**75**

Table 1 shows the usability of the customer satisfaction survey system. The first statement, "I think that I would like to use this system frequently," received a high SUS score of 95, reflecting a strong willingness among users to engage with the system consistently. This underscores the system's overall effectiveness and user satisfaction. The system was deemed easy to use by the majority of respondents, with a SUS score of 90, while complexity was rated relatively low (50). This indicates that the user interface and functionalities are intuitive and user- friendly. The integration of various system features was rated positively, with a SUS score of 85. This suggests smooth transitions between features and a well-structured layout. Users found the system easy to learn, with a SUS score of 85, indicating a low learning curve that is beneficial for adoption by all user roles. The confidence level of users while using the system was notably high (95). Although there was a minor perception of inconsistency (52.5), this did not significantly impact usability. The minimal need for technical support (55) highlights the system's self-explanatory design and ease of use. A few users found the system somewhat complex (48), and some believed they needed to learn more before using it effectively (70). These areas present opportunities for future improvement in simplifying workflows and providing better onboarding documentation.

5. CONCLUSION

The Medbay Therapy and Learning Center Management System successfully meets the study's goals by improving the efficiency of administrative and educational processes. Achieving key goals such as automating appointments, online enrollment, online payment, and scheduling processes. A System Usability Scale final score of 75 places the Medbay Therapy and Learning Center Management System within the "Good" usability range. The results reflect a general positive experience from the various types of users in the system, including clients, therapists, educators, and administrators. Feedback highlighted the system's strengths in terms of ease of use, functionality, and accessibility while pinpointing minor areas that could be further improved to further enhance user satisfaction.

6. RECOMMENDATIONS

The following are some recommendations to further improve the system:

1. The system can use predictive analytics to help with decisions about service trends and how to allocate resources for the clients.
2. The system can implement Multi-Factor Authentication to enhance user authentication and protect against potential security threats.
3. A mobile application version of the system to improve accessibility and usability for clients and staff who prefer to use mobile devices.
4. The system can include inventory and payroll modules as future functionalities, so the scope of the system expands to serve more administrative functions.

These recommendations are intended to make the Medbay Therapy and Learning Center Management System better. They focus on fixing its current problems and getting ready for future improvements and growth.

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